



UPPSALA
UNIVERSITET

Department of Women's and Children's Health

Annual report 2014

Introduction

Uppsala april 2015

During 2014 there was a change of the chairman position at the department of Women and Children Health (WCH) as I succeeded Jan Gustafsson on July 1. It is both a challenge and a privilege to be the Head of such an active and diversified department.

The year 2014 was successful as regards to both science and education. The WCH focuses on areas within Obstetrics/Gynecology, Pediatrics and International Maternal and Child Health. New challenges will always appear but they can be met by our committed researchers and teachers who are supported by our dedicated administrators.

The number of PhD students continues to increase and this means that there will be more publications and dissertations coming out in the following years. As far as research is concerned, it is particularly satisfying to note the continued progress within caring sciences. The total number of students at the master program in international health has not decreased after the start of tuition and application fees for students. It is important that more scholarships become available for this group of students in the future.

WCH has a wide range of teaching programs. The students generally give good evaluations of our educational programs. This would not have been possible without the extensive work of our teachers. We also have underlined the important requirement that our teachers are involved in scientific work.

The WCH is a clinical research and educational institution and it is important that there is a good relation and mutual understanding with the OB GYN Department and the Children Hospital of Uppsala. The majority of our lecturers, professors and researchers are working clinically at different levels.

During the year 2014 Lars-Åke Persson retired from his position as professor. He continues to work at the department with research and education matters as a senior professor. The administrator Christina Niska also retired last year and Ove Axelsson continues being a senior professor for another year.

A number of recruitment efforts are under way which will further strengthen research and education at the department. The department has had the pleasure to welcome Kjell Alving, who was appointed professor in airway pharmacology, Helena Åkerud was appointed adjunct professor in obstetrics/gynecology and Gustav Ljungman was appointed adjunct senior lecturer in pediatric oncology. Moreover, Maria Meden was recruited as a new administrator and the recruitment of a new professor in international child health has started.

Finally, I want to thank all teachers, researchers, administrators and laboratory technicians for their outstanding work during the past year.

Agneta Skoog Svanberg
Chairman of the the department of Women's and Children's Health

List of Contents

INTRODUCTION.....	2
ADDRESS LIST.....	4
ORGANIZATION.....	8
RESEARCH GROUPS.....	10
SCIENTIFIC REPORTS OF RESEARCH GROUPS.....	11
Gynecological Endocrinology	12
Obstetrical Research	16
Reproductive Biology	27
Reproductive Health	32
International Child Health and Nutrition	42
International Maternal and Reproductive Health and Migration	54
International Sexual and Reproductive Health	60
Pediatric Endocrinology	72
Perinatal, Neonatal and Pediatric Cardiology Research	81
Pediatric Neurology	88
Pediatric Oncology	92
Pediatric Surgery and Pediatric Urology	102
Pediatric Inflammation	108
Child Health and Parenting Research Group	115
UNDERGRADUATE TEACHING	123
RESEARCH EDUCATION.....	125

Address List

Department of Women´s and Children´s Health

www.kbh.uu.se

Address: Uppsala University Hospital, SE- 751 85 Uppsala, Sweden

Office: fax +46 (0)18 55 97 75

e-mail address:

firstname.lastname@kbh.uu.se

Muzdalifat Abeid
Beth Maina Ahlberg
Fredrik Ahlsson
Gunnar Ahlsten
Tansim Akhter
Ammar Almashhadi
Ann-Charlotte Alnblad
Kjell Alving
Hashem Amini
Hanna Andersson
Gertrud Angsten
Ragnheidur Arnadottir
Johan Arvidson
Anna Arvidsson
Jonna Arousell
Furaha August
Ove Axelsson
Pia Axemo
Cristina Niska Bachelet
Anna Backman
Elazar Tadelech Tadesse Balla
Johanna Belachew
Anna Berglund
Eva Bergman
Lina Bergman
Anna Bergström
Lillemor Berntson
Emma Billström
Pauline Finnema Binder
Magdalena Bjerneld
Kathrine Bjersand
Maja Bodin
Pär Bokström
Marie Bolin
Catrin Borneskog
Hannah Bradby
Katarina Strand Brodd
Thomas Brodin
Ulrika Byrskog
Karin Cato
Maria Cederblad
Mickey Chopra
Rolf Christofferson

Fatima Dabo
Margareta Dahl
Anton Dahlberg
Ingrid Dahlbom
Marie Dahlbom
Elisabeth Darj
Eva Davey
Barbro Diderholm
Duc Duong
Patricia Eckerdal
Åsa Edvinsson
Orvar Eeg-Olofsson
Christoffer Ehrstedt
Kristine Eklund
Lotta Ekström
Evangelia Elenis
Hanna Eneroth
Annika Englund
Natalie Engsheden
Gunn Engvall
Jenny Ericson
Christopher Eriksson
Leif Eriksson
Olle Eriksson
Annika Olovsson Esscher
Birgitta Essén
Karin Eurenus-Orré
Uwe Ewald
Helena Fabian
Inna Feldman
Anders Forslund
Fanny Fredriksson
Per Frisk
Britt-Marie Frost
Eva-Lotta Funkquist
Elisabet Fält
Karin Fängström
Mehari Gebre-Medhin
Clary Georgantzi
Malin Ghanem
Malin Gingnell
Michaela Granfors

Annika Grönberg
Johanna Gunnarsdottir
Elisabet Gustafson
Jan Gustafsson
Bengt Haglund
Helen Haines
Gunilla Hallberg
Maria Halldin-Stenlid
Anna-Karin Hannerfors
Ulf Hanson
Tina Hansson
Tony Hansson
Gunilla Hedén
Lena Hedén
Dan Hellberg
Charlotte Hellgren
Lena Hellström-Westas
Malin Helmestam
Dorcus Kiwanuka Henriksson
Mariela Contreras Hernandez
Susanne Hesselman
Ingegerd Hildingsson
Yngve Hofvander
Annika Hollsing
Kirsten Holmberg
Waheeduel Hoque
Miriam Hudecova
Hjördis Högborg
Niclas Högborg
Ulf Högborg
Berit Höglund
Petrida Iljumba
Stavros Iliadis
Caroline Jansson
Margareta Jennische
Paraidhi Jha
Kine Johansen
Emily White Johansson
Jennifer Johnsson
Inger Wahlström Jonsson
Lana Salih Joelsson
Maria Jonsson
Pysse Jonsson
Anders Jonzon
Malin Jordal
Katja Junus
Ashish, K.C.
Wanjiku Kaime-Atterhög
Helena Kaihola
Pia Kalm-Stephens
Tove Kamsvåg-Magnusson
Victoria Karlsson
Ylva Fredriksson Kaul
Kristiina Kask

Ashraful Islam Khan
Hans Kollberg
Christina Krantz
Ingela Kristiansen
Theodora Kallak Kunovac
Kristina Bolme Kuhn
Merit Kullinger
Karin Kårehed
Carina Källestål
Lillemor Källström
Dagmar Lagerberg
Birgitta Larsson
Margareta Larsson
Johannes Leidinger
Helene Engstrand Lilja
Lena Liljeström
Solveig Nordén Lindeberg
Hans Lindgren
Karin Lindgren
Åsa Lindholm
Gunilla Lindmark
Emma Lindström
Helena Litorp
Gustaf Ljungman
Steven Lucas
Staffan Lundberg
Inger Wallin Lundell
Maria Lundgren
Elisabet Lundmark
Ajлана Mulic-Lutvica
Göran Läckgren
Susanne Thorell Löberg
Gudmar Lönnerholm
Andrew Mgaya
Margaretha Magnusson
Marlene Makenzius
Mari-Cristin Malm
Magdalena Mattebo
Elisabet Mattsson
Columba Kokusiima Mbekenga
Maria Medeen
Christian Moberg
Lena Moby
Soheila Mohammadi
Kajsa Åsling Monemi
Cecilia Montgomery
Projestine Muganyizi
Tiina Murto
Aimable Musafili
Åsa Myrelid
Mats Målqvist
Tord Naessen
Baitun Nahar
Nima Naseh

Laleh Nayeb
 Maria Nelander
 Tryggve Nevéus
 Nga Thu Nguyen
 Barni Nor
 Sarah Nordqvist
 Lennart Nordvall
 Erik Normann
 Britt-Inger Nyberg
 Charlotte Nylander
 Kerstin Hedberg Nyqvist
 Niklas Nyström
 Viveca Odling
 Matts Olovsson
 Karl Wilhelm Olsson
 Pia Olsson
 Asha Omar
 Amal Omer-Salim
 Paola Oras
 Gabriel Otterman
 Ulrika Wester Oxelgren
 Eunice Pallangyo
 Josefine Palle
 Anna Palm
 Maria Palm
 Mandira Paul
 Christina Pedersen
 Wilton Perez
 Kristina Persson
 Lars Åke Persson
 Stefan Swartling Peterson
 Susan Pfeifer
 Jenny Pitkänen
 Inger Sundström Poromaa
 Lemm Proos
 Soorej Jose Puthooppambal
 Jessica Påfs
 Maria Ekstrand Ragnar
 Anisur Rahman
 Charlotte Heijdenskjöld Rentzhog
 Ingrid Jönson Ring
 Christine Rubertsson
 Mattias Rööst
 Raziye Salari
 Raghad Samir
 Filipa Sampaio
 Karin Sanner
 Anna Sarkadi
 Erica Schytt
 Gunnar Sedin, deceased May 2014
 Martin Selinus
 Katarina Ekholm Selling
 Fredrik Serenius

Rubina Shaheen
 Richard Sindelar
 Josefin Sjömark
 Gunnar Sjörs
 Alkistis Skalkidou
 Ingiridur Skirnisdottir
 Sara Sohlberg
 Anneli Stavreus-Evers
 Arne Stenberg
 Bo Strömberg
 Maria Stålhammar
 Kerstin Ståhlberg
 Agneta Skoog Svanberg
 Ingemar Swenne
 Sara Sylén
 Marie Säve
 Elisabeth Söderberg
 Amare Worku Tadesse
 Ellen Ternby
 Elin Ternström
 Ylva Thernström-Blomqvist
 Jenny Thor
 Jenny Thorsell Cederberg
 Ylva Tindberg
 Jill Trenholm
 Nikolaos Tsolakis
 Torsten Tuvemo
 Antónia Tökés
 Karin Törnblom
 William Ugarte
 Helena Volgstén
 Michelle Voon
 Anna Wahlberg
 Åsa Wahlberg
 Linda Wallström
 Lisa Wellander
 Michael Wells
 Jan Wesström
 Maria Wickström
 Anna-Karin Wikström
 Ingrid Wikström
 Johan Wrammert
 Kjell Wånggren
 Shirin Ziaei
 Johan Ågren
 Annika Åhman
 Helena Åkerud
 Anders Öberg
 Mariella Öberg

e-mail address:

firstname.lastname@akademiska.se

Eva Kimber

e-mail address:

firstname.lastname@nck.uu.se

Gun Heimer

Anna-Karin Hellgren

e-mail address:

firstname.lastname@ltdalarna.se

Lars Holmberg

Eva-Britta Råssjö

Claes Sundelin

Organization

Chairman

Agneta Skoog Svanberg

Deputy Chairman

Matts Olovsson

Department board

(from July 2014)

Agneta Skoog Svanberg	chairman
Birgitta Essén	teacher representative
Lena Hellström-Westas	teacher representative
Carina Källestål	teacher representative
Stefan Swartling Peterson	teacher representative
Gunn Engvall	teacher representative, deputy
Matts Olovsson	teacher representative, deputy
Martin Selinus	representative for technical/adm. personnel
Karin Törnblom	representative for technical/adm. personnel, deputy
Anna Wahlberg	graduate student representative
Maria Stålhammar	graduate student representative, deputy
Sara Bergman	student representative
Ulrika Hämborg	student representative
Vacant	student representative, deputy

Professors emeriti

Mehari Gebre-Medhin
Yngve Hofvander
Elof Johansson
Gunilla Lindmark
Gudmar Lönnérholm
Gunnar Sedin
Torsten Tuvemo

Director of graduate studies

Lena Hellström Westas

Director of undergraduate studies

Tryggve Nevéus

Administration

Hanna Andersson
Cristina Niska Bachelet
Malin Ghanem
Gunilla Hedén
Susanne Thorell Löberg
Maria Medeen
Martin Selinus
Marie Säve
Kerstin Ståhlberg
Jenny Thor
Karin Törnblom

Computers/IT

Kristine Eklund
Hans Lindgren

Technicians

Eva Davey
Lillemor Källström
Lena Moby
Elisabet Söderberg

Research Groups

Gynecological Endocrinology

Tord Naessén, MD, PhD, Professor

Obstetrical Research

Ulf Högberg, MD, PhD, Professor

Reproductive Biology

Matts Olovsson, MD, PhD, Professor

Reproductive Health

Inger Sundström Poromaa, MD, PhD, Professor

International Child Health and Nutrition

Lars-Åke Persson, MD, PhD, Professor

International Maternal and Reproductive Health and Migration

Birgitta Essén, MD, PhD, Associate Professor, Senior lecturer

International Sexual and Reproductive Health

Margareta Larsson, PhD, Associate professor, Senior lecturer

Pediatric Endocrinology

Jan Gustafsson, MD, PhD, Professor

Perinatal, Neonatal and Pediatric Cardiology Research

Lena Hellström-Westas, MD, PhD, Professor

Pediatric Neurology

Gunnar Ahlsten, MD, PhD, Associate Professor

Pediatric Oncology

Gustaf Ljungman, MD, PhD, Associate Professor

Pediatric Surgery and Pediatric Urology

Rolf Christofferson, MD, PhD, Associate Professor

Paediatric Inflammation

Kjell Alving, PhD, Professor

Child Health and Parenting Research Group

Anna Sarkadi, MD, PhD, Associate professor, Adjunct senior lecture

Scientific Reports

Gynecological Endocrinology

Tord Naessén

With extensive inter-disciplinary collaborations our research group address: Effects of endogenous and exogenous steroid hormones with regard to the aging process in elderly, e.g. arterial aging, cardiovascular disease (CVD), cognition / brain volumes and survival. Environmental pollutants in elderly and possible associations to age-related diseases and whether these effects might be partly mediated via endogenous sex hormone levels. We also study premenstrual syndrome (PMS/PMDD), vascular effects of pre-eclampsia and the ovarian follicular fluid content of steroid hormones and proteins with regard outcome of in-vitro fertilization. We suggest and evaluate a new principle for non-invasive assessment of arterial aging/atherosclerosis, based on separate assessment of the artery wall layers by using non-invasive high-frequency ultrasound (20 – 50 MHz) and which we apply in many of the conditions mentioned above.

National Centre for Knowledge on Men´s Violence against Women (NCK)

Gun Heimer

NCK is a knowledge and resource centre at Uppsala University. NCK is positioned within Uppsala University as a centre for certain assignments, without faculty affiliation. NCK reports directly to the vice-chancellor and has its own Board. Website: www.nck.uu.se

Members of the group during 2014

Tord Naessen	Professor
Gun Heimer	Professor (NCK)
Hannes Bohman	Post doc.
Olle Eriksson	M.D, Ph.D
Gunilla Hallberg	M.D, Ph.D.
Tansim Akhter	M.D, PhD
Mariella Öberg	M.D, Doctoral student (NCK)
Jona Kristiansdottir	M.Sc, Psychologist, Research student
Marita Larsson	Research nurse

Publications 2012-2014 (last 3 years)

1. Akhter T, Wikström A, Larsson A, Naessen T. Changes in the Artery Wall Layer Dimensions in Women with Preeclampsia : An investigation using non-invasive high frequency ultrasound. *Acta Obstetricia et Gynecologica Scandinavica*. 2012;91:28-28.
2. Comasco E, Hallberg G, Helander A, Orelan L, Sundelin Wahlsten V. Alcohol Consumption Among Pregnant Women in a Swedish Sample and Its Effects on the Newborn Outcomes. *Alcoholism*. 2012;36(10):1779-1786.
3. Kushnir M M, Naessén T, Wånggren K, Rockwood A L, Crockett D K, Bergquist J. Protein and Steroid Profiles in Follicular Fluid after Ovarian Hyperstimulation as Potential Biomarkers of IVF Outcome. *Journal of Proteome Research*. 2012;11(10):5090-5100.
4. Frisk P, Arvidson J, Larsson M, Naessén T. Risk factors for cardiovascular disease are increased in young adults treated with stem cell transplantation during childhood. *Pediatric Transplantation*. 2012;16(4):385-391.
5. Eriksson O, Landén M, Sundblad C, Holte J, Eriksson E, Naessén T. Ovarian morphology in premenstrual dysphoria. *Psychoneuroendocrinology*. 2012;37(6):742-751.
6. Comasco E, Hallberg G, Helander A, Orelan L, Sundelin-Wahlsten V. Alcohol consumption among pregnant women in a Swedish sample and its effects on the newborn outcomes. *Alcohol Clin Exp Res*. 2012 Oct;36(10):1779-86.

7. Naessén T, Bergquist J, Lind L, Kushnir M M. Higher endogenous estrogen levels in 70-year-old women and men: an endogenous response to counteract developing atherosclerosis?. *Menopause*. 2012;19(12):1322-1328.
8. Kristjansdottir J, Olsson GI, Sundelin C, Naessen T. Self-reported health in adolescent girls varies according to the season and its relation to medication and hormonal contraception--a descriptive study. *Eur J Contracept Reprod Health Care*. 2013 Oct;18(5):343-54.
9. Akhter T, Larsson A, Larsson M, Wikstrom AK, Naessen T. Artery wall layer dimensions during normal pregnancy: a longitudinal study using noninvasive high-frequency ultrasound. *Am J Physiol Heart Circ Physiol*. 2013 Jan 15;304(2):H229-34.
10. Akhter T, Wikstrom AK, Larsson M, Naessen T. Individual common carotid artery wall layer dimensions, but not carotid intima-media thickness, indicate increased cardiovascular risk in women with preeclampsia: an investigation using noninvasive high-frequency ultrasound. *Circ Cardiovasc Imaging*. 2013 Sep;6(5):762-8.
11. Bergman L, Akhter T, Wikstrom AK, Wikstrom J, Naessen T, Akerud H. Plasma levels of S100B in preeclampsia and association with possible central nervous system effects. *Am J Hypertens*. 2014 Aug;27(8):1105-11.
12. Akhter T, Larsson M, Wikstrom AK, Naessen T. Thicknesses of individual layers of artery wall indicate increased cardiovascular risk in severe pre-eclampsia. *Ultrasound Obstet Gynecol*. 2014 Jun;43(6):675-80.

NCK publications

13. Oberg M, Stenson K, Skalkidou A, Heimer G 2014 Prevalence of intimate partner violence among women seeking termination of pregnancy compared to women seeking contraceptive counseling. *Acta Obstet Gynecol Scand* 93:45-51.
14. Heimer G, Andersson T, Lukas S. Våld och hälsa – en befolkningsundersökning om kvinnors och mäns våldsutsatthet. Uppsala universitet, NCK-rapport 2014:1.
15. Heimer G, Björck A, Kunosson C. Våldsutsatta kvinnor – samhällets ansvar. Tredje upplagan av NCK:s lärobok, Studentlitteratur.

Agencies that support the work/Funding

ALF, 800,000 SEK

Selanders foundation, 160,000 SEK

1. Endogenous sex steroid concentrations in elderly in relations to; prevalent age-related conditions (e.g. arterial aging, cardiovascular disease (CVD), brain volumes and cognition) as well as prediction of CVD events/death and as potential mediators of health effects of environmental pollutants etc

We analyze endogenous steroids and precursors within the cholesterol pathway in samples from #1016, 70 year old men and women (in PIVUS), using Liquid Chromatography Tandem Mass Spectrometry (LS-MS/MS), in collaboration with the Internal Medicine Department, Uppsala, and ARUP laboratories in Salt Lake City, Utah, USA. Recently we found increased endogenous estrogen levels in both men and women with prevalent CVD as well as to arterial aging, assessed by high-frequency ultrasound (20 - 50MHz). Both findings most likely represent an endogenous attempt of estrogen synthesis to counteract an ongoing inflammatory/atherosclerotic process.

Currently we evaluate potential effects of subtle differences in endogenous steroid hormone concentrations in elderly with regard to artery wall aging (ultrasound), prevalent CVD, coming risk of CVD/death, cognition/brain volumes and associations to environmental pollutants etc.

Our results might elucidate effects of endogenous steroid hormones (esp. estrogens) on the aging process and thus guide the tailoring of hormone therapy regimens in elderly to hopefully reduce/modify some age-related changes/diseases.

2. Suggestion and evaluation of a new principle for non-invasive assessment of the artery wall with regard to arterial aging, based on high-frequency ultrasound (20MHz – 50MHz).

With increasing age and development of atherosclerosis the dimension of the artery wall intima layer increases whereas that of the media layer decreases. These differential changes in the intima and media layer dimensions reduces the usefulness of the present 'gold-standard', the combined Common Carotid Artery – Intima media Thickness (CCA-IMT). We suggest separate assessment of the artery intima and media layers and use of the Intima/Media thickness ratio.

We have repeatedly found this principle preferable, compared to assessment of the total CCA-IMT, in imaging arterial effects of aging and menopausal hormone replacement (15), and cardiovascular risk factors and the prevalent CVD. Further, the suggested principle was preferable to CCA-IMT in imaging vascular effects of systemic lupus erythematosus, recurrent depressions in adolescents and effects of both normal pregnancy and pre-eclampsia

We currently evaluate the strength of this principle to predict CVD events in elderly, in monitoring effects of menopausal hormone therapy initiated soon after menopause, to image effects of anti-estrogen therapy in women with breast cancer (and possible differences in effects between aromatase inhibitors and receptor blockers). We also study possible vascular effects of 'ultra-low' local vaginal estrogens, pulmonary hypertension as well as obstructive sleep apnea

The suggested principle might become an alternative to the present 'gold-standard, CCA-IMT, for non-invasive assessment of the artery wall with regard to arterial aging, stratification with regard to cardiovascular risk, prediction of CVD events and in monitoring effects of interventions against atherosclerosis/CVD, e.g. statins, menopausal hormone therapy and life-style changes.

3. Pregnancy complications: signs of artery wall aging during and after pre-eclampsia and whether some pregnancy complication might in part be caused by preexisting maternal vascular effects.

Our recent data indicated that normal pregnancy is a 'stress' on the artery system, especially in women who in early pregnancy are older, have a higher BMI or a higher blood pressure. High-frequency ultrasound of the separate artery wall layers, but not CCA-IMT, clearly indicated the known increased risk of cardiovascular disease at diagnosis of preeclampsia, as well as one year and more than 10 years after delivery, compared to normal pregnancies. Currently we study whether this method can predict occurrence or pregnancy complications, e.g. preeclampsia, intrauterine growth retardation etc.

The suggested method might become a mean to stratify women with regard to coming cardiovascular risk after e.g. preeclampsia.

4. Premenstrual syndrome (PMS or PMDD).

The normal variations of sex steroids during the menstrual cycle give in some women a negative effect on mood and temper, with increased irritability and depressed mood (PMDD). We have found increased sensitivity in PMS/PMDD women to estrogen provocation and very strong association between worsening of PMS symptoms over the menstrual cycle and lower 'serotonin' signal in pre-defined brain regions, as assessed by Positron Emission Tomography (PET).

The results might help to better understand the relation between hormone changes and mental symptoms in PMS, a disorder affecting many women with consequences for the individual, her family- and professional life.

5. Recurrent depressions in the adolescence and metabolic consequences later in life.

Prevalence of self-rated health in school children with regard to sex and seasonality are studied. A large prospective population-based cohort of adolescents, with and without a history of recurrent depressive periods during adolescence, has been followed up for 20 years. Associations to metabolic consequences, including arterial aging and inflammation markers are analyzed. Pilot results indicate negative effects with regard to arterial aging in early adult life in subjects with a history of recurrent depression in adolescence.

6. Steroid hormones and proteomics in ovarian follicular fluid during normal menstrual cycle, in PCOS and after ovarian stimulation during in-vitro fertilization (IVF).

Steroid hormones and proteins are analyzed using Liquid Chromatography Tandem Mass Spectrometry (LS-MS/MS). In PCOS we have found indications for a block in the aromatase enzyme function, which might be the background for the arrest in follicular development/anovulation in women with PCOS. Currently we study steroid hormones and proteins in stimulated ovarian follicular fluid with regard to outcome of IVF treatment.

The results might elucidate underlying causes of anovulation/infertility. In IVF, we aim to develop methods that can help in choosing the ovum with the best chance to succeed in fertilization, implantation and born baby. If proven useful, these methods might be applied more broadly when mass-spectrometry methods become easily available at university hospitals.

7. Violence against women (NCK project).

A Ph.D. project focused on violence against women, with special reference to sexual violence.

Obstetrical Research

Ulf Högberg

Members of the group during 2014

Ove Axelsson	Professor
Ulf Högberg	Professor
Helena Åkerud	Professor
Ulf Hanson	Associate professor
Solveig Lindeberg	Associate Professor
Anna-Karin Wikström	Associate Professor
Hashem Amini	M.D, PhD
Eva Bergman	M.D, PhD
Annika Esscher	M.D, PhD
Karin Eurenus	M.D, PhD
Maria Jonsson	M.D, PhD
Peter Lindgren	M.D, PhD
Ajlana Mulic-Lutvica	M.D, PhD
Marie Bolin	M.D, PhD
Maria Palm	M.D, PhD
Karin Kårehed	MD, PhD, postdoc
Marija Simic	MD, PhD, postdoc
Sarah Nordquist	MD, PhD
Johanna Belachew	Research fellow
Lina Bergman	Research fellow
Evangelia Elenis	Research fellow
Michaela Granfors	Research fellow
Johanna Gunnarsdottir	Research fellow
Susanne Hesselman	Research follow
Helena Kaihola	Research fellow
Lena Liljeström	Research fellow
Karin Lindgren	Research fellow
Maria Nelander	Research fellow
Anna Palm	Research fellow
Ellen Ternby	Research Fellow
Sara Sohlberg	Research fellow
Åsa Wahlberg	Research fellow
Linda Lindström	Research fellow (in preparation)
Christopher Eriksson	Research fellow (in preparation)

PhD students:

1. Johanna Belachew: Retained placenta and postpartum haemorrhage. Planned thesis defence in 2015.
2. Michaela Granfors: Hypothyreosis and pregnancy. Planned thesis defence in 2015.
3. Karin Lindgren: Infertility, biological mechanisms, diagnosis and treatment. Planned thesis defence in 2015.
4. Sara Sohlberg: Placental function - an epidemiological and magnetic resonance study. Planned thesis defence in 2015.
5. Evangelia Elenis: Portraying pregnancy through oocyte donator from a genetic, molecular and clinical perspective. Planned half-time examination in 2014.
6. Lina Bergman: Cerebral biomarkers in preeclampsia. Planned half-time examination in 2015.
7. Lena Liljeström: New perspectives on fetal scalp blood sampling

8. Johanna Gunnarsdottir: Epidemiological studies of placental dysfunction disorders.
9. Susanne Hesselman: Maternal complications of abdominal delivery Planned half-time examination in 2015
10. Anna Palm: Adolescent's somatic and mental health in association to violence exposure and risk-consumption of alcohol, a randomized intervention at Youth Clinics. Planned half-time examination in 2015
11. Åsa Wahlberg: Severe obstetric events and posttraumatic stress-reactions among obstetricians and midwives. Planned half-time examination in 2016
12. Maria Nelander: Preeclampsia and the brain Planned half-time examination in 2015

Publikations (2012-2014)

2014:

- 1) Ahman A, **Axelsson O**, Maras G, Rubertsson C, Sarkadi A, **Lindgren P**. Ultrasonographic fetal soft markers in a low-risk population: prevalence, association with trisomies and invasive tests. *Acta Obstet Gynecol Scand*. 2014 Apr;93(4):367-73.
- 2) Akther T, **Wikström A-K**, Larsson M, Naessen T. Thicknesses of individual layers of artery wall indicate increased cardiovascular risk in severe pre-eclampsia. *Ultrasound in Obstetrics and Gynecology*. 2014 Jun;43(6):675-80 .
- 3) Baba S, **Wikström A-K**, Stephansson O, Cnattingius S. Changes in snuff and smoking habits in early pregnancy and risks of stillbirth and early neonatal mortality. *Tobacco research*. 2014. Jan 16 (1):78-83
- 4) **Belachew J**, Cnattingius S, Eurenus K, **Lutvica A**, **Axelsson O**, **Wikström A-K**. Risk of retained placenta in women previously delivered by caesarean section: a population-based cohort study. *BJOG*. 2014. Jan 121(2):224-9.
- 5) **Bergman L**, Naessen T, **Wikström A-K**, Wikström J, Akther T, **Åkerud H**. Plasma Levels of S100B in Preeclampsia and Association with CNS affection. *American Journal of Hypertension*. 2014 Aug;27(8):1105-11
- 6) Blom H, **Högberg U**, Olofsson N, Danielsson I. Strong association between earlier abuse and revictimization in youth. *BMC Public Health*. 2014 Jul 14;14:715. doi: 10.1186/1471-2458-14-715.
- 7) Ekéus C, **Högberg U**, Norman M. Vacuum assisted birth and risk for cerebral complications in term newborn infants: a population-based cohort study. *BMC Pregnancy and Childbirth* 2014, **14**:36 doi:10.1186/1471-2393-14-36
- 8) **Elenis E**, Lindgren KE, Karypidis H, Skalkidou A, Hosseini F, Bremme K, Landgren BM, Skjöldebrand-Sparre L, Stavreus-Evers A, Sundström-Poromaa I, **Åkerud H**. The histidine-rich glycoprotein A1042G polymorphism and recurrent miscarriage: a pilot study. *Reprod Biol Endocrinol*. 2014 Jul 27;12:70.
- 9) Endler M, Saltved S, Cnattingius S, Stephansson O, **Wikström A-K**. Retained placenta is associated with pre-eclampsia, stillbirth, giving birth to a small-for-gestational-age infant, and spontaneous preterm birth: a national register-based study. *BJOG*. 2014 Nov;121(12):1462–1470
- 10) **Esscher A**, Binder-Finnema P, Bødker B, **Högberg U**, **Mulic-Lutvica A**, Essén B. Suboptimal care and maternal mortality among foreign-born women in Sweden: maternal death audit with application of the 'migration three delays' model. *BMC Pregnancy Childbirth*. 2014 Apr 12;14:141. doi: 10.1186/1471-2393-14-141.
- 11) Fadl H, Magnuson A, Östlund I, Montgomery S, **Hanson U**, Schwarcz E. Gestational diabetes mellitus and later cardiovascular disease: a Swedish population based case-control study. *BJOG*. 2014 Nov;121(12):1530-6. doi: 10.1111/1471-0528.12754. Epub 2014 Apr 25.
- 12) Fottrell E, **Högberg U**, Ronsmans C, Osrin D, Azad K, Nair N, Meda N, Ganaba R, Goufodji S, Byass P, Filippi V. A probabilistic method to estimate the burden of maternal morbidity in resource-poor settings: preliminary development and evaluation. *Emerg Themes Epidemiol*. 2014 Mar 13;11(1):3. doi: 10.1186/1742-7622-11-3.
- 13) **Granfors M**, **Åkerud H**, Skogö J, Stridsberg M, **Wikström A-K**, Sundström-Poromaa I. Detection

- of thyroid dysfunction during pregnancy in clinical practice: Is targeted thyroid testing enough? *Obstetrics & Gynecology*. 2014 Jul;124(1):10-5
- 14) **Gunnarsdottir J, Åkerud H, Cnattingius S, Stephansson O, Wikström A-K.** Risk of placental dysfunction disorders after prior miscarriages; a population based study. *American Journal of Obstet & Gyn*. 2014 Jul;211(1):34.e1-8.
 - 15) Gunnerbeck A, Edstedt Bonamy A-K, **Wikström A-K**, Granath F, Wickström R, Cnattingius S. Maternal Snuff Use and Smoking and the Risk of Oral Cleft Malformations - a population-based cohort study. *PLoS ONE* 9(1): e84715. doi:10.1371/journal.pone.0084715
 - 16) Haroun S, Altmäe S, Karypidis H, Kuningas M, Landgren BM, **Akerud H**, Skjöldebrand-Sparre L, Hosseini F, Bremme K, Sundström-Poromaa I, Stavreus-Evers A. Association between trefoil factor 3 gene variants and idiopathic recurrent spontaneous abortion. *Reprod Biomed Online*. 2014 Dec;29(6):737-44.
 - 17) Hellgren C, **Åkerud H**, Skalkidou A, Bäckström T, Sundström-Poromaa I. Low serum allopregnanolone is associated with symptoms of depression in late pregnancy. *Neuropsychobiology*. 2014;69(3):147-53
 - 18) **Hesselman S, Högberg U**, Ekholm-Selling K, Råssjö E-B, **Jonsson M**. The risk of uterine rupture is not increased with single compared with double-layer closure: a Swedish cohort study. *BJOG* 2014
 - 19) **Hesselman S, Högberg U**, Ekholm-Selling K, Råssjö E-B, **Jonsson M**. Single compared with double layer of closure does not increase the risk of uterine rupture: a Swedish cohort study. *BJOG* 2014 June 25 DOI: 10.1111/1471-0528.13015
 - 20) **Jonsson M**, Agren J, **Nordén-Lindeberg S**, Ohlin A, **Hanson U**. Suboptimal care and metabolic acidemia is associated with neonatal encephalopathy but not with neonatal seizures alone: A population based clinical audit. *Acta Obstet Gynecol Scand*. 2014 Mar 19
 - 21) **Jonsson M**, Agren J, **Norden-Lindeberg S**, Ohlin A, **Hanson U**. Neonatal encephalopathy and the association to asphyxia in labor. *Am J Obstet Gynecol* 2014;211
 - 22) Junus K, **Wikström A-K**, Larsson A, Olovsson M. Placental expression of NT-proBNP in early- and late-onset preeclampsia. *American Journal of hypertension*. 2014 Sep;27(9):1225-30.
 - 23) László K.D, Ananth C.V, **Wikström A-K**, Svensson T, Li J, Olsen J, Vestergaard M, Obel C, Cnattingius S. Loss of a close family member the year before or during pregnancy and the risk of placental abruption: A cohort study from Denmark and Sweden: *Psychological Medicine*. 2014 Jul;44(9):1855-66
 - 24) **Liljeström L, Wikström AK**, Skalkidou A, **Akerud H**, **Jonsson M**. Experience of fetal scalp blood sampling during labor. *Acta Obstet et Gynecol Scand*. 2014;93:113–117
 - 25) **Nordqvist S**, Kårehed K, Skoog Svanberg A, Menezes J, **Åkerud Helena**. Ovarian response is affected by a specific histidine-rich glycoprotein polymorphism: a preliminary study. *Reprod Biomed Online*. Doi10.1016/j.rbmo. 2014.09.016. Epub 2014 Oct 14.
 - 26) **Nordqvist S**, Sydsjö G, Lampic C, **Åkerud H**, **Elenis E**, Skoog Svanberg A. Sexual orientation of women does not affect outcome of fertility treatment with donated sperm. *Hum Reprod*. 2014 Jan 15. PMID:24435777.
 - 27) Olivier J, **Åkerud H**, Skalkidou A, Kaihola H, Sundström-Poromaa I. The effects of antenatal depression and antidepressant treatment on placental gene expression. *Front Cell Neurosci*. 2015 Jan 13;8:465. doi: 10.3389/fncel.2014.00465. eCollection 2014
 - 28) Olivier JD, **Akerud H**, Sundström Poromaa I. Antenatal depression and antidepressants during pregnancy: Unraveling the complex interactions for the offspring. *Eur J Pharmacol*. 2014 Aug 2.
 - 29) Santosa A, Rocklöv J, **Högberg U**, Byass P. Socio-demographic predictors of mortality inequality among Swedish men and women: a longitudinal study. *The European Journal of Public Health* DOI: <http://dx.doi.org/10.1093/eurpub/cku163.087> First published online: 31 October 2014
 - 30) Santosa A, Wall S, Fottrell E, **Högberg U**, Byass P. The development and experience of epidemiological transition theory over four decades: a systematic review. *Glob Health Action*. 2014 May 15;7:23574.
 - 31) **Sohlberg S, Mulic-Lutvica A, Lindgren P, Axelsson O**, Olovsson M, **Wikström A-K**, Wikström

- J. In vivo 31P-MR spectroscopy in normal pregnancy, early and late preeclampsia; a study of placental metabolism. *Placenta*. 2014 May;35(5):318-23
- 32) **Sohlberg S, Mulic-Lutvica A, Lindgren P, Otriz-Nieto F, Wikström A-K, Wikström J.** Placental perfusion in normal pregnancy and early and late preeclampsia; a magnetic resonance imaging study. *Placenta* 2014 Mar; 35(3):202-6.
 - 33) Tinglöf S, **Högberg U**, Wallin Lundell I, Skoog Svanberg A. Exposure to violence among women with unwanted pregnancies is associated with posttraumatic stress disorder, symptoms of anxiety and depression. *Sexual & Reproductive Healthcare*. Available online 26 September 2014
 - 34) Wallin Lundell I, Georgsson Öhman S, **Högberg U**, Sundström Poromaa I, Sydsjö G, Skoog Svanberg A. How do women perceive abortion care: A study focusing on healthy women and those with mental and posttraumatic stress. *The European Journal of Contraception and Reproductive Health Care*. doi:10.3109/13625187.2014.1002032
 - 35) Wallstrom T, Hellgren C, **Akerud H**, Wiberg-Itzel E. Skin conductance activity in post-term pregnancies. *J Matern Fetal Neonatal Med*. 2014 Oct 30;1-5. [Epub ahead of print]
 - 36) Wiberg-Itzel E, Pembe A, Wray S, Wihlbäck A-C, Darj E, Hoesli I, **Åkerud H**. Level of lactate in amniotic fluid and its relation to the use of oxytocin and adverse neonatal outcome. *Acta Obstet Gynecol Scand*. 2014 Jan;93(1):80-5.
 - 37) Åmark H, Millde Luthander C, Pettersson HJ, Ajne G, **Högberg U**, Grunewald C. Single versus pair wise interpretation of cardiotocography, a comparative study from six Swedish delivery units. *Sexual & Reproductive Healthcare* 2014 Dec;5(4):195-8.

2013:

- 1) Akhter T, Larsson A, Larsson M, **Wikström A-K**, Naessén T. Artery Wall Layer Dimensions during Normal Pregnancy : A longitudinal study using non-invasive high-frequency ultrasound. *American Journal of Physiology. Heart and Circulatory Physiology*. 2013;304(2):H229-H234.
- 2) Akhter T, Larsson M, **Wikström A-K**, Naessén T. Ultrasonographic Individual Artery Wall Layer Dimensions Indicate Increased Cardiovascular Risk in Previous Severe Pre-eclampsia.. *Ultrasound in Obstetrics and Gynecology*. 2013;
- 3) Akhter T, **Wikström A-K**, Larsson M, Naessén T. Individual Common Carotid Artery Wall Layer Dimensions, but Not Carotid Intima-Media Thickness, Indicate Increased Cardiovascular Risk in Women With Preeclampsia : An investigation using non-invasive high-frequency ultrasound. *Circulation Cardiovascular Imaging*. 2013;6(5):762-768.
- 4) Baba S, **Wikström A-K**, Stephansson O, Cnattingius S. Changes in snuff and smoking habits in Swedish pregnant women and risk for small for gestational age births. *British Journal of Obstetrics and Gynecology*. 2013;120(4):456-462.
- 5) Bolin M, Åkerud H, Cnattingius S, Stephansson O, **Wikström A-K**. Hyperemesis gravidarum and risks of placental dysfunction disorders– a population-based cohort study. *BJOG*. 2013 Jan 30. doi: 10.1111/1471-0528.12132. PMID: 23360164.
- 6) Cnattingius S, Villamor E, Johansson S; Edstedt A-K, Bonamy, Persson M, **Wikström A-K**, Granath F. Maternal obesity and risk of preterm birth. *JAMA*. 2013;309(22):2362-2370
- 7) Esscher A, Haglund B, **Högberg U**, Essén B. Excess mortality in women of reproductive age from low-income countries : a Swedish national register study. *European Journal of Public Health*. 2013;23(2):274-279.
- 8) Esscher, A., **Högberg, U.**, Haglund, B., Essén, B. Maternal mortality in Sweden 1988–2007: More deaths than officially reported. *AOGS* 2013;92:40-6.
- 9) Fadl HE, Östlund I, **Hanson U**. Outcomes in gestational diabetes in Sweden depending on country of birth. *Acta Obstet Gynecol Scand* 2012, 91(11): 1326-30.
- 10) **Granfors M, Åkerud H**, Anna Berglund A, JSkogö J, Sundström-Poromaa I, Wikström A-K. Thyroid testing and management of hypothyroidism during pregnancy: a population-based study. *J Clin Endocrinol Metab*. 2013 Jul;98(7):2687-92. doi: 10.1210/jc.2013-1302. Epub 2013 May 20. PMID: 23690313.
- 11) Hayati E N, Eriksson M, Hakimi M, **Högberg U**, Emmelin M. 'Elastic band strategy' : women's lived experiences of coping with domestic violence in rural Indonesia. *Global health action*. 2013;6:1-12.

- 12) Hellgren C, Åkerud H, Skalkidou A, Sundström Poromaa I. Cortisol awakening response in late pregnancy in women with previous or ongoing depression. *Psychoneuroendocrinology*. 2013;38(12):3150-54. .
- 13) Jonsson M , Cnattingius S , Wikström A-K. Elective induction of labor and the risk of cesarean section in low-risk parous women: a cohort study. *Acta Obstet Gynecol Scand*. 2013 Feb;92(2):198-203.
- 14) Jonsson M, Hanson U, Lidell C, Nordén-Lindeberg S. ST depression in preeclamptic women receiving oxytocin during cesarean section. A randomized controlled trial. *J Hypertens* 2012, 1:3.
- 15) Jonsson M, Nordén Lindeberg S, Östlund I, Hanson U. Acidemia at birth in the vigorous infant as a trigger incident to assess intrapartum care with regard to CTG patterns. *J Matern Fetal Neonatal Med*. 2013 Jul;26(11):1094-8.
- 16) Kaplan-Sturk R, Åkerud H, Volgsten H, Hellström-Westas L, Wiberg-Itzel E. 1. Outcome of deliveries in healthy but obese women: obesity and delivery outcome. *BMC Res Notes*. 2013 Feb 6;6(1):50. PMID: 23388378.
- 17) Lindgren K, Kårehed K, Karypidis H, Hossein F, Bremme K, Landgren B-M, Skjöldebrand-Sparre, L Stavreus-Evers A, Sundström-Poromaa I, Åkerud H. Histidine-rich glycoprotein gene polymorphism in patients with recurrent miscarriage. *Acta Obstet Gynecol Scand*. 2013 Aug;92(8):974-7. doi: 10.1111/aogs.12155. Epub 2013 May 15. PMID: 23672470.
- 18) Larsson A, Palm M, Basu S, Axelsson O. Insulin-like growth factor binding protein-1 (IGFBP-1) during normal pregnancy. *Gynecological Endocrinology*. 2013;29(2):129-132.
- 19) László K, Xiao Qin Liu, Svensson T, Wikström A-K, Li J, Olsen J, Obel C, Vestergaard M, Cnattingius S. Psychosocial stress due to loss of a close relative the year before or during pregnancy and the risk of preeclampsia. *Hypertension*. 2013;62:183-189
- 20) László K.D, Ananth C. V., Wikström A. K., Svensson T., Li J., Olsen J., Vestergaard M., Obel C., Cnattingius S.: Loss of a close family member the year before or during pregnancy and the risk of placental abruption: A cohort study from Denmark and Sweden: *Psychological Medicine*. 2013 sep 26:1-12
- 21) Liljeström L, Wikström A-K, Skalkidou A, Åkerud H, Jonsson M. Experience of fetal scalp blood sampling during labor. *Acta Obstet et Gynecol Scand*. 2014;93:113–117.
- 22) Lindgren K E, Kårehed K, Karypidis H, Hosseini F, Bremme K, Landgren B, et al. Histidine-rich glycoprotein gene polymorphism in patients with recurrent miscarriage. *Acta Obstetrica et Gynecologica Scandinavica*. 2013;92(8):974-977.
- 23) Mulic-Lutvica A. Postpartum Ultrasound. In: Donald School Textbook of Ultrasound in Obstetrics and Gynecology: . 3 New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2011. p. 519-537.
- 24) Olivier J, Åkerud H, Kaihola H, Pawluski J , Skalkidou A, Högberg U, Sundström-Poromaa I. The effects of maternal depression and maternal selective serotonin reuptake inhibitor exposure on offspring. *Front Cell Neurosci*. 2013 May 21;7:73.
- 25) Palm M, Axelsson O, Wernroth L, Larsson A, Basu S. Involvement of inflammation in normal pregnancy. *Acta Obstetrica et Gynecologica Scandinavica*. 2013;92(5):601-605.
- 26) Persson M, Fadl H, Hanson U, Pasupathy D. Disproportionate body composition and neonatal outcome in offspring of mothers with and without gestational diabetes mellitus . *Diabetes Care* 2013 36(11):3543-8
- 27) Salmelin A, Wiklund I, Bottinga R, Ekman-Ordeberg G, Grimfors EE, Hanson U, Blom M, Persson E. Fetal monitoring with computerized ST-analysis during labour: a systematic review and meta-analysis. *Acta Obstet Gynecol Scand* 2013; 92(1):28-39.
- 28) Sylvén S M, Elenis E, Michelakos T, Larsson A, Olovsson M, Sundström Poromaa I, et al. Thyroid function tests at delivery and risk for postpartum depressive symptoms. *Psychoneuroendocrinology*. 2013;38(7):1007-1013.
- 29) Ugarte W J, Högberg U, Valladares Cardoza E, Essén B. Measuring HIV- and AIDS-related stigma and discrimination in Nicaragua : Results from a community-based study. *AIDS Education and Prevention*. 2013;25(2):164-178.
- 30) Ugarte W J, Högberg U, Valladares E, Essén B. Assessing knowledge, attitudes, and behaviors related to HIV and AIDS in Nicaragua : A community-level perspective. *Sexual & Reproductive HealthCare*. 2013;4(1):37-44.

- 31) Wahlberg Å, Rööst M, Haglund B, **Högberg U**, Essén B. Increased risk of severe maternal morbidity (near-miss) among immigrant women in Sweden : a population register-based study. *British Journal of Obstetrics and Gynecology*. 2013;120(13):1605-1612.
- 32) Wallin Lundell I, Georgsson Öhman S, Frans O, Helström L, **Högberg U**, Nyberg S, Sundström Poromaa I, Sydsjö G, Ostlund I, Skoog Svanberg A. Posttraumatic stress among women after induced abortion: a Swedish multi-centre cohort study. *BMC Womens Health*. 2013 Dec 23;13(1):52. [Epub ahead of print]
- 33) Wallin Lundell I, Sundström Poromaa I, Frans Ö, Helström L, **Högberg U**, Moby L, et al. The prevalence of posttraumatic stress among women requesting induced abortion. *European journal of contraception & reproductive health care*. 2013;18(6):480-488.
- 34) Wennberg AL, Lundqvist A, **Högberg U**, Sandström H, Hamberg K. Women's experiences of dietary advice and dietary changes during pregnancy. *Midwifery*. 2013 Feb 18. [Epub ahead of print]
- 35) Wiberg-Itzel E, Pembe A, Wray S, Wihlbäck A-C, Darj E, Hoesli I, **Åkerud H**. Level of lactate in amniotic fluid and its relation to the use of oxytocin and adverse neonatal outcome. *Acta Obstet Gynecol Scand*. 2014 Jan;93(1):80-5. doi: 10.1111/aogs.12261. Epub 2013 Oct 15. PMID:24102442.

2012:

- 1) Altman M, Edstedt Bonamy A, **Wikström A-K**, Cnattingius S. Cause-specific infant mortality in a population-based Swedish study of term and post-term births : the contribution of gestational age and birth weight. *BMJ Open*. 2012;2(4)
- 2) **Wikström A-K**, Ekegren L, Karlsson M, Wikström J, Bergenheim M, **Åkerud H**. Plasma levels of S100B during pregnancy in women developing pre-eclampsia. *Pregnancy Hypertension*. 2012 2(4):398-402.
- 3) **Belachew J**, Axelsson O, Mulic-Lutvica A, Eurenus K. Longitudinal study of the uterine body and cavity with three-dimensional ultrasonography in the puerperium. *Acta Obstetrica et Gynecologica Scandinavica*. 2012;91(10):1184-1190.
- 4) **Bolin M**, **Wikström A-K**, Wiberg-Itzel E, Olsson A-K, Ringvall M, Sundström-Poromaa I, **Axelsson O**, Thilaganathan B, **Åkerud H**. Prediction of preeclampsia by combining serum histidine-rich glycoprotein and uterine artery Doppler. *Am J Hypertens*. 2012 Dec;25(12):1305-10. PMID: 22895448.
- 5) Hellgren C, Bannbers E, **Åkerud H**, Risbrough V, Sundström-Poromaa I. Decreased startle modulation during anticipation in the postpartum period in comparison to late pregnancy. *Arch Womens Ment Health*. 2012 Feb 7. PMID: 22315106.
- 6) Esscher A, Haglund B, **Högberg U**, Essén B. Excess mortality in women of reproductive age from low-income countries : a Swedish national register study. *European Journal of Public Health*. 2012;
- 7) Fadl H E, Östlund I, **Hanson U**. Outcomes of gestational diabetes in Sweden depending on country of birth. *Acta Obstetrica et Gynecologica Scandinavica*. 2012;91(11):1326-1330.
- 8) Dabo F, Grönbladh A, Nyberg F, Sundström-Poromaa I, **Åkerud H**. Variations in the OPMR1 Gene and Use of Labor Analgesia. *Reprod Sci*. 2012 Apr 23. PMID: 22527985.
- 9) Hellgren C, Bannbers E, **Åkerud H**, Risbrough V, Sundström-Poromaa I. Decreased startle modulation during anticipation in the postpartum period in comparison to late pregnancy. *Arch Womens Ment Health*. 2012 Feb 7. PMID: 22315106.
- 10) Höglund B, Larsson M, **Lindgren P**. Pregnancy and birth among women with intellectual disability in Sweden - experiences and outcomes. *Acta Obstetrica et Gynecologica Scandinavica*. 2012;91:90-91.
- 11) Höglund B, **Lindgren P**, Larsson M. Newborns of mothers with intellectual disability have a higher risk of perinatal death and being small-for-gestational age. *Acta Obstetrica et Gynecologica Scandinavica*. 2012;91(12):1409-1414.
- 12) Skirnisdottir I, Mayrhofer M, Rydåker M, **Åkerud H**, Isaksson A. Loss-of-heterozygosity on chromosome 19q in early-stage serous ovarian cancer is associated with recurrent disease. *BMC Cancer*. 2012 Sep 12;12:407. PMID: 22967087.
- 13) Junus K, Centlow M, **Wikström A-K**, Larsson I, Hansson S, Olovsson M. Gene expression profiling of placentae from women with early- and late-onset pre-eclampsia. *Mol. Hum. Reprod*. 2012. March 18 (3): 146-155.

- 14) Lagerros Y T, Cnattingius S, Granath F, **Hanson U, Wikström A-K**. From infancy to pregnancy : birth weight, body mass index, and the risk of gestational diabetes. *European Journal of Epidemiology*. 2012;27(10):799-805.
- 15) **Jonsson M, Hanson U, Lidell C, Nordén-Lindeberg S**. ST depression in preeclamptic women receiving oxytocin during cesarean section. A randomized controlled trial. *J Hypertens* 2012, 1:3.
- 16) Altman M, Bonamy A-K, **Wikström A-K, Cnattingius S**. Cause-specific infant mortality in a population-based Swedish study of term and post-term births: the contribution of gestational age and birth weight. *BMJ Open*. 2012 Jul 4;2(4)
- 17) **Bohlin M, Wikström A-K, Wiberg-Itzel E, Sundström-Poromaa I, Axelsson O, Thilaganathan B, Åkerud H**. Prediction of preeclampsia by combining serum Histidine-rich glycoprotein and uterine artery Doppler. *American Journal of Hypertension* 2012; 25(12):1305-10
- 18) **Granfors M, Karypidis, Hosseini F, Skjöldebrand-Sparre L, Stavreus-Evers A, Bremme K, Landgren B-M, Sundström-Poromaa I, Wikström A-K, Åkerud H**. Phosphodiesterase 8B gene polymorphism in women with recurrent miscarriage: A retrospective case-control study. *BMC Medical Genetics* 2012; Dec 13;13:121
- 19) **Mulic-Lutvica A**. Postpartum Ultrasound. *Ultrasound in Obstetrics and Gynecology*. 2012;6(1):76-92.
- 20) Persson M, Pasupathy D, **Hanson U, Norman M**. Disproportionate body composition and perinatal outcome in large-for-gestational-age infants to mothers with type 1 diabetes. *British Journal of Obstetrics and Gynecology*. 2012;119(5):565-572.
- 21) Persson M, Pasupathy D, **Hanson U, Westgren M, Norman M**. Pre-pregnancy body mass index and the risk of adverse outcome in type 1 diabetic pregnancies : a population-based cohort study. *BMJ Open*. 2012;2(1):e000601-.
- 22) Baba S, **Wikström A-K, Stephansson O, Cnattingius S**. Influence of smoking and snuff cessation on risk of preterm birth. *European Journal of Epidemiology: Volume 27, Issue 4 (2012), Page 297-304*
- 23) Salazar M, **Högberg U, Valladares E, Persson L**. Intimate partner violence and early child growth : a community-based cohort study in Nicaragua. *BMC Pediatrics*. 2012;12:82-.
- 24) Sandström A, Cnattingius S, **Wikström A-K, Stephansson O**. Labour dystocia - risk of recurrence and instrumental delivery in following labour: a population-based cohort study. *British Journal of Obstetrics and Gynecology*. 2012;119(13):1648-1656.
- 25) **Sohlberg S, Stephansson, Cnattingius S, Wikström A-K**. Maternal height and BMI and risk of preeclampsia. *American Journal of Hypertension*. 2012 Jan;25(1):120-5
- 26) Cnattingius S, **Wikström A-K, Trolle-Lagerros Y, Villamor E, Granath F**. High birth weight and obesity - a vicious circle across generations. *International Journal of Obesity* (2012) 36, 1320-4.
- 27) Perni U, **Wikström A-K, Cnattingius S, Villamor E**. Interpregnancy Change in Smoking Habits and Risk of Preeclampsia: A Population-Based Study. *Am J Hypertens*. 2012 Mar;25(3):372-8.
- 28) **Wikström A-K, Gunnarsdóttir J, Cnattingius S**. The paternal role in pre-eclampsia and giving birth to a small for gestational age infant : a population-based cohort study. *BMJ open*. 2012;2(4):e001178-.
- 29) **Wikström A-K, Ekegren L, Karlsson M, Wikström J, Bergenheim M, Åkerud H**. Plasma levels of S100B during pregnancy in women developing pre-eclampsia. *Pregnancy Hypertension*. 2012 2(4):398-402.
- 30) Trolle-Lagerros Y, Granath F, **Hanson U, Cnattingius S, Wikström A-K**. From infancy to pregnancy– the combined risk of birth weight and body mass index on risk of gestational diabetes. *Eur J Epidemiol* (2012) 27:799–805
- 31) Åhman A, **Lindgren P, Sarkadi A**. Facts first, then reaction : Expectant fathers' experiences of an ultrasound screening identifying soft markers. *Midwifery*. 2012;28(5):E667-E675.

Awards 2014

Susanne Hesselman, Best oral presentation NFOG Congress 2014. Johanna Gunnarsdottir, Best Obstetric presentation & Annika Esscher, Best Poster, Swedish Society of Gynecology and Obstetrics Annual meeting.

PhD D Thesis 2014

Sarah Nordqvist: Biological Markers of Fertility

Half-time examinations 2014

Johanna Belachew, Michaela Granfors, Karin Lindgren, Sara Sohlberg,

Half-time examinations 2014

Lena Liljeström

Agencies that support the work (2014)

SLS	163 000
Familjeplaneringsfonden	100 000
Spädbarnsfonden	20 000
Gillberska stiftelsen	40 000
Jerringfonden	30 000
Födelsfonden	300 000
Fou Uppsala/Örebro	615 000
Brottsofferfonden	480 000
AFA	2 000 000
VR	3 500 000

The overall research theme is human reproduction from conception to birth adding knowledge about adverse outcomes why, how and then. The research group is developing an integrative approach in a life course perspective from the womb to child and young adult's health with the ultimate aim to improve reproductive health. The research methods are translational, experimental clinical and reproductive epidemiology.

Senior professor Ove Axelsson has research profile in perinatal, obstetrical and clinical research and head supervisor for Johanna Belachew. Professor Ulf Högberg, head of the research group, has a research profile is clinical and reproductive epidemiology integrating Swedish and low-income country research settings. Professor Helena Åkerud has a broad translational research profile in infertility, gynecology and obstetrics. Associate professor Anna-Karin Wikström has a research profile in clinical and reproductive epidemiology and experimental design. PhD Maria Jonsson's research profile clinical obstetric epidemiology addressing fetal and maternal and complications as asphyxia, metabolic acidosis and complications of abdominal delivery. In 2015 she will qualify as an associate professor. Associate professor Ulf Hanson has a research profile in clinical and epidemiologic research.

The Obstetric research group has extensive collaboration with other research groups in the department: Reproductive Biology, Gynecological Endocrinology, Reproductive Health, International Child Health and Nutrition, International Maternal and Reproductive Health and Migration, Perinatal Neonatal and Pediatric Cardiology, Social Pediatrics.

One core theme in the research group is short- and long term follow-up of the child after fetal and birth exposure. Together with two research groups Reproductive Biology and Reproductive Health we are responsible for an ongoing collection of plasma and leucocyte samples from women pregnant at about 18 weeks. So far samples from about 80000 women have been collected. This unique blood bank is a research source for several on-going research projects and will be source for epigenetic studies. Helena Åkerud and Ulf Högberg are in the steering group of the BASIC- Biobank (Research Group Reproductive Health) collecting prospectively maternal blood samples, salivary cortisol and samples from placenta in association to maternal and child mental health. In 2014 a research database Uppsala Mother-Child Cohort has been created, with Ulf Högberg as principal investigator. It is comprising 35,000 mother-child pairs, with clinical information from birth, neonatal and child health care linked to the national Swedish Health Registries. Analysis of fetal exposure as preeclampsia, diabetes, maternal mental disease and psychotropic, to child growth deviations, visits to children's psychologists are in process. In 2013, Ulf Högberg principal

investigator and in collaboration Neuroscience/Children psychiatry, pregnancy cohorts in Nicaragua (in collaboration with UNAN-Léon University) and Ethiopia (in collaboration with Addis Ababa University) have been revisited 9-10 years after birth addressing mental health among the mothers and their off-springs. In 2014 a new project has been planned with the aim to follow up mothers and their offspring who were part of the NICHD Scandinavian Successive Small-for-Gestational Age Births Study during the years 1986-88 (all together 5,722 pregnancies, where of 2,623 from Uppsala). The project is in collaboration with Professor Geir Jacobsen and co-workers at NTNU, Trondheim. Responsible researchers at Uppsala University are Ulf Högberg, Anna-Karin Wikström and Mia Ramklint, associate professor, children and adult psychiatrist. The objective of the study is to analyse the physical and mental health in the mothers and the offspring after being exposed to birth of a SGA infant, preterm birth and/or preeclampsia. Especially the relation between the pregnancy complications and the development of Attention Deficit Hyperactivity Disorder (ADHD) and autism spectrum disorder (ASD) will be examined. The project includes follow up in the national registers and with questionnaires and clinical examinations.

Ove Axelsson is head supervisor for Johanna Belachew.

In 2014 Helena Åkerud was appointed as professor. She is presently focusing to investigate if there are distinct biological mechanisms that are affected in relation to assisted reproduction. Mechanisms that might explain why there seem to be increased risks related to assisted reproduction, such as pregnancy complications, adverse perinatal outcome, as well as an increased risk of birth defects and rare disorders where imprinted genes are affected will furthermore be investigated. Helena Åkerud was head supervisor of Sarah Nordqvist defending her thesis in 2014. She is head supervisor of Lina Bergman, Helena Kaihola, Lena Liljeström, Karin Lindgren, Evangelia Elenis, and deputy supervisor of Michaela Granfors, Johanna Gunnarsdottir, Maria Nelander and Margit Endler. Postdoc in her team is Karin Kårehed.

Anna-Karin Wikström focuses on placental dysfunctional disorders, with preeclampsia as the main focus. She has since her postdoc period at Clinical Epidemiological Unit at Karolinska Institutet has developed a close collaboration with the unit, particularly with professor Sven Cnattingius and MD, PhD Olof Stephansson. She is now extending her research lines within one of the core themes of the research group, long-term follow-up of the mother-child dyad. Wikström is tutoring a post doc at the unit, MD Marija Simic, who is working with a database including longitudinal collected blood pressure measurements from almost 200,000 pregnancies. In 2014 she became an invited member in the international Eurotox, a recently founded expert group in preeclampsia with regular meetings. Wikström has an extensive Nordic collaboration: 1) Addressing maternal long-term follow-up cross generations from joint Swedish and Norwegian Birth and Patient Registries (Professor Rolv Skjaerven, Global Public Health and Primary Care, Bergen University); 2) Polycystic ovarian disease and pregnancy outcome (professor Eszter Vanky, NTNU); 3) PI for Swedish part of the IPPH Nordic study: Immigrant Perinatal and Placental Health - A joint Nordic population-based register study from Denmark, Finland, Norway and Sweden (professor Annetine Staff, Oslo University). In 2014 the network on clinical studies in obstetrics and gynecology (SNAKS) was started and Anna-Karin is in the steering committee of the network. The first study planned within the network is a nation-wide study of management of post-term pregnancy. Anna-Karin is also in the steering committee of that study. Anna-Karin Wikström is principal supervisor of the PhD students: Sara Sohlberg, Johanna Gunnarsdottir, Michaela Granfors and Maria Nelander. One new PhD project has started during 2014 focusing on intrauterine growth restriction. The project is in collaboration with Eva Bergman (MD, PhD) and Linda Lindström is in registration as the PhD student (Anna-Karin as head supervisor). Within the project a new national reference curve for fetal growth and birth weight based on ultrasound measurements will be created, with Eva Bergman as the responsible investigator. Anna-Karin Wikström is also deputy supervisor of Lena Liljeström, Katja Junus (Pro-BNP in preeclampsia, Research Group Reproductive epidemiology) and Patricia Eckerdahl (Pregnancy complications and postpartum depression, Research Group Reproductive Health) at Uppsala University and Margit Endler (Placental retention) and Siavash Maghsoudlou (Pregnancy complications in Golestan) at Karolinska Institutet. Anna-Karin Wikström has further collaborators also with other departments, particularly in the magnetic resonance

studies of the placenta and the brain during preeclampsia (MD, PhD Johan Wikström and PhD Jan Weis). In 2014 the Obstetrical research group (Anna-Karin Wikström, Ajlana Lutvica, Karin Eurenus) has in collaboration with professor Inger Sundström-Poromaa (Reproductive Health) started a new project on obesity and pregnancy complications. The main aim is improved risk assessments of obese women in obstetric care by development of risk scores for any obesity-related adverse outcome that may have repercussions for the short- and long-term morbidity of the mother and her infant. Secondary aims are to study the endocrine consequences of obesity during pregnancy and the gene-environmental interaction in the interplay between obesity and pregnancy complications.

Ulf Högberg is principal investigator of a study initiated in 2014 about second victim addressing posttraumatic symptoms among obstetricians and midwives after severe events in maternity care in collaboration with department of Neuroscience /Psychiatry, Uppsala University, LIME/Medical Management Centre, Karolinska Institutet, Social medicine and global health, Lund University. A new project started by Högberg in 2014 addressing perinatal differential diagnostics to shaken baby syndrome (SBS)/abusive head trauma (AHT). Högberg is head supervisor of Susanne Hesselman, Anna Palm and Åsa Wahlberg, deputy supervisor at the departments of Clinical science/obstetrics & gynecology (planned thesis defence in 2015) and Public Health/Epidemiology & Global Health (planned thesis defence in 2015), Umeå University, and one PhD project exploring patient safety in perinatal care at Department of Clinical Science and Education, Unit of Obstetrics and Gynecology (Southern Hospital, KI (planned thesis defence in 2015). A new PhD candidate, Sibone Mocumbi, University Eduardo Mondlane (UEM), was initiated in 2014 addressing unmet and met needs of obstetric services in Mozambique and to deepen the understanding of how local health system contextual factors influence the provision of these services. PhD registration will follow in 2015 with Högberg as main supervisor, and as deputy supervisor Anna Bergström (Research Group International Child Health and Nutrition), in collaboration with UEM and KI.

Maria Jonsson is deputy supervisor for Lena Liljeström, Susanne Hesselman and Åsa Wahlberg. She is also principal investigator for two clinical multicenter RCT: s that are conducted at the delivery ward, Akademiska hospital, one national and one international trial.

PhD Peter Lindgren's research area is ultrasound and MR, starting a comparative study on MR, ultrasound and MR for fetal malformation diagnostics, and supervising the PhD candidate Christopher Falkeby. Lindgren was co-supervisor for Annika Åhman defending her thesis in 2014. PhD Ajlana Lutvica is deputy supervisor of Johanna Belachew and Sara Sohlberg.

Associate professor Ulf Hanson has been continuing his studies on diabetes during pregnancy in collaboration with KI and Örebro university: 1) the effect of overweight and obesity in the outcome of GDM women; 2) national register studies of outcome of pregnancies complicated by type-1-diabetes, type-2-diabetes and Gestational Diabetes Mellitus; 3) addressing the issue of, different screening criteria for OGTT in relation to different diagnostic levels for hyperglycemia during pregnancy by using 3500 consecutive OGTT during pregnancy. He and associate professor Solveig Norden Lindeberg has ongoing register studies regarding preeclampsia and malformations.

Reproductive Biology

Matts Olovsson

Members of the group during 2014

Olovsson, Matts	Professor
Bourlev, Vladimir	Professor
Stavr�us-Evers, Anneli	Associate professor
Edelstam, Greta	Associate professor
Rezapour, Masoumeh	Associate professor
Skirnisdottir, Ingridur	Associate professor
W�nggren, Kjell	Associate professor
Holte, Jan	MD, PhD
Wikstr�m, Ingrid	MD, PhD
Lindstr�m, Annika	MD, PhD
Brodin, Thomas	MD, PhD
Karypidis, Helena	MD, PhD
Helmestam, Malin	PhD
Sanner, Karin	MD, PhD
Altm�e, Signe	PhD
Hambiliki, Fredwell	PhD-student
Jansson, Caroline	PhD-student
Junus, Katja	PhD-student
Kunovac Kallak, Theodora	PhD-student
Moberg, Christian	PhD-student
Murto, Tiina	PhD-student
Haroun, Sally	PhD-student
Arnio, Riina	Research student
Iliasova, Natalia	Research student
Norenhag, Johanna	Research student
Rauden, Anna	Research student
Malin Karlberg	Research student
Davey, Eva	Biomedical laboratory scientist
B�th, Ann-Sofie	Study nurse
Victoria Engstr�m	Study nurse

Publications 2012-2014

1. **Rhenman A**, Berglund L, **Brodin T**, **Olovsson M**, Milton K, Hadziosmanovic N, **Holte J**. Which set of embryo variables is most predictive for live birth? A prospective study in 6252 single embryo transfers to construct an embryo score for the ranking and selection of embryos. Hum Reprod. 2015 Jan;30(1):28-36.
2. **Moberg C**, **Bourlev V**, **Ilyasova N**, **Olovsson M**. Endometrial expression of LIF and its receptor and peritoneal fluid levels of IL-1 α and IL-6 in women with endometriosis are associated with the probability of pregnancy. Arch Gynecol Obstet. 2015 Jan 29. [Epub ahead of print]
3. **Sohlberg S**, **Mulic-Lutvica A**, **Olovsson M**, **Weis J**, **Axelsson O**, **Wikstr m J**, **Wikstr m AK**. MRI estimated placental perfusion in fetal growth assessment. Ultrasound Obstet Gynecol. 2015 Jan 14. doi: 10.1002/uog.14786. [Epub ahead of print]

4. Aghajanova L, Mahadevan S, **Altmäe S, Stavreus-Evers A**, Regan L, Sebire N, Dixon P, Fisher RA, Van den Veyver IB. No evidence for mutations in NLRP7, NLRP2 or KHDC3L in women with unexplained recurrent pregnancy loss or infertility. *Hum Reprod*. 2015 Jan;30(1):232-8.
5. **Murto T, Kallak TK**, Hoas A, **Altmäe S**, Salumets A, Nilsson TK, Skoog Svanberg A, **Wånggren K**, Yngve A, **Stavreus-Evers A**. Folic acid supplementation and methylenetetrahydrofolate reductase (MTHFR) gene variations in relation to in vitro fertilization pregnancy outcome. *Acta Obstet Gynecol Scand*. 2015 Jan;94(1):65-71.
6. **Helmestam M**, Lindgren KE, **Stavreus-Evers A, Olovsson M**. Mifepristone-exposed human endometrial endothelial cells in vitro. *Reprod Sci*. 2014 Mar;21(3):408-14.
7. **Junus K**, Wikström AK, Larsson A, **Olovsson M**. Placental Expression of proBNP/NT-proBNP and Plasma Levels of NT-proBNP in Early- and Late-Onset Preeclampsia. *Am J Hypertens*. 2014 Sep;27(9):1225-30.
8. Sohlberg S, Wikström AK, **Olovsson M**, Lindgren P, Axelsson O, Mulic-Lutvica A, Weis J, Wikström J. In vivo (31)P-MR spectroscopy in normal pregnancy, early and late preeclampsia: A study of placental metabolism. *Placenta*. 2014 May;35(5):318-23.
9. **Helmestam M, Davey E, Stavreus-Evers A, Olovsson M**. Bisphenol A affects human endometrial endothelial cell angiogenic activity in vitro. *Reprod Toxicol*. 2014 Jul;46:69-76.
10. **Moberg C, Bourlev V, Iljasova N and Olovsson M**. AlphaB-crystallin expression in the eutopic endometrium in women with minimal to moderate pelvic endometriosis. *Hum Fertil (Camb)*. 2014 Jun 19:1-8.
11. Yung HW, Atkinson D, Campion-Smith T, **Olovsson M**, Charnock-Jones DS, Burton GJ. Differential activation of placental unfolded protein response pathways implies heterogeneity in causation of early- and late-onset pre-eclampsia. *J Pathol*. 2014 Oct;234(2):262-76.
12. Haroun S, **Altmäe S**, Karypidis H, Kuningas M, Landgren BM, Akerud H, Skjöldebrand-Sparre L, Hosseini F, Bremme K, Sundström-Poromaa I, **Stavreus-Evers A**. Association between trefoil factor 3 gene variants and idiopathic recurrent spontaneous abortion. *Reprod Biomed Online*. 2014 Dec;29(6):737-44
13. Elenis E, Lindgren KE, Karypidis H, Skalkidou A, Hosseini F, Bremme K, Landgren BM, Skjöldebrand-Sparre L, **Stavreus-Evers A**, Sundström-Poromaa I, Åkerud H. The histidine-rich glycoprotein A1042G polymorphism and recurrent miscarriage: a pilot study. *Reprod Biol Endocrinol*. 2014 Jul 27;12:70
14. **Murto T**, Skoog Svanberg A, Yngve A, Nilsson TK, **Altmäe S, Wånggren K**, Salumets A, **Stavreus-Evers A**. Folic acid supplementation and IVF pregnancy outcome in women with unexplained infertility. *Reprod Biomed Online*. 2014 Jun;28(6):766-72
15. **Wånggren K**, Baban M, Svanberg AS. Attitudes toward embryo donation among staff at in vitro fertilization clinics. *Acta Obstet Gynecol Scand*. 2014 Aug;93(8):765-70.
16. Sylvén SM, Elenis E, Michelakos T, Larsson A, **Olovsson M**, Poromaa IS, Skalkidou A. Thyroid function tests at delivery and risk for postpartum depressive symptoms. *Psychoneuroendocrinology*. 2013 Jul;38(7):1007-13.
17. Comasco E, Iliadis SI, Larsson A, **Olovsson M**, Orelund L, Sundström-Poromaa I, Skalkidou A. Adipocytokines levels at delivery, functional variation of TFAP2 β , and maternal and neonatal anthropometric parameters. *Obesity (Silver Spring)*. 2013 Oct;21(10):2130-7.
18. **Brodin T**, Hadziosmanovic N, Berglund L, **Olovsson M, Holte J**. Antimullerian hormone levels are strongly associated with live-birth rates after assisted reproduction. *J Clin Endocrinol Metab*. 2013 Mar;98(3):1107-14.
19. **Haroun S, Altmäe S**, Kuningas M, **Stavreus-Evers A**. The association of trefoil factor 3 gene polymorphisms and haplotypes with unexplained female infertility: molecular insights into TFF3 regulation in receptive phase endometrium. *Hum Fertil (Camb)*. 2013 Dec;16(4):291-8.
20. **Kallak TK**, Baumgart J, Göransson E, Nilsson K, Poromaa IS, **Stavreus-Evers A**. Aromatase inhibitors affect vaginal proliferation and steroid hormone receptors. *Menopause*. 2014 Apr;21(4):383-90.
21. **Murto T**, Bjuresten K, Landgren BM, **Stavreus-Evers A**. Predictive value of hormonal parameters for live birth in women with unexplained infertility and male infertility. *Reprod Biol Endocrinol*. 2013 Jul 11;11:61.

22. Ronquist KG, Ek B, Morrell J, **Stavreus-Evers A**, Ström Holst B, Humblot P, Ronquist G, Larsson A. Prostatomes from four different species are able to produce extracellular adenosine triphosphate (ATP). *Biochim Biophys Acta*. 2013 Oct;1830(10):4604-10.
23. Lindgren KE, Kårehed K, Karypidis H, Hosseini F, Bremme K, Landgren BM, Skjöldebrand-Sparre L, **Stavreus-Evers A**, Sundström-Poromaa I, Akerud H. Histidine-rich glycoprotein gene polymorphism in patients with recurrent miscarriage. *Acta Obstet Gynecol Scand*. 2013 Aug;92(8):974-7.
24. Baumgart J, Nilsson K, **Evers AS**, **Kallak TK**, Poromaa IS. Sexual dysfunction in women on adjuvant endocrine therapy after breast cancer. *Menopause*. 2013 Feb;20(2):162-8.
25. **Hambiliki F**, Hanrieder J, Bergquist J, **Hreinsson J**, **Stavreus-Evers A**, **Wånggren K**. Glycoprotein 130 promotes human blastocyst development in vitro. *Fertil Steril*. 2013 May;99(6):1592-9.
26. Ronquist KG, Ek B, **Stavreus-Evers A**, Larsson A, Ronquist G. Human prostates express glycolytic enzymes with capacity for ATP production. *Am J Physiol Endocrinol Metab*. 2013 Mar 15;304(6):E576-82.
27. **Altmäe S**, Martinez-Conejero JA, Esteban FJ, Ruiz-Alonso M, **Stavreus-Evers A**, Horcajadas JA, Salumets A. MicroRNAs miR-30b, miR-30d, and miR-494 regulate human endometrial receptivity. *Reprod Sci*. 2013 Mar;20(3):308-17.
28. **Wånggren K**, Prag F, Skoog Svanberg A. Attitudes towards embryo donation in Swedish women and men of reproductive age. *Ups J Med Sci*. 2013 Aug;118(3):187-95.
29. **Wånggren K**, Alden J, Bergh T, Skoog Svanberg A. Attitudes towards embryo donation among infertile couples with frozen embryos. *Hum Reprod*. 2013 Sep;28(9):2432-9.
30. Jensen PL, Beck HC, Petersen J, **Hreinsson J**, **Wånggren K**, Laursen SB, Sørensen PD, Christensen ST, Andersen CY. Proteomic analysis of human blastocoel fluid and blastocyst cells. *Stem Cells Dev*. 2013 Apr 1;22(7):1126-35.
31. **Skirnisdottir I**, Bjersand K, Akerud H, Seidal T. Napsin A as a marker of clear cell ovarian carcinoma. *BMC Cancer*. 2013 Nov 5;13:524.
32. **Skirnisdottir I**, Seidal T. Association of p21, p21 p27 and p21 p53 status to histological subtypes and prognosis in low-stage epithelial ovarian cancer. *Cancer Genomics Proteomics*. 2013 Jan-Feb;10(1):27-34.
33. Huber M, Hadziosmanovic N, Berglund L, **Holte J**. Using the ovarian sensitivity index to define poor, normal, and high response after controlled ovarian hyperstimulation in the long gonadotropin-releasing hormone-agonist protocol: suggestions for a new principle to solve an old problem. *Fertil Steril*. 2013 Nov;100(5):1270-6.
34. Bergh C, Lindenberg S; Nordic Crinone Study Group. A prospective randomized multicentre study comparing vaginal progesterone gel and vaginal micronized progesterone tablets for luteal support after in vitro fertilization/intracytoplasmic sperm injection. *Hum Reprod*. 2012 Dec;27(12):3467-73.
35. Kushnir MM, Naessén T, **Wånggren K**, Rockwood AL, Crockett DK, Bergquist J. Protein and steroid profiles in follicular fluid after ovarian hyperstimulation as potential biomarkers of IVF outcome. *J Proteome Res*. 2012 Oct 5;11(10):5090-100.
36. **Junus K**, Centlow M, Wikström AK, Larsson I, Hansson SR, **Olovsson M**. Gene expression profiling of placentae from women with early- and late-onset pre-eclampsia: down-regulation of the angiogenesis-related genes ACVRL1 and EGFL7 in early-onset disease. *Molecular Human Reproduction* 2012 Mar;18(3):146-55.
37. **Helmestam M**, Andersson H, Brittebo E and **Olovsson M**. Tamoxifen influences cell migration and mRNA expression of angiogenesis-related genes in cultured human endometrial endothelial cells. *American Journal of Pathology* 2012 Jun;180(6):2527-35.
38. Jain A, **Olovsson M**, Burton GJ, Yung HW. Endothelin-1 induces endoplasmic reticulum stress by activating the PLC-IP(3) pathway: implications for placental pathophysiology in preeclampsia. *Am J Pathol*. 2012 Jun;180(6):2309-20.
39. Granfors M, Karypidis H, Hosseini F, Skjöldebrand-Sparre L, **Stavreus-Evers A**, Bremme K, Landgren BM, Sundström-Poromaa I, Wikström AK, Åkerud H. Phosphodiesterase 8B gene polymorphism in women with recurrent miscarriage: a retrospective case control study. *BMC Med Genet*. 2012 Dec 13;13:121.

40. Hambiliki F, Ström S, Zhang P, **Stavreus-Evers A**. Co-localization of NANOG and OCT4 in human pre-implantation embryos and in human embryonic stem cells. *J Assist Reprod Genet*. 2012 Oct;29(10):1021-8.
41. Ronquist GK, Larsson A, **Stavreus-Evers A**, Ronquist G. Prostatomes are heterogeneous regarding size and appearance but affiliated to one DNA-containing exosome family. *Prostate*. 2012 Dec 1;72(16):1736-45.
42. **Kunovac Kallak T**, Baumgart J, **Stavreus Evers A**, Sundström Poromaa I, Moby L, Kask K, Norjavaara E, Kushnir MM, Bergquist J, Nilsson K. Higher than expected estradiol levels in aromatase inhibitor-treated, postmenopausal breast cancer patients. *Climacteric*. 2012 Oct;15(5):473-80.
43. **Skirnisdóttir I**, Mayrhofer M, Rydåker M, Akerud H, Isaksson A. Loss-of-heterozygosity on chromosome 19q in early-stage serous ovarian cancer is associated with recurrent disease. *BMC Cancer*. 2012 Sep 12;12:407.
44. **Skirnisdóttir I**, Seidal T. The apoptosis regulators p53, bax and PUMA: Relationship and impact on outcome in early stage (FIGO I-II) ovarian carcinoma after post-surgical taxane-based treatment. *Oncol Rep*. 2012 Mar;27(3):741-7.
45. Eriksson O, Landén M, Sundblad C, **Holte J**, Eriksson E, Naessén T. Ovarian morphology in premenstrual dysphoria. *Psychoneuroendocrinology*. 2012 Jun;37(6):742-51.

Reviews (last 3 years)

1. Stavreus Evers A. Paracrine interactions of thyroid hormones and thyroid stimulation hormone in the female reproductive tract have an impact on female fertility. *Front Endocrinol (Lausanne)*. 2012 Mar 30;3:50.
2. Altmäe S, Esteban FJ, Stavreus-Evers A, Simón C, Giudice L, Lessey BA, Horcajadas JA, Macklon NS, D'Hooghe T, Campoy C, Fauser BC, Salamonsen LA, Salumets A. Guidelines for the design, analysis and interpretation of 'omics' data: focus on human endometrium. *Hum Reprod Update*. 2014 Jan-Feb;20(1):12-28.

Dissertations 2014

Tiina Murto *Folate, Hormones and Fertility*, 2014-05-22

Frewell Hambiliki *Culture and Vittrification of Human pre-embryos*, 2014-06-04

Agencies that support the work/Funding

ALF, 1 224 000 SEK

Vinnova/Eurostar 350 000 SEK

Lions cancerforskningsfond, 300 000 SEK

The Swedish Research Council, 700 000 SEK

For a successful implantation and pregnancy it is important that both the embryo and the endometrial development is normal. Failure of embryo development will result in miscarriage while failure of endometrial development could be an explanation of unexplained infertility.

The embryo development is studied using a broad range of methods from basic protein chemistry to new proteomic methods. These studies were included in Fredwell Hambiliki's thesis work. The maternal side of endometrial receptivity has been studied from different aspects. Markers of receptivity is studied in a project involving, University of Tarry and IVI Valencia, the project is financed by grants from

Eurostar/Vinnova. The endometrial receptivity is also studied using cell culture models, where the effect of prostasomes, exosomes from the prostate gland, is studied.

We can show that genetic variations besides endometrial receptivity offer an explanation for unexplained infertility and also for recurrent miscarriage. Experience of miscarriage is measured using a new instrument, these studies will be included in Caroline Janssons thesis work.

Hormonal regulation of vaginal atrophy show the importance of estrogen but also new data showing that the atrophy in this case is related to lack of growth and differentiation rather than an degeneration of the vaginal mucosa. Anneli Stavreus-Evers is coordinating these studies.

Preeclampsia, a project aiming at a better understanding of the pathogenesis of PE and how to diagnose, predict and treat the disease. Within the PE-projects we have cooperation with Professor Graham Burton in Cambridge (UK) on placental/trophoblast metabolism. We are currently studying the possible involvement of NT-proBNP in the pathogenesis of PE. Matts Olovsson is coordinating these studies.

Endometriosis, we have done a large questionnaire study on cost of illness and quality of life. We can also show that women with symptomatic endometriosis cost about 90 000 SEK/year compared with about 20 000 SEK/year in a age and gender matched background population.

We have evaluated the Swedish version of the questionnaire Endometriosis Health Profile -30. We are currently performing several studies on new medications for the treatment of endometriosis associated pain as well as new markers to diagnose endometriosis. We are performing studies on endometriosis associated pain. There are also studies of endometrial factors associated with endometriosis related infertility. Our endometriosis research is done at our National Endometriosis Centre. Matts Olovsson is coordinating these studies.

Cervical cancer is the second most frequent cancer among women worldwide and caused by persistent infection by oncogenic types of human papillomavirus (HR-HPV). We are studying self-sampling for the analysis of HR-HPV. We have a large study where screening based on cytology is with HPV-testing. We will start a new study where we compare self-sampling with sampling by a midwife, for the analysis of HR-HPV. We are studying the prevalence of HR-HPV in women aged 60-75 years. We are currently performing a questionnaire study to find out why women do not take part in the screening program and what would make do.

The studies are coordinated by a steering group consisting of Matts Olovsson, Ulf Gyllensten, Erik Wilander, Annika Lindström, Ingrid Wikström, Karin Sanner and Riina Aarnio.

We have studied **prognostic factors in assisted reproduction techniques**. Currently we are studying which of several embryo scoring variables that have independent predictive power for pregnancy and live birth following embryo transfer. These studies are coordinated by Jan Holte, Thomas Brodin and Matts Olovsson.

Ovarian cancer, prognostic factors for epithelial ovarian cancer are studied. These studies are coordinated by Ingridur Skirnisdottir.

Reproductive Health

Inger Sundström Poromaa

The Reproductive Health research group focuses on all aspects of reproductive health, with an aim of improving mental and sexual well-being of women at all ages. The studies range from investigator-initiated clinical trials, to neuroimaging, and laboratory analyses of human tissue. Women throughout the entire reproductive span are included in these studies, from young women requesting contraception, to pregnant and newly delivered women, and finally also postmenopausal women.

Members of the group during 2014 (last year)

Inger Sundström Poromaa, professor
Dan Hellberg, adjunct professor
Agneta Skoog Svanberg, associate professor
Alkistis Skalkidou, associate professor
Jocelien Olivier, post doc
Charlotte Hellgren, post doc
Juliane Baumgart (fd Schlenstedt), PhD
Elin Bannbers, PhD
Catrin Borneskog, PhD
Fatimah Dabo, PhD
Malin Gingnell, PhD
Miriam Hudecova, PhD
Kristiina Kask, PhD
Åsa Lindholm, PhD
Annika Lindström, PhD
Helena Lundgren, PhD
Karin Ståhlberg, PhD
Birgitta Segeblad, PhD
Sara Sylven, PhD
Jan Wesström, PhD
Inger Wallin Lundell, PhD
Helena Volgsten, PhD
Emma Billström, PhD student
Kathrine Bjersand, PhD student
Patricia Eckerdal, PhD student
Åsa Edvinsson, PhD student
Anna-Karin Hannerfors, PhD student
Sussy Hofmayer, PhD student
Stavros Iliadis, PhD student
Paridhi Jha, PhD student
Theodora Kunovac Kallak, PhD student
Merit Kullinger, PhD student
Gyula Pekar, PhD student
Raghad Samir, PhD student
Lena Moby, research nurse
Emma Bränn, research assistant

Publications 2012-2014

1. Aldrimer M, Ridefelt P, Rodoo P, Niklasson F, Gustafsson J, Hellberg D. Reference intervals on the Abbot Architect for serum thyroid hormones, lipids and prolactin in healthy children in a population-based study. *Scand J Clin Lab Invest.* 2012; 72:326-32.
2. Bannbers E, Gingnell M, Engman J, Morell A, Comasco E, Kask K, Garavan H, Wikstrom J, Sundstrom Poromaa I. The effect of premenstrual dysphoric disorder and menstrual cycle phase on brain activity during response inhibition. *J Affect Disord.* 2012; 142:347-50.
3. Bolin M, Wikstrom AK, Wiberg-Itzel E, Olsson AK, Ringvall M, Sundstrom-Poromaa I, Axelsson O, Thilaganathan B, Akerud H. Prediction of preeclampsia by combining serum histidine-rich glycoprotein and uterine artery Doppler. *Am J Hypertens.* 2012; 25:1305-10.
4. Borneskog C, Skoog Svanberg A, Lampic C, Sydsjo G. Relationship quality in lesbian and heterosexual couples undergoing treatment with assisted reproduction. *Hum Reprod.* 2012; 27:779-86.
5. Edman K, Ohrn K, Holmlund A, Nordstrom B, Hedin M, Hellberg D. Comparison of oral status in an adult population 35-75 year of age in the county of Dalarna, Sweden in 1983 and 2008. *Swed Dent J.* 2012; 36:61-70.
6. Gingnell M, Morell A, Bannbers E, Wikstrom J, Sundstrom Poromaa I. Menstrual cycle effects on amygdala reactivity to emotional stimulation in premenstrual dysphoric disorder. *Horm Behav.* 2012; 62:400-6.
7. Granfors M, Karypidis H, Hosseini F, Skjoldebrand-Sparre L, Stavreus-Evers A, Bremme K, Landgren BM, Sundstrom-Poromaa I, Wikstrom AK, Akerud H. Phosphodiesterase 8B gene polymorphism in women with recurrent miscarriage: a retrospective case control study. *BMC Med Genet.* 2012; 13:121.
9. Hellgren C, Bannbers E, Akerud H, Risbrough V, Poromaa IS. Decreased startle modulation during anticipation in the postpartum period in comparison to late pregnancy. *Arch Womens Ment Health.* 2012; 15:87-94.
10. Hofmeyer S, Pekar G, Gere M, Tarjan M, Hellberg D, Tot T. Comparison of the subgross distribution of the lesions in invasive ductal and lobular carcinomas of the breast: a large-format histology study. *Int J Breast Cancer.* 2012; 2012:436141.
12. Innala E, Backstrom T, Poromaa IS, Andersson C, Bixo M. Women with acute intermittent porphyria have a defect in 5alpha-steroid production during the menstrual cycle. *Acta Obstet Gynecol Scand.* 2012; 91:1445-52.
13. Isaksson S, Sydsjo G, Skoog Svanberg A, Lampic C. Disclosure behaviour and intentions among 111 couples following treatment with oocytes or sperm from identity-release donors: follow-up at offspring age 1-4 years. *Hum Reprod.* 2012; 27:2998-3007.
14. Kunovac Kallak T, Baumgart J, Stavreus Evers A, Sundstrom Poromaa I, Moby L, Kask K, Norjavaara E, Kushnir MM, Bergquist J, Nilsson K. Higher than expected estradiol levels in aromatase inhibitor-treated, postmenopausal breast cancer patients. *Climacteric.* 2012; 15:473-80.
15. Mavromatis ID, Antonopoulos CN, Matsoukis IL, Frangos CC, Skalkidou A, Creasas G, Petridou ET. Validity of intraoperative gross examination of myometrial invasion in patients with endometrial cancer: a meta-analysis. *Acta Obstet Gynecol Scand.* 2012.
16. Petridou ET, Sergentanis TN, Panagopoulou P, Moschovi M, Polychronopoulou S, Baka M, Pourtsidis A, Athanassiadou F, Kalmanti M, Sidi V, Dessypris N, Frangakis C, Matsoukis IL, Stefanadis C, Skalkidou A, Stephansson O, Adami HO, Kieler H. In vitro fertilization and risk of childhood leukemia in Greece and Sweden. *Pediatr Blood Cancer.* 2012; 58:930-6.
17. Pettersson FD, Gronbladh A, Nyberg F, Sundstrom-Poromaa I, Akerud H. The A118G single-nucleotide polymorphism of human mu-opioid receptor gene and use of labor analgesia. *Reprod Sci.* 2012; 19:962-7.
19. Ridefelt P, Aldrimer M, Rodoo PO, Niklasson F, Jansson L, Gustafsson J, Hellberg D. Population-based pediatric reference intervals for general clinical chemistry analytes on the Abbott Architect ci8200 instrument. *Clin Chem Lab Med.* 2012; 50:845-51.
20. Samir R, Asplund A, Tot T, Pekar G, Hellberg D. Oral contraceptive and progestin-only use correlates to tissue tumor marker expression in women with cervical intraepithelial neoplasia. *Contraception.* 2012; 85:288-93.

22. Stalberg K, Svensson T, Granath F, Kieler H, Tholander B, Lonn S. Evaluation of prevalent and incident ovarian cancer co-morbidity. *Br J Cancer*. 2012; 106:1860-5.
23. Svanberg AS, Lampic C, Gejervall AL, Gudmundsson J, Karlstrom PO, Solensten NG, Sydsjo G. Gamete donors' motivation in a Swedish national sample: is there any ambivalence? A descriptive study. *Acta Obstet Gynecol Scand*. 2012; 91:944-51.
24. Sydsjo G, Lampic C, Brandstrom S, Gudmundsson J, Karlstrom PO, Solensten NG, Thurin-Kjellberg A, Skoog Svanberg A. Who becomes a sperm donor: personality characteristics in a national sample of identifiable donors. *BJOG*. 2012; 119:33-9.
25. Tarjan M, Lenngren A, Hellberg D, Tot T. Immunohistochemical verification of ductal differentiation in prostate cancer. *APMIS*. 2012; 120:510-8.
26. Aldrimer M, Ridefelt P, Rodoo P, Niklasson F, Gustafsson J, Hellberg D. Population-based pediatric reference intervals for hematology, iron and transferrin. *Scand J Clin Lab Invest*. 2013; 73:253-61.
27. Bannbers E, Gingnell M, Engman J, Morell A, Sylven S, Skalkidou A, Kask K, Backstrom T, Wikstrom J, Poromaa IS. Prefrontal activity during response inhibition decreases over time in the postpartum period. *Behav Brain Res*. 2013; 241:132-8.
28. Baumgart J, Nilsson K, Evers AS, Kallak TK, Poromaa IS. Sexual dysfunction in women on adjuvant endocrine therapy after breast cancer. *Menopause*. 2013; 20:162-8.
29. Billstrom E, Sundstrom-Poromaa I, Stalberg K, Asplund A, Hellberg D. Socioeconomic characteristics, housing conditions and criminal offences among women with cervical neoplasia. *Acta Obstet Gynecol Scand*. 2013.
30. Borneskog C, Sydsjo G, Lampic C, Bladh M, Svanberg AS. Symptoms of anxiety and depression in lesbian couples treated with donated sperm: a descriptive study. *BJOG*. 2013; 120:839-46.
31. Comasco E, Hellgren C, Sundstrom-Poromaa I. Influence of catechol-O-methyltransferase Val158Met polymorphism on startle response in the presence of high estradiol levels. *Eur Neuropsychopharmacol*. 2013; 23:629-35.
32. Comasco E, Iliadis SI, Larsson A, Olovsson M, Orelund L, Sundstrom-Poromaa I, Skalkidou A. Adipocytokines levels at delivery, functional variation of TFAP2beta, and maternal and neonatal anthropometric parameters. *Obesity (Silver Spring)*. 2013; 21:2130-7.
33. Eriksson C, Larsson M, Skoog Svanberg A, Tyden T. Reflections on fertility and postponed parenthood-interviews with highly educated women and men without children in Sweden. *Ups J Med Sci*. 2013; 118:122-9.
34. Gingnell M, Bannbers E, Wikstrom J, Fredrikson M, Sundstrom-Poromaa I. Premenstrual dysphoric disorder and prefrontal reactivity during anticipation of emotional stimuli. *Eur Neuropsychopharmacol*. 2013; 23:1474-83.
35. Gingnell M, Engman J, Frick A, Moby L, Wikstrom J, Fredrikson M, Sundstrom-Poromaa I. Oral contraceptive use changes brain activity and mood in women with previous negative affect on the pill--a double-blinded, placebo-controlled randomized trial of a levonorgestrel-containing combined oral contraceptive. *Psychoneuroendocrinology*. 2013; 38:1133-44.
36. Granfors M, Akerud H, Berglund A, Skogo J, Sundstrom-Poromaa I, Wikstrom AK. Thyroid testing and management of hypothyroidism during pregnancy: a population-based study. *J Clin Endocrinol Metab*. 2013; 98:2687-92.
37. Hellgren C, Akerud H, Skalkidou A, Sundstrom-Poromaa I. Cortisol awakening response in late pregnancy in women with previous or ongoing depression. *Psychoneuroendocrinology*. 2013; 38:3150-4.
38. Ismail KM, Nevatte T, O'Brien S, Paschetta E, Backstrom T, Dennerstein L, Eriksson E, Freeman EW, Panay N, Pearlstein T, Rapkin A, Steiner M, Studd J, Sundstrom-Poromaa I. Clinical subtypes of core premenstrual disorders: a Delphi survey. *Arch Womens Ment Health*. 2013; 16:197-201.
39. Lau NM, Green PH, Taylor AK, Hellberg D, Ajamian M, Tan CZ, Kosofsky BE, Higgins JJ, Rajadhyaksha AM, Alaedini A. Markers of Celiac Disease and Gluten Sensitivity in Children with Autism. *PLoS One*. 2013; 8:e66155.
40. Lindgren KE, Karehed K, Karypidis H, Hosseini F, Bremme K, Landgren BM, Skjoldebrand-Sparre L, Stavreus-Evers A, Sundstrom-Poromaa I, Akerud H. Histidine-rich glycoprotein gene polymorphism in patients with recurrent miscarriage. *Acta Obstet Gynecol Scand*. 2013; 92:974-7.

41. Moeller S, Lau NM, Green PH, Hellberg D, Higgins JJ, Rajadhyaksha AM, Alaedini A. Lack of association between autism and anti-GM1 ganglioside antibody. *Neurology*. 2013; 81:1640-1.
42. Olivier JD, Vinkers CH, Olivier B. The role of the serotonergic and GABA system in translational approaches in drug discovery for anxiety disorders. *Front Pharmacol*. 2013; 4:74.
45. Pekar G, Hofmeyer S, Tabar L, Tarjan M, Chen TH, Yen AM, Chiu SY, Hellberg D, Gere M, Tot T. Multifocal breast cancer documented in large-format histology sections: long-term follow-up results by molecular phenotypes. *Cancer*. 2013; 119:1132-9.
46. Ridefelt P, Aldrimer M, Gustafsson J, Hellberg D. [Creatinine values should be complemented with GFR estimates]. *Lakartidningen*. 2013; 110:2125-6.
47. Ridefelt P, Aldrimer M, Rodoo P, Gustafsson J, Niklasson F, Hellberg D. [Pediatric reference ranges for clinical chemistry analyzes]. *Lakartidningen*. 2013; 110:1927-30.
48. Rodoo P, Hellberg D. Girls who masturbate in early infancy: diagnostics, natural course and a long-term follow-up. *Acta Paediatr*. 2013; 102:762-6.
49. Rodoo P, Ridefelt P, Aldrimer M, Niklasson F, Gustafsson J, Hellberg D. Population-based pediatric reference intervals for HbA1c, bilirubin, albumin, CRP, myoglobin and serum enzymes. *Scand J Clin Lab Invest*. 2013; 73:361-7.
50. Segeblad B, Bannbers E, Moby L, Nyberg S, Bixo M, Backstrom T, Sundstrom Poromaa I. Allopregnanolone serum concentrations and diurnal cortisol secretion in women with premenstrual dysphoric disorder. *Arch Womens Ment Health*. 2013; 16:131-7.
51. Siristatidis C, Sergeantanis TN, Kanavidis P, Trivella M, Sotiraki M, Mavromatis I, Psaltopoulou T, Skalkidou A, Petridou ET. Controlled ovarian hyperstimulation for IVF: impact on ovarian, endometrial and cervical cancer--a systematic review and meta-analysis. *Hum Reprod Update*. 2013; 19:105-23.
52. Skoog Svanberg A, Lampic C, Gejerwall AL, Gudmundsson J, Karlstrom PO, Solensten NG, Sydsjo G. Gamete donors' satisfaction; gender differences and similarities among oocyte and sperm donors in a national sample. *Acta Obstet Gynecol Scand*. 2013; 92:1049-56.
53. Stenberg R, Dahle C, Magnuson A, Hellberg D, Tysk C. Increased prevalence of antibodies against dietary proteins in children and young adults with cerebral palsy. *J Pediatr Gastroenterol Nutr*. 2013; 56:233-8.
54. Sylven SM, Ekselius L, Sundstrom-Poromaa I, Skalkidou A. Premenstrual syndrome and dysphoric disorder as risk factors for postpartum depression. *Acta Obstet Gynecol Scand*. 2013; 92:178-84.
55. Sylven SM, Elenis E, Michelakos T, Larsson A, Olovsson M, Poromaa IS, Skalkidou A. Thyroid function tests at delivery and risk for postpartum depressive symptoms. *Psychoneuroendocrinology*. 2013; 38:1007-13.
56. Wallin Lundell I, Georgsson Ohman S, Frans O, Helstrom L, Hogberg U, Nyberg S, Sundstrom Poromaa I, Sydsjo G, Ostlund I, Skoog Svanberg A. Posttraumatic stress among women after induced abortion: a Swedish multi-centre cohort study. *BMC Womens Health*. 2013; 13:52.
57. Wallin Lundell I, Sundstrom Poromaa I, Frans O, Helstrom L, Hogberg U, Moby L, Nyberg S, Sydsjo G, Georgsson Ohman S, Ostlund I, Skoog Svanberg A. The prevalence of posttraumatic stress among women requesting induced abortion. *Eur J Contracept Reprod Health Care*. 2013; 18:480-8.
58. Wanggren K, Alden J, Bergh T, Skoog Svanberg A. Attitudes towards embryo donation among infertile couples with frozen embryos. *Hum Reprod*. 2013; 28:2432-9.
59. Wanggren K, Prag F, Skoog Svanberg A. Attitudes towards embryo donation in Swedish women and men of reproductive age. *Ups J Med Sci*. 2013; 118:187-95.
60. Baumgart J, Nilsson K, Stavreus Evers A, Kunovac Kallak T, Kushnir MM, Bergquist J, Sundstrom Poromaa I. Androgen levels during adjuvant endocrine therapy in postmenopausal breast cancer patients. *Climacteric*. 2014; 17:48-54.
61. Borneskog C, Lampic C, Sydsjo G, Bladh M, Skoog Svanberg A. How do lesbian couples compare with heterosexual in vitro fertilization and spontaneously pregnant couples when it comes to parenting stress? *Acta Paediatr*. 2014; 103:537-45.
62. Cato K, Sylven SM, Skalkidou A, Rubertsson C. Experience of the first breastfeeding session in association with the use of the hands-on approach by healthcare professionals: a population-based Swedish study. *Breastfeed Med*. 2014; 9:294-300.

64. Comasco E, Hahn A, Ganger S, Gingnell M, Bannbers E, Orelund L, Wikstrom J, Epperson CN, Lanzenberger R, Sundstrom-Poromaa I. Emotional fronto-cingulate cortex activation and brain derived neurotrophic factor polymorphism in premenstrual dysphoric disorder. *Hum Brain Mapp.* 2014; 35:4450-8.
65. Elenis E, Lindgren KE, Karypidis H, Skalkidou A, Hosseini F, Bremme K, Landgren BM, Skjoldebrand-Sparre L, Stavreus-Evers A, Sundstrom-Poromaa I, Akerud H. The histidine-rich glycoprotein A1042G polymorphism and recurrent miscarriage: a pilot study. *Reprod Biol Endocrinol.* 2014; 12:70.
66. Gingnell M, Ahlstedt V, Bannbers E, Wikstrom J, Sundstrom-Poromaa I, Fredrikson M. Social stimulation and corticolimbic reactivity in premenstrual dysphoric disorder: a preliminary study. *Biol Mood Anxiety Disord.* 2014; 4:3.
67. Granfors M, Akerud H, Skogo J, Stridsberg M, Wikstrom AK, Sundstrom-Poromaa I. Targeted thyroid testing during pregnancy in clinical practice. *Obstet Gynecol.* 2014; 124:10-5.
68. Gremel G, Bergman J, Djureinovic D, Edqvist PH, Maindad V, Bharambe BM, Khan WA, Navani S, Elebro J, Jirstrom K, Hellberg D, Uhlen M, Micke P, Ponten F. A systematic analysis of commonly used antibodies in cancer diagnostics. *Histopathology.* 2014; 64:293-305.
69. Haroun S, Altmae S, Karypidis H, Kuningas M, Landgren BM, Akerud H, Skjoldebrand-Sparre L, Hosseini F, Bremme K, Sundstrom-Poromaa I, Stavreus-Evers A. Association between trefoil factor 3 gene variants and idiopathic recurrent spontaneous abortion. *Reprod Biomed Online.* 2014; 29:737-44.
70. Hellberg D, Tot T. Tumor Marker Score for Prognostication of Early-stage Squamous Cell Cervical Cancer. *Anticancer Res.* 2014; 34:887-92.
71. Hellgren C, Akerud H, Skalkidou A, Backstrom T, Sundstrom-Poromaa I. Low serum allopregnanolone is associated with symptoms of depression in late pregnancy. *Neuropsychobiology.* 2014; 69:147-53.
72. Iliadis SI, Koulouris P, Gingnell M, Sylven SM, Sundstrom-Poromaa I, Ekselius L, Papadopoulos FC, Skalkidou A. Personality and risk for postpartum depressive symptoms. *Arch Womens Ment Health.* 2014.
73. Isaksson S, Sydsjo G, Skoog Svanberg A, Lampic C. Preferences and needs regarding future contact with donation offspring among identity-release gamete donors: results from the Swedish Study on Gamete Donation. *Fertil Steril.* 2014; 102:1160-6.
74. Kallak TK, Baumgart J, Goransson E, Nilsson K, Poromaa IS, Stavreus-Evers A. Aromatase inhibitors affect vaginal proliferation and steroid hormone receptors. *Menopause.* 2014; 21:383-90.
75. Karamanis G, Skalkidou A, Tsakonas G, Brandt L, Ekblom A, Ekselius L, Papadopoulos FC. Cancer incidence and mortality patterns in women with anorexia nervosa. *Int J Cancer.* 2014; 134:1751-7.
76. Lampic C, Skoog Svanberg A, Sydsjo G. Attitudes towards disclosure and relationship to donor offspring among a national cohort of identity-release oocyte and sperm donors. *Hum Reprod.* 2014; 29:1978-86.
77. Liljestrom L, Wikstrom AK, Skalkidou A, Akerud H, Jonsson M. Experience of fetal scalp blood sampling during labor. *Acta Obstet Gynecol Scand.* 2014; 93:113-7.
78. Lindstrom AK, Hellberg D. Immunohistochemical LRIG3 expression in cervical intraepithelial neoplasia and invasive squamous cell cervical cancer: association with expression of tumor markers, hormones, high-risk HPV-infection, smoking and patient outcome. *Eur J Histochem.* 2014; 58:2227.
79. Murto T, Skoog Svanberg A, Yngve A, Nilsson TK, Altmae S, Wanggren K, Salumets A, Stavreus-Evers A. Folic acid supplementation and IVF pregnancy outcome in women with unexplained infertility. *Reprod Biomed Online.* 2014; 28:766-72.
80. Nordqvist S, Sydsjo G, Lampic C, Akerud H, Elenis E, Skoog Svanberg A. Sexual orientation of women does not affect outcome of fertility treatment with donated sperm. *Hum Reprod.* 2014; 29:704-11.
81. Oberg M, Stenson K, Skalkidou A, Heimer G. Prevalence of intimate partner violence among women seeking termination of pregnancy compared to women seeking contraceptive counseling. *Acta Obstet Gynecol Scand.* 2014; 93:45-51.

82. Olivier JD, Akerud H, Skalkidou A, Kaihola H, Sundstrom-Poromaa I. The effects of antenatal depression and antidepressant treatment on placental gene expression. *Front Cell Neurosci.* 2014; 8:465.
84. Pekar G, Gere M, Tarjan M, Hellberg D, Tot T. Molecular phenotype of the foci in multifocal invasive breast carcinomas: intertumoral heterogeneity is related to shorter survival and may influence the choice of therapy. *Cancer.* 2014; 120:26-34.
86. Ridefelt P, Gustafsson J, Aldrimer M, Hellberg D. Alkaline phosphatase in healthy children: reference intervals and prevalence of elevated levels. *Horm Res Paediatr.* 2014; 82:399-404.
87. Ridefelt P, Hellberg D, Aldrimer M, Gustafsson J. Estimating reliable paediatric reference intervals in clinical chemistry and haematology. *Acta Paediatr.* 2014; 103:10-5.
88. Sergeantanis TN, Diamantaras AA, Perlepe C, Kanavidis P, Skalkidou A, Petridou ET. IVF and breast cancer: a systematic review and meta-analysis. *Hum Reprod Update.* 2014; 20:106-23.
89. Stalberg K, Svensson T, Lonn S, Kieler H. The influence of comorbidity on mortality in ovarian cancer patients. *Gynecol Oncol.* 2014; 133:298-303.
91. Sydsjo G, Lampic C, Bladh M, Skoog Svanberg A. Relationships in oocyte recipient couples - a Swedish national prospective follow-up study. *Reprod Health.* 2014; 11:38.
92. Sydsjo G, Lampic C, Bladh M, Svanberg AS. Oocyte and sperm donors' opinions on the acceptable number of offspring. *Acta Obstet Gynecol Scand.* 2014; 93:634-9.
93. Sydsjo G, Svanberg AS, Bladh M, Lampic C. Relationships in couples treated with sperm donation - a national prospective follow-up study. *Reprod Health.* 2014; 11:62.
95. Wanggren K, Baban M, Svanberg AS. Attitudes toward embryo donation among staff at in vitro fertilization clinics. *Acta Obstet Gynecol Scand.* 2014; 93:765-70.
96. Wesstrom J, Skalkidou A, Manconi M, Fulda S, Sundstrom-Poromaa I. Pre-pregnancy restless legs syndrome (Willis-Ekbom Disease) is associated with perinatal depression. *J Clin Sleep Med.* 2014; 10:527-33.
97. Wesstrom J, Ulfberg J, Sundstrom-Poromaa I, Lindberg E. Periodic limb movements are associated with vasomotor symptoms. *J Clin Sleep Med.* 2014; 10:15-20.
98. Bhandage AK, Hellgren C, Jin Z, Olafsson EB, Sundstrom-Poromaa I, Birnir B. Expression of GABA receptors subunits in peripheral blood mononuclear cells is gender dependent, altered in pregnancy and modified by mental health. *Acta Physiol (Oxf).* 2015; 213:575-85.
99. Kaihola H, Olivier J, Poromaa IS, Akerud H. The effect of antenatal depression and selective serotonin reuptake inhibitor treatment on nerve growth factor signaling in human placenta. *PLoS One.* 2015; 10:e0116459.
100. Maliqueo M, Sundstrom Poromaa I, Vanky E, Fornes R, Benrick A, Akerud H, Stridsklev S, Labrie F, Jansson T, Stener-Victorin E. Placental STAT3 signaling is activated in women with polycystic ovary syndrome. *Hum Reprod.* 2015; 30:692-700.
101. Murto T, Kallak TK, Hoas A, Altmae S, Salumets A, Nilsson TK, Skoog Svanberg A, Wanggren K, Yngve A, Stavreus-Evers A. Folic acid supplementation and methylenetetrahydrofolate reductase (MTHFR) gene variations in relation to in vitro fertilization pregnancy outcome. *Acta Obstet Gynecol Scand.* 2015; 94:65-71.
102. Nordqvist S, Karehed K, Skoog Svanberg A, Menezes J, Akerud H. Ovarian response is affected by a specific histidine-rich glycoprotein polymorphism: a preliminary study. *Reprod Biomed Online.* 2015; 30:74-81.
103. Petridou ET, Sergeantanis TN, Perlepe C, Papathoma P, Tsilimidos G, Kontogeorgi E, Kourti M, Baka M, Moschovi M, Polychronopoulou S, Sidi V, Hatzipantelis E, Stiakaki E, Iliadou AN, La Vecchia C, Skalkidou A, Adami H. Socioeconomic disparities in survival from childhood leukemia in the United States and globally: a meta-analysis. *Ann Oncol.* 2015; 26:589-97.
104. Petridou ET, Sergeantanis TN, Skalkidou A, Antonopoulos CN, Dessypris N, Svensson T, Stephansson O, Kieler H, Smedby KE. Maternal and birth anthropometric characteristics in relation to the risk of childhood lymphomas: a Swedish nationwide cohort study. *Eur J Cancer Prev.* 2015.
105. Thomopoulos TP, Skalkidou A, Dessypris N, Chrousos G, Karalexi MA, Karavasilis TG, Baka M, Hatzipantelis E, Kourti M, Polychronopoulou S, Sidi V, Stiakaki E, Moschovi M, Loutradis D, Petridou ET. Prelabor cesarean delivery and early-onset acute childhood leukemia risk. *Eur J Cancer Prev.* 2015.

106. Wallin Lundell I, Ohman SG, Sundstrom Poromaa I, Hogberg U, Sydsjo G, Skoog Svanberg A. How women perceive abortion care: A study focusing on healthy women and those with mental and posttraumatic stress. *Eur J Contracept Reprod Health Care*. 2015;1-12.
107. Witjes H, Creinin MD, Sundstrom-Poromaa I, Martin Nguyen A, Korver T. Comparative analysis of the effects of norgestrel acetate/17 beta-estradiol and drospirenone/ethinylestradiol on premenstrual and menstrual symptoms and dysmenorrhea. *Eur J Contracept Reprod Health Care*. 2015;1-12.

Reviews 2012-2014

1. Hudecova M, Jan H, Christian B, Poromaa Inger S. Long-term reproductive and metabolic consequences of PCOS. *Curr Diabetes Rev*. 2012; 8:444-51.
2. Skalkidou A, Hellgren C, Comasco E, Sylven S, Sundstrom Poromaa I. Biological aspects of postpartum depression. *Womens Health (Lond Engl)*. 2012; 8:659-72.
3. Hellberg D. Sex steroids and cervical cancer. *Anticancer Res*. 2012; 32:3045-54.
4. Poromaa IS, Segeblad B. Adverse mood symptoms with oral contraceptives. *Acta Obstet Gynecol Scand*. 2012; 91:420-7.
5. Nevatte T, O'Brien PM, Backstrom T, Brown C, Dennerstein L, Endicott J, Epperson CN, Eriksson E, Freeman EW, Halbreich U, Ismail K, Panay N, Pearlstein T, Rapkin A, Reid R, Rubinow D, Schmidt P, Steiner M, Studd J, Sundstrom-Poromaa I, Yonkers K. ISPM consensus on the management of premenstrual disorders. *Arch Womens Ment Health*. 2013; 16:279-91.
6. Olivier JD, Akerud H, Kaihola H, Pawluski JL, Skalkidou A, Hogberg U, Sundstrom-Poromaa I. The effects of maternal depression and maternal selective serotonin reuptake inhibitor exposure on offspring. *Front Cell Neurosci*. 2013; 7:73.
7. Poromaa IS. Physiological Correlates of Premenstrual Dysphoric Disorder (PMDD). *Curr Top Behav Neurosci*. 2014; 21:229-43.
8. Toffoletto S, Lanzenberger R, Gingnell M, Sundstrom-Poromaa I, Comasco E. Emotional and cognitive functional imaging of estrogen and progesterone effects in the female human brain: a systematic review. *Psychoneuroendocrinology*. 2014; 50:28-52.
9. Sundstrom Poromaa I, Gingnell M. Menstrual cycle influence on cognitive function and emotion processing-from a reproductive perspective. *Front Neurosci*. 2014; 8:380.
10. Olivier JD, Akerud H, Sundstrom Poromaa I. Antenatal depression and antidepressants during pregnancy: Unraveling the complex interactions for the offspring. *Eur J Pharmacol*. 2014.
11. Comasco E, Frokjaer VG, Sundstrom-Poromaa I. Functional and molecular neuroimaging of menopause and hormone replacement therapy. *Front Neurosci*. 2014; 8:388.

Dissertations 2014

Inger Wallin Lundell, Induced abortions and posttraumatic stress – is there any relation?

Agencies that support the work/Funding

The Swedish Research Council 700 000 SEK (ISP)
 The Swedish Research Council 1100 000 SEK (ISP)
 The Swedish Research Council 2150 000 SEK (AS)
 Uppsala-Örebro Research Foundation, 250 000 SEK (DH)
 Uppsala University, KOF 300 000 SEK
 ALF, 2 300 000 SEK (ISP, ASS, AS)
 The Swedish Cancer Society 500 000 SEK (ISP)
 Marianne and Marcus Wallenberg Foundation 1 000 000 SEK (ISP/ASS)
 Marianne och Marcus Wallenberg Foundation 700 000 SEK per år (2012-2014) (AS)
 Uppsala University Hospital 360 000 SEK per år (2013-2017) (AS)
 Brottsförmyndigheten 200 000 SEK (AS)
 Uppsala-Örebro Research Foundation 150 000 SEK (AS)

The PADIA study

Agneta Skoog Svanberg, Inger Sundström Poromaa, Ulf Högberg, Gunilla Sydsjö, Örjan Frans, Susanne Georgesson Öhmnan, Inger Wallin Lundell

Although most women cope well with having an abortion, there is an increasing awareness that the abortion as such may deteriorate a pre-existing depressive and/or anxiety disorder (including post-traumatic stress disorder) or trigger the onset of a depressive episode. The PADIA study included approximately 1500 women seeking induced abortion at five out-patient clinics. Results indicate that induced abortion is not associated with risk of developing posttraumatic stress disorder. During the past year the two additional manuscripts from this study have been published, and Inger Wallin Lundell defended her thesis in September 2014.

The Swedish multicenter study on gamete donation.

Agneta Skoog Svanberg, Gunilla Sydsjö, Claudia Lampic, Catrin Borneskog, Stina Isaksson, Evangelia Elenis, Sara Nordqvist

To improve the readiness of the general population to act as gamete donors, more research on the psychosocial consequences for donors and recipients is needed. The aims of the study are to study short- and long-term psychosocial consequences of oocyte and sperm donation for the donors as well as the recipients. The multi-center study includes all infertility clinics performing gamete donation in Sweden. Donors, recipients, and control subject individually completed three questionnaires: at the start of treatment, 2 months after treatment, and 2-3 years after treatment. Fourteen papers from the study have thus far been published and the long-term follow-up of couples started during 2013

The JUNO study: Internet-based psychological support following negative or traumatic experiences at delivery

Agneta Skoog Svanberg, Maria Jonsson, Alkistis Skalkidou, Inger Sundström Poromaa, Margareta Larsson, Thomas Parling, Josefine Sjömark

In Sweden, approximately 100 000 women give birth every year. Obstetric interventions, obstetric complications, a sense of losing control during delivery and inadequate information may contribute to traumatic experiences and subsequent stress symptoms in laboring women. This projects is a longitudinal, randomized controlled trial on internet-based support to women with stress symptoms (anxiety, depression and posttraumatic stress symptoms) following delivery. Endpoints include propensity to request Caesarean section at next pregnancy. During the past year, extensive work has been put into the web-based platform that will be used for the intervention. Following a pilot study, the project started including patients in 2014.

Obstetric care in India

Agneta Skoog Svanberg, Margareta Larsson, Kyllike Christensson, Mallavarapu Prakasamma, Paridhi Jha

Through a number of national programs, and with the aim of fulfilling the Millennium Development Goals, India has over the past years promoted institutionalized deliveries. By these measures, maternal mortality has been significantly reduced and 80 % of deliveries now take place in the clinic. Together with Indian collaborators this study evaluates quality of obstetric care in India, and women's satisfaction with given care. Qualitative and quantitative data will be collected from public delivery clinics in specific parts of Indian.

BASIC - Biology, Affect, Stress, Imaging and Cognition in Pregnancy and the Puerperium

Alkistis Skalkidou, Inger Sundström Poromaa, Sara Sylven, Stavros Iliadis, Patricia Eckerdal, Charlotte Hellgren, Malin Gingnell, Erika Comasco, Mia Ramklint, Carin Marzisko, Gustaf Gredebeck

This study is an attempt to further extend our knowledge on the pathophysiological processes underlying antenatal depression and postpartum depression (PPD) and also to find predictors of the diseases to improve early recognition. All women attending the routine ultrasound examination in gestational week 16-17 are asked to participate in this study. During pregnancy women are followed by web-based questionnaires (depression rating scales, personality inventory, early life stress, sleep disorders). Blood and tissue samples have been collected from all women at parturition, and a final assessment of all women will be made six months postpartum. The study has thus far included 4100 women and tissue sampling at delivery is obtained in more than 80% of cases. During the past year, 6 papers using information or tissue from the BASIC study have been published and at 5-6 manuscripts are currently underway. Extensive genotyping of the population has been performed in 2014, which is expected to yield further publications.

A follow-up study on the offspring of the cohorts UPPSAT (2006-7) and BASIC (2009-ongoing), trying to elucidate complex genetic and environmental interactions in shaping child psychopathology has been initiated (U-BIRTH study). The children are followed at 18 months, 6 years and 11 years with questionnaires and saliva sampling. Umbilical cord blood is also available for a large proportion of the BASIC participants. In addition, a study in collaboration with Uppsala Barn and Baby Labbet, Dept of Psychology, Uppsala University, in which children to healthy (n=100) and depressed mothers (n=20) from the BASIC cohort are subjected to a battery of elaborate psychological tests.

Adverse mood effects on combined oral contraceptives.

Inger Sundström Poromaa, Cecilia Lundin, Lena Moby

Adverse mood symptom and sexual dysfunction are common complaints in oral contraceptive users, but no placebo-controlled trials have been performed in this area to establish drug-related causality. During fall 2013, a multi-center, placebo-controlled oral contraceptive trial was started. Participating sites include Uppsala, Stockholm, Linköping, Örebro, Göteborg and Umeå. By the end of the inclusion period (June 2015) it is expected that more than 250 have been included. Preliminary data thus far not available.

Urogenital symptoms in breast cancer patients on adjuvant endocrine therapy.

Inger Sundström Poromaa, Annelie Stavreus Evers, Theodora Kunovac Kallak, Juliane Baumgart

In developed countries approximately 75 % of all breast cancers occur in postmenopausal women, and 80 % of these cancers are hormone receptor positive. Adjuvant endocrine treatments are all primarily directed to induce estrogen deprivation. The use of both tamoxifen and aromatase inhibitors (AI) is however associated with severe urogenital atrophy and impaired sexual function. Additional profiling of the vaginal mucosa in AI users is underway, and the ultimate goal of the project is to develop a possible intervention for these women. Seven papers have thus far been published from this project, and Theodora Kunovac Kallak is expected to defend her thesis in 2015.

New biomarkers for cervical cancer

Dan Hellberg, Inger Sundström Poromaa, Emma Billström, Anna Asplund

Professor Hellberg has several research projects ranging from long-term health in participants of the Vasa cross-country skiing race to odontology. However, of importance for the research group, he has extensive experience in the field of cervical dysplasia and cervical cancer. In collaboration with the Human Protein Atlas in Uppsala, new biomarkers for progression of cervical dysplasia are evaluated.

U-CAN Gynecologic cancer.

Karin Stålberg, Inger Sundström Poromaa, Kathrine Bjersand

The U-CAN project in Uppsala has continued to include gynecologic cancers, i.e. cervical, endometrial and ovarian cancer, with excellent coverage. Samples include tumor tissues at surgery and blood samples.

Tissue samples are biobanked at the pathology unit according to U-CAN routines. Clinical data and patient information is stored as quality registry forms (both gynecologic and pathologic), together with information on family history, general and reproductive health. Karin Stålberg is chairman of the U-CAN gynecology research team.

Ultrasound dating and perinatal morbidity and mortality

Alkistis Skalkidou, Merit Kullinger, Helle Kieler

A study based on Swedish register data, testing the hypothesis that missclassification of estimated date of delivery by second trimester ultrasound dating has negative outcome in perinatal morbidity and mortality. One article is published in EPIDEMIOLOGY and the second is under submission.

EMBLA project- En internet based informationsplatfrom for vulvodyni patienter

Alkistis Skalkidou, Ulf Högberg, Agneta Skoog Svanberg, Monica Burhman

Vulvodynia is a very prevalent disorder among young women, affecting their relationships and quality of life. This is a randomized study testing the efficacy and cost-effectiveness parameters of an internet-based randomized intervention based on a CBT-ACT treatment approach. The study will pilot in August 2015.

International Child Health and Nutrition

Lars Åke Persson

The research programme International Child Health and Nutrition focuses on health system strategies and interventions for improved child health and survival, on prevention and management of childhood malnutrition, and on equity in child health and survival.

Group members

Lotta Almblad
Ashish KC
Elazar Tadesse Balla
Anna Bergström
Hannah Bradby
Mickey Chopra
Mariela Contreras
Tanya Doherty
Duong M Duc
Hanna Eneroth
Leif Eriksson
Uwe Ewald
Yngve Hofvander
Petrida Ijumba
Emily White Johansson
Ashraful Islam Khan
Carina Källestål
Emma Lindström
Kajsa Åsling Monemi
Mats Målqvist
Aimable Musafili
Baitun Nahar
Nguyen Thu Nga
Amal Omer-Salim
Pernilla Svehors
Wilton Pérez
Lars Åke Persson
Stefan Swartling Peterson
Anisur Rahman
Katarina Selling
Nazmul Sohel
Johan Wrammert

Publications 2012-2014

2014

1. Awor P, Miller J, Peterson S. Systematic literature review of integrated community case management and the private sector in Africa: Relevant experiences and potential next step. *Journal of global health* 2014; Vol 4, No. 2.
2. Ziaei S., Contreras M., Zelaya Blandón E., Persson L-Å, Hjern A., Ekström E-C. Women's autonomy and social support and their associations with infant and young child feeding and nutritional status: community-based survey in rural Nicaragua. *Public Health Nutrition* 2014, Nov 20:1-12 <http://www.ncbi.nlm.nih.gov/pubmed/25409706?report=abstract>
3. Hawlander M., Ma E., Noguchi E., Itoh M, Arifeen S, Persson L-Å, Moore S, Raquib R, Wagatsuma Y. *Ascaris lumbricoides* Infection as a Risk Factor for Asthma and Atopy in Rural Bangladeshi Children. *Topical Medicine and Health* Vol 42, No. 2, 2014, 77-85
4. Tancred T, Manu R, Hanson C, Okuyga M, Manzi F, Peterson S, Schellenberg J, Waiswa P, Marchant T and the EQUIP Study Team. How people-centred health systems can reach the grassroots: experiences implementing community-level quality improvement in rural Tanzania and Uganda. *Health Policy and Planning* 2014;1-13.
5. Hamadani J, Nahar B, Nazmul Huda S and Tofail F. Integrating early child development programs into health and nutrition services in Bangladesh: benefits and challenges. *Ann. N.Y. Acad. Sci* 1308 (2014) 192-203.
6. Wazny K, Sadruddin S, Zipursky A, Davidson H, Jacobs T, Kallander K, Pagnoni F, Peterson S, Qazi S, Raharison S, Ross K, Young M and Marsh D. Setting global research priorities for integrated community case management (iCCM): Results from a CHNRI (Child Health and Nutrition Research Initiative) exercise. *Journal of Global Health* 2014:Vol 4, No 2
7. Sahoo KC, Sahoo S, Marrone G, Pathak A, Lundborg CS, Tamhankar Aj. Climatic Factors and Community – Associated Methicillin-Resistant *Staphylococcus aureus* Skin and Soft-Tissue Infections - A Time-Series Analysis Study. *Int J Environ Res Public Health* 2014, 11, 8966-9007. doi:10.3390/ijerph110908996
8. Pathak A, Mårtensson A. Gawariker S, Mandliya J, Sharma A, Diwan V, Ursing J. Characterization of drug resistance associated genetic polymorphisms among *Plasmodium falciparum* field isolates in Ujjain, Madhya Pradesh, India. *Malaria Journal* 2014, 13:182. <http://www.malariajournal.com/content/pdf/1475-2875-13-182.pdf>
9. Shakya O, Barrett P, Diwan V, Marothi Y, Shah H, Chhari N, Tamhankar AJ, Pathak A, Lundborg CS. Antibiotic resistance among *Escherichia coli* isolates from stool samples of children aged 3 to 14 years from Ujjain, India. *BMC Infectious Diseases* 2013, 13:477 <http://www.biomedcentral.com/content/pdf/1471-2334-13-477.pdf>
10. Pathak A, Saliba EA, Sharma S, Mahadik VK, Shah H, Lundberg CS. Incidence and factors associated with surgical site infections in a teaching hospital in Ujjain, *American Journal of Infection Control* 2014 42, e11-e15. <http://dx.doi.org/10.1016/j.ajic.2013.06.013>
11. Rath M, Rath SK, Purohit M, Pathak A. Couvelaire uterus. *BMJ Case Rep* 2014.
12. Yuan B, Målqvist M, Trygg N, Qian X, Ng N, Thomsen S. What interventions are effective on reducing inequalities in maternal and child health in low- and middle-income settings? A systematic review. *BMC Public Health* 2014, 14:634. <http://www.biomedcentral.com/content/pdf/1471-2458-14-634.pdf>
13. Lindbäck C, KC A, Wrammert J, Vitrakoti R, Ewald U, Målqvist M. Poor adherence to neonatal resuscitation guidelines exposed; an observational study using camera surveillance at a tertiary hospital in Nepal. *BMC Pediatrics* 2014, 14:233. <http://www.biomedcentral.com/content/pdf/1471-2431-14-233.pdf>
14. Kitutu F, Mayora C, Awor P, Forsberg B, Peterson S, Wamani H. Inclusion of private sector in district health systems; case study of private drug shops implementing modified Integrated Community Case Management (iCCM) strategy in Rural Uganda. Poster Presentation, *BMC Health Services Research* 2014, 14 (suppl 2):P65.

15. Nalwadda CK, Peterson S, Tomson G, Guwatudde D, Kiguli J, Namazzi G, Namutamba S, Namugaya F, Nambuya H, Tagoola A, Waiswa P. Health system preparedness for newborn care: a health facility assessment in rural Uganda. Poster Presentation, BMC Health Services Research 2014, 14(Suppl 2):P63.
16. Marchant T, Schellenberg J, Peterson S, Manzi F, Waiswa P, Hanson C, Temu S, Darious K, Sedekia Y, Akuze J, Rowe A. The use of continuous surveys to generate and continuously report high quality timely maternal and newborn health data at the district level in Tanzania and Uganda. Implementation Science 2014, 9:112 doi:10.1186/s13012-014-0112-1.
17. Hesselman S, Högberg U, Ekholm-Selling K, Råssjö E-B, Jonsson M. The risk of uterine rupture is not increased with single- compared with double-layer closure: a Swedish cohort study. BJOG. 2014 Aug 4. doi: 10.1111/1471-0528.13015. [Epub ahead of print].
18. Doherty T, Jackson D, Swanvelder S, Lombard C, Engebretsen IMS, Tylleskär T, Goga A, Ekström E-C, Sanders D. Severe events in the first 6 months of life in a cohort of HIV-unexposed infants from South Africa: effects of low birthweight and breastfeeding status. Trop Med Int Health. 2014 Jul 23. doi: 10.1111/tmi.12355. [Epub ahead of print].
19. Engebretsen IMS, Jackson D, Fadnes LT, Nankabirwa V, Diallo AH, Doherty T, Lombard C, Swanvelder S, Nankunda J, Ramokolo V, Sanders D, Wamani H, Meda N, Tumwine JK, Ekström E-C, Van de Perre P, Kankassa C, Sommerfelt H, Tylleskär T. Growth effects of exclusive breastfeeding promotion by peer counsellors in sub-Saharan Africa: the cluster-randomised PROMISE EBF trial. BMC Public Health 2014, 14:633.
<http://www.biomedcentral.com/content/pdf/1471-2458-14-633.pdf>
20. Rydbeck F, Rahman A, Grandér M, Ekström E-C, Vahter M, Kippler M. Maternal Urinary Iodine Concentration up to 1.0 mg/L Is Positively Associated with Birth Weight, Length, and Head Circumference of Male Offspring.
21. Nahar B, Hossain I, Hamadani JD, Ahmed T, Grantham-McGregor S, Persson L_A. Effect of a food supplementation and psychosocial stimulation trial for severely malnourished children on the level of maternal depressive symptoms in Bangladesh. Child Care Health Dev. 2014 Jul 4. doi: 10.1111/cch.12176. [Epub ahead of print].
22. Contreras M, Zelaya BE, Persson L-Å, Ekström E-C. Consumption of highly processed snacks, sugar-sweetened beverages and child feeding practices in a rural area of Nicaragua. Matern Child Nutr. 2014 Aug 19. doi: 10.1111/mcn.12144. [Epub ahead of print]
23. Yan B, Målqvist M, Trygg N, Qian X, Ng N, Thomsen S. What interventions are effective on reducing inequalities in maternal and child health in low- and middle-income settings? A systematic review. BMC Public Health 2014;14:634.
24. Eriksson, Leif. Strategi för förbättrad vård av nyfödda barn i Vietnam (in Swedish). Chapter 11 in the book "Implementering av evidensbaserad praktik". Glerup Utbildning AB, 2014, Per Nilsen (red.) ISBN 978-91-40-68447-9
25. Hanson C, Waiswa P, Marchant T, Marx M, Manzi F, Mbaruku G, Rowe A, Tomson G, Schellenberg J, Peterson S, Jaribu J, Sedekia Y, Arafumin P, Temu S, Okuga M, Kajjo D, Manu R, Akuze J, Balidawa H, Baker U, Tancred T. Expanded Quality Management Using Information Power (EQUIP): protocol for a quasi-experimental study to improve maternal and newborn health in Tanzania and Uganda (E-pub ahead of print).
26. Heyman G, Cares O, Bejarano MT, Peterson S. Access, excess, and ethics – towards a sustainable distribution model for antibiotics. Ups J Med Sci 2014; Early Online.
27. Storberg V. ESBL-producing *Enterobacteriaceae* in Africa – a non-systematic literature review of research published 2008-2012. Infect Ecol Epidemiol 2014, 4: 20342 -
<http://dx.doi.org/10.3402/iee.v4.20342>
28. Moore SE, Fulford AJC, Wagatsuma Y, Persson LÅ, Arifeen SE, Prentice AM. Thymus development and infant and child mortality in Rural Bangladesh. Int J Epidemiol 2014;43:216-223.
<http://ije.oxfordjournals.org/content/43/1/216.full.pdf+html>

29. Tomlinson M, Doherty T, Ijumba P, Jackson D, Lawn J, Persson LÅ, Lombard C, Sanders D, Daviaud E, Nkonki L, Goga A, Rohde S, Sitrin D, Colvin M, Chopra M. Goodstart: a cluster randomised effectiveness trial of an integrated, community-based package for maternal and newborn care, with prevention of mother-to-child transmission of HIV in a South African township. *Trop Med Int Health* 2014 Jan 17. (Epub ahead of print). <http://onlinelibrary.wiley.com/doi/10.1111/tmi.12257/pdf>
30. Bengtsson N, Peterson S, Sävje F. Revisiting the Educational Effects of Fetal Iodine Deficiency. Working Papers, Uppsala Center for Labor Studies 2013:13. http://www.ucls.nek.uu.se/digitalAssets/199/199882_201313.pdf
31. Mayega RW, Guwatudde D, Makumbi FE, Nakwagala FN, Peterson S, Tomson G, Östenson CG. Comparison of fasting plasma glucose and haemoglobin A1c point-of-care tests in screening for diabetes and abnormal glucose regulation in a rural low income setting. *Diabetes Res Clin Pract*. 2014 Jan 3. pii: S0168-8227(13)00464-6. doi: 10.1016/j.diabres.2013.12.030. (Epub ahead of print). <http://www.sciencedirect.com/science/article/pii/S0168822713004646#>
32. Perez W, Eriksson L, Zelaya EB, Persson LÅ, Källestål C, Peña R. Comparing progress toward the millennium development goal for under-five mortality in Leon and Cuatro Santos, Nicaragua, 1990-2008. *BMC Pediatr*. 2014 Jan 15;14(1):9 <http://www.biomedcentral.com/content/pdf/1471-2431-14-9.pdf>
33. Shaheen R, Streatfield PK, Naved RT, Lindholm L, Persson LÅ. Equity in adherence to and effect of prenatal food and micronutrient supplementation on child mortality: results from the MINIMat randomized trial, Bangladesh. *BMC Public Health*. 2014 Jan 7;14(1):5. (Epub ahead of print). <http://www.biomedcentral.com/content/pdf/1471-2458-14-5.pdf>
34. Johansson EW, Gething PW, Hildenwall H, Mapping B, Petzold M, Peterson SS, Selling KE. Diagnostic Testing of Pediatric Fevers: Meta-Analysis of 13 National Surveys Assessing Influences of Malaria Endemicity and Source of Care on Test Uptake for Febrile Children under Five Years. *PLoS One* 2014 Apr 18;9(4):e95483.

2013

35. Eriksson L, Duc DM, Eldh AC, Thanh VP, Huy T, Målqvist M, Wallin L. Lessons learned from stakeholders in a facilitation intervention targeting neonatal health in Quang Ninh province, Vietnam. *BMC Pregnancy Childbirth*. 2013 Dec 13;13:234. doi: 10.1186/1471-2393-13-234.
36. Nalwadda CK, Waiswa P, Kiguli J, Namazzi G, Namutamba S, Tomson G, Peterson S, Guwatudde D. High Compliance with Newborn Community-to-Facility Referral in Eastern Uganda: An Opportunity to Improve Newborn Survival. *PLOS One* 2013 Nov 29;8(11):e81610.
37. Rydbeck F, Bottai M, Tofail F, Persson LÅ, Kippler M. Urinary iodine concentrations of pregnant women in rural Bangladesh: A longitudinal study. *J Expo Sci Environ Epidemiol* 2013 Nov 13. doi: 10.1038/jes.2013.79. (Epub ahead of print).
38. Bich TH, Hoa DTP, Målqvist M. Fathers as Supporters for Improved Exclusive Breastfeeding in Viet Nam. *Matern Child Health J* 2013 Oct 26 (E-pub ahead of print).
39. Kalyango JN, Alfven T, Peterson S, Mugenyi K, Karamagi C, Ruebemberwa E. Integrated community case management of malaria and pneumonia increases prompt and appropriate treatment for pneumonia symptoms in children under five years in Eastern Uganda. *Malaria Journal* 2013, 12:340.
40. Rahman SM, Åkesson A, Kippler M, Granadér M, Hamadani JD, Streatfield PK, Persson LÅ, Arifeen SE, Vahter M. Elevated Manganese Concentrations in Drinking Water May Be Beneficial for Fetal Survival. *PLOS One* 2013, 8(9):e74119.
41. Becker-Dreps S, Meléndez M, Liu L, Zambrana LE, Paniagua M, Weber DJ, Hudgens MG, Cáceres M, Källestål C, Morgan DR, Espinoza F, Peña R. Community Diarrhea Incidence Before and After Rotavirus Vaccine Introduction in Nicaragua. *Am J Trop Med Hyg* 2013;89(2):246-250.
42. Ijumba P, Doherty T, Jackson D, Tomlinson M, Sanders D, Persson LÅ. Free formula milk in the prevention of mother-to-child transmission programme: voices of a peri-urban community in South Africa on policy change. *Health Policy Plan*. 2013;28:761-768.

43. Mubi, M, Kakoko D, Ngasala B, Premji Z, Peterson S, Björkman A, Mårtensson A. Malaria diagnosis and treatment practices following introduction of rapid diagnostic tests in Kibaha District, Coast Region, Tanzania. *Malar J.* 2013, Aug 26;12(1):293.
44. Mayega RW, Guwatudde D, Makumbi F, Nakwagala FN, Peterson S, Tomson G, Ostenson CG. Diabetes and Pre-Diabetes among Persons Aged 35 to 60 Years in Eastern Uganda: Prevalence and Associated Factors. *PLOS One* 2013;8(8)e72554.
45. Christian P, Lee SE, Angel MD, Adair LS, Arifeen SE, Ashorn P, Barros FC, Fall CHD, Fawzi WW, Hao W, Hu G, Humphrey JE, Huybregts L, Joglekar CV, Kariuki SK, Kolsteren P, Krishnaveni GV, Liou E, Martorell R, Osrin D, Persson LA, Ramakrishnan U, Richter L, Roberfroid D, Sania A, Kuile FOT, Tielsch J, Victora CG, Yajnik CS, Yan H, Zeng L, Black RE. Risk of childhood undernutrition related to small-for-gestational age and preterm birth in low- and middle-income countries. *Int J Epidemiol* 2013;42:1340-1355.
46. Mayega RW, Makumbi F, Rutemberwa E, Peterson S, Östenson CG, Tomson G, Guuwaterudde D. Modifiable Socio-Behavioural Factors Associated with Overweight and Hypertension among Persons Aged 35 to 60 Years in Eastern Uganda. *PLOS One* 2012;7(10)e47632.
47. Målqvist M, Yuan B, Trygg N, Selling K, Thomsen S. Targeted Interventions for Improved Equity in Maternal and Child Health in Low- and Middle-Income Settings: A Systematic Review and Meta-Analysis. *PLOS One* 2013;8(6)e66453.
48. Pathak A, Singh P, Gehlot P, Dhaneria M. Spinal epidural abscess treated with antibiotics alone. *BMJ Case Rep* 2013. Doi:10.1136/bcr-2013-009285.
49. Pathak A, Singh P, Yadav Y, Dhaneria M. Ecthyma gangrenosum in a neonate: not always pseudomonas. *BMJ Case Rep* 2013. Doi:10.1136/bcr-2013-009287.
50. Frith A, Naved R, Persson LA, Frongillo EA. Early prenatal food supplementation ameliorates the negative association of maternal stress with birth size in a randomized trial. *Matern Child Nutr* 2013 Apr 5 (E-pub ahead of print).
51. Målqvist M, Hoa, DTO, Liem NT, Thorson A, Thomsen S. Ethnic minority health in Vietnam: a review exposing horizontal inequity. *Glob Health Action* 2013, March 4;6:1-19.
52. Thomsen S, Ng N, Biao X, Bondjers G, Kusnanto H, Liem NT, Mavalankar D, Målqvist M, Diwan V. Bringing evidence to policy to achieve health-related MDGs for all: justification and design of the EPI-4 project in China, India, Indonesia, and Vietnam. *Glob Health Action* 2013, March 13;6(0)1-10.
53. Kalyango JN, Rutebemberwa E, Karamagi C, Mworozi E, Ssali S, Alfven T, Peterson S. High Adherence to Antimalarials and Antibiotics under Integrated Community Case Management of Illness in Children Less than Five Years in Eastern Uganda. *PLoS One* 2013;8(3). Epub 2013 Mar 29.
54. Hawkesworth S, Wagatsuma Y, Khan AI, Hawlader MDH, Fulford AJC, Arifeen SE, Persson LA, Moore SE. Combined Food and Micronutrient Supplements during Pregnancy Have Limited Impact on Child Blood Pressure and Kidney Function in Rural Bangladesh. *J Nutr* 2013 Mar 20 (E-pub ahead of print).
55. Målqvist M, Lincetto O, Du NH, Burgess C, Hoa DTP. Maternal health care utilization in Vietnam: increasing ethnic inequity. *Bull World Health Organ* 2013;91:254-261.
56. Thomsen S, Biao X, Kusnanto H, Mavalankar D, Målqvist M, Ng N, Diwan V. The world we want: focus on the most disadvantaged. *Glob Health Action* 2013, 6:1-3.
57. Pathak A, Chandran SP, Mahadik K, Macaden R, Lundborg C S. Frequency and factors associated with carriage of multi-drug resistant commensal *Escherichia coli* among women attending antenatal clinics in Central India. *BMC Infect. Dis.* 2013 May 2;13(1):199 (E-pub ahead of print).
58. Pathak A, Singh P, Gehlot P, Dhaneria M. Spinal epidural abscess treated with antibiotics alone. *BMJ Case Rep* 2013 Apr 30 (PubMed in process).
59. Niemi M, Målqvist M, Giang KB, Allebeck P, Falkenberg T. A narrative review of factors influencing detection and treatment of depression in Vietnam. *Int J Ment Health Syst* 2013 May 6;7(1):15. (Epub ahead of print).

60. Persson LÅ, Nga NT, Målqvist M, Hoa DTP, Eriksson L, Wallin L, Selling K, Huy TQ, Duc DM, Tiep TV, Thuy VTT, Ewald U. *Effect of Facilitation of Local Maternal-and-Newborn Stakeholder Groups on Neonatal Mortality: Cluster-Randomized Controlled Trial*. PLoS Medicine 2013 May 14;10(5)
61. Serenius F, Källén K, Blennow M, Ewald U, Fellman V, Holmström G, Lindberg E, Lundqvist P, Marsál K, Norman M, Olhager E, Stigston L, Stjernqvist K, Vollmer B, Strömberg B. *Neurodevelopmental Outcome in Extremely Preterm Infants at 2.5 Years After Active Perinatal Care in Sweden*. JAMA 2013;309(17):1810-1820.
62. Khan AI, Hawkesworth S, Ekström EC, Arifeen S, Moore S, Frongillo E, Yunus Md, Persson LÅ, Kabir I. Effects of exclusive breastfeeding intervention on child growth and body composition: the MINIMat trial, Bangladesh. Acta Paediatr 2013, May 2 (E-pub ahead of print).
63. Hawlader MDH, Noguchi E, Arifeen SE, Persson LÅ, Moore SE, Raqib R, Wagatsuma Y. Nutritional status and childhood wheezing in rural Bangladesh. Public Health Nutr 2013, May 17:1-8. (E-pub ahead of print).
64. KC A, Bajracharya K. State of Midwives in Nepal: HRH to Improve Maternal and Neonatal Health and Survival. J Nepal Health Res Counc 2013, Jan;11(23):88-91.
65. Nalwadda, CK, Guwatudde D, Waiswa P, Kiguli j, Namazzi G, Namutumba S, Tomson G, Peterson S. Community health workers – a resource for identification and referral of sick newborns in rural Uganda. Trop Med Int Health 2013 Jul;18(7):898-906.
66. Hawkesworth S, Wagatsuma Y, Kippler M, Fulford AJ, Arifeen SE, Persson LA, Moore SE, Vahter M. Early exposure to toxic metals has a limited effect on blood pressure or kidney function in later childhood, rural Bangladesh. Int J Epidemiol. 2013 Feb;42(1):176-85.

2012

67. Ashish KC, Målqvist M, Wrammert J, Verma S, Aryal DR, Clark R, Naresh OKC, Vitrakoti R, Baral K, Ewald U. Implementing a simplified neonatal resuscitation protocol-helping babies breathe at birth (HBB) – at a tertiary level hospital in Nepal for an increased perinatal survival. BMC Pediatr 2012, Oct 5;12(1):159.
68. Awor P, Wamani H, Bwire G, Jagoe G, Peterson S. Private Sector Drug Shops in Integrated Community Case Management of Malaria, Pneumonia, and Diarrhea in Children in Uganda. Am J Trop Med Hyg 2012; 87:92-96.
69. Bergström A, Peterson S, Namusoko S, Waiswa P, Wallin L. Knowledge translation in Uganda: a qualitative study of Ugandan midwives' and managers' perceived relevance of the sub-elements of the context cornerstone in the PARIHS framework. Implement Sci 2012;7:117.
70. Doherty T, Sanders D, Jackson D, Swanevelder S, Lombard C, Zembe W, Chopra M, Goga A, Colvin M, Fadnes LT, Engebretsen IMS, Ekström EC, Tylleskär T. Early cessation of breastfeeding amongst women in South Africa: an area needing urgent attention to improve child health. BMC Pediatr 2012 Jul 24;12:105.
71. Frith AL, Naved RT, Persson LA, Rasmussen KM, Frongillo EA. Early participation in a Prenatal Food Supplementation Program Ameliorates the Negative Association of Food Insecurity with Quality of Maternal-Infant Interaction. J Nutr 2012 Jun;142(6):1095-101.
72. Goland E, Hoa DT, Målqvist M. Inequity in maternal health care utilization in Vietnam. Int J Equity Health 2012;11(1):24.
73. Hamer DH, Marsh DR, Peterson S, Pagnoni F. Integrated Community Case Management: Next Steps in Addressing the Implementation Research Agenda. Am J Trop Med Hyg 2012; 87:151-153.
74. Hoa DP, Börjesson L, Nga NG, Johansson A, Målqvist M. Sex of Newborns Associated With Place and Mode of Delivery: A Population-Based Study in Northern Vietnam. Gen Med 2012;9(6):418-423.
75. Huerta Munoz U, Källestål C. Geographical accessibility and spatial coverage modeling of the primary health care network in the Western Province of Rwanda. Int J Health Geogr 2012 Sept 17;11(1):40.

76. Ijumba P, Doherty T, Jackson D, Tomlinson M, Sanders D, Persson LA. Free formula milk in the prevention of mother-to-child transmission programme: voices of a peri-urban community in South Africa on policy change. *Health Policy Plan*. 2012 Nov 11. (Epub ahead of print) PMID: 23144227
77. Ijumba P, Doherty T, Jackson D, Tomlinson M, Sanders D, Persson LA. Social circumstances that drive early introduction of formula milk: an exploratory qualitative study in a peri-urban South African community. *Matern Child Nutr*. 2012 Dec 11. Doi: 10.1111/mcn.12012.
78. Kalyango JN, Lindstrand A, Rutebemberwa E, Ssali S, Kadobera D, Karamagi C, Peterson S, Alfven T. Increased Use of Community Medicine Distributors and Rational Use of Drugs in Children Less than Five Years of Age in Uganda Caused by Integrated Community Case Management of Fever. *Am J Trop Med Hyg* 2012; 87:36-45.
79. Kalyango JN, Rutebemberwa E, Alfven T, Ssali S, Peterson S, Karamagi C. Performance of community health workers under integrated community case management of childhood illnesses in eastern Uganda. *Malaria J* 2012;11(1):282.
80. Khan AI, Hawkesworth S, Hawlader MDH, Arifen SE, Moore S, Hills AP, Wells JC, Persson LÅ, Kabir I. Body composition of Bangladeshi Children: Comparison and Development of leg-to leg bioelectrical impedance equation. *J Health Popul Nutr*, 2012 Sep; 30(3):281-290.
81. Khan AI, Kabir I, Hawkesworth S, Ekström EC, Arifeen S, Frongillo EA, Persson LA. Early invitation to food and/or multiple micronutrient supplementation in pregnancy does not affect body composition in offspring at 54 months: follow-up of the MINIMat randomised trial, Bangladesh. *Matern Child Nutr*. 2012 Dec 13. doi: 10.1111/mcn.12021.
82. Kippler M, Wagaatsuma Y, Rahman A, Nermell B, Persson LÅ, Raqib R, Vahter M. Environmental exposure to arsenic and cadmium during pregnancy and fetal size: A longitudinal study in rural Bangladesh. *Reprod Toxicol* 2012;34(4):504-11.
83. Lindström E, Persson LÅ, Raqib R, El Arifeen S, Basu S, Ekström EC. Associations between oxidative parameters in pregnancy and birth anthropometry in a cohort of women and children in rural Bangladesh: the MINIMat-cohort. *Free Radic Res*. 2012 Mar;46(3)253-64.
84. Malqvist M, Hoa DTP, Thomsen S. Causes and determinants of inequity in maternal and child health in Vietnam. *BMC Public Health* 2012;12(1):641.
85. Marsh DR, Hamer DH, Pagnoni F, Peterson S. Introduction to a Special Supplement: Evidence for the Implementation, Effects, and Impact of the Integrated Community Case Management Strategy to Treat Childhood Infection. *Am J Trop Med Hyg* 2012; 87:2-5.
86. Mayega RW, Makumbi F, Rutebemberwa E, Peterson S, Östenson CG, Tomson G, Guwatudde D. Modifiable Socio-Behavioural Factors Associated with Overweight and Hypertension among Persons Aged 35 to 60 Years in Eastern Uganda. *PLoS One*, 2012, 7(10):e47632.
87. McGorman L, Marsh DR, Guenther T, Gilroy K, Barat LM, Hammamy D, Wansi E, Peterson S, Hamer DH, George A. A Health Systems Approach to Integrated Community Case Management of Childhood Illness: Methods and Tools. *Am J Trop Med Hyg* 2012; 87:69-76.
88. Mohammadi S, Källestål C, Essén B. Clinical Audit: A Practical Strategy for Reducing Cesarean Section Rates in a General Hospital in Tehran, Iran. *The Journal of Reproductive Medicine* 2012;57:43-8.
89. Mukanga D, Tibenderana JK, Peterson S, Pariyo GW, Kiguli J, Waiswa P, Babirye R, Ojiambo G, Kasasa S, Pagnoni F, Kallander K. Access, acceptability and utilization of community health workers using diagnostics for case management of fever in Ugandan children: a cross-sectional study. *Malaria J* 2012 May 24, 11:121.
90. Musafili A, Essen B, Baribwira C, Rukundo A, Persson LÅ. Evaluating Helping Babies Breathe: training for healthcare workers at hospitals in Rwanda. *Acta Paediatr* 2012;102(1):e34-8. doi:10.1111/apa.12034
91. Myléus A, Hernell O, Gothefors L, Hammarström ML, Persson LÅ, Stenlund H, Ivarsson A. Early infections are associated with increased risk for celiac disease: an incident case-referent study. *BMC Pediatr*. 2012 Dec 19;12:194.
92. Myléus A, Stenlund H, Hernell O, Gothefors L, Hammarström ML, Persson LÅ, Ivarsson A. Early Vaccinations are Not Risk Factors for Celiac Disease. *Pediatrics* 2012;130(1):63-70.
93. Nabbanja J, Gitta S, Peterson S, Rwenyonyi CM. Orofacial manifestations of HIV positive children attending Mildmay Clinic in Uganda. *Odontology* 2012;101:116-120.

94. Nahar B, Hossain I, Hamadani JD, Ahmed T, McGregor SG, Persson LA. Effects of psychosocial stimulation on improving home environment and child-rearing practices: results from a community-based trial among severely malnourished children in Bangladesh. *BMC Public Health* 2012 Aug 7;12(1):622.
95. Nahar B, Hossain MI, Mamadani JD, Ahmed T, Huda SN, Grantham-McGregor SM, Persson LA. Effects of a community-based approach of food and psychosocial stimulation on growth and development of severely malnourished children in Bangladesh: a randomised trial. *Eur J Clin Nutr* 2012;66(6):701-9.
96. Nga NT, Hoa DT, Målqvist M, Persson LA, Ewald U. Causes of neonatal death: results from NeoKIP community-based trial in Quang Ninh province, Vietnam. *Acta Paediatr.* 2012;101:368-73.
97. Perez W, Zelaya Blandon E, Persson LÅ, P~ena R, Källestål C. Progress towards millenium development goal 1 in northern rural Nicaragua: Findings from a health and demographic surveillance site. *Int J Equity Health* 2021;11(1):43.
98. Persson LA, Arifeen S, Ekström EC, Rasumssen KM, Frongillo EA, Yunus M, Effects of Prenatal Micronutrient and Early Food Supplementation on Maternal Hemoglobin, Birth Weight, and Infant Mortality Among Children in Bangladesh. *JAMA*, 2012;307(19):2050-59.
99. Salazar M, Högberg U, Valladares E, Persson LÅ. Intimate partner violence and early child growth: a community-based cohort study in Nicaragua. *BMC Pediatrics* 2012, 12:82.
100. Thomsen S, Hoa DT, Målqvist M, Sanneving L, Saxena D, Tana S, Yuan B, Byass P: Promoting equity to achieve maternal and child health. *Reprod Health Matters* 2011;19(38):176-182.
101. Waiswa P, Peterson S, Namazzo G, Ekirapa EK, Naikoba S, Byaruhanga R, Kiguli J, Kallander K, Tagoola , Nakakeeto M, Pariyo G. The Uganda Newborn Study (UNEST): and effectiveness study on improving newborn health and survival in Rural Ugnda through a community-based intervention linked to health facilities – study protocol for a cluster randomized controlled trial. *Trials* 2012; 13(1):213.
102. Ziaei S, Naved RT, Ekström EC. Women’s exposure to intimate partner violence and child malnutrition: findings from demographic and health surveys in Bangladesh. *Matern Child Nutr* 2012, Aug 20. Doi: 10.1111/j.1740-8709.2012.00432.x. (E-pub ahead of print)

Reviews, chapters

103. Alfvén T, Axelson H, Lindstrand A, Peterson SS, Persson LÅ. Dödligheten minskar, men fortfarande dör 7 miljoner barn varje år. *Läkartidningen* 2013;110:28-30.
104. Hofvander Y. A Chronicle with recollections and experiences. Viet Nam-Sweden Collaboration in Child Health. Booklet. Stockholm:Sida 2013, 1-44.

Dissertation 2014

Petrida Ijumba. *Interventions for improved newborn feeding and survival where HIV is common: perceptions and effects of a community-based package for maternal and newborn care in a South African township*. Digital Comprehensive Summaries of Uppsala Dissertations from the Faculty of Medicine 1027. Uppsala: Acta Universitatis Upsaliensis 2014. ISBN 978-91-554-9035-5

Agencies that support the work/Funding

Currently the research program is supported by grants from Swedish Research Council (Vetenskapsrådet 9 650 000 SEK in 2014), Sida, and Uppsala University. In addition, several international funding agencies support the joint research studies directly to our collaborating partners in low- and middle-income countries.

ALF	2 316 000
Ograderade medel	84 139
Sida	32 218
Landstinget Dalarna	413 585
Karolinska institutet	666 419
EU	72 793
Stiftelser & fonder	400 000

Reducing neonatal mortality.

A persistent problem in many countries is a high neonatal mortality, and inequity in neonatal survival chances. This has been addressed in a collaborative project in the entire Quang Ninh province in Vietnam, where a community-based cluster randomised trial has tested a facilitation approach for improved neonatal health and survival; the NeoKIP trial, Neonatal health Knowledge Into Practice, trial registration number ISRCTN44599712. The main outcome of the trial was a reduction in neonatal mortality by half in the intervention clusters. This project and linked initiatives have generated several papers on neonatal health, including three completed PhD theses (Mats Målqvist 2010, Leif Eriksson 2012 and Nguyen T Nga 2013). One more PhD student has on-going studies related to the trial. Sida is the main funder of this project and Swedish Research Council has provided additional funds. In 2014 we conducted a follow-up of the NeoKIP trial, three years after its completion, to assess the sustainability of the approach. The evaluation included data on neonatal mortality rate, the local health system context, experiences concerning processes during the post-intervention period and factors that influence the sustainability of (community-based) knowledge translation interventions. Further, we have also received initial funding to conduct the NeoKIP+ project, which will test the scalability of the NeoKIP intervention at commune level in combination with a facilitated approach at district hospitals. The project will include 280 poor Vietnamese communes in 6 provinces with high burden of neonatal mortality.

Most health departments in low- and middle-income countries, Vietnam included, do not assess the prevalence of stillbirths. As a result, knowledge around stillbirth has long been a neglected field of research although, if correctly assessed, intrapartum-related stillbirths could serve as a sensitive marker of the quality of care during delivery. The NeoKIP follow-up survey offered an excellent opportunity to also study the prevalence of stillbirths, to distinguish between antepartum vs. intrapartum stillbirths and to identify risk factors through the application of a verbal and social autopsy instrument developed by the group. The instrument also included questions on the coverage and utilization of health services. Stillbirth data collected as part of the follow-up is currently being analysed.

The Uganda Newborn Study (UNEST) funded by Gates via Saving Newborn Lives demonstrated that community health worker (CHW) home visits in pregnancy and newborn period improves delivery and newborn practices. Christine Nalwadda further demonstrated in her articles and thesis that CHWs can identify sick newborns in need of referral from the home to health centres, and that referral compliance was high. However, the first level health facilities are largely unable to cater for the sick newborns for policy gaps, and lack of skills, drugs and equipment. Uganda Ministry of Health has adopted the UNEST home visiting counselling materials for national use. Dialogue around policy changes to empower first level health units to cater for sick newborns is ongoing. A journal supplement on UNEST will be published in March 2015.

An EU-funded project EQUIP – essential quality improvement using information power – was completed in Uganda and Tanzania. It demonstrated the capacity of quality improvement to improve facility level care, but also that community level dialogue with expecting parents can increase care seeking for delivery care beyond what the health facilities can meet. In a pilot study funded by the Einhorn Family Foundation we are now pursuing quality improvement at hospital level, and IDRC has funded an EQUIP scale-up in Tanzania with 1 million dollars.

Evidence based district planning is the focus for the UNICEF-Gates funded study CODES – Community and District Empowerment for Scale up. Focusing on child health and child health care this study set in Uganda is a randomized controlled trial of a governance intervention on coverage of essential child health services. A series of manuscripts were submitted during the year.

Private sector implementation of Integrated Community Case Management of Malaria and Pneumonia and Diarrhea (ICCM) was evaluated in Uganda. A publication by Phyllis Awor et al. attracted a lot of international interest and is now followed up by a WHO/Alliance and Swedish Science Council funded study in Uganda.

In Rwanda an evaluation of the “Helping Babies Breathe” (HBB) training program was performed, showing that such training substantially increased knowledge but that refresher training was needed to sustain skills in the management of newborns with breathing difficulties. Studies have been completed on perinatal audit and risk factors for early neonatal death.

In Nepal there is an on-going trial on the evaluation of delayed versus early cord clamping and its effects on the prevalence of anaemia when the newborn has reached the age of four months. A total of 540 live births have as been included in this randomized controlled trial. The study is conducted at the Paropakar Maternity and Women’s Hospital, Nepal. Pregnant woman of gestational age 34-41 weeks, who deliver vaginally, have been included in the study. The interventions consist of delayed clamping of the umbilical cord (≥ 180 seconds after delivery) or early clamping of the umbilical cord (≤ 60 s). At 8 and 12 months of age, infant’s iron status and developmental milestones will be measured. .

Recognition of danger signs and deteriorated state of admitted patients is vital to prevent adverse event and improve survival chances. At the University Pediatric Hospital in Uppsala, Sweden an evaluation of a Pediatric Early Warning System (PEWS) is currently under way. This simple tool has shown promising results in reducing admittance to intensive care unit and reducing time to initiation of adequate treatment.

Short- and long-term effects of improved prenatal nutrition.

In an extensive prenatal nutrition intervention trial in Matlab, Bangladesh, effects of food and micronutrient supplements are investigated in a short- and long-term perspective. In this project, that has got the acronym MINIMat (Maternal and Infant Nutrition Interventions in Matlab, trial registration number ISRCTN16581394), we have shown that food supplementation early in pregnancy combined with multiple micronutrient supplementation substantially improves survival of the offspring. We have also evaluated research questions related to the DOHaD hypotheses (Developmental Origin of Health and Disease) studying the impact by the interventions on child growth, body composition, metabolic markers at 4.5 and 10 years and oxidative stress in pregnancy and birth weight. Ongoing is an add-on to the MINIMat trial that is evaluating trans-generational effects of poor nutrition in fetal life. The publications from MINIMat also include micronutrient status in pregnancy and infancy, risk factors for infant anaemia, breastfeeding and micronutrient status, maternal-infant interaction, household food security and child growth and development, morbidity and psychomotor development, and violence against women and child growth and morbidity. A follow-up at age 10 years has recently been completed. We collaborate with, among others, the research institution icddr,b in Bangladesh, and research groups at London School of Hygiene & Tropical Medicine, University of California at Davis and Cornell University in Ithaca, US. The Swedish Research Council and Sida have, among others, provided funding and the research partners have received funding from several agencies.

A study of health system aspects of the rapidly increasing diabetes prevalence in low and middle-income countries was funded by EU Horizon 2020. Entitled SMART2D – self management and reciprocal learning for type 2 diabetes management – the study will run over the next four years with partners in South Africa, Uganda, Belgium, Finland and Sweden.

Exclusive breastfeeding and HIV.

Exclusive breastfeeding during the first six months of life is considered one of the most important means of preventing child deaths by infections. The dilemmas around exclusive infant feeding options when trying to prevent mother-to-child transmission of HIV are being studied by a series of PhD students in collaboration with University of Western Cape and MRC in South Africa. Swedish Research Council has financed the ongoing collaboration between our groups and Save the Children (US) has provided support to our collaborating partners.

Children with fever.

In different studies in Uganda the diagnosis and management of children with fever are addressed. A research prioritization process with worldwide participants (so called CHNRI) is now the next step where we are core members. We have previously contributed to changing WHO/UNICEF and Uganda policy to integrated community case management (iCCM) of Malaria, Pneumonia and Diarrhoea by means of Community Health Workers, which is now expanding through Africa supported by UNICEF, USAID and others. We have shown that iCCM may also work in private sector drug shops in Uganda, where many sick Ugandan children get treated. This is of immediate policy relevance to, for example, the Global Fund's Affordable Medicine Facility Malaria, a major private sector initiative in nine countries. Together with Makerere University we have acquired funding for further trials from Swedish Research Council and the (WHO affiliated) Alliance for Health Policy and Systems Research.

In 2010, the World Health Organization revised malaria treatment guidelines to recommend diagnostic testing of all suspected malaria cases prior to treatment. Recent studies, however, suggest that the full potential of malaria rapid diagnostic tests (mRDT) are not being achieved given poor adherence to test results by health workers in areas of intense malaria transmission. Emily White Johansson (PhD student) uses new data recently collected from standardized national cross-sectional household and health facility surveys conducted in multiple sub-Saharan African countries to improve understanding of extent and determinants of diagnostic test use and adherence across different contexts, including in different malaria risk settings in sub-Saharan Africa.

The “know-do gap” refers to the fact that 2 out of 3 children in the world die unnecessarily – we have the knowledge and resources to prevent or cure them, but it is not translated to action. We have two projects evaluating various forms of “implementation bottleneck analysis” and quality improvement as strategies to improve access to and quality of care. Funded by the European Union and Gates Foundation, respectively, these studies are implemented in Uganda and Tanzania in collaboration with Makerere University, Ifakara Health Institute, Karolinska Institutet and London School of Hygiene and Tropical Medicine. Several publications are foreseen with process and results from these studies in the coming years.

Assessing the context of the health system.

Since 2010, we have together with international partners been involved in developing a questionnaire-based tool for assessment of the health system context and the individual health worker's perceptions of aspects regarding different building blocks of the system. The development of the Context Assessment for Community Health (COACH) tool has been undertaken in, and with partners from, Bangladesh, Vietnam, South Africa, Uganda and Nicaragua. Development of the tool including undertaking and statistical analysis was completed in November 2013. During 2014 we have been piloting collecting COACH data using mobile phones in Kenya. The COACH tool is also undergoing further psychometric

testing and was integrated into the NeoKIP follow up project in 2014 whereby all health workers involved in maternal and neonatal health services and about half of the village health workers in the NeoKIP project study areas were invited to undertake the survey. Data on test-retest reliability has also been collected from Vietnam and response process with a smaller selection of health workers undertaken to understand the cognitive validity of the Vietnamese COACH tool.

The main article from the project was submitted in October 2014. The COACH project has been presented at three international conferences in 2014; Oral presentation at the *Third Global Symposium on Health System Research* in Cape Town, South Africa, October 2014, followed by panel discussion; Poster presentation at the *BMC Health Service Research conference* in London, July 2014; Poster presentation at the *Knowledge Utilization Colloquia*, Tällberg, June 2014 .

Management of severe malnutrition.

The development of effective and feasible strategies for prevention and management of severely malnourished children are addressed in studies in Ethiopia and Bangladesh. Baitun Nahar from Bangladesh completed her PhD studies in 2012 analysing the effect of stimulation (play therapy) in addition to food supplementation in the rehabilitation of severely malnourished children. PhD students from Ethiopia have completed fieldwork of a qualitative study and an observational study of the effectiveness of community-based rehabilitation of acute severely malnourished children. Sida has supported these studies.

Gender-based violence and child health.

The health consequences – also for children – of violence against women (VAW) have been studied in a series of studies. We have earlier shown an association between VAW and child mortality, size at birth, child growth and morbidity. More recently a paper on the association with child malnutrition was also published.

The Millennium Development Goals in local settings.

The health-related Millennium Development Goals in Nicaragua were in focus in the thesis by Wilton Pérez, which he defended in 2012. In population-based studies in urban and rural areas the under-five mortality trends were analysed. Community development work were studied with an equity lens showing that the forth Millennium Development Goal will be met and the social inequalities in survival has decreased in the studied areas. A reduction of poverty with increasing equity was also seen among those receiving rural development interventions. A new update of the *Los Cuatro Santos* Health and Demographic Surveillance System, which was the basis for these studies, has been made during 2014 providing more information on the community development work and the ability to achieve the development and health goals in a local setting.

Since spring 2012, Katarina Selling, PhD and senior biostatistician, is part of the research group. Having a skilled statistician in the group has increased the methodological quality and skills in analysis of data and in reporting results. This has included analyses of complex data from cluster-randomized trials or cluster-based Demographic Health Surveys, DHS, which require multi-level modelling, and also meta-analysis in systematic reviews.

International maternal and reproductive health and migration

Birgitta Essén

More than a third of the ill-health in women is related to their reproduction. Research must address both individual and structural factors contributing to these health problems, as well as the health interventions and programs that can be effective to alleviate the suffering, both in low- and high-income countries.

The research is approached in an interdisciplinary way involving gynaecological and obstetrical issues, nursing, and epidemiology with public health aspects. These also include political, legal, social, and cultural aspects of medicine as well as theoretical frameworks in social anthropology.

One doctoral student has defended her thesis successfully. One new doctoral student has been registered during the year.

Members of the group during 2014

Birgitta Essén	MD, Associate Professor, Senior Lecturer Research group leader
Jonna Arousell	Doctoral student
Anna Arvidsson	Doctoral student
Pauline Binder	PhD
Magdalena Bjerneld	PhD, and 2013 appointed Excellent teacher
Ulrika Byrskog	Doctoral student
Annika Esscher	MD, PhD
Bengt Haglund	Associate Professor
Hussein Kidanto	MD, PhD
Marie Klingberg-Allvin	Senior lecturer
Johannes Leidinger	Senior lecturer
Helena Litorp	Doctoral student
Andrew Mgaya	Doctoral student
Soheila Mohammadi	Doctoral student
Cristina Niska Bachelet	Administrator
Barni Nor	RN, PhD
Viveca Odland	MD, Associate Professor
Mandira Paul	Doctoral student
Christina Pedersen	Research assistant
Soorel Jose Puthoopparambil	Doctoral student
Jessica Påfs	Doctoral student
Mattias Rööst	MD, PhD
Karin Törnblom	Financial administrator
William Ugarte	PhD
Anna Wahlberg	Doctoral student

Publications 2012-2014

2014

- Fernbrant C, Emmelin M, Essén B, Östergren PO, Cantor-Graae E. Intimate partner violence and poor mental health among Thai women residing in Sweden. *Global Health Action* 2014, 7:24991. <http://dx.doi.org/10.3402/gha.v7.24991>
- Byrskog U, Olsson P, Essén B, Klingberg Allvin M. Violence and reproductive health preceding flight from war: accounts from Somali born women in Sweden. *BMC Public Health* 2014, 14:892. <http://biomedcentral.com/1471-2458/14/892>
- Paul M, Iyengar K, Iyengar S, Gemzell-Danielsson K, Essén B, Klingberg-Allvin M. Simplified follow-up after medical abortion using a low-sensitivity urinary pregnancy test and a pictorial instruction sheet in Rajasthan, India – study protocol and intervention adaptation of a randomised control trial. *BMC Women's Health* 2014, 14:98. <http://www.biomedcentral.com/1472-6874/14/98>
- Gagnon AJ, DeBruyn R, Essén B, Gissler M, Heaman M, Jeambey Z, Korfker D, McCourt C, Roth C, Zeitlin J, Small R. Development of the Migrant Friendly Maternity Care Questionnaire (MFMCQ) for migrants to Western societies: an international Delphi consensus process. *BMC Pregnancy and Childbirth* 2014, 14:200. <http://www.biomedcentral.com/1471-2393/14/200>
- Litorp H, Kidanto HL, Rööst M, Abeid M, Nyström L, Essén B. Maternal near-miss and death and their association with caesarean section complications: a cross-sectional study at a university hospital and a regional hospital in Tanzania. *BMC Pregnancy and Childbirth* 2014, 14:244. <http://www.biomedcentral.com/1471-2393/14/244>
- Wahlberg A, Källestål C, Lundgren AC, Essén B. Causes of death among undocumented migrants in Sweden, 1997-2010. *Global Health Action* 2014, 7:24464. <http://www.globalhealthaction.net/index.php/gha/article/view/24464>
- Esscher A, Binder-Finnema P, Bødker B, Högberg U, Mulic-Lutvica A, Essén B. Suboptimal care and maternal mortality among foreign-born women in Sweden: maternal death audit with application of the “migration three delays” model. *BMC Pregnancy and Childbirth* 2014, 14:141. <http://www.biomedcentral.com/1471-2393/14/141>
- Sjöström S, Essén B, Sydén F, Gemzell-Danielsson K, Klingberg-Allvin M. Medical students' attitudes and perceptions on abortion: a cross-sectional survey among medical interns in Maharashtra, India. *Contraception* 2014. E-pub ahead of print. <http://www.sciencedirect.com/science/article/pii/S0010782414000523#>
- Paul M, Gemzell-Danielsson K, Kiggundu C, Klingberg-Allvin M, Barriers and facilitators in the provision of post-abortion care at district level in central Uganda: A qualitative study focusing on task sharing between physicians and midwives. *BMC Health Serv Res* 2014 Jan 21;14(1):28. (E-pub ahead of print) <http://www.biomedcentral.com/content/pdf/1472-6963-14-28.pdf>

2013

- Binder P, Johnsdotter S, Essén B. More than re-establishing the partner relationship: Intimate aftercare for Somali parents in diaspora. *Midwifery* 2013;29(8):863-870.
- Christianson M, Boman J, Essén B. Let men into the pregnancy – Men's perceptions about being tested for Chlamydia and HIV during pregnancy. *Midwifery* 2013;29:351-358.
- Degni F, Suominen SB, Ansari WE, Vehvilainen-Julkunen K, Essén B. Reproductive and maternity health care services in Finland: perceptions and experiences of Somali-born immigrant women. *Ethnicity & Health* 2013 April 15 (E-pub ahead of print).
- Elouard Y, Essén B. Psychological violence experienced by men who have sex with men in Puducherry, India: A qualitative study. *J of Homosexuality*, June 2013;60:1581-1601.
- Esscher A, Högberg U, Haglund B, Essen B. Maternal mortality in Sweden 1988-2007: more deaths than officially reported. *Acta Obstet Gynecol Scand* 2013 Jan;92(1):40-6.
- Esscher A, Haglund B, Högberg U, Essén B. Excess mortality in women of reproductive age from low-income countries: a Swedish national register study. *Eur J Public Health* 2013;23(2):274-279.

- Fernbrant C, Essén B, Östergren PO, Cator-Grae E. Navigating between control and autonomy: Recently arrived Iraqi refugees' Perceptions Regarding Honor, Well-Being, and Risk for Intimate Partner Violence. *J of Immigrant & Refugee Studies* 2013;(11):178-197.
- Hogmark S, Klingberg-Allvin M, Gemzell-Danielsson K, Ohlsson H, Essén B. Medical students' knowledge, attitudes and perceptions towards contraceptive use and counselling: a cross-sectional survey in Maharashtra, India. *BMJ Open* 2013;3:e003739.
- Litorp H, Kidanto HL, Nystrom L, Darj E, Essén B. Increasing caesarean section rates among low-risk groups: a panel study classifying deliveries according to Robson at a university hospital in Tanzania. *BMC Pregnancy Childbirth* 2013, 13:107.
- Musafili A, Essén B, Baribwira C, Rukundo A, Persson LÅ. Evaluating Helping Babies Breathe: training for healthcare workers at hospitals in Rwanda. *Acta Paediatr* 2013 Jan;102(1):e34-8.
- Puthoopparambil SJ, Maina-Ahlberg B, Bjerneld M. Do higher standards of detention promote well-being? *Forced Migration Review*, 2013;44:39.
- Skor är huvudsaken. Sjutton kvinnliga forskares funderingar om skor. Redaktörer Eriksson Lindvall C, Rydbeck K, Rügheimer L. 2013. ISBN 978-91-506-2334-5. (En artikel skriven av Birgitta Essén).
- Sundby J, Essen B, Johansen REB. Female Genital Mutilation, Cutting , or Circumcision. *Obstet Gynecol Int* 2013. <http://dx.doi.org/10.1155/2013/240421>
- Ugarte W, Hogberg U, Valladares E, Essén B. Measuring HIV/AIDS-related stigma and discrimination in Nicaragua: results from a community-based study. *AIDS Education and Prevention* 2013;25:164-178.
- Ugarte WJ, Högberg U, Valladares E, Essén B. Assessing knowledge, attitudes, and behaviors related to HIV and AIDS in Nicaragua: A community-level perspective. *Sex Reprod Healthc* 2013, Mar; 4(1):37-44.
- Wahlberg Å, Rööst M, Haglund B, Högberg U, Essén B. Increased risk of severe maternal morbidity (near-miss) among immigrant women in Sweden: a population register-based study. *BJOG* 2013, Jun 21 (E-pub ahead of print).

2012

- Binder P, Borné Y, Johnsdotter S, Essén B. Shared language is essential: Communication in a multiethnic obstetric care setting. *J Health Commun: International Perspectives* 2012;17(10):1171-86
- Binder P, Johnsdotter S, Essén B. Conceptualising the prevention of adverse obstetric outcomes among immigrants using the "three delays" framework in a high-income context. *Soc Sci Med* 2012 Aug 21 (E-pub ahead of print).
- Borné Y, Engstrom G, Essén B, Hedblad B. Immigrant status and increased risk of heart failure : the role of hypertension and life-style risk factors. *BMC Cardiovascular Disorders*. 2012, Mar 26;12:20.
- Borne Y, Hedblad B, Essén B, Engström G. Anthropometric measures in relation to risk of heart failure hospitalization: a Swedish population.based cohort study. *Eur J Public Health* 2012 Nov 26 (E-pub ahead of print).
- Degni F, Suominen S, Essén B, El Ansari W, Vehvilainen-Julkunen K. Communication and cultural issues in providing reproductive health to immigrant women: Health care providers' experiences in meeting the need of Somali women living in Finland. *J Immigr Minor Health*. 2012;14(2):330-43.
- Mohammadi S, Källestål C, Essén B. A Practical Strategy for Reducing Cesarean Section Rates in a General Hospital in Tehran, Iran. *Journal of Reproductive Medicine*. 2012;57(1-2):43-48.
- Ugarte Guevara WJ, Valladares Cardoza E, Essén B. Sexuality and Risk Behaviour among Men Who have Sex with Men in León, Nicaragua: A Mixed Methods Approach. *J Sex Med* 2012;9:1634-1648.

Dissertations 2014

Annika Esscher

Maternal deaths in Sweden. Classification, quality of care, and country of birth.

Agencies that support the work/Funding

Vetenskapsrådet	2 269 000
Europeiska flyktingfonden	1 732 373
FAS/FORTE	1 050 000
Akademiska sjukhuset (ALF)	907 535
Swedish International Development Cooperation Agency (Sida)	849 203
MSF	426 240
Ograduerade	62 209

Collaborating centres

Karolinska institutet

Malmö Högskola

Uppsala universitet, Department of Public Health and Caring Sciences

All India Institute of Medical Science and the WHO - collaborating centre in New Delhi

Ipas - Indien

Muhimbili National Hospital, Dar es Salaam, Tanzania

Läkare utan gränser – MSF

National University of Rwanda (NUR)

Umeå University, Public Health and Clinical Medicine

Universidad Nacional Autónoma de Nicaragua UNAN - Leon, Nicaragua

Shahid Beheshti University of Medical Sciences/ Infertility Reproductive Health Research Center

Maternal mortality and severe obstetric morbidity in a globalized world.

Maternal mortality is a well-known quality indicator of obstetric care, and maternal near miss is fast gaining interest as a complementary indicator, particularly among vulnerable groups with a lack of social networks in situations of general instability or poverty in low-income settings (Rwanda and Tanzania), or after migration to high resource settings (Sweden, UK). Our current research activities include analyses of maternal and perinatal ill-health in low-, middle- and high-income settings from a migration perspective. Partner's role in the provision of support during antenatal and obstetric decision-making is also explored as an influence on birth outcome barriers. The overall aim is to develop tools for comprehensive maternal health services to women living in underprivileged situations. The research program is interdisciplinary and uses multiple mixed methods, including epidemiological, audit, as well as anthropological methods to define the social and cultural aspects of these medical phenomena.

The significance of these findings yields improved medical and culturally relevant ways to understand and prevent the tragic incidence of maternal or perinatal loss of life. The multidisciplinary group has previously shown effects of ethnic background, suboptimal care and socio-cultural factors, such as female circumcision, on the risk of perinatal mortality and maternal morbidity and results have been implemented in health care practices among ethnic groups in Latin America and in Sweden. The findings have contributed to theoretical knowledge, but have also been implemented through guidelines in order to reduce health inequalities in an ethnic perspective

Too many caesarean deliveries challenge Safe Motherhood.

There is a global trend of increasing rates of caesarean delivery due to such reasons as medicalization, economic incitements and parental autonomy, whilst from an equity and priority perspective, safe motherhood is not implied. Hospital caesarean section rates of 24 - 75% are reported from Latin America, Asia and Africa. This project is focused on Iran, Nicaragua and Tanzania.

The study designs are hospital based: audits, demographic health surveillance site, interviews of mothers at hospital delivery and follow-up; maternal and child outcomes, including Robson 10-group classification; and sampling of parents and doctors for anthropological interviews to explore decision making, attitudes, birth experiences and health economic analysis.

Genitals, gender and ethnicity: The Politics of Genital Modifications.

This study, conducted by an anthropologist and a gynaecologist, aims at reaching an understanding of societal views of the relation between 'sex', 'gender' and genitals, through analyzing the political positions that have given rise to decisions to advocate, accept or criminalize certain surgical genital modifications. The phenomena analyzed are male and female circumcision, cosmetic genital surgery, hymenoplasty and operations on transsexual adults/intersexual infants. Society's views of these procedures have their own social, medical and political history, and as yet there is no systematic analysis juxtaposing them. The theoretical approach is social constructivist, inspired by gender theory and critical medical anthropology. Empirical data include legislative texts and qualitative interviews with professionals in medicine and with key activists. Through discourse analysis we will explore the social values about 'sex' and 'gender' that are conveyed in legal decisions and medical practice in this field, and in alternative discourses. The study adds to our research about female genital cutting and cosmetic genital surgery. Procedures involving the genitals provide an arena where medicine and culture converge. Understandings of 'sex' are interwoven with politicized socio-cultural constructions of 'gender'. What is 'given by nature' can be modified through surgery, but medical practice itself develops within a norm structure that is time- and culture-bound.

Increased access to comprehensive abortion care – A Partner Driven Cooperation between Uppsala University and Ipas India, 2010-2013.

Maternal mortality has decreased in India over the past decade and huge efforts have been put into promoting delivery in the hospital. However, less focus has been put on the deaths from abortions, estimated to account for 20% of the maternal deaths. The purpose of the Partner driven cooperation between the NGO Ipas India and Department of Women's and Children's Health, Uppsala University is to increase access to comprehensive abortion care in the public health system in the states of Maharashtra, Madhya Pradesh and Assam through strengthened partnership between India and Sweden.

The group has several on-going and completed community- and hospital-based projects but all have in common the use of interdisciplinary and mixed methods to define the complexity of reproductive ill-health covering biomedical, social, cultural, gender equality and legal aspects. Studies in the project are; exploring future physician's attitudes and perceptions towards abortion and contraception, health care providers' perceptions on pregnancy and comprehensive abortion care, women's and men's views and perceptions on sexual and reproductive health issues.

Outcomes are sharing of knowledge and experience by the faculty members of the two countries, which will help in enhancing the knowledge base and implementing best practices into the teaching systems. The joint research activities on evaluating attitudes can help to build on the on-going policy work made by Ipas within the country and developing a pool of advocates to influence policy on mid-level providers in abortion services. In the end of November/beginning of December 2013 a concluding meeting took place in Delhi with representatives from the Swedish Embassy and Sida.

Daily life and wellbeing for irregular immigrants in detention centres in three EU countries.

Sweden receives a major share group of asylum seekers in the world. In year 2007 the EU member states had together about 3,8 million irregular migrants from countries outside EU. Most of the European countries use detention centers in order to facilitate deportation of irregular migrants who have been captured.

The time spent in the detention unit is important for a detainee as it affects his/her life at present and in the future. The health situation of the detainees, which is already deteriorated, is worsened when they are detained at the detention centers. They need support to handle the stressful situation in the detention. In order to provide this support, an understanding of the detainee's daily life is required. Most of the EU states use a comparatively similar system for handling irregular immigrants. In this project the system in Sweden, France and the Netherlands will be analyzed and compared.

The overall aim of the project is to create a knowledge base for the development of the care of detainees in three EU countries with a focus on the Swedish detention system. The objectives are to: describe how the detainees experience the daily life, well-being and received care; describe the staff's and the volunteer's perspectives on the care of provided for the detainees; compare the experiences of detainees from the three countries; identify factors which support or prevent the well-being of the detainees; develop a model for promoting the well-being for detainees. Qualitative methods are used for the data collection in the project, which is run as a PhD project in the area of International health with the PhD student Soorej Jose Puthooppambal.

Unaccompanied Somali refugee girls in Sweden – a follow-up study.

Sweden has received unaccompanied children since the end of 1980ths. During the period 1980 - 2010 around 11000 unaccompanied children arrived in Sweden. The tendency is that this group of children will increase in the future. In the beginning of 1990th the Somali children was the largest group and they still are, together with children from Afghanistan. The majority is boys but one third is girls. The majority of the children have received asylum and have therefore lived their first years as young adults in Sweden. During 1998-1999 we performed a study in Sweden where unaccompanied girls from Somalia were interviewed. They experienced great cultural differences concerning the expectations on girls. They had difficulties to learn Swedish and lack of trust in new people.

The overall aim with this study is to document and to analyze how a group of unaccompanied girls from Somalia look back on their first years in Sweden as young adults. The objectives are to document how they have experienced the reception of the authorities, how they have been received by the Swedish health care system, how they self-rate their own health and how they have developed their social network in Sweden. Their experiences will identify factors important for a good reception and integration. This knowledge can be useful for authorities and caretakers when they plan for other groups of unaccompanied children today and in the future.

Network collaboration

- SFOG
- NFOG
- One research group seminar has taken place during 2014, Falsterbo, February 10-11
“Interdisciplinary research seminar regarding women and maternal health care and migration”.

Key words: maternal health care, gender based violence, migration, STD and HIV/AIDS, contraception, abortions, youth health, FGC

International Sexual and Reproductive Health

Margareta Larsson

This research group studies women's health and rights, youth health and nutrition as well as care and support related to pregnancy, birth, breast-feeding and parenthood. The group works in international collaboration with scientists from several disciplines such as medicine, public health, social science, gender studies, nursing and midwifery. Two PhD students defended their thesis during 2014 and several new doctoral students have been registered. Our projects span over the following main areas:

Reproductive Health and Healthcare

This area focuses on quality of care throughout the continuum of care from home, through the community and on to health services and referral hospitals. The different projects are described in more detail below. **Sexual Health and Rights** includes projects among young people in different contexts, in Sweden as well as in other countries. Several projects are related to gender-based violence and interventions for prevention of violence. The projects are described in more detail below.

Nutrition and Women's Health is another focus of the group. Studies are on-going in several countries and described in more detail below.

Members of the group during 2014

Abeid Muzdalifat Muganyizi Doctoral student
Ahlberg Beth Maina PhD, Adjunct Professor
Furaha August Doctoral student
Axemo Pia PhD, Associate Professor
Berglund Anna PhD
Bodin Maja Doctoral student
Cato Karin Doctoral student
Contreras Mariela Doctoral student
Darj Elisabeth PhD, Guest Professor,
Ekström Eva-Charlotte PhD, Professor
Haines Helen PhD
Hildingsson Ingegerd PhD, Professor
Hoque Waheedul Doctoral student
Högberg Hjärdís Doctoral student
Höglund Berit PhD
Jordal Malin PhD
Kaime-Atterhög Wanjiku PhD
Kidanto Hussein PhD
Larsson Birgitta Doctoral student
Larsson Margareta PhD, Associate Professor, Senior Lecturer
Lindmark Gunilla PhD, Professor emerita
Makenzius Marlene PhD
Malm Mari-Cristin Doctoral student
Mattebo Magdalena Doctoral student
Mbekenga Kokusiima Colomba PhD
Muganyizi Projestine PhD
Olsson Pia RNM, PhD, Associate Professor, Senior Lecturer
Omer-Salim Amal Doctoral student
Pallangyo Eunice Doctoral student
Pembe Andrea PhD
Rubertsson Christine PhD, Associate Professor, Senior Lecturer

Råssjö Eva-Britt PhD
 Tydén Tanja Professor
 Ternström Elin Doctoral student
 Trenholm Jill PhD
 Törnblom Karin Administrator
 Wickström Maria Doctoral student

Publications 2012-2014

2014

1. Abeid M, Muganyizi P, Olsson P, Darj E, Axemo P. Community perceptions of rape and child sexual abuse: a qualitative study in rural Tanzania. *BMC Int Health Hum Rights*. 2014 Aug 18;14:23.
2. Ahman A, Axelsson O, Maras G, Rubertsson C, Sarkadi A, Lindgren P. Ultrasonographic fetal soft markers in a low-risk population: prevalence, association with trisomies and invasive tests. *Acta Obstet Gynecol Scand*. 2014 Apr;93(4):367-73.
3. Andersson E, Christensson K, Hildingsson I. Swedish midwives' perspectives on group based antenatal care. *International Journal of Childbirth* 2014; 4: 240-249.
4. Baylis R, Ewald U, Gradin M, Hedberg Nyqvist K, Rubertsson C, Ternström Blomqvist Y First-time events between parents and preterm infants are affected by the designs and routines of neonatal intensive care units. *Acta Paediatr*. 2014 Oct;103(10):1045-52.
5. Byrskog U, Olsson P, Essén B, Allvin MK. Violence and reproductive health preceding flight from war: accounts from Somali born women in Sweden. *BMC Public Health*. 2014 Aug 30;14:892.
6. Cato K, Sylvén SM, Skalkidou A, Rubertsson C. Experience of the first breastfeeding session in association with the use of the hands-on approach by healthcare professionals: a population-based Swedish study. *Breastfeed Med*. 2014 Jul-Aug;9(6):294-300.
7. Contreras M, Zelaya Blandón E, Persson LA, Ekström EC. Consumption of highly processed snacks, sugar-sweetened beverages and child feeding practices in a rural area of Nicaragua. *Matern Child Nutr*. 2014 Aug 19. doi: 10.1111/mcn.12144. [Epub ahead of print]
8. Darj E. Global helse og onkologi. *Onkonytt* 2014;1.
9. Doherty T, Jackson D, Swanevelde S, Lombard C, Engebretsen IM, Tylleskär T, Goga A, Ekström EC, Sanders D; PROMISE EBF study group. Severe events in the first 6 months of life in a cohort of HIV-unexposed infants from South Africa: effects of low birthweight and breastfeeding status. *Trop Med Int Health*. 2014 Oct;19(10):1162-9.
10. Engebretsen IM, Jackson D, Fadnes LT, Nankabirwa V, Diallo AH, Doherty T, Lombard C, Swanevelde S, Nankunda J, Ramokolo V, Sanders D, Wamani H, Meda N, Tumwine JK, Ekström EC, Van de Perre P, Kankasa C, Sommerfelt H, Tylleskär T; PROMISE EBF-study group. Growth effects of exclusive breastfeeding promotion by peer counsellors in sub-Saharan Africa: the cluster-randomised PROMISE EBF trial. *BMC Public Health*. 2014 Jun 21;14:633.
11. Engebretsen IM, Nankabirwa V, Doherty T, Diallo AH, Nankunda J, Fadnes LT, Ekström EC, Ramokolo V, Meda N, Sommerfelt H, Jackson D, Tylleskär T, Tumwine JK; PROMISE-EBF study group. Early infant feeding practices in three African countries: the PROMISE-EBF trial promoting exclusive breastfeeding by peer counsellors. *Int Breastfeed J*. 2014 Nov 18;9:19.
12. Eriksson E, Lindmark G, Haddad B, Axemo P. Young people, sexuality, and HIV prevention within Christian faith communities in South Africa: a cross-sectional survey. *J Relig Health*. 2014 Dec;53(6):1662-75.
13. Gerhardsson E, Hedberg Nyqvist K, Mattsson E, Volgstén H, Hildingsson I, Funkquist E-L. The Swedish version of the Breastfeeding Self-Efficacy Scale-Short-Form (BSES-SF): reliability and validity assessment. *Journal of Human Lactation* 2014; 30(3):340-345.
14. Henriksson C, Larsson M, Herlitz J, Karlsson JE, Wernroth L, Lindahl B. Influence of health-related quality of life on time from symptom onset to hospital arrival and the risk of readmission in patients with myocardial infarction. *Open Heart*. 2014 Dec 13;1(1):e000051.
15. Hildingsson I, Johansson M, Fenwick J, Haines H, Rubertsson C. Childbirth fear in expectant fathers: findings from a regional Swedish cohort study. *Midwifery* 2014 Feb;30(2):242-7.

16. Hildingsson I, Andersson E, Christensson K. Swedish women's expectations about antenatal care and change over time -A comparative study of two cohorts of women. *Sexual and Reproductive HealthCare* 2014;5(2):51-57.
17. Hildingsson I. Swedish couples' attitudes towards birth, childbirth fear and birth preferences and relation to mode of birth- a longitudinal cohort study. *Sexual and Reproductive HealthCare* 2014;5(2):75-80.
18. Hildingsson I, Haines H, Johansson M, Rubertsson C, Fenwick J. Childbirth fear in Swedish fathers is associated with parental stress as well as poor physical and mental health. *Midwifery*. 2014 Feb;30(2):248-54.
19. Höglund B, Larsson M. Professional and social support enhances maternal well-being in women with intellectual disability - a Swedish interview study. *Midwifery*. 2014 Nov;30(11):1118-23.
20. Jansen J. P, Jong M, Hildingsson I, Jong, M. C. (2014). A Minimum Protocol for a Randomised Homeopathic Drug Proving as basis for further research. *Research in Complementary Medicine*, 21(4), 232-238.
21. Johansson M, Hildingsson I, Fenwick J. 'As long as they are safe - birth mode does not matter': Swedish fathers' experiences of decision making around caesarean section. *Women & Birth*, 2014; 27(3):208-213.
22. Jordal M, Essén B, Wijewardena K, Öhman A, Olsson P. Negotiating respectability: Migrant women workers' perceptions on relationships and sexuality in Free Trade Zones in Sri Lanka. *Health Care Women Int*. 2014;35(6):658-76.
23. Jordal M, Wijewardena K, Ohman A, Essén B, Olsson P. Negotiating respectability: migrant women workers' perceptions of relationships and sexuality in free trade zones in Sri Lanka. *Health Care Women Int*. 2014;35(6):658-76.
24. Malm MC, Lindgren H, Rubertsson C, Hildingsson I, Rådestad I. Development of a tool to evaluate fetal movements in full-term pregnancy. *Sex Reprod Healthc*. 2014 Mar;5(1):31-5.
25. Malm M-C, Rådestad I, Rubertsson C, Hildingsson I, Lindgren H. Women's experiences of two different self-assessment methods for monitoring fetal movements in full-term pregnancy. A Crossover trial. *BMC Pregnancy and Childbirth* 2014; 14: 349.
26. Mattebo M, Grün N, Rosenblad A, Larsson M, Häggström-Nordin E, Dalianis T, Tydén T. Sexual experiences in relation to HPV vaccination status in female high school students in Sweden. *Eur J Contracept Reprod Health Care*. 2014 Apr;19(2):86-92.
27. Mattebo M, Tydén T, Häggström-Nordin E, Nilsson KW, Larsson M. Pornography and sexual experiences among high school students in Sweden. *J Dev Behav Pediatr*. 2014 Apr;35(3):179-88.
28. Mattebo M, Larsson M, Tydén T, Häggström-Nordin E. Professionals' perceptions of the effect of pornography on Swedish adolescents. *Public Health Nurs*. 2014 May-Jun;31(3):196-205.
29. Nkonki LL, Daviaud E, Jackson D, Chola L, Doherty T, Chopra M, Robberstad B; Promise-EBF Study Group. Costs of promoting exclusive breastfeeding at community level in three sites in South Africa. *PLoS One*. 2014 Jan 10;9(1):e79784.
30. Nystedt A, Kristiansen L, Ehrenstråle K, Hildingsson I. Exploring some Swedish women's experiences of support during childbirth. *International Journal of Childbirth* 2014; 4(3):183-190.
31. Nystedt A, Hildingsson I. Diverse definitions of prolonged labour and its consequences with sometimes subsequent inappropriate treatment. *BMC Pregnancy and Childbirth* 2014; 14: 233.
32. Omer-Salim A, Suri S, Dadhich JP, Faridi MM, Olsson P. Theory and social practice of agency in combining breastfeeding and employment: A qualitative study among health workers in New Delhi, India. *Women Birth*. 2014 Dec;27(4):298-306.
33. Pallant J, Hildingsson I, Cross L, Haines H, Rubertsson C. Psychometric evaluation and refinement of the Prenatal Attachment Inventory. *Journal of Reproductive and Infant Psychology* 2014; 32: 112-125.
34. Rubertsson C, Hellström J, Cross M, Sydsjö G. Anxiety in early pregnancy: prevalence and contributing factors. *Arch Womens Ment Health*. 2014 Jun;17(3):221-8.
35. Rydbeck F, Rahman A, Grandér M, Ekström EC, Vahter M, Kippler M. Maternal urinary iodine concentration up to 1.0 mg/L is positively associated with birth weight, length, and head circumference of male offspring. *J Nutr*. 2014 Sep;144(9):1438-44.

36. Shawe J, Delbaere I, Ekstrand M, Hegaard HK, Larsson M, Mastroiacovo P, Stern J, Steegers E, Stephenson J, Tydén T. Preconception care policy, guidelines, recommendations and services across six European countries: Belgium (Flanders), Denmark, Italy, the Netherlands, Sweden and the United Kingdom. *Eur J Contracept Reprod Health Care*. 2014 Dec 30:1-11.
37. Sjöblom I, Idvall E, Lindgren H and The Nordic Homebirth research group#. Creating a safe haven - Women's experiences of the midwife's professional skills during planned home birth in four Nordic countries. *Birth* 2014; 41(1):100-107.
#Nordic Homebirth Reserach group members in alphabetic order: Ellen Blix, Norway, Olof Asta Olafsdottir, Iceland, Karen Ingversen, Denmark, Ingegerd Hildingsson, Sweden, Ingela Rådestad, Sweden, Ingela Lundgren, Sweden, Anette Huitfeldt, Noway, Hanne Kjaergaard, Denmark, Ingela Sjöblom, Sweden and Helena Lindgren, Sweden
38. Talungchit P, Liabsuetrakul T, Lindmark G. Multifaceted intervention to implement indicators of quality of care for severe pre-eclampsia/eclampsia. *Int J Gynaecol Obstet*. 2014 Feb;124(2):106-11.
39. Ziaei S, Naved RT, Ekström EC. Women's exposure to intimate partner violence and child malnutrition: findings from demographic and health survey in Bangladesh, *Matern Child Nutr*. 2014 Jul;10(3):347-59.
40. Ziaei S, Contreras M, Zelaya Blandón E, Persson LA, Hjern A, Ekström EC Women's autonomy and social support and their associations with infant and young child feeding and nutritional status: community-based survey in rural Nicaragua. *Public Health Nutr*. 2014 Nov 20:1-12. [Epub ahead of print]

2013

1. Ahlberg Beth Maina and Njoroge Kezia Muthoni 'Not men enough to rule!': politicization of ethnicities and forcible circumcision of Luo men during the postelection violence in Kenya, *Ethnicity & Health*, 2013. <http://dx.doi.org/10.1080/13557858.2013.772326>.
2. Anne Kubai and Beth Maina Ahlberg Making and unmaking ethnicities in the Rwandan context: implication for gender-based violence, health, and wellbeing of women. *Ethnicity & Health*, 2013. <http://dx.doi.org/10.1080/13557858.2013.832012>
3. Ahmed S, Rekha RS, Ahsan KB, Doi M, Grandér M, Roy AK, Ekström EC, Wagatsuma Y, Vahter M, Raqib R. Arsenic exposure affects plasma insulin-like growth factor 1 (IGF-1) in children in rural Bangladesh. *PLoS One*. 2013 Nov 26;8(11):e81530.
4. Andersson E, Christensson K, Hildingsson I. Mothers' satisfaction with group antenatal care versus individual antenatal care--a clinical trial. *Sex Reprod Healthc*. 2013 Oct;4(3):113-20.
5. Blomqvist YT, Frölund L, Rubertsson C, Nyqvist KH. Provision of Kangaroo Mother Care: supportive factors and barriers perceived by parents. *Scand J Caring Sci*. 2013 Jun;27(2):345-53.
6. Blomqvist YT, Ewald U, Gradin M, Nyqvist KH, Rubertsson C. Initiation and extent of skin-to-skin care at two Swedish neonatal intensive care units. *Acta Paediatr*. 2013 Jan;102(1):22-8.
7. Chikovore J, Nystrom L, Lindmark G, Ahlberg BM "How can I gain skills if I don't practice?" The dynamics of prohibitive silence against pre-marital pregnancy and sex in Zimbabwe. *PLoS One*. 2013;8(1):e53058.
8. Chola L, Fadnes LT, Engebretsen IM, Tumwine JK, Tylleskar T, Robberstad B; PROMISE EBF Study Group. Infant feeding survival and Markov transition probabilities among children under age 6 months in Uganda. *Am J Epidemiol*. 2013 Mar 1;177(5):453-62.
9. Ekstrand M, Tydén T, Darj E, Larsson M. Twelve-month follow-up of advance provision of Emergency contraception among teenage girls in Sweden – A Randomized Controlled Trial. *Ups J Med Sci*. 2013 Nov;118(4):271-5.
10. Eriksson C, Larsson M, Skoog Svanberg A, Tydén T. Reflections on fertility and postponed parenthood-interviews with highly educated women and men without children in Sweden. *Ups J Med Sci*. 2013 May;118(2):122-9.
11. Eriksson E, Lindmark G, Axemo P, Haddad B, Ahlberg BM. Faith, premarital sex and relationships: are church messages in accordance with the perceived realities of the youth? A qualitative study in KwaZulu-Natal, South Africa. *J Relig Health*. 2013 Jun;52(2):454-66.

12. Forsén E, Tadesse E, Berhane Y, Ekström EC. Predicted implications of using percentage weight gain as single discharge criterion in management of acute malnutrition in rural southern Ethiopia. *Matern Child Nutr.* 2013 Aug 14. doi: 10.1111/mcn.12076. [Epub ahead of print]
13. Gao LL, Larsson M, Luo SY. Internet use by Chinese women seeking pregnancy-related information. *Midwifery.* 2013 Jul;29(7):730-5.
14. Gottvall M, Tydén T, Larsson M, Stenhammar C, Höglund AT. Informed Consent for HPV Vaccination: A Relational Approach. *Health Care Anal.* 2013 Jan 1. [Epub ahead of print]
15. Gottvall M, Grandahl M, Höglund AT, Larsson M, Stenhammar C, Andrae B, Tydén T. Trust versus concerns –How parents reason when they accept HPV vaccination for their young daughter. *Ups J Med Sci.* 2013 Nov;118(4):263-70.
16. Haines HM, Hildingsson I, Pallant JF, Rubertsson C. The role of women's attitudinal profiles in satisfaction with the quality of their antenatal and intrapartum care. *J Obstet Gynecol Neonatal Nurs.* 2013 Jul;42(4):428-41.
17. Hildingsson I, Haines H, Cross M, Pallant JF, Rubertsson C. Women's satisfaction with antenatal care: comparing women in Sweden and Australia. *Women Birth.* 2013 Mar;26(1):e9-e14
18. Hildingsson I, Karlström A, Nystedt A. Parents' experiences of an instrumental vaginal birth findings from a regional survey in Sweden. *Sex Reprod Healthc.* 2013 Mar;4(1):3-8.
19. Hildingsson I, Westlund K, Wiklund I. Burnout in Swedish midwives. *Sex Reprod Healthc.* 2013 Oct;4(3):87-91.
20. Hildingsson I, Johansson M, Karlström A, Fenwick J. Factors associated with a positive birth experience. An exploration of Swedish women's experiences. *International Journal of Childbirth.* 2013; 3(3): 153-164.
21. Hildingsson I, Thomas J. Parental stress in mothers and fathers one year after birth. *Journal of Reproductive and Infant Psychology* 2013; 32(1):41-56.
22. Hildingsson I, Dalén K, Sarenfelt L, Ransjö Arvidson B. First-time parents' experience of antenatal education in Sweden. *International Journal of Childbirth* 2013; 3: 28-38.
23. Höglund B, Lindgren P, Larsson M. Midwives' knowledge of, attitudes towards and experiences of caring for women with intellectual disability during pregnancy and childbirth– a cross sectional study in Sweden. *Midwifery.* 2013 Aug;29(8):950-5.
24. Johansson M, Rubertsson C, Rådestad I, Hildingsson I. Improvements of postnatal care are required by Swedish fathers. *Int J Health Care Qual Assur.* 2013;26(5):465-80.
25. Johansson M, Hildingsson I, Fenwick J. Fathers want to stay close to their partner and new baby in the early postnatal period: the importance of being able to room in after a surgical birth. *Sex Reprod Healthc.* 2013 Mar;4(1):35-6.
26. Johansson M, Hildingsson I. Intrapartum care could be improved according to Swedish fathers: mode of birth matters for satisfaction. *Women Birth.* 2013 Sep;26(3):195-201.
27. Johansson M, Hildingsson I, Fenwick J. Important factors working to mediate Swedish fathers' experiences of a caesarean section. *Midwifery.* 2013 Sep;29(9):1041-9.
28. Jordal M, Olsson P, Wijewardena K. Unmarried women's ways of facing single motherhood in Sri Lanka . A qualitative interview study. *BMC Women's Health.* 2013 Feb 6;13:5.
29. Karlström A, Lindgren H, Hildingsson I. Maternal and infant outcome after caesarean section without recorded medical indication: findings from a Swedish case-control study. *BJOG.* 2013 Mar;120(4):479-86; discussion 486.
30. Khan AI, Hawkesworth S, Ekström EC, Arifeen S, Moore SE, Frongillo EA, Yunus M, Persson LÅ, Kabir I. Effects of exclusive breastfeeding intervention on child growth and body composition: the MINIMat trial, Bangladesh. *Acta Paediatr.* 2013 Aug;102(8):815-23.
31. Kubai Anne and Ahlberg Beth Maina. Making and unmaking ethnicities in the Rwandan context: implication for gender-based violence, health, and wellbeing of women. *Ethn Health.* 2013 Oct;18(5):469-82
32. Litorp H, Kidanto H, Nyström L, Darj E, Essén B. Increasing caesarean section rates among low-risk groups: a panel study classifying deliveries according to Robson at a university hospital in Tanzania. *BMC Pregnancy Childbirth.* 2013 May 8;13:107.

33. Makenzius M, Tydén T, Darj E, Larsson M. Abortvård i förändring - Individer, vård och samhälle bör samverka för att förebygga oönskade graviditeter. *Läkartidningen* 2013 Sep 18-24;110(38):1658-61.
34. Makenzius M, Larsson M. Early onset of sexual intercourse is a risk indicator for hazardous lifestyle and problematic life situation. *Scand J Caring Sci.* 2013 Mar;27(1):20-6.
35. Mattebo M, Tydén T, Häggström-Nordin E, Nilsson K, Larsson M. Pornography consumption, sexual experiences, lifestyles and self-rated health among male adolescents in Sweden. *J Dev Behav Pediatr.* 2013 Sep;34(7):460-8.
36. Mbekenga C, Pembe A, Christensen K, Darj E, Olsson P. Sexuality after childbirth and perceived family health risks: Focus group discussions in a Tanzanian suburb. *BMC Int Health and Human Rights* 2013; 13:4.
37. Mbekenga C, Pembe A, Christensson K, Darj E, Olsson P. Prolonged sexual abstinence after childbirth; gendered norms and perceived family health risks. Focus group discussions in a Tanzanian suburb *BMC International Health and Human Rights*, 2013;13:4.
38. Nilsson J, Pembe A, Urasa M, Darj E. Safe injections and waste management among healthcare workers at a regional hospital in northern Tanzania. *Tanzania Journal of Health Research* 2013 Vol 15, (1); 0-7.
39. Nordfors C, Grün N, Haeggbloom L, Tertipis N, Sivars L, Mattebo M, Larsson M, Häggström-Nordin E, Tyden T, Ramqvist T, Dalianis T. Oral human papillomavirus (HPV) prevalence in high school students in one municipality in Sweden. *Scand J Infect Dis.* 2013 Nov;45(11):878-81.
40. Rentschler G, Kippler M, Axmon A, Raqib R, Ekström EC, Skerfving S, Vahter M, Broberg K. Polymorphisms in iron homeostasis genes and urinary cadmium concentrations among nonsmoking women in Argentina and Bangladesh. *Environ Health Perspect.* 2013 Apr;121(4):467-72, 472e1-7.
41. Souza JP, Gülmezoglu AM, Vogel J, Carroli G, Lumbiganon P, Qureshi Z, Costa MJ, Fawole B, Mugerwa Y, Nafiu I, Neves I, Wolomby-Molondo JJ, Bang HT, Cheang K, Chuyun K, Jayaratne K, Jayathilaka CA, Mazhar SB, Mori R, Mustafa ML, Pathak LR, Perera D, Rathavy T, Recidoro Z, Roy M, Ruyan P, Shrestha N, Taneepanichsku S, Tien NV, Ganchimeg T, Wehbe M, Yadamsuren B, Yan W, Yunis K, Bataglia V, Cecatti JG, Hernandez-Prado B, Nardin JM, Narváez A, Ortiz-Panozo E, Pérez-Cuevas R, Valladares E, Zavaleta N, Armson A, Crowther C, Hogue C, Lindmark G, Mittal S, Pattinson R, Stanton ME, Campodonico L, Cuesta C, Giordano D, Intarut N, Laopaiboon M, Bahl R, Martinez J, Mathai M, Merialdi M, Say L. Moving beyond essential interventions for reduction of maternal mortality (the WHO Multicountry Survey on Maternal and Newborn Health): a cross-sectional study. *Lancet.* 2013 May 18;381(9879):1747-55.
42. Sjöström K, Welander S, Haines H, Andersson E, Hildingsson I. Comparison of breastfeeding in rural areas of Sweden and Australia - a cohort study. *Women Birth.* 2013 Dec;26(4):229-34.
43. Stern J, Larsson M, Kristiansson P, Tydén T. Introducing reproductive life plan-based information in contraceptive counselling: an RCT. *Hum Reprod.* 2013 Sep;28(9):2450-61.
44. Söderberg M, Lundgren I, Christensson K, Hildingsson I. Attitudes toward fertility and childbearing scale: an assessment of a new instrument for women who are not yet mothers in Sweden. *BMC Pregnancy Childbirth.* 2013 Oct 28;13:197.
45. Thies-Lagergren L, Kvist LJ, Sandin-Bojö AK, Christensson K, Hildingsson I. Labour augmentation and fetal outcomes in relation to birth positions: a secondary analysis of an RCT evaluating birth seat births. *Midwifery.* 2013 Apr;29(4):344-50.
46. Thies-Lagergren L, Hildingsson I, Christensson K, Kvist LJ. Who decides the position for birth? A follow-up study of a randomised controlled trial. [Women Birth.](#) 2013 Dec;26(4):e99-104.
47. Trenholm J, Blomquist M, Olsson P, Ahlberg BM. (2013) Battles on women's bodies. War, rape and traumatisation in eastern Democratic Republic of Congo. *Men and Masculinity*, 16:2, 202-26.
48. Trenholm Jill, Olsson Pia, Blomqvist Martha and Ahlberg Beth Maina. Constructing Soldiers from Boys in Eastern Democratic Republic of Congo. *Men and Masculinities* published online 16 January 2013.
49. Sahlin M, Klint Carlander A-K, Hildingsson I, Wiklund I. First-time mothers wish for a planned caesarean section - a deeply rooted emotion. *Midwifery* 2013; 29(3): 447-452.

2012

1. Avelin P, Erlandsson K, Hildingsson I, Davidsson Bremborg A, Rådestad I. Make the stillborn baby and the loss real for the siblings-parents' advice on how the siblings of a stillborn baby can be supported. *Journal of Perinatal Education* 2012; 21(2): 90-98.
2. Andersson E, Christensson C, Hildingsson I. Parents' experiences and perceptions of group-based antenatal care in four clinics in Sweden. *Midwifery* 2012; 28: 502-508.
3. Blomqvist YT, Rubertsson C, Kylberg E, Jöreskog K, Nyqvist KH. Kangaroo Mother Care helps fathers of preterm infants gain confidence in the paternal role. *J Adv Nurs*. 2012 Sep;68 (9):1988-96.
4. Danielsson M, Berglund T, Forsberg M, Larsson M, Rogala C, Tydén T. Sexual and reproductive health: Health in Sweden: The National Public Health Report 2012. Chapter 9. *Scand J Public Health*. 2012 Dec;40(9 Suppl):176-96.
5. Doherty T, Sanders D, Jackson D, Swanevelder S, Lombard C, Zembe W, Chopra M, Goga A, Colvin M, Fadnes LT, Engebretsen I, Ekström EC, Tylleskär T. Early cessation of breastfeeding amongst women in South Africa: an area needing urgent attention to improve child health *BMC Pediatrics* 2012 July 24; 12(1)105.
6. Eriksson C, Larsson M, Tydén T. Reflections on having children in the future-interviews with highly educated women and men without children. *Ups J Med Sci*. 2012 Aug;117(3):328-35.
7. Haines H, Rubertsson C, Pallant J, Hildingsson I. The influence of women's fear, attitudes and beliefs of childbirth on mode and experience of birth. *BMC Pregnancy and childbirth* 2012;12; 55.
8. Haines H, Rubertsson C, Pallant JF, Hildingsson I. Womens' attitudes and beliefs of childbirth and association with birth preference: A comparison of a Swedish and an Australian sample in mid-pregnancy. *Midwifery*. 2012 Dec;28 (6):e850-6.
9. Henriksson C, Larsson M, Arnetz J, Herlitz J, Karlsson JE, Svensson L, Thuresson M, Zedigh C, Wernroth L, Lindahl B. Knowledge about Acute Myocardial Infarction (AMI) and attitudes to medical care seeking - A comparison between patients and the general public. *Open Journal of Nursing*, 2012, 2, 372-378.
10. Hildingsson I, Thomas J. Perinatal Outcomes and Satisfaction with Care in Women with High Body Mass Index. *Journal of Midwifery and Women's Health* 2012; 57: 336-344.
11. Höglund B, Lindgren P, Larsson M. Pregnancy and birth outcomes of women with intellectual disability in Sweden: A national register study between 1999 and 2007. *Acta Obstet Gynecol Scand*. 2012 Dec;91(12):1381-7.
12. Höglund B, Lindgren P, Larsson M. Newborns of mothers with intellectual disability have a higher risk of perinatal death and being small-for-gestational age. *Acta Obstet Gynecol Scand*. 2012 Dec;91(12):1409-14.
13. Höglund B, Larsson M. Struggling for motherhood with an intellectual disability - a qualitative study of women's experiences in Sweden. *Midwifery*. 2012 Sep 12. doi:pii: S0266-6138(12)00114-3. 10.1016/j.midw.2012.06.014. [Epub ahead of print]
14. Johansson M, Rubertsson C, Rådestad I, Hildingsson I. Childbirth - an emotionally demanding experience for fathers. *Sex Reprod Healthc*. 2012 Mar;3 (1):11-20.
15. Khan AI, Kabir I, Hawkesworth S, Ekström EC, El Arifeen S, Frongillo AE, Y, Persson LÅ. Early invitation to food and/or multiple micronutrient supplementation in pregnancy does not affect body composition in offspring at 54 months: follow-up of the MINIMat randomized trial, Bangladesh. Accepted *Maternal Child Nutr* sept 2012
16. Kildea S, Larsson M, Govind S. A review of midwifery in Mongolia utilising the 'Strengthening Midwifery Toolkit'. *Women Birth*. 2012 Dec;25(4):166-73.
17. Liljas Stålhandske M, Makenzius M, Tydén T, Larsson M. Existential experiences and needs related to induced abortion in a group of Swedish women: A quantitative investigation. *J Psychosom Obstet Gynaecol*. 2012 Jun;33(2):53-61.
18. Lindström E, Persson LÅ, Raqib R, S El Arifeen , Basu S, Ekström EC. Associations between oxidative parameters in pregnancy and birth anthropometry in a cohort of women and children in rural Bangladesh: The MINIMat-cohort. *Free Radical Research*, March 2012; 46(3): 253–264
19. Makenzius M, Tyden T, Darj E, Larsson M. Women's and men's satisfaction with care related to induced abortion. *Eur J Contracept Reprod Health Care*. 2012 Aug;17(4):260-9.

20. Makenzius M, Tydén T, Darj E, Larsson M. Autonomy and dependence - experiences of home abortion, contraception and prevention. *Scand J Caring Sci*. 2012 Aug 22. doi: 10.1111/j.1471-6712.2012.01068.x. [Epub ahead of print]
21. Makenzius M, Tydén T, Darj E, Larsson M. Risk factors among men involved in repeat abortion. *Scand J Public Health*. 2012 Feb. 40: 211 – 216.
22. Mattebo M, Larsson M, Olsson T, Tydén T, Häggström-Nordin E. Hercules and Barbie? Reflections on the influence of pornography and sexualised media in a group of young adolescents in Sweden. *Eur J Contracept Reprod Health Care*. 2012 Feb;17(1):40-9.
23. Nilsson C, Lundgren I, Karlström A, Hildingsson I. Self reported fear of childbirth and its association with birth experience and mode of delivery: A longitudinal population based study. *Women & Birth* 2012; 25: 114-121.
24. Nor B, Ahlberg BM, Doherty T, Zembe Y, Jackson D, Ekström EC; PROMISE-EBF Study Group. Mother's perceptions and experiences of infant feeding within a community-based peer counselling intervention in South Africa. *Matern Child Nutr*. 2012 Oct;8(4):448-58.
25. Nkulu Kalengayi FK, Hurtig AK, Ahlm C, Ahlberg BM "It is a challenge to do it the right way": an interpretive description of caregivers' experiences in caring for migrant patients in Northern Sweden. *BMC Health Serv Res*. 2012 Nov 29;12:433.
26. Persson LÅ, El Arifeen S, Ekström EC, Rasmussen K, Frongillo E, Yunus MD. Effects of prenatal multiple micronutrient and early food supplementation on size at birth, pregnancy duration and infant mortality: the MINIMat randomised trial, Bangladesh , *JAMA* 2012; May 16; 307(19):2050-59 (received an invited editorial)
27. Saulo B, Walakira E, Darj E. Access to healthcare for disabled persons. How are blind people reached by HIV services? *Sex Reprod Healthc*. 2012 Mar;3(1):49-53.
28. Sköld A, Larsson M. Contraceptive use during the life-cycle as reported by 46-year old women in Sweden. *Sex Reprod Healthc*. 2012 Mar;3(1):43-7.
29. Thies-Lagergren L, Kvist LJ, Christensson K, Hildingsson I. Striving for scientific stringency: a re-analysis of a randomised controlled trial considering first-time mothers' obstetric outcomes in relation to birth position. *BMC Pregnancy and Childbirth* 2012; 12: 135.32.
30. Tydén T, Palmqvist M, Larsson M. A repeated survey of sexual behaviour among female university students in Sweden. *Acta Obstet Gynecol Scand*. 2012 Feb;91(2):215-9.
31. Wiklund I, Andolf E, Lilja H, Hildingsson I. Indications for cesarean section on maternal request- Guidelines for counseling and treatment. *Sexual and Reproductive Healthcare* 2012; 3: 99-106.

Dissertations 2014

1. Magdalena Mattebo
2. Malin Jordal

Agencies that support the work/Funding

Swedish International Development Cooperation Agency (Sida)	1 110 000
Akademiska sjukhuset (ALF)	2 406 000
Uppsala University, Caring Sciences	775 000
Uppsala University, funds for gender research	350 000
The Cancer Fund	500 000
Aga Khan University	270 000
The Public Health Agency of Sweden	125 000

Reproductive Health and Healthcare

Project 1: Child Birth related fear

PI: Ingegerd Hildingsson and Christine Rubertsson

Fear of birth scale (FOBS) is an instrument to identify women with CBRF. More knowledge is needed to find out if FOBS also can be used in clinical practice. A randomized controlled trial compares two different treatments of CBRF; standard care and internet-based cognitive behavioral treatment. We study background factors and outcomes in women undergoing counseling with specially trained midwives and also the organization of such counseling in Sweden.

Project 2: Dysfunctional labour in a National Hospital in Dar es Salaam

PI: Elisabeth Darj

In this project at Muhimbili National Hospital in Tanzania we will analyse lactate in amniotic fluid in 1000 women. The aim is to test the hypothesis, that if lactate levels are low, it is possible to attain a normal vaginal delivery by augmentation of labour with oxytocin. It will also be investigated whether high levels of lactate indicate an increased risk of caesarean section.

Project 3: Home based lifesaving skill education within maternal and newborn care in Tanzania

PI: Elisabeth Darj and Pia Axemo

The study is a cluster randomised structured education intervention to investigate if home based education has any impact on knowledge and behaviour in seeking professional care for mother and child during pregnancy and birth. Furthermore, we will study the involvement of men during pregnancy and birth and the views of health care workers.

Project 4: Introducing and evaluating a Reproductive Life Plan

PI: Margareta Larsson and Tanja Tydén

Randomized controlled trials among women and men using the RLP are ongoing and a study about the implementation of the RLP in midwifery clinics has been completed. A longitudinal questionnaire study on health, life style and pregnancy planning is on-going in collaboration with several partners in Sweden and Europe.

Project 5: Postpartum experiences of women and men in a suburb of Dar es Salaam

PI: Pia Olsson

The study aims to gain a deeper understanding of family health and support after childbirth from the perspective of first-time parents and informal support persons in low-income, multi-ethnic, suburban areas in Ilala, Dar es Salaam, Tanzania. Interviews and focus group discussions with first time parents and informal support persons.

Project 6: Sexual/reproductive health among young people with intellectual disability – the health of their children

PI: Margareta Larsson and Berit Höglund

Women with intellectual disability (ID) and their children are risk groups. This project investigates health risks among children born to mothers with ID. Interview studies regarding sexual health and reproduction among young adults with ID are also planned. Parents, professionals and young people will be interviewed.

Project 7: Reproductive health, gender and migration in Sri Lanka

PI: Pia Olsson

This program investigated strategies in handling changing gender relations and SRHR risks of young, unmarried women migrating from rural to urban factory areas. Interviews and group discussions among working women and with men residing in or near free trade zones. The knowledge will guide SRHR programs, education curricula and for theory development.

Project 8: The quality of referrals of pregnant women in rural Tanzania

PI: Elisabeth Darj

In-depth-interviews of referred women or relatives to deceased women, who did not follow advice to go to the hospital for care.

Project 9: The midwife's dialogue about alcohol with parents-to-be

PI: Margareta Larsson

The aim of the project is to develop and to evaluate a method and a theory about social and psychosocial support for an alcohol-free pregnancy and for responsible alcohol consumption during parenthood, involving both parents-to-be. It will also evaluate the feasibility of the implementation of such a method.

Project 10: Unintended pregnancy, abortion and prevention

PI: Margareta Larsson

The project investigated women and men's experiences and needs in relation to an induced abortion. The project had a public health perspective and care before and during an abortion as well as prevention of unintended pregnancies were investigated.

Sexual Health and Rights

Project 1: Health seeking behavior and care of survivors of child sexual abuse and rape

PI: Pia Axemo, Elisabeth Darj and Pia Olsson

An intervention to improve health care seeking behaviour and care among survivors of rape and child sexual abuse in Morogoro, Tanzania by education of health care workers, police and the population by radio and other channels. A standardised rape-kit is used. The effects are evaluated by comparing the situation before and after the intervention and also with a control area.

Project 2: Pornography, youth and health

PI: Margareta Larsson

A prospective longitudinal questionnaire study among 800 high school students showed that pornography has become a part of everyday life for many adolescents and the use is associated with some risky health behaviours. In the longitudinal analyses frequent use of pornography was more associated to psychosomatic symptoms compared with depressive symptoms.

Project 3: Sri Lankan Males perspectives of Gender

PI: Pia Axemo, Elisabeth Darj and Gunilla Lindmark

The aim of study is to investigate male university student's perception on GBV, male dominance and female subordination and the willingness to actively engage in prevention of GBV in future occupations. It is a pilot study, and will serve as the base for a later intervention study.

Project 4: Use of skin-lightening cosmetics among immigrant women

PI: Elisabeth Darj

The aim of this project is to increase knowledge around the potentially dangerous bleaching products used in Sweden by immigrant women. We investigate the market, patterns of use and views on skin bleaching among immigrant women from Africa, Asia and Caribbean. Furthermore we have analysed the content of the products bought in East-Africa and Sweden.

Nutrition and Women's Health

Project 1: Nutrition and women's health in Bangladesh

PI: Eva Charlotte Ekström

Randomized trials in Bangladesh are evaluating the effects of nutrition interventions in early life on maternal and child health over time, currently the effects on pre-puberty are in focus.

Project 2: Community-based promotion of exclusive breastfeeding

PI: Eva Charlotte Ekström

Promotion of exclusive breastfeeding in South Africa. The importance of women's empowerment in infant and young child health and nutrition in Nicaragua and Ethiopia are also studied.

Project 3: Combining breastfeeding with employment in India

PI: Pia Olsson

This is a project about strategies for enabling women to combine breastfeeding, domestic work and employment. A qualitative study among public education and health sector workers in New Delhi, India.

Project 4: Initiation of breastfeeding

PI: Christine Rubertsson

A successful breastfeeding initiation is crucial for continued breastfeeding, hence the importance of studying the first breastfeeding session, breastfeeding support during the first breastfeeding session and its consequences. Therefore the aim of this project is to investigate care giving routines during the first breastfeeding session, possible effects and breastfeeding duration.

Project 5: A world on the move

PI: Beth-Maina Ahlberg

This project studies challenges and opportunities for HIV/AIDS/Tuberculosis care and prevention among immigrants from countries in Sub-Saharan Africa and another ethnographic study of war rape in Eastern Democratic Republic of Congo has been performed..

Project 6: Jigger infestation

PI: Beth-Maina Ahlberg

This is a project with a transdisciplinary approach for understanding a visibly deforming but simultaneously invisible and neglected public health problem in the East African Region.

Pediatric Endocrinology

Jan Gustafsson

Research within pediatric endocrinology contributes to the understanding of hormonal influences on growth and metabolism during infancy, childhood and puberty.

We study conditions behind intrauterine growth retardation and increased fetal growth as well as energy substrate metabolism in newborn infants. Since fetal conditions are important for adult life we use Swedish registers to study relationships between conditions at birth and growth, intellectual performance and development of adult disease.

Since eating disorders influence somatic development studies of endocrine and metabolic consequences of anorexia nervosa are also ongoing.

Overweight and obesity during childhood represents an increasing problem globally. Within the research group a large cohort of obese children is followed within the two projects ULSCO and Beta JUDO.

Several aspects of type 1 diabetes during childhood are also studied by the research group. In particular research on the relation between neurodevelopmental problems and disease control as well as metabolic control, weight gain during treatment and remaining endogenous insulin production is performed.

Members of the group during 2014

Gustafsson, Jan, Professor
Ahlsson, Fredrik, MD, PhD
Berglund, Marie, Research nurse
Ciba, Iris MD, Doctoral student
Diderholm, Barbro MD, PhD
Forslund, Anders MD, PhD
Gebre-Medhin, Mehari Professor em.
Grönberg, Annika MD, Doctoral student
Halldin-Stenlid, Maria MD, PhD
Hedberg Nykvist, Kerstin Associate professor
Jonsson, Björn PhD
Koltowska, Maria MD, PhD
Lundgren, Maria MD, PhD
Myrelid, Åsa MD, PhD
Nylander, Charlotte MD, Doctoral student
Proos, Lemm MD, PhD
Staaf, Johan Doctoral student
Strand-Brodd, Katarina MD, PhD
Svenne, Ingemar Associate professor
Söderberg, Elisabet laboratory technician
Tindberg, Ylva MD, PhD
Tuvemo, Torsten Professor em.
Wahlström Jonsson, Inger MD, Doctoral student
Wester Oxelgren, Ulrika MD, Doctoral student

Publications 2012 - 2014

2014

1. Albertsson-Wikland K, Kriström B, Lundberg E, Aronson A S, Gustafsson J, Hagenäs L, et al. Growth hormone dose-dependent pubertal growth : a randomized trial in short children with low growth hormone secretion. *Hormone Research in Paediatrics*. 2014;82(3):158-170.
2. Haglind C B, Nordenström A, Ask S, von Döbeln U, Gustafsson J, Stenlid M H. Increased and early lipolysis in children with long-chain 3-hydroxyacyl-CoA dehydrogenase (LCHAD) deficiency during fast.. *Journal of Inherited Metabolic Disease*. 2014;
3. Johnsson I W, Haglund B, Ahlsson F, Gustafsson J. A high birth weight is associated with increased risk of type 2 diabetes and obesity.. *Pediatric Obesity*. 2014;
4. Lundgren M, Morgården E, Gustafsson J. Is obesity a risk factor for impaired cognition in young adults with low birth weight?. *Pediatric Obesity*. 2014;9(5):319-326.
5. Proos L A, Gustafsson J, Tuvemo T. Catch-up growth following undernutrition - a risk factor for early puberty in internationally adopted children. *Pediatrics*. 2014;
6. Ridefelt P, Gustafsson J, Aldrimer M, Hellberg D. Alkaline phosphatase in healthy children : reference intervals and prevalence of elevated levels.. *Hormone Research in Paediatrics*. 2014;82(6):399-404.
7. Ridefelt P, Hellberg D, Aldrimer M, Gustafsson J. Estimating reliable paediatric reference intervals in clinical chemistry and haematology. *Acta Paediatrica*. 2014;103(1):10-15.
8. Skogberg G, Lundberg V, Lindgren S, Gudmundsdottir J, Sandström K, Kämpe O, Annerén G, Gustafsson J, Sunnegårdh J, van der Post S, Telemo E, Berglund M, Ekwall O. Altered Expression of Autoimmune Regulator in Infant Down Syndrome Thymus, a Possible Contributor to an Autoimmune Phenotype. *Journal of Immunology*. 2014;193(5):2187-2195.
9. Stenlid M H, Ahlsson F, Forslund A H, von Döbeln U, Gustafsson J. Energy substrate metabolism in pyruvate dehydrogenase complex deficiency. *Journal of Pediatric Endocrinology & Metabolism (JPEM)*. 2014;27(11-12):1059-1064.
10. Albertsson-Wikland K, Kriström B, Lundberg E, Aronson A S, Gustafsson J, Hagenäs L, et al. Growth hormone dose-dependent pubertal growth : a randomized trial in short children with low growth hormone secretion. *Hormone Research in Paediatrics*. 2014;82(3):158-170.
11. Brooks S J, Solstrand Dahlberg L, Swenne I, Aronsson M, Zarei S, Lundberg L, et al. Obsessive-compulsivity and working memory are associated with differential prefrontal cortex and insula activation in adolescents with a recent diagnosis of an eating disorder. *Psychiatry Research*. 2014;224(3):246-253.
12. Ellonen N, Jernbro C, Janson S, Tindberg Y, Lucas S. Current parental attitudes towards upbringing practices in Finland and Sweden thirty years after the ban on corporal punishment. *Child Abuse Review*. 2014;
13. Ellonen N, Jernbro C, Tindberg Y, Lucas S, Janson S. Current parental attitudes towards upbringing practices in Finland and Sweden thirty years after the ban on corporal punishment. *Child Abuse Review*. 2014;
14. Freda P U, Gordon M B, Kelepouris N, Jonsson P, Koltowska-Häggström M, van der Lely A J. Long-Term Treatment with Pegvisomant as Monotherapy in Patients with Acromegaly : Experience from Acrostudy.. *Endocrine practice : official journal of the American College of Endocrinology and the American Association of Clinical Endocrinologists*. 2014;:1-32.
15. Gerhardsson E, Nyqvist K H, Mattsson E, Volgsten H, Hildingsson I, Funkquist E. The Swedish Version of the Breastfeeding Self-Efficacy Scale-Short Form : Reliability and Validity Assessment. *Journal of Human Lactation*. 2014;30(3):340-345.
16. Jernbro C, Tindberg Y, Lucas S, Janson S. Quality of life among Swedish school children who experienced multi-type child maltreatment.. *Acta Paediatrica*. 2014;
17. Johnsson I W, Haglund B, Ahlsson F, Gustafsson J. A high birth weight is associated with increased risk of type 2 diabetes and obesity.. *Pediatric Obesity*. 2014;
18. Jonsson P, Jonsson B, Eeg-Olofsson O. Psychological and social outcome of epilepsy in well-functioning children and adolescents. A 10-year follow-up study. *European journal of paediatric neurology*. 2014;18(3):381-390.

19. Koltowski L, Koltowska-Häggström M, Filipiak K J, Kochman J, Golicki D, Pietrasik A, et al. Quality of Life in Patients With ST-Segment Elevation Myocardial Infarction Undergoing Percutaneous Coronary Intervention-Radial Versus Femoral Access (from the OCEAN RACE Trial). *American Journal of Cardiology*. 2014;114(4):516-521
20. Mattsson E, Funkquist E, Wickström M, Nyqvist K H, Volgsten H. Healthy late preterm infants and supplementary artificial milk feeds : Effects on breast feeding and associated clinical parameters. *Midwifery*. 2014;
21. Merks P, Kazmierczak J, Olszewska A E, Koltowska-Häggström M. Comparison of factors influencing patient choice of community pharmacy in Poland and in the UK, and identification of components of pharmaceutical care. *Patient Preference and Adherence*. 2014;8:715-726.
22. Nylander C, Seidel C, Tindberg Y. The triply troubled teenager - chronic conditions associated with fewer protective factors and clustered risk behaviours. *Acta Paediatrica*. 2014;103(2):194-200.
23. Proos L A, Gustafsson J, Tuvemo T. Catch-up growth following undernutrition - a risk factor for early puberty in internationally adopted children. *Pediatrics*. 2014;
24. Ragnarsson O, Mattsson A F, Monson J P, Filipsson Nyström H, Akerblad A, Koltowska-Häggström M, et al. The relationship between glucocorticoid replacement and quality of life in 2737 hypopituitary patients. *European Journal of Endocrinology*. 2014;171(5):571-579.
25. Reinehr T, Lindberg A, Koltowska-Häggström M, Ranke M. Is growth hormone treatment in children associated with weight gain? : Longitudinal analysis of KIGS data. *Clinical Endocrinology*. 2014;81(5):721-726.
26. Strand H, Blomqvist Y T, Gradin M, Nyqvist K H. Kangaroo mother care in the neonatal intensive care unit : staff attitudes and beliefs and opportunities for parents. *Acta Paediatrica*. 2014;103(4):373-378.
27. Swenne I, Stridsberg M. Bone metabolism in adolescent girls with eating disorders and weight loss : independent effects of weight change, insulin-like growth factor-1 and oestradiol.. *Eating and Weight Disorders*. 2014;
28. Tindberg Y. Handfasta råd för möte med ungdomar. In: *Ungdomars hälsa: .* 44-45 Studentlitteratur; 2014.
29. Tindberg Y, Otterman G. Skador av våld på små barn – tecken, handläggning och diagnostik. *Läkartidningen*. 2014;(47)
30. van der Lely A J, Gomez R, Heissler J F, Åkerblad A, Jönsson P, Camacho-Hübner C, et al. Pregnancy in acromegaly patients treated with pegvisomant. *Endocrine (Basingstoke)*. 2014;
31. Westin V, Stoltz Sjöström E, Ahlsson F, Domellöf M, Norman M. Perioperative nutrition in extremely preterm infants undergoing surgical treatment for patent ductus arteriosus is suboptimal. *Acta Paediatrica*. 2014;103(3):282-288.
32. Brooks SJ, Solstrand Dahlberg L, Swenne I, Aronsson M, Zarei S, Lundberg L, Jacobsson JA, Rask-Andersen M, Salonen-Ros H, Rosling A, Larsson EM, Schiöth HB. Obsessive-compulsivity and working memory are associated with differential prefrontal cortex and insula activation in adolescents with a recent diagnosis of an eating disorder. *Psychiatry Res*. 2014 Dec 30;224(3):246-53.
33. Benyi E, Kieler H, Linder M, Ritzén M, Carlstedt-Duke J, Tuvemo T, Westphal O, Säwendahl L. Risks of malignant and non-malignant tumours in tall women treated with high-dose oestrogen during adolescence. *Horm Res Paediatr*. 2014;82(2):89-96
34. Baylis R, Ewald U, Gradin M, Hedberg Nyqvist K, Rubertsson C, Thernström Blomqvist Y. First-time events between parents and preterm infants are affected by the designs and routines of neonatal intensive care units. *Acta Paediatr*. 2014 Oct;103(10):1045-52.

2013

1. Westin V, Stoltz Sjöström E, Ahlsson F, Domellöf M, Norman M. Perioperative nutrition in extremely preterm infants undergoing surgical treatment for patent ductus arteriosus is suboptimal.. *Acta Paediatrica*. 2013;
2. Ridefelt P, Aldrimer M, Gustafsson J, Hellberg D. Kreatininvärden bör kompletteras med GFR-beräkningar. *Läkartidningen*. 2013;(110):47-.

3. Lundgren M, Morgården E, Gustafsson J. Is obesity a risk factor for impaired cognition in young adults with low birth weight?. *Pediatric obesity*. 2013;
4. Strand H, Blomqvist Y T, Gradin M, Nyqvist K H. Kangaroo mother care in the neonatal intensive care unit : staff attitudes and beliefs and opportunities for parents.. *Acta Paediatrica*. 2013;
5. Nyqvist K H, Häggkvist A, Hansen M N, Ezeonodo A, Hannula L, Maastrup R, et al. What is the Purpose of the Baby-Friendly Hospital Initiative for Neonatal Wards? : Commentary to a Letter by Adik Levin in *Birth*, 40:2, June 2013.. *Birth*. 2013;40(4):315-316.
6. Sjöström E S, Ohlund I, Ahlsson F, Engström E, Fellman V, Hellström A, et al. Nutrient intakes independently affect growth in extremely preterm infants : results from a population-based study. *Acta Paediatrica*. 2013;102(11):1067-1074.
7. Bolin K, Sandin R, Koltowska-Häggström M, Loftus J, Prütz C, Jonsson B. The cost-effectiveness of growth hormone replacement therapy (Genotropin®) in hypopituitary adults in Sweden. *Cost Effectiveness and Resource Allocation*. 2013;11(1):24-.
8. Rodoo P, Ridefelt P, Aldrimer M, Niklasson F, Gustafsson J, Hellberg D. Population-based pediatric reference intervals for HbA1c, bilirubin, albumin, CRP, myoglobin and serum enzymes. *Scandinavian Journal of Clinical and Laboratory Investigation*. 2013;73(5):361-367.
9. Serenius F, Källén K, Blennow M, Ewald U, Fellman V, Holmström G, et al. Neurodevelopmental outcome in extremely preterm infants at 2.5 years after active perinatal care in Sweden. *Journal of the American Medical Association (JAMA)*. 2013;309(17):1810-1820.
10. Persson L, Nga N T, Målvik M, Thi Phuong Hoa D, Eriksson L, Wallin L, et al. Effect of Facilitation of Local Maternal-and-Newborn Stakeholder Groups on Neonatal Mortality : Cluster-Randomized Controlled Trial. *PLoS Medicine*. 2013;10(5):e1001445-.
11. Aldrimer M, Ridefelt P, Rodoo P, Niklasson F, Gustafsson J, Hellberg D. Population-based pediatric reference intervals for hematology, iron and transferrin. *Scandinavian Journal of Clinical and Laboratory Investigation*. 2013;73(3):253-261.
12. Englund A, Jonsson B, Zander C S, Gustafsson J, Annerén G. Changes in mortality and causes of death in the Swedish Down syndrome population. *American Journal of Medical Genetics. Part A*. 2013;161A(4):642-649.
13. Nylander C, Toivonen H, Nasic S, Söderström U, Tindberg Y, Fernell E. Children and adolescents with type 1 diabetes and high HbA1c : a neurodevelopmental perspective. *Acta Paediatrica*. 2013;102(4):410-415.
14. Ahlsson F, Diderholm B, Ewald U, Jonsson B, Forslund A H, Stridsberg M, Gustafsson J. Adipokines and their relation to maternal energy substrate production, insulin resistance and fetal size. *European Journal of Obstetrics, Gynecology, and Reproductive Biology*. 2013;168(1):26-29.
15. Blomqvist Y T, Ewald U, Gradin M, Nyqvist K H, Rubertsson C. Initiation and extent of skin-to-skin care at two Swedish neonatal intensive care units. *Acta Paediatrica*. 2013;102(1):22-28.
16. Lidehäll A K, Engman M, Sund F, Malm G, Lewensohn-Fuchs I, Ewald U, et al. Cytomegalovirus-Specific CD4 and CD8 T Cell Responses in Infants and Children. *Scandinavian Journal of Immunology*. 2013;77(2):135-143.
17. Thernström Blomqvist Y, Frölund L, Rubertsson C, Hedberg Nyqvist K. Provision of Kangaroo Mother Care : supportive factors and barriers perceived by parents. *Scandinavian Journal of Caring Sciences*. 2013;27(2):345-353.
18. Proos L A, Gustafsson J, Tuvemo T. Early Puberty in Internationally Adopted Children - Fact or Artefact?. *Pediatrics*. 2013;
19. Ridefelt P, Aldrimer M, Rödö P, Gustafsson J, Niklasson F, Hellberg D. Referensintervall för barn för vanliga klinisk-kemiska analyser. *Läkartidningen*. 2013;110(43-44):1927-1930.
20. P. Ridefelt, M. Aldrimer, J. Gustafsson, D. Hellberg. Replik: Kreatininvärden bör kompletteras med GFR-beräkningar. *Läkartidningen* 2013, 110 47:2125
21. Stoltz Sjöström E, Ohlund I, Ahlsson F, Engström E, Fellman V, Hellström A, Källén K, Norman M, Olhager E, Serenius F, Domellöf M. Nutrient intakes independently affect growth in extremely preterm infants: results from a population-based study. *Acta Paediatr*. 2013 Nov;102(11):1067-74
22. Ubhayasekera SJ, Staaf J, Forslund A, Bergsten P, Bergquist J. Free fatty acid determination in plasma by GC-MS after conversion to Weinreb amides. *Anal Bioanal Chem*. 2013 Feb;405(6):1929-35

23. Heinemann AB, Hellström-Westas L, Hedberg Nyqvist K Factors affecting parents' presence with their extremely preterm infants in a neonatal intensive care room. *Acta Paediatr.* 2013 Jul;102(7):695-702.
24. Bolin K, Sandin R, Koltowska-Häggström M, Loftus J, Prütz C, Jonsson B. The cost-effectiveness of growth hormone replacement therapy (Genotropin®) in hypopituitary adults in Sweden. *Cost Eff Resour Alloc.* 2013 Sep 30;11(1):24. doi: 10.1186/1478-7547-11-24
25. Hyllienmark L1, Alstrand N, Jonsson B, Ludvigsson J, Cooray G, Wahlberg-Topp J. Early electrophysiological abnormalities and clinical neuropathy: a prospective study in patients with type 1 diabetes. *Diabetes Care.* 2013 Oct;36(10):3187-94. doi: 10.2337/dc12-2226. Epub 2013 May 30.
26. Fetuga B, Ogunlesi T, Olanrewaju D, Jonsson B, Albertsson-Wikland K. Growth in prepubertal Nigerian children is highly dependent on socio-economic status. *Acta Paediatr.* 2013 Aug;102(8):824-31.
27. Feldt-Rasmussen U, Brabant G, Maiter D, Jonsson B, Toogood A, Koltowska-Haggstrom M, Rasmussen AK, Buchfelder M, Saller B, Biller BM Response to GH treatment in adult GH deficiency is predicted by gender, age, and IGF1 SDS but not by stimulated GH-peak. *Eur J Endocrinol.* 2013 Apr 15;168(5):733-43
28. Nylander C, Seidel C, Tindberg Y. The triply troubled teenager - chronic conditions associated with fewer protective factors and clustered risk behaviours. *Acta Paediatr.* 2013 Oct 12.
29. Hreinsdottir J, Ewald U, Strand Brodd K, Ornkloo H, von Hofsten C, Holmström G. Ophthalmological outcome and visuospatial ability in very preterm children measured at 2.5 years corrected age. *Acta Paediatr.* 2013 Aug 27.
30. Swenne I. Poor catch-up growth in late adolescent boys with eating disorders, weight loss and stunting of growth. *Eur Eat Disord Rev.* 2013 Sep;21(5):395-8.
31. Jonsdottir B, Andersson C, Carlsson A, Delli A, Forsander G, Ludvigsson J, Marcus C, Samuelsson U, Ortvist E, Lernmark A, Ivarsson SA, Larsson HE; Better Diabetes Diagnosis (BDD) study group. Thyroid autoimmunity in relation to islet autoantibodies and HLA-DQ genotype in newly diagnosed type 1 diabetes in children and adolescents. *Diabetologia.* 2013 Aug;56(8):1735-42.
32. Swenne I, Vessby B Relationship of $\Delta(6)$ -desaturase and $\Delta(5)$ -desaturase activities with thyroid hormone status in adolescents with eating disorders and weight loss. *Acta Paediatr.* 2013 Apr;102(4):416-8.
33. Andersson C, Vaziri-Sani F, Delli A, Lindblad B, Carlsson A, Forsander G, Ludvigsson J, Marcus C, Samuelsson U, Ivarsson S, Lernmark A, Larsson HE; BDD Study Group. Triple specificity of ZnT8 autoantibodies in relation to HLA and other islet autoantibodies in childhood and adolescent type 1 diabetes. *Pediatr Diabetes.* 2013 Mar;14(2):97-105

2012

1. Nylander C, Toivonen H, Nasic S, Söderström U, Tindberg Y, Fernell E. Children and adolescents with type 1 diabetes and high HbA1c : a neurodevelopmental perspective. *Acta Paediatr.* 2012;
2. Swenne I. Weight Requirements for Catch-Up Growth in Adolescent Girls with Eating Disorders. In: *Handbook of Growth and Growth Monitoring in Health and Disease.* New York, NY: Springer Science+Business Media B.V.; 2012. p. 1015-1027.
3. Swenne I, Rosling A. Omega-3 essential fatty acid status is improved during nutritional rehabilitation of adolescent girls with eating disorders and weight loss. *Acta Paediatr.* 2012;101(8):858-861.
4. Bandara S, Nyqvist K H, Musmar S M, Procaccini D B, Wang S. RoundTable discussion : Use of alternative feeding methods in the hospital. *Journal of Human Lactation.* 2012;28(2):122-124.
5. Nga N T, Målqvist M, Eriksson L, Hoa D P, Selling K E, Johansson A, et al. Effect of Facilitation of Local Maternal-and-Newborn Health Groups on Continuum of Perinatal Care : Results from the NeoKIP Trial in Northern Vietnam. *American Journal of Public Health.* 2012;
6. Decker R, Nygren A, Kriström B, Nierop A F, Gustafsson J, Albertsson-Wikland K, et al. Different thresholds of tissue-specific dose-responses to growth hormone in short prepubertal children. *BMC Endocrine Disorders.* 2012;12(1):26-.

7. Eriksson L, Haglund B, Ewald U, Odland V, Kieler H. Health consequences of prophylactic exposure to antenatal corticosteroids among children born late preterm or term. *Acta Obstetrica et Gynecologica Scandinavica*. 2012;91(12):1415-21.
8. Ashish KC, Målqvist M, Wrammert J, Verma S, Aryal DR, Clark R, Naresh PK, Vitrakoti R, Baral K, Ewald U. Implementing a simplified neonatal resuscitation protocol-helping babies breathe at birth (HBB) : at a tertiary level hospital in Nepal for an increased perinatal survival. *BMC Pediatrics*. 2012;12(1):159
9. Proos L A, Gustafsson J. Is Early Puberty Triggered by Catch-Up Growth Following Undernutrition?. *International Journal of Environmental Research and Public Health*. 2012;9(5):1791-1809.
10. Nga N T, Hoa D T, Målqvist M, Persson L, Ewald U. Causes of neonatal death : results from NeoKIP community-based trial in Quang Ninh province, Vietnam. *Acta Paediatrica*. 2012;101(4):368-373.
11. Fideleff H L, Jonsson B, Koltowska-Häggström M, Boguszewski M C, Wilton P, Boquete H R. GH deficiency during the transition period : clinical characteristics before and after GH replacement therapy in two different subgroups of patients. *Journal of Pediatric Endocrinology & Metabolism (JPEM)*. 2012;25(1-2):97-105.
12. Frisk P, Arvidson J, Ljunggren Ö, Gustafsson J. Decreased bone mineral density in young adults treated with SCT in childhood : the role of 25-hydroxyvitamin D. *Bone Marrow Transplantation*. 2012;47(5):657-662.
13. Ahlsson F, Diderholm B, Ewald U, Jonsson B, Forslund A H, Stridsberg M, et al. Adipokines and their relation to maternal energy substrate production, insulin resistance and fetal size. *European Journal of Obstetrics, Gynecology, and Reproductive Biology*. 2012;
14. Brodd K S, Grönqvist H, Holmström G, Grönqvist E, Rosander K, Ewald U. Development of Smooth Pursuit Eye Movements in very preterm born infants : 3. Association to perinatal risk factors. *Acta Paediatrica*. 2012;101(2):164-171.
15. Nilsson B M, Olsson R M, Öman A, Wiesel F, Ekselius L, Forslund A H. Physical capacity, respiratory quotient and energy expenditure during exercise in male patients with schizophrenia compared with healthy controls. *European psychiatry*. 2012;27(3):206-212.
16. Swenne I, Stridsberg M Bone metabolism markers in adolescent girls with eating disorders and weight loss: effects of growth, weight trend, developmental and menstrual status. *Arch Osteoporos*. 2012 Dec;7(1-2):125-33. doi: 10.1007/s11657-012-0090-3. Epub 2012 Aug 16.
17. Blomqvist YT, Rubertsson C, Kylberg E, Jöreskog K, Nyqvist KH Kangaroo Mother Care helps fathers of preterm infants gain confidence in the paternal role. *J Adv Nurs*. 2012 Sep;68(9):1988-96
18. Eriksson L, Haglund B, Ewald U, Odland V, Kieler H. Health consequences of prophylactic exposure to antenatal corticosteroids among children born late preterm or term. *Acta Obstet Gynecol Scand*. 2012 Dec;91(12):1415-21.
19. Flacking R, Lehtonen L, Thomson G, Axelin A, Ahlqvist S, Moran VH, Ewald U, Dykes F; Separation and Closeness Experiences in the Neonatal Environment (SCENE) group. *Acta Paediatr*. 2012 Oct;101(10):1032-7. Review.
20. Ohlin A, Bäckman A, Ewald U, Schollin J, Björkqvist M. Diagnosis of neonatal sepsis by broad-range 16S real-time polymerase chain reaction. *Neonatology*. 2012;101(4):241-6
21. Nga NT, Hoa DT, Målqvist M, Persson LÅ, Ewald U. Causes of neonatal death: results from NeoKIP community-based trial in Quang Ninh province, Vietnam. *Acta Paediatr*. 2012 Apr;101(4):368-73.
22. Chaplin JE, Kriström B, Jonsson B, Halldin Stenlid M, Aronson AS, Dahlgren J, Albertsson-Wikland K. When do short children realize they are short? Prepubertal short children's perception of height during 24 months of catch-up growth hormone treatment. *Horm Res Paediatr*. 2012;77(4):241-9.
23. Karlsson V, Heinemann AB, Sjörs G, Nykvist KH, Agren J. Early skin-to-skin care in extremely preterm infants: thermal balance and care environment. *J Pediatr*. 2012 Sep;161(3):422-6
24. Eideh H, Jonsson B, Hochberg Z. Growth of the Kalahari Desert's bushman--the Ju/'hoansi San. *Acta Paediatr*. 2012 May;101(5):528-32

25. Toogood A, Brabant G, Maiter D, Jonsson B, Feldt-Rasmussen U, Koltowska-Haggstrom M, Rasmussen AK, Buchfelder M, Saller B, Biller BM. Similar clinical features among patients with severe adult growth hormone deficiency diagnosed with insulin tolerance test or arginine or glucagon stimulation tests. *Endocr Pract.* 2012 May-Jun;18(3):325-34
26. Filipsson Nyström H, Feldt-Rasmussen U, Kourides I, Popovic V, Koltowska-Häggström M, Jonsson B, Johannsson G. The metabolic consequences of thyroxine replacement in adult hypopituitary patients. *Pituitary.* 2012 Dec;15(4):495-504.
27. Bodén R, Lundgren M, Brandt L, Reutfors J, Andersen M, Kieler H. Risks of adverse pregnancy and birth outcomes in women treated or not treated with mood stabilisers for bipolar disorder: population based cohort study. *BMJ.* 2012 Nov 8;345
28. Bodén R, Lundgren M, Brandt L, Reutfors J, Kieler H. Antipsychotics during pregnancy: relation to fetal and maternal metabolic effects. *Arch Gen Psychiatry.* 2012 Jul;69(7):715-21
29. P Ridefelt P, Aldrimer M, Rödöö PO, Niklasson F, Jansson L, Gustafsson J, Hellberg D. Population-based pediatric reference intervals for general clinical chemistry analytes on the Abbott Architect ci8200 instrument. *Clin Chem Lab Med.* 2012 Feb 29;50(5):845-51.
30. Aldrimer M, Ridefelt P, Rödöö P, Niklasson F, Gustafsson J, Hellberg D. Reference intervals on the Abbot Architect for serum thyroid hormones, lipids and prolactin in healthy children in a population-based study. *Scand J Clin Lab Invest.* 2012 Jul;72(4):326-32

Agencies supporting the work

EU

Crown Princess Lovisa's Memorial Fund

Gillberg Foundation

Childhood Cancer Foundation

Säfstaholmsföreningen

Barndiabetesfonden

Landstingets FOU-medel

Regional Research Council

ALF

Selanders foundation

Energy substrate metabolism during infancy and childhood

Jan Gustafsson, Barbro Diderholm, Fredrik Ahlsson, Inger Wahlström Johnson

After birth the newborn infant has to produce its own glucose to supply the brain with energy. Infants, born small as well as large for gestational age, are at risk for neonatal hypoglycemia and also metabolic disease later in life. The research is directed on metabolism both in newborn infants, children and adults. Studies on effects of hypothermia after perinatal asphyxia on glucose homeostasis and cerebral glucose consumption is ongoing as well as studies on metabolic effects in adult life of being born large for gestational age with regard to weight. A project related to metabolism and hormonal balance in infants and children, who develop obesity later in life has also recently been started. In collaboration with child psychiatry a study on blood glucose regulation in children with ADHD has recently been performed.

Register based studies on fetal origin of adult disease

Maria Lundgren, Inger Wahlström Johnson, Fredrik Ahlsson, Jan Gustafsson

We use a number of Swedish registers in epidemiological studies. The registers are the Medical Birth Register, the Conscript register, the Inpatient Care Register, the Drug Register and the Causes of Death Register. Different circumstances during fetal life may influence morbidity during childhood and adult life. We have particularly studied effects of conditions during fetal life and childhood on growth, development

of obesity and cognitive function. The results show an association between overweight/obesity and impaired intellectual performance in young adults, particularly those with a low birth weight. Other data demonstrate that women, who have been treated with mood stabilisers due to bipolar disease risk an adverse pregnancy and birth outcome. Studies on the effect of being born large for gestational age have pointed out long term effects of a high birth weight, particularly a weight $>3SD$, on adult metabolic disease. An epidemiological project on development and health in children of mothers with intellectual disability has recently been started together with the research group of International Sexual and Reproductive Health at the department

Mechanisms behind precocious puberty

Lemm Proos, Maria Halldin, Jan Gustafsson

Precocious puberty has been a field of research within the group for several years. Precocious puberty occurs more frequently in girls than in boys. Particularly girls with hydrocephalus and myelomeningocele are prone to develop early or precocious puberty. This may lead to practical and psychological problems in addition to those caused by the myelomeningocele. In an ongoing project which is performed partly in collaboration with the pediatric neurology group predictors for development of precocious puberty in case of myelomeningocele as well as other conditions are being studied.

Down syndrome

Ulrika Wester Oxelgren, Åsa Myrelid and Jan Gustafsson

Our research group has studied endocrine disease in Down syndrome for many years in collaboration with professor Göran Annéren at Department of Immunology, Genetics and Pathology. Within this project data on secretion of growth hormone and effects of growth hormone treatment on growth and psychomotor performance have been published. By use of Swedish registers data on mortality and causes of death in Down syndrome have been collected. There are indications that there may be an association between Down syndrome and ADHD and autism. A thesis project related to these questions is ongoing in collaboration with professor Elisabeth Fernell at the university of Gothenburg.

Endocrine consequences of stem cell transplantation

Per Frisk, Anders Öberg and Jan Gustafsson

Children with hematologic malignancies, who have been treated with stem cell transplantation (SCT), may later develop metabolic disease. Together with associate professor Per Frisk and the doctoral student Anders Öberg in the pediatric oncology research group we study mechanisms behind that young adult subjects, treated with bone marrow transplantation during childhood, develop decreased insulin sensitivity and decreased BMD. An extended study on insulin resistance is presently ongoing including young adults with stem cell transplantation during childhood both in Uppsala and Stockholm.

Growth and endocrine function in eating disorders

Ingemar Swenne

Adequate energy supply is necessary for growth and pubertal development. Eating disorders may have effects both on metabolism and hormone balance. Studies on girls with eating disorders have been ongoing for several years and models predicting growth and menarche during the treatment of eating disorders have been created. In a recent study clinical features of adolescent males with eating disorders have been presented. In a study together with professor Helgi Schiöth, Department of Neuroscience the arousal response to food stimuli in female adolescents with eating disorders have recently been published.

Childhood obesity

Anders Forslund and Johan Staaf

Overweight and obesity during childhood are major health problems both in Sweden and on a global level. A large cohort of obese children followed at the obesity clinic at Uppsala University Children's Hospital is presently being studied within the project ULSCO (Uppsala Longitudinal Study of Childhood Obesity). During the year the cohort within the EU project Beta JUDO has reached 400 obese children and 100 controls. Within the project studies of hypersecretion of insulin as a possible mechanism behind childhood overweight and obesity are ongoing together with professor Peter Bergsten at the Department of Medical Cell Biology. Knowledge on how secretion of insulin develops over time in subjects who later become obese, is fundamental since there may be a window during which it may be possible to change the pattern of insulin secretion.

Energy homeostasis in fatty acid oxidations defects

Maria Halldin and Jan Gustafsson

The project represents a collaboration between our department and the department of Clinical Science, Intervention and Technology, Division of Pediatrics, Karolinska Institute. Fatty acid oxidation disorders are inherited diseases, which severely decreases the energy production from oxidation of fatty acids. The patients risk hypoglycemia and brain damage. The most common disorder is Long-chain 3-hydroxyacyl-CoA dehydrogenase deficiency (LCHAD). Within the project growth, energy balance, neurocognitive outcome and long term complications are studied children with LCHAD and VLCAD. In a recent publication lipolysis and glucose production were measured in children with LCHAD in order to optimise nutrition of patients with this disorder.

Diabetes

Charlotte Nylander, Ylva Tindberg, Jan Gustafsson, Ingemar Swenne and Annika Grönberg

In a doctoral project Charlotte Nylander in Eskilstuna studies factors which influence treatment adherence in the care of chronically ill adolescents, particularly those with type 1 diabetes. The association between risk factors and protective factors for development of risk behaviour has been shown to be particularly important. Revealing "invisible" disabilities, such as neurodevelopmental problems like ADHD is also essential, since such problems can influence treatment adherence. Within the project the relation between neurodevelopmental problems and disease control is being investigated in patients with type 1 diabetes. The project is performed together with professor Elisabeth Fernell, University of Gothenburg.

In another project metabolic control, weight gain during treatment and remaining endogenous insulin production is being studied in children and adolescents with type 1 diabetes. The problem of excessive weight gain during treatment is analysed using growth charts from the school health services and related to aspects of insulin therapy and metabolic control. Remaining endogenous insulin production, which may protect against long-term complications of diabetes, is analysed using an ultrasensitive C-peptide assay and related to insulin treatment, metabolic control and genetic predisposition.

Perinatal, Neonatal and Paediatric Cardiology Research

Lena Hellström-Westas

The perinatal, neonatal and paediatric cardiology research group spans over a broad research field but has a main focus on perinatal epidemiology, and physiology of term and preterm infants in the NICU which includes brain physiology (EEG, NIRS), cardiology and lung physiology, pain and stress responses, skin-to-skin care and breast feeding.

Members of the group

Lena Hellström-Westas	Professor
Fredrik Serenius	Visiting professor
Eva-Lotta Funkquist	RN, PhD, Senior lecturer
Margareta Jennische	Associate professor
Anders Jonzon	Associate professor
Kristina Persson	Associate professor
Ola Andersson	MD, PhD
Ann Edner	MD, PhD
Laszlo Markasz	MD, PhD
Elisabet Mattsson	RN, PhD
Erik Normann	MD, PhD
Richard Sindelar	MD, PhD
Gunnar Sjörs	MD, PhD
Ylva Thernström Blomqvist	RN, PhD
Sverre Wikström	MD, PhD
Johan Ågren	MD, PhD
Josanne Munsters	MD, Guest researcher
Victoria Karlsson	RN, Research fellow
Ylva Fredriksson Kaul	MSc, Research fellow
Cecilia Montgomery	MSc, Research fellow
Karl Wilhelm Olsson	MD, Research fellow
Paola Oras	RN, Research fellow
Maria Stålhammar	MSc, Research fellow
Linda Wallström	MD, Research fellow
Annika Öhman	MD, Research fellow
Nima Naseh	MD, Research fellow

Collaboration

Professor Geraldine Boylan, Cork
Professor Raffaele Dellaca, Milano
Associate professor Lena Douhan Håkansson, Uppsala
Assoc. professor Renée Flacking, Falun/Uppsala
Professor Roland Flink, Uppsala
Professor Claes von Hofsten, Uppsala
Assoc. professor Karin Källén, Lund
Professor Anders Larsson, Uppsala
Professor Elna-Marie Larsson, Uppsala
Professor Liisa Lehtonen, Åbo

Professor David Ley, Lund
 Professor Mikael Norman, Stockholm
 Professor Ingmar Rosén, Lund
 Professor Karin Stjernqvist, Lund
 Assoc. professor Sampsa Vanhatalo, Helsinki
 Professor Linda de Vries, Utrecht

Dissertations 2014

Ylva Thernström Blomqvist (Kangaroo Mother Care), Sverre Wikström (aEEG/EEG in preterm infants), and Ola Andersson (Umbilical cord clamping) had their dissertation in 2012 and 2013, respectively. There were no dissertations in the research group in 2014.

Publications

2014

1. Chetaille P, Preuss C, Burkhard S, **Jonzon A**, et al. Mutations in SGOL1 cause a novel cohesinopathy affecting heart and gut rhythm. *Nat Genet* 2014;46(11):1245-9.
2. **Andersson O**, Domellöf M, Andersson D, **Hellström-Westas L**. Effect of delayed vs early umbilical cord clamping on iron status and neurodevelopment at age 12 months: a randomized clinical trial. *JAMA Pediatr* 2014;168(6):547-54.
3. Jonsson M, **Ågren J**, Nordén Lindeberg S, Ohlin A, Hanson U. Suboptimal care and metabolic acidemia is associated with neonatal encephalopathy but not with neonatal seizures alone: A population based clinical audit. *Acta Obstet Gynecol Scand* 2014; 93(5):477-82
4. Jonsson M, **Ågren J**, Nordén Lindeberg S, Ohlin A, Hanson U. Neonatal encephalopathy and the association to asphyxia in labor. *Am J Obstet Gynecol* 2014; 211(6):667.e1-667.
5. Steen EE, Källén K, Maršál K, Norman M, **Hellström-Westas L**. Impact of sex on perinatal mortality and morbidity in twins. *J Perinat Med* 2014; 42(2):225-31.
6. Stevenson NJ, Palmu K, **Wikström S**, **Hellström-Westas L**, Vanhatalo S. Measuring brain activity cycling (BAC) in long term EEG monitoring of preterm babies. *Physiol Meas* 2014; 35(7):1493-508.
7. Lundqvist P, Kleberg A, Edberg AK, Larsson BA, **Hellström-Westas L**, Norman E. Development and psychometric properties of the Swedish ALPS-Neo pain and stress assessment scale for newborn infants. *Acta Paediatr* 2014; 103(8):833-9.
8. Mattsson E, **Funkquist EL**, Wickström M, Nyqvist KH, Volgsten H. Healthy late preterm infants and supplementary artificial milk feeds: Effects on breast feeding and associated clinical parameters. *Midwifery* 2014 Dec 31 [Epub ahead of print]
9. Gerhardsson E, Nyqvist KH, Mattsson E, Volgsten H, Hildingsson I, **Funkquist EL**. The Swedish Version of the Breastfeeding Self-Efficacy Scale-Short Form: Reliability and Validity Assessment. *J Hum Lact* 2014; 30(3):340-345.
10. Holmström GE, Källén K, Hellström A, Jakobsson PG, **Serenius F**, Stjernqvist K, Tornqvist K. Ophthalmologic outcome at 30 months' corrected age of a prospective Swedish cohort of children born before 27 weeks of gestation: the extremely preterm infants in Sweden study. *JAMA Ophthalmol* 2014; 132(2):182-9.
11. **Serenius F**, **Sjörs G**, Blennow M, Fellman V, Holmström G, Maršál K, Lindberg E, Olhager E, Stigson L, Westgren M, Källén K; EXPRESS study group. EXPRESS study shows significant regional differences in 1-year outcome of extremely preterm infants in Sweden. *Acta Paediatr* 2014;103(1):27-37.
12. Baylis R, Ewald U, Gradin M, Hedberg Nyqvist K, Rubertsson C, **Thernström Blomqvist Y**. First-time events between parents and preterm infants are affected by the designs and routines of neonatal intensive care units. *Acta Paediatr* 2014; 103(10):1045-52.
13. Shah PS, Lee SK, Lui K, **Sjörs G**, Mori R, Reichman B, Håkansson S, Feliciano LS, Modi N, Adams M, Darlow B, Fujimura M, Kusuda S, Haslam R, Mirea L;International Network for Evaluating Outcomes of Neonates (iNeo). The International Network for Evaluating Outcomes of very low birth weight, very preterm neonates (iNeo): a protocol for collaborative comparisons of international health services for quality improvement in neonatal care. *BMC Pediatr* 2014;14:110.

14. Ekvall S1, Sjörs K, **Jonzon A**, Vihinen M, Annerén G, Bondeson ML. Mutations in SGOL1 cause a novel cohesinopathy affecting heart and gut rhythm. Novel association of neurofibromatosis type 1-causing mutations in families with neurofibromatosis-Noonan syndrome. *Am J Med Genet A* 2014; 164A(3):579-87.
15. Lundqvist P, **Hellström-Westas L**, Hallström I. Reorganizing life: A qualitative study of fathers' lived experience in the 3 years subsequent to the very preterm birth of their child. *J Pediatr Nurs* 2014; 29(2):124-31.

2013

16. **Serenius F**, Källén K, Blennow M, Ewald U, Fellman V, Holmström G, Lindberg E, Lundqvist P, Maršál K, Norman M, Olhager E, Stigson L, Stjernqvist K, Vollmer B, Strömberg B; EXPRESS Group. Neurodevelopmental outcome in extremely preterm infants at 2.5 years after active perinatal care in Sweden. *JAMA* 2013; 309(17):1810-20.
17. Hansen-Pupp I, Hövel H, Löfqvist C, **Hellström-Westas L**, Fellman V, Hüppi PS, Hellström A, Ley D. Circulatory insulin-like growth factor-I and brain volumes in relation to neurodevelopmental outcome in very preterm infants. *Pediatr Res* 2013;74(5):564-9.
18. Stoltz Sjöström E, Öhlund I, Ahlsson F, Engström E, Fellman V, Hellström A, Källén K, Norman M, Olhager E, **Serenius F**, Domellöf M. Nutrient intakes independently affect growth in extremely preterm infants: results from a population-based study. *Acta Paediatr* 2013; 102(11):1067-74.
19. Hedenius M, Persson J, Alm PA, Ullman MT, Howard JH Jr, Howard DV, **Jennische M**. Impaired implicit sequence learning in children with developmental dyslexia. *Res Dev Disabil* 2013; 34(11):3924-35.
20. Simayijiang Z, Backman S, Ulén J, **Wikström S**, Åstrom K. Exploratory study of EEG burst characteristics in preterm infants. *Conf Proc IEEE Eng Med Biol Soc* 2013; 2013:4295-8.
21. **Lundqvist M**, Ågren J, **Hellström-Westas L**, Flink R, **Wickström R**. Efficacy and safety of lidocaine for treatment of neonatal seizures. *Acta Paediatr* 2013; 102(9):863-7. (*Martin Lundqvist received Acta Paediatrica Young Investigator prize for this work*)
22. van Rooij LG, **Hellström-Westas L**, de Vries LS. Treatment of neonatal seizures. *Semin Fetal Neonatal Med* 2013;18(4):209-15.
23. **Hellström-Westas L**. Monitoring brain function with aEEG in term asphyxiated infants before and during cooling. *Acta Paediatr* 2013;102(7):678-9.
24. Heinemann AB, **Hellström-Westas L**, Hedberg Nyqvist K. Factors affecting parents' presence with their extremely preterm infants in a neonatal intensive care room. *Acta Paediatr* 2013;102(7):695-702.
25. van Kaam AH1, De Jaegere AP, Rimensberger PC; Neovent Study Group (**R Sindelar** collaborator). Incidence of hypo- and hyper-capnia in a cross-sectional European cohort of ventilated newborn infants. *Arch Dis Child Fetal Neonatal Ed* 2013; 98(4):F323-6.
26. Kontio T, Toet MC, **Hellström-Westas L**, van Handel M, Groenendaal F, Stjerna S, Vanhatalo S, de Vries LS. Early neurophysiology and MRI in predicting neurological outcome at 9-10 years after birth asphyxia. *Clin Neurophysiol* 2013;124(6):1089-94.
27. Hamberg AK, Friberg LE, Hanséus K, Ekman-Joelsson BM, Sunnegårdh J, **Jonzon A**, Lundell B, Jonsson EN, Wadelius M. Warfarin dose prediction in children using pharmacometric bridging--comparison with published pharmacogenetic dosing algorithms. *Eur J Clin Pharmacol* 2013; 69(6):1275-83.
28. Farooqi A, Hägglöf B, **Serenius F**. Behaviours related to executive functions and learning skills at 11 years of age after extremely preterm birth: a Swedish national prospective follow-up study. *Acta Paediatr* 2013;102(6):625-34.
29. **Andersson O**, Domellöf M, Andersson D, **Hellström-Westas L**. Effects of delayed cord clamping on neurodevelopment and infection at four months of age: a randomised trial. *Acta Paediatr* 2013; 102(5):525-31.
30. **Andersson O**, **Hellström-Westas L**, Andersson D, Clausen J, Domellöf M. Effects of delayed compared with early umbilical cord clamping on maternal postpartum hemorrhage and cord blood gas sampling: a randomized trial. *Acta Obstet Gynecol Scand* 2013;92(5):567-74.

31. Hedenius M, Ullman MT, Alm P, **Jennische M**, Persson J. Enhanced recognition memory after incidental encoding in children with developmental dyslexia. *PLoS One* 2013; 8(5):e63998.
32. Ericson J, Eriksson M, **Hellström-Westas L**, Hagberg L, Hoddinott P, Flacking R. The effectiveness of proactive telephone support provided to breastfeeding mothers of preterm infants: study protocol for a randomized controlled trial. *BMC Pediatr* 2013;13:73.
33. Stoltz Sjöström E, Öhlund I, Ahlsson F, Engström E, Fellman V, Hellström A, Källén K, Norman M, Olhager E, **Serenius F**, Domellöf M. Nutrient intakes independently affect growth in extremely preterm infants: results from a population-based study. *Acta Paediatr* 2013;102(11):1067-74.
34. Hyttel-Sorensen S, Austin T, van Bel F, Benders M, Claris O, Dempsey E, Fumagalli M, Greisen G, Grevstad B, Hagmann C, **Hellström-Westas L**, Lemmers P, Lindschou J, Naulaers G, van Oeveren W, Pellicer A, Pichler G, Roll C, Skoog M, Winkel P, Wolf M, Gluud C. A phase II randomized clinical trial on cerebral near-infrared spectroscopy plus a treatment guideline versus treatment as usual for extremely preterm infants during the first three days of life (SafeBoosC): study protocol for a randomized controlled trial. *Trials* 2013 May 1;14:120.
35. Maleka A, Enblad G, **Sjörs G**, Lindqvist A, Ullenhag GJ. Treatment of metastatic malignant melanoma with vemurafenib during pregnancy. *J Clin Oncol* 2013; 31(11):e192-3.
36. Pellicer A, Greisen G, Benders M, Claris O, Dempsey E, Fumagalli M, Gluud C, Hagmann C, **Hellström-Westas L**, Hyttel-Sorensen S, Lemmers P, Naulaers G, Pichler G, Roll C, van Bel F, van Oeveren W, Skoog M, Wolf M, Austin T. The SafeBoosC phase II randomised clinical trial: a treatment guideline for targeted near-infrared-derived cerebral tissue oxygenation versus standard treatment in extremely preterm infants. *Neonatology* 2013;104(3):171-8.
37. Griesmaier E, Enot DP, Bachmann M, Neubauer V, **Hellström-Westas L**, Kiechl-Kohlendorfer U, Keller M. Systematic characterization of amplitude-integrated EEG signals for monitoring the preterm brain. *Pediatr Res* 2013;73(2):226-35.
38. Kaplan-Sturk R, Åkerud H, Volgsten H, **Hellström-Westas L**, Wiberg-Itzel E. Outcome of deliveries in healthy but obese women: obesity and delivery outcome. *BMC Res Notes* 2013;6:50.
39. Hyttel-Sørensen S, Austin T, van Bel F, Benders M, Claris O, Dempsey EM, Fumagalli M, Gluud C, Hagmann C, **Hellström-Westas L**, Lemmers P, Naulaers G, van Oeveren W, Pellicer A, Pichler G, Roll C, Støy LS, Wolf M, Greisen G. Clinical use of cerebral oximetry in extremely preterm infants is feasible. *Dan Med J* 2013;60(1):A4533.
40. Norman E, **Wikström S**, Rosén I, Fellman V, **Hellström-Westas L**. Premedication for intubation with morphine causes prolonged depression of electrocortical background activity in preterm infants. *Pediatr Res* 2013;73(1):87-94.

2012

41. **Karlsson V**, Heinemann AB, **Sjörs G**, Nykvist KH, **Ågren J**. Early skin-to-skin care in extremely preterm infants: thermal balance and care environment. *J Pediatr* 2012; 161(3):422-6.
42. **Olsson KW**, Jonzon A, **Sindelar R**. A high ductal flow velocity is associated with successful pharmacological closure of patent ductus arteriosus in infants 22-27 weeks gestational age. *Crit Care Res Pract* 2012; 715265.
43. Nygren A, Sunnegårdh J, Teien D, **Jonzon A**, Björkhem G, Lindell S, Albertsson-Wikland K, Kristerström B. Rapid cardiovascular effects of growth hormone treatment in short prepubertal children: impact of treatment duration. *Clin Endocrinol (Oxf)* 2012;77(6):877-84.
44. **Wikström S**, Pupp IH, Rosén I, Norman E, Fellman V, Ley D, **Hellström-Westas L**. Early single-channel aEEG/EEG predicts outcome in very preterm infants. *Acta Paediatr* 2012; 101(7):719-26.
45. Olischar M, Shany E, Aygün C, Azzopardi D, Hunt RW, Toet MC, Hamosh A, de Vries LS, **Hellström-Westas L**, Theda C. Amplitude-integrated electroencephalography in newborns with inborn errors of metabolism. *Neonatology* 2012; 102(3):203-11.
46. Ambrosi A, Salomonsson S, Eliasson H, Zeffer E, Skog A, Dzikaite V, Bergman G, Fernlund E, Tingström J, Theander E, Rydberg A, Skogh T, **Öhman A**, Lundström U, Mellander M, Winqvist O, Fored M, Ekblom A, Alfredsson L, Källberg H, Olsson T, Gadler F, **Jonzon A**, Kockum I, Sonesson SE, Wahren-Herlenius M. Development of heart block in children of SSA/SSB-autoantibody-positive women is associated with maternal age and displays a season-of-birth pattern. *Ann Rheum Dis* 2012; 71(3):334-40.

47. **Munsters J, Wallström L, Agren J, Norsted T, Sindelar R.** Skin conductance measurements as pain assessment in newborn infants born at 22-27 weeks gestational age at different postnatal age. *Early Hum Dev* 2012; 88(1):21-6.

Agencies that support the work/Funding

European Union FP 7 grant agreement 241479 (242.000 Euro)

Her Royal Highness Crown Princess Lovisa Foundation (several grants of 100-120.000 SEK each)

Linnéa and Josef Carlsson Foundation (several grants of 50-100.000 SEK each)

Heart and Lung Foundation

1. Inflammation and neonatal lung injury

Richard Sindelar, Lena Douhan Håkansson, Maria Stålhammar

Acute and chronic lung injury is common in very preterm infants. The underlying mechanisms are only partly understood and include inflammation, oxygen toxicity, and barotrauma from mechanical ventilation. This study investigates migration of inflammatory cells in newborn infants under agarose (simulating tissue migration), migratory influence on respiratory burst, and the receptor expression for adherence, inflammatory state, phagocytosis and migration in response to different inflammatory stimulators encountered in preterm newborn infants with evolving bronchopulmonary dysplasia (BPD).

2. Mechanical ventilation and pulmonary function

Richard Sindelar, Anders Jonzon, Raffaele Dellaca, Chiara Veneroni, Liisa Lehtonen, Hanna Soukka, Linda Wallström

Barotrauma is considered to be a major cause of preterm lung injury. This clinical project investigates effects of different modes of assisted ventilation (intermittent mandatory ventilation, patient-triggered ventilation, proportional assisted ventilation, and neurally adjusted ventilatory assistance [NAVA]) to minimize airway pressure while maintaining adequate ventilation. The effect of end-expiratory pressure on lung mechanics and regulation of breathing during invasive and non-invasive assisted ventilation is studied with forced oscillatory technique and with electrical activity of the diaphragm. A randomized multicenter clinical study (Uppsala and Åbo) will investigate early effects on breathing activity and the early ventilatory outcome during nCPAP and non-invasive NAVA in newborn infants born at less than 32 gestational weeks.

3. Early clinical predictors of response to pharmacological treatment of persistent ductus arteriosus in extremely preterm infants

Richard Sindelar, Anders Jonzon, Anders Larsson, Karl Wilhelm Olsson

Newborn infants born before 28 gestational weeks have a high incidence of patent ductus arteriosus (PDA). The postnatal presence of a haemodynamically significant left to right shunt through the duct is associated with a lower survival rate and an increased incidence of intraventricular haemorrhage (IVH), necrotizing enterocolitis, and BPD. We have previously shown that a high maximal flow in ductus arteriosus is associated with successful pharmacological closure of PDA in 22-27 gestational weeks. The present study investigates early haemodynamical effects of PDA in extremely preterm infants by assessing early sequential echocardiographic examinations and biochemical markers for pulmonary circulation and cardiac load. The aim is to elucidate prognostic factors for successful pharmacological treatment with cyclooxygenase inhibitors, and to evaluate new therapeutical approaches for the closure of PDA.

4. Oxygenation, heat exchange and fluid balance in extremely preterm infants in the NICU and during surgery

Johan Ågren, Victoria Karlsson, Laszlo Markasz

These investigations measure oxygenation, heat exchange and fluid balance in extremely preterm infants cared for during different clinical conditions (skin-to skin with parent, incubator, surgery). The aim is to better understand the dynamics of heat and fluid balance in very low birth-weight infants and to better support postnatal circulatory, respiratory and metabolic adaptation. The studies also include assessments of both parental and infant comfort and stress.

5. Maternal, neonatal and long-term effects of delayed, as compared to early, cord clamping in healthy term infants

Lena Hellström-Westas, Ola Andersson

In this project, 400 healthy women with normal pregnancies were randomized to delayed or early cord clamping after delivery. Infants subjected to delayed cord clamping had higher neonatal haemoglobin, and at four months they had higher ferritin and lower risk for iron deficiency. At 12 months, delayed cord clamping was associated with a modest, but statistically significant positive effect on neurodevelopment in boys. The four-year follow up is in press 2015. There were no effects on maternal haemorrhage from time to cord clamping.

6. Neonatal neurocritical care

Lena Hellström-Westas, Johan Ågren

We have introduced neonatal neurocritical care in the NICU at Uppsala University Hospital, and will investigate mechanisms for perinatal brain injury in high-risk infants, including asphyxiated infants, infants with seizures and very preterm infants. These infants are at increased risk for developing neurodevelopmental handicaps with life-long consequences. Mechanisms for such brain injury are multifactorial, but a significant proportion of brain injury probably occurs around and soon after birth. We have previously shown that subclinical seizures are prevalent also in extremely preterm infants, and effective treatment may limit brain injury in infants with seizures. Methods include monitoring of amplitude-integrated EEG (aEEG), EEG, NIRS, cerebral ultrasound, MRI, and measurement of various biomarkers. We are part of an EU FP7-funded project, NEMO (Treatment of neonatal seizures with medication off-patent: evaluation of efficacy and safety of bumetanide).

7. Early oculomotor function and long-term outcome in very preterm infants

Lena Hellström-Westas, Katarina Strand-Brodd, Ylva Fredriksson Kaul, Cecilia Montgomery, Nima Naseh, Claes von Hofsten, Kerstin Rosander, Kristina Persson

This project follows a population-based cohort of very preterm infants, born in Uppsala in 2004-2007. The infants have been followed with repeated evaluation of motor function (the Structured Observation of Motor Performance, SOMP-I), neurological assessment and psychological assessment at 2½ and 6½ years. Visual eye tracking ability was tested at two and four months, and in half of the infants MRI was performed at 2½-5 years. We are currently investigating if early eye tracking performance is a predictor of neurodevelopment in very preterm infants, and whether it is related to motor function and cerebral MRI findings.

8. Breastfeeding in term and preterm infants

Eva-Lotta Funkquist, Ylva Thernström Blomqvist, Paola Oras

Rates of breastfeeding are decreasing in Sweden, both among term and preterm infants, but the reasons for this are not known. The current projects aim at investigating factors that promote successful breast-feeding

and parental bonding, and includes evaluation of skin-to-skin care, observations of development of breast-feeding patterns in moderately preterm and term infants, and specific interventions for promoting breast-feeding in NICU graduates and healthy infants in the postnatal ward.

9. Epidemiological research

Fredrik Serenius, Lena Hellström-Westas, Johan Ågren, Annika Öhman, Elisabet Mattsson, Margareta Jennische, Kristina Persson,

This project includes long-term follow up of three cohorts of extremely preterm infants: the national Express study group (infants born 2004-2007), the “1000 gram study” (infants born 1992-93), a regional cohort of infants born in the south of Sweden in 1985-86, and a regional Uppsala cohort of infants born 1986-89, who required neonatal intensive care. The project also includes register-based research on neonatal seizures and postnatal epilepsy.

Pediatric Neurology

Gunnar Ahlsten

The research of the group deals with clinical neurological diseases and neurological dysfunctions. The researchers come from many different professions and their research comprise a wide range of scientific questions.

Members of the group

Ahlsten, Gunnar	Associate professor
Borgestig, Maria	Postgraduate student
Bratteby-Tollerz, Linda	MSc
Dahl, Margareta	Associate professor
Eeg-Olofsson, Orvar	Associate professor
Ehrstedt, Christoffer	Postgraduate student
Höglund, Anette	MSc
Jonsson, Pysse	Med Lic
Kimber, Eva	Ph.D
Kratz, Åsa	MSc
Kristiansen, Ingela	Postgraduate student
Lidström, Helene	Ph D
Liminga, Gunnar	Ph.D
Lundberg, Staffan	Ph.D
Strinnholm, Margareta	MSc
Strömberg, Bo	Associate professor
Söderström, Helena	MSc

Award

Associate professor Orvar Eeg-Olofsson received **Frank Ford Memorial Award** at the meeting of the **International Child Neurology Association (ICNA)** in Foz do Iguacu (Brazil), where he also gave an award lecture.

Dissertation 2014

Pysse Jonsson: 10 year Outcome of Childhood Epilepsy in Well-functioning Children and Adolescents. April 25th 2014.

List of publications 2012-2014 – original articles

1. Lidström H, Almqvist L, Hemmingsson H. Computer-based assistive technology device for use by children with physical disabilities: a cross-sectional study. *Disabil Rehabil Assist Technol* 2012;7:287-93.
2. Larsson PG, Eeg-Olofsson O, Lantz G. Alpha frequency estimation in patients with epilepsy. *Clin EEG Neurosci* 2012;43:97-104
3. Naumburg E, Strömberg B, Kieler H. Prenatal characteristics of infants with a neuronal migration disorder: a national-based study. *Int J Ped* 2012;54:1892
4. Nord H, Pfeifer S, Nilsson P, Sandgren J, Popova S, Strömberg B et al. Novel amplifications in pediatric medulloblastoma identified by genome-wide copy number profiling. *J Neuro-Oncol* 2012;107:37-49.

5. Kimber E, Tajshargi H, Kroksmark AK, Oldfors A, Tulinius M. Distal arthrogryposis: clinical and genetic findings. *Acta Paediatr* 2012;101(8):877-87.
6. Anderson BH, Kasher PR, Mayer J, Szykiewicz M, Jenkinson EM, Bashkar SS et al. Mutations in CTC1, encoding conserved telomere maintenance component 1, cause Coats plus. *Nature Genetics* 2012;44(3):338-342.
7. Bolic V, Lidström H, Thelin N, Kjellberg A, Hemmingsson H. Computer use in educational activities by students with ADHD. *Scand J Occup Therapy* 2013;20(5):357-64.
8. Eeg-Olofsson O, Larsson PG. The way out of Babel. *Epilepsia* 2013;54(4):767-8.
9. Serenius F, Källén K, Blennow M, Ewald U, Fellman V, Holmström G, Strömberg B et al. Neurodevelopmental outcome in extremely preterm infants at 2,5 years after active perinatal care in Sweden. *Journal of the American Medical Association (JAMA)* 2013;309(17):1810-20.
10. Jonsson P, Jonsson B, Eeg-Olofsson O. Psychological and social outcome of epilepsy in well-functioning children and adolescents. *Eur J Paediatr Neurol* 2014;18(3):381-90.
11. Livingston JH, Mayer J, Jenkinson E, Kasher P, Stivaros S, Berger A et al. Leukoencephalopathy with Calcifications and Cysts: A Purely Neurological Disorder Distinct from Coats Plus. *Neuropediatrics* 2014;45(3):175-82.
12. Dahl M, Bergsten C, Hammarberg A, Sandström M. Autism spectrum disorders in severe cerebral palsy often discovered late. Retrospective review of 10 years of medical records. *Läkartidningen* 2014;111:1296-8.
13. Ek I, Johansen J. Varför äter inte barnet? *Läkartidningen* 2014;11(111):464-6.

Agencies that support the work

ALF, research support to the University Hospital
 Regional research council Uppsala-Örebro region
 Research grant from Uppsala county council
 Gillberg foundation
 Barncancerfonden
 Norrbacka-Eugenia foundation
 Margaretahemmet foundation
 Sunnerdahl foundation
 Josef and Linnea Carlsson foundation

Epilepsy

In a population based study of childhood epilepsy a subgroup of children has been investigated and published with the title '10-year follow-up of childhood epilepsy in well-functioning children and adolescents'. This group has now been investigated with respect to social and psychological factors and published as a thesis in 2014 with the title: 10-year Outcome of Childhood Epilepsy in Well-functioning Children and Adolescents.

Rolandic epilepsy, the most common type of childhood epilepsies, has been studied from several aspects. A follow-up study to describe oromotor difficulties and dichotic listening test in this electroclinical syndrome is ongoing.

Spina bifida

Research on this group of children has been carried out for at least 15 years. Different medical factors especially the Chiari II-malformation and early puberty has been in focus in follow-up studies.

The global function of these children and adults is studied and its implications for what type and extent of support these individuals need at different ages has generated valuable new knowledge. A new study deals with children with spinal malformations who have an intact skin above the lesion.

Follow-up studies of prematurely born infants

We participate in a national prospective longitudinal study on the neurological, ophthalmological and psychological development of infants born after less than 27 weeks of gestation between 2004 - 2007 in Sweden. 497 children survived until 1 year of age and these children have been followed - up at 2½ years corrected age and at 6 ½ years chronological age. The results from the 2½ year examinations were published in JAMA May 2013. The results from the 6 ½ year study are analysed and the process of writing a manuscript for publication is proceeding. Furthermore the follow-up of the same cohort of children at the age of 11 will start in October 2015.

Evaluation of motor function

A follow-up study of children who underwent selective dorsal rhizotomy is under progress.

Brain tumours in children

Together with the Department of Paediatric Oncology at the Karolinska Institute in Stockholm a project with the aim to co-ordinate the psychological, neurocognitive and pedagogical long-term follow-up with the medical follow-up of children diagnosed with brain tumours in the Stockholm and Uppsala-Örebro healthcare regions in Sweden is ongoing. Patients were included between October 1st 2010 and June 2012. Sixty-two patients met the inclusion criteria. The results are now analysed and the process of writing a manuscript for publication is almost finished.

During 2011 two different doctoral projects were started dealing with brain tumours in children and adolescents diagnosed and treated in the Uppsala-Örebro health care region in Sweden. One part of the projects is to give a broad description of the initial presentation, clinical course and late effects for all children treated for brain tumours in the region 1995-2006. This part is now finished and a manuscript for publication is ready for submission.

In the other parts two different kinds of tumours with low WHO grade of malignancy will be studied.

1/ neuroglial tumours (gangliogliomas and dysembro neuroepithelial tumours (DNET) grade I.

2/ astrocytomas grade I in the posterior fossa.

The objectives are focused on medical, motor and cognitive late effects as well as possible methods for intervention. This project will end up in two different thesis.

Rehabilitation

Children with brain tumours, traumatic brain injuries or epilepsy nowadays, to a large extent, survive the injury or illness. Many children, however, demonstrate long-lasting difficulties affecting motor function, cognition and/or behaviour. The aim of the present project is to investigate incidence and prevalence, rehabilitation received, functioning level, as well as activities and limitations in daily life of children with acquired brain injury. Another aim is to create and evaluate a new model of rehabilitation focusing on the needs of children and families in a long perspective.

Pediatric Oncology

Gustaf Ljungman

Intensive international research focus on pediatric oncology has resulted in a dramatic increase in overall survival of pediatric cancer diseases- yet these rare diseases still today account for the main medical cause of death in children aged 1-15 years. Increased understanding of the biology, molecular basis and treatment of leukemia, the main cancer disease in children, now results in 80% cure of the disease. Research interest is now focusing on pediatric neural tumors, the second largest group of pediatric malignancies, accounting for the highest mortality and morbidity in children with cancer, and at present the main challenge in pediatric oncology.

The research of the Pediatric Oncology research group deals with clinical cancer diseases of children, their biology, treatment, and consequences. The research of the group comprises a wide range of scientific questions.

Research group

Ljungman, Gustaf	Associate professor, adjunct lecturer, research group leader
Arvidson Johan	Associate professor
Englund, Annika	MD, PhD student
Engvall, Gunn	RN, PhD
Frisk, Per	Associate professor
Frost, Britt-Marie	MD, PhD
Georgantzi, Clary	MD, PhD student
Hedén, Lena	RN, PhD
Natalja Jackmann	MD, PhD student
Åke Jakobson	Associate professor
Jalmsell, Li	MD, PhD student
Kamsvåg-Magnusson, Tove	MD, PhD student
Lönnerholm, Gudmar	Professor emeritus
Palle Josefine	MD, PhD
Pfeifer Susan	Adjunct professor in pediatric oncology
Stenmarker, Margareta	MD, PhD
Thorsell Cederberg Jenny	MS, PhD student
Öberg, Anders	MD PhD student

Publications

2014

1. Hedén L, von Essen L, Ljungman G. Effect of single-dose paracetamol for needle procedures in children with cancer - a RCT. *Acta Paediatr.* 2014 Mar;103(3):314-9. doi: 10.1111/apa.12509. Epub 2013 Dec 19.
2. Dantonello T, Lochbühler H, Schuck A, Kube S, Godzinski J, Sköldenberg E, Ljungman G, Ladenstein R, Hallmen E, Wessalowski R, Franke M, Bielack SS, Klingebiel T, Koscielniak E on behalf of the Cooperative Weichteilsarkom Studiengruppe (CWS). Challenges in the local treatment of large abdominal embryonal rhabdomyosarcoma. *Ann Surg Oncol.* 2014 Oct;21(11):3579-86. doi: 10.1245/s10434-014-3551-7. Epub 2014 Jul 22.
3. Kamsvåg Maganusson T, Thorsell J, Svanberg A-C, Esssen von L, Arvidson J, Mellgren K, Toporski J, Ljungman G. Parents' and children's perceptions of distress related to oral mucositis during stem cell transplantation. *Acta Paediatr.* 2014 June; 103(6): 630-6. doi: 10.1111/apa.12627. [Epub ahead of print]
4. Englund A, Hopstadius C, Gustafsson G, Enblad G, Ljungman G. Hodgkin lymphoma- a survey of children and adolescents treated in Sweden 1985-2009. Englund A, Hopstadius C, Gustafsson G, Enblad G, Ljungman G. Hodgkin lymphoma- a survey of children and adolescents treated in Sweden 1985-2009. *Acta Oncol.* 2015 Jan;54(1):41-8. doi: 10.3109/0284186X.2014.948058. Epub 2014 Sep 9.
5. Ljungman L, Cernvall, M, Grönqvist H, Ljotsson B, Ljungman G, & von Essen L. Long-term Positive and Negative Psychological Late Effects for Parents of Childhood Cancer Survivors: A Systematic Review. *PLoS One.* 2014 Jul 24;9(7):e103340. doi: 10.1371/journal.pone.0103340. eCollection 2014.
6. Dantonello TM, Stark M, Timmermann B, Fuchs J, Selle B, Linderkamp C, Handgretinger R, Hagen R, Feuchtgruber S, Kube S, Kosztyla D, Kazanowska B, Ladenstein R, Niggli F, Ljungman G, Bielack SS, Klingebiel T, Koscielniak E; on behalf of the Cooperative Weichteilsarkom Studiengruppe [CWS]. Tumour volume reduction after neoadjuvant chemotherapy impacts outcome in localised embryonal rhabdomyosarcoma. *Pediatr Blood Cancer.* 2015 Jan;62(1):16-23. doi: 10.1002/pbc.25207. Epub 2014 Sep 27.
7. Lehmann V, Gronqvist H, Engvall G, Ander M, Tuinman MA, Hagedoorn M, et al. Negative and positive consequences of adolescent cancer 10 years after diagnosis: an interview-based longitudinal study in Sweden. *Psychooncology* 2014;23(11):1229-35.
8. Cederblad M, Sarkadi A, Engvall G, Neveus T (2014) Infrequent enuresis, the uninvestigated majority comparisons between children with enuresis of varying severity. *J Pediatr Urol.* doi:10.1016/j.jpuro.2014.06.026.
9. Genberg M, Öberg A, Andrén B, Hedenström H, Frisk P, Flachskamp FA. Cardiac function in young adults after hematopoietic cell transplantation. (*Pediatric Blood and Cancer* e-published 2014)
10. Fogelstrand L, Staffas A, Wasslavik C, Sjögren H, Söderhäll S, Frost BM, Forestier E, Degerman S, Behrendtz M, Heldrup J, Karrman K, Johansson B, Heyman M, Abrahamsson J, Palmqvist L. Prognostic implications of mutations in NOTCH1 and FBXW7 in childhood T-ALL treated according to the NOPHO ALL-1992 and ALL-2000 protocols. *Pediatr Blood Cancer.* 2014 Mar;61(3):424-30. doi: 10.1002/pbc.24803. Epub 2013 Oct 8.
11. Riva R, Forinder U, Arvidson J, Mellgren K, Toporski J, Winiarski J, Norberg AL. Patterns of psychological responses in parents of children that underwent stem cell transplantation. *Psychooncology.* 2014 Nov;23(11):1307-13 .
12. Sandahl JD, Kjeldsen E, Abrahamsson J, Ha SY, Heldrup J, Jahnukainen K, Jónsson OG, Lausen B, Palle J, Zeller B, Forestier E, Hasle H. Ploidy and clinical characteristics of childhood acute myeloid leukemia: A NOPHO-AML study. *Genes Chromosomes Cancer.* 2014 Aug;53(8):667-75. doi: 10.1002/gcc.22177. Epub 2014 Apr 18.

13. Kumar Pandey G, Mitra S, Subhash S, Hertwig F, Kanduri M, Mishra K, Fransson S, Ganeshram A, Mondal T, Bandaru S, Ostensson M, Akyürek LM, Abrahamsson J, Pfeifer S, Larsson E, Shi L, Peng Z, Fischer M, Martinsson T, Hedborg F, Kogner P, Kanduri C. The Risk-Associated Long Noncoding RNA NBAT-1 Controls Neuroblastoma Progression by Regulating Cell Proliferation and Neuronal Differentiation. *Cancer Cell*. 2014;26(5):722-737.
14. Libard S, Popova S N, Amini R, Kärjä V, Pietiläinen T, Hämäläinen K M, Sundström C, Hesselager G, Bergqvist M, Ekman S, Zetterling M, Smits A, Nilsson P, Pfeifer S, de Ståhl TD, Enblad G, Ponten F, Alafuzoff I. Human cytomegalovirus tegument protein pp65 is detected in all intra- and extra-axial brain tumours independent of the tumour type or grade. *PLoS ONE*. 2014;9(9):e108861-.
15. Lindqvist C M, Nordlund J, Ekman D, Johansson A, Moghadam B T, Raine A, Övernäs E, Dahlberg J, Wahlberg P, Henriksson N, Abrahamsson J, Frost BM, Grandér D, Heyman M, Larsson R, Palle J, Söderhäll S, Forestier E, Lönnerholm G, Syvänen AC, Berglund EC. The Mutational Landscape in Pediatric Acute Lymphoblastic Leukemia Deciphered by Whole Genome Sequencing. *Human Mutation*. 2014;36(1):118-128.

2013

16. Nordlund J, Bäcklin CL, Wahlberg P, Busche S, Berglund EC, Eloranta ML, Flaegstad T, Forestier E, Frost BM, Harila-Saari A, Heyman M, Jónsson OG, Larsson R, Palle J, Rönnblom L, Schmiegelow K, Sinnott D, Söderhäll S, Pastinen T, Gustafsson MG, Lönnerholm G, Syvänen AC. Genome-wide signatures of differential DNA methylation in pediatric acute lymphoblastic leukemia. *Genome Biol*. 2013 Sep 24;14(9):r105.
17. Wareham NE, Heilmann C, Abrahamsson J, Forestier E, Gustafsson B, Ha SY, Heldrup J, Jahnukainen K, Jónsson ÓG, Lausen B, Palle J, Zeller B, Hasle H. Outcome of poor response paediatric AML using early SCT. *Eur J Haematol*. 2013 Mar;90(3):187-94. doi: 10.1111/ejh.12051.
18. Rosenquist R, Ehrencrona H, Hasle H, Palle J, Kanduri M. Whole-genome-amplified DNA as a source for mutational analysis underestimates the frequency of mutations in pediatric acute myeloid leukemia. *Leukemia*. 2013 Feb;27(2):510-2. doi: 10.1038/leu.2012.250.
19. Englund A, Jonsson B, Zander CS, Gustafsson J, Annerén G. 2013. Changes in mortality and causes of death in the Swedish Down syndrome population. *Am J Med Genet Part A* 161A:642–649
20. Dantonello TM, Int-Veen C, Schuck A, Seitz G, Leuschner I, Nathrath M, Schlegel PG, Kontny U, Behnisch W, Veit-Friedrich I, Kube S, Hallmen E, Kazanowska B, Ladenstein R, Paulussen M, Ljungman G, Bielack SS, Klingebiel T, Koscielniak E; on behalf of the Cooperative Weichteilsarkom Studiengruppe (CWS). Survival following disease recurrence of primary localized alveolar rhabdomyosarcoma. *Pediatr Blood Cancer*. 2013 Aug;60(8):1267-73. doi: 10.1002/pbc.24488. Epub 2013 Feb 15.
21. Hedén L, Pöder U, von Essen L, Ljungman G. Parents' Perceptions of Their Child's Symptom Burden During and After Cancer Treatment. *J Pain Symptom Manage*. 2013 Sep;46(3):366-75. doi: 10.1016/j.jpainsymman.2012.09.012. Epub 2013 Mar 13.
22. Holm S, Ljungman G, Åsenlöf, Söderlud S. How children and adolescents in primary care cope with pain and the biopsychosocial factors that correlate with pain-related disability. *Acta Paediatr*. 2013 Oct;102(10):1021-6. doi: 10.1111/apa.12352. Epub 2013 Aug 5.
23. Hedén L, von Essen L, Ljungman G. Effect of single-dose paracetamol for needle procedures in children with cancer - a RCT. *Acta Paediatr* Accepted Nov 2013
24. Sundberg K, Wettergren L, Frisk P, Arvidson J. Self-reported health related to quality of life among long-term survivors of childhood leukemia treated with or without SCT. (*Pediatr Blood Cancer* 2013; 60: 1382-1387)

25. Chiang SC, Theorell J, Entesarian M, Meeths M, Mastafa M, Al-Herz W, **Frisk P**, Gilmour KC, Ifversen M, Langenskiöld C, Machaczka M, Naqvi A, Payne J, Perez-Martinez A, Sabel M, Unal E, Unal S, Winiarski J, Nordenskiöld M, Ljunggren HG, Henter JI, Bryceson YT. Comparison of primary human cytotoxic T-cell and natural killer cell responses reveal similar molecular requirements for lytic granule exocytosis but differences in cytokine production. (*Blood* 2013; 121: 1345-1356)
26. Karlsson SC Hannah, Lindqvist A Camilla, Fransson Moa, Paul-Wetterberg Gabriella, Nilsson Berith, Essand Magnus, Nilsson Kenneth, **Frisk Per**, Jernberg-Wiklund Helena and Loskog SI Angelica. Combining CAR T cells and the Bcl-2 Family Apoptosis Inhibitor ABT-737 for treating B cell malignancy. (*Cancer Gene Therapy* 2013; 20:386-393)
27. Barbany G, Gauffin F, Ofverholm I, Karlsson H, Thörn I, Arvidson J, et al. The ETV6/RUNX1 fusion transcript is not detected in RNA isolated from neonatal dried blood spots from children later diagnosed with the corresponding leukemia. *Leukemia and Lymphoma*. 2013;54(12):2742-2744.
28. af Sandeberg M, Wettergren L, Bjork O, Arvidson J, Johansson E. Does school attendance during initial cancer treatment in childhood increase the risk of infection?. *Pediatric Blood & Cancer*. 2013;60(8):1307-1312.
29. Sundberg K K, Wettergren L, Frisk P, Arvidson J. Self-reported quality of life in long-term survivors of childhood lymphoblastic malignancy treated with hematopoietic stem cell transplantation versus conventional therapy. *Pediatric Blood & Cancer*. 2013;60(8):1382-1387.
30. Nordlund J, Bäcklin C L, Wahlberg P, Busche S, Berglund E C, Eloranta M, et al. Genome-wide signatures of differential DNA methylation in pediatric acute lymphoblastic leukemia. *Genome Biology*. 2013;14(9):r105-.
31. Jalmell L, Forslund M, Hansson M G, Henter J, Kreicbergs U, Frost B. Transition to noncurative end-of-life care in paediatric oncology : a nationwide follow-up in Sweden. *Acta Paediatrica*. 2013;102(7):744-748.
32. Cetinkaya C, Martinsson T, Sandgren J, Trager C, Kogner P, Dumanski J, et al. Age dependence of tumor genetics in unfavorable neuroblastoma : arrayCGH profiles of 34 consecutive cases, using a Swedish 25-year neuroblastoma cohort for validation. *BMC Cancer*. 2013;13:231-.
33. Berglund E C, Lindqvist C M, Hayat S, Overnäs E, Henriksson N, Nordlund J, et al. Accurate detection of subclonal single nucleotide variants in whole genome amplified and pooled cancer samples using HaloPlex target enrichment. *BMC Genomics*. 2013;14(1):856-.

2012

34. Cernvall, M. Carlbring, P., Ljungman, G., von Essen, L. Guided Self-help as Intervention for Traumatic Stress in Parents of Children with Cancer: Conceptualization, Intervention Strategies, and a case study. *J Psychosoc Oncology*. 2012;31(1):13-29. doi:10.1080/07347332.2012.741095
35. Dantonello T, Leuchner I, Vokuhl C, Gfoerer S, Schuck A, Kube S, Natrath M, Schneider D, Pal N, Ljungman G, Bielack S, Klingebiel T, Koscielniak E on behalf of CWS. Malignant ectomesenchymoma in children and adolescents – report from the Cooperative Weichteilsarkom Studiengruppe. *Pediatr Blood Cancer*. 2013;60(2):224-9. doi: 10.1002/pbc.24174. Epub 2012 April 25.
36. Frisk P, Arvidson J, Hedenström H. A longitudinal study of pulmonary function after stem cell transplantation, from childhood to young adulthood. *Pediatr Blood Cancer* 2012;58: 775-779.
37. Frisk P, Arvidson J, Ljunggren Ö, Gustafsson J. Decreased bone mineral density in young adults treated with SCT in childhood. The role of 25-hydroxyvitamin D. *Bone Marrow Transplant* 2012;47: 657-662.

38. Frisk P, Arvidson J, Larsson M, Naessén T. Risk factors for cardiovascular disease are increased in young adults treated with stem cell transplantation in childhood. *Pediatric Transplantation* 2012; 16: 385-391.
39. Hasle H, Abrahamsson J, Forestier E, Ha SY, Heldrup J, Jahnukainen K, Jónsson ÓG, Lausen B, Palle J, Zeller B; Nordic Society of Paediatric Haematology and Oncology (NOPHO). Gemtuzumab ozogamicin as postconsolidation therapy does not prevent relapse in children with AML: results from NOPHO-AML 2004. *Blood*. 2012 Aug 2;120(5):978-84. Epub 2012 Jun 22.
40. Hedén L, U Pöder, von Essen L, Ljungman G. Parents' perceptions of their child's symptom burden during and after cancer treatment. *Accepted J Pain Symptom Manage* Sept 2012.
41. Holm S, Ljungman, G, Söderlund A. Pain in children and adolescents in primary care; chronic and recurrent pain is common. *Acta Paediatr*. 2012;101(12):1246-52. doi: 10.1111/j.1651-2227.2012.02829.x. Epub 2012 Sep 24.
42. Lindahl Norberg A, Pöder U, Ljungman G, von Essen L. Objective and subjective factors as predictors of post-traumatic stress symptoms in parents of children with cancer - a longitudinal study. *PLoS ONE*. 2012;7(5):e36218. doi: 10.1002/pbc.24174. Epub 2012 Apr 25.
43. Nordlund J, Milani L, Lundmark A, Lönnerholm G, Syvänen AC (2012) DNA methylation analysis of bone marrow cells at diagnosis of acute lymphoblastic leukemia and at remission. *PLoS One* 7(4)
44. Nord, H, Pfeifer, S., Nilsson, P., Sandgren, J., Popova, S., Stromberg, B., Alafuzoff, I., Nister, M., Di'azde Stahl, Novel amplifications in pediatric medulloblastoma identified by genome-wide copy number Profiling. 2012 Mar;107(1):37-49.
45. Rosenquist R, Ehrencrona H, Hasle H, Palle J, Kanduri M. Whole-genome-amplified DNA as a source for mutational analysis underestimates the frequency of mutations in pediatric acute myeloid leukemia. *Leukemia*. 2013 Feb;27(2):510-2. doi: 10.1038/leu.2012.250. Epub 2012 Aug 31.
46. Sundberg, KK, Lampic, C, Arvidson, J, Wettergren, L. Sense of coherence and need for support among long-term survivors of childhood cancer. *Cancer Nurs*. 2012 Jul-Aug;35(4):E43-9

PhD dissertations

Hedén, Lena RN, PhD dissertation June 2, 2012

Funding

ALF 0,89 milj to the research group 2013

BCF coapplicant 18,5 milj SEK Nistér M, Pfeifer et al. (National biobank for brain- and other solid tumors) 2013-2015

VR coapplicant 40 milj SEK (von Essen et al; Ljungman - U-CARE) 2010-2015

SSF coapplicant 20 milj SEK (Syvänen et al; Lönnerholm - DNA metylation in childhood leukemia)

BCF/NBCNS 7.5 milj SEK/3years (Nister et al; Pfeifer - stem cells)

CF 500.000/year, 3 years (Ljungman et al- oral mucositis) 2014-2016

BCF 500.000/year, 3 years (Ljungman et al- oral mucositis) 2014-2016

BCF 750.000/year, 3 years (Ljungman et al- oral mucositis) 2011-2013

BCF 288 000/year, 2 years (Englund research time Hodgkin project) 2013-2014

BCF 345.000/year, 2 years (Englund research time Hodgkin project) 2015-2016

BCF 750.000/year, 6 years (Ljungman 50% senior research position) 2012-2017

BCF 620.491 kr /year, 2 years; Palle , PostDoc 2012-2013
BCF 300.000/year, 2 years; NovoNordisk 200.000 (Frisk et al- insulinresistance)
BCF 400.000/year, 3 years (Frost et al- intersection of curative /palliative treatment) BCF
300.000/year, 2 years (Hedborg, Pfeifer - noncoding RNA in neural tumors)
BCF 350.000/year, 3 year 2012-2014 (DiazdeSTåhl, Pfeifer et al)

Awards and appointments

Gustaf Ljungman winner of the research prize of Uppsala County Council 2012

Childhood leukemia: biology, treatment, and consequences Targets and function of DNA methylation in acute childhood leukemia

Lönnnerholm, Syvänen, Gustafsson, Frost, Palle et al.

Multidisciplinary study using patient leukemia cell specimens in the Scandinavian NOPHO biobank. The primary objective is to identify the most important genes or genomic loci that display variations in CpG methylation patterns and thus may be used as biomarkers for classification of childhood ALL and AML and for prognosis of the disease progression and response to treatment in individual patients. As DNA methylation is reversible, genes with methylated CpG sites are potential targets for novel therapies.

DNA methylation in pediatric acute myeloid leukemia.

Palle, Nordlund, Bäcklin, Syvänen.

The aim is to study the epigenetics in childhood AML with the Illumina 450 K analyses which gives information of the methylation status in 450.000 CpG sites over the AML cell genome. This data will be analysed comparing the methylation status in different subgroups of AML to outcome and we will also compare AML with ALL. These samples have before been analysed with in vitro drug resistance and the methylation status will also be correlated to this. All samples have been collected in collaboration with the Nordic Society for Pediatric Hematology and Oncology (NOPHO).

Late complications after treatment for childhood cancer

Johan Arvidson, Per Frisk.

A longstanding topic has been long term complications in a special cohort of survivors of autologous bone marrow transplantation for hematological malignancies. Studied complications have included both somatic function and quality of life. 1) Psychosocial functioning including sexual functioning 20 years after treatment with autologous bone marrow transplantation for lymphoid malignancies versus first line treatment without transplantation. 2) Insulin resistance in long-term survivors of allogeneic stem cell transplantation in childhood. 3) Retrospective study of interventions due to decreasing donor chimerism in patients after pediatric allogeneic SCT 4) Retrospective study on outcome after different conditioning regimens used in children with ALL who undergo HSCT. A Nordic study.5) Together with Lund (Cecilia Follin) and endocrinologist in Uppsala Britt Edén, we have started a study on patients with ALL who received cranial radiation before 6 years of age. The main investigation consists of measuring growth hormone response after insulin infusion.

Insulin resistance and bone health in young adults who underwent stem cell transplantation for childhood leukemia

Per Frisk, Anders Öberg

The aim of this cross-sectional study is to investigate the prevalence of insulin resistance in young adults who underwent stem cell transplantation in childhood and to investigate their bone health. The patient group includes patients > 18 years of age who underwent stem cell transplantation in childhood (< 18 years) in Uppsala or Huddinge, Stockholm. Hitherto, 29 patients have been enrolled into the study and 10 patients have completed their investigations.

Treatment-related complications of childhood cancer and epidemiology of solid tumors

Hodgkin lymphoma in children and adolescents – etiological factors, epidemiology and late-effects of treatment

Ljungman, Englund, et al.

This is a study of pediatric patients with Hodgkins lymphoma (HL). The aims are to: 1) Study if HL in children, adolescents and adults differ with respect to inflammatory micro-environment (eosinophils, macrophages, mast cells, regulatory T-cells and CD20-positive cells) and if the microenvironment has any implications for clinical outcome in children and adolescents (collaboration between Uppsala, Stockholm and Umeå). 2) Present a population-based epidemiological survey of all children and adolescents with HL in Sweden for a time period of 25 years (1985-2009). 3) Compare disease presentation and late effects of treatment in adolescents and young adults based on the hypothesis that they share the same disease characteristics but despite that receive different treatment (collaboration with Denmark).

Interventions for procedural pain in children and adolescents with cancer

Ljungman, Hedén, et al.

Pain is a major problem for children with cancer. Pain can be procedure-related, treatment-related pain (side-effects of treatments such as chemotherapy and radiotherapy), and cancer-related. In this project, we study procedure-related pain and its treatment. Needle insertion in a subcutaneous port can be regarded as a model where children's fear, distress, and pain in connection to procedures can be studied in a reasonably standardized way. Using this model we can learn about the effects of different pharmacological and psychological interventions in different randomized controlled trials.

Interventions for oral mucositis in children with cancer

Ljungman, Thorsell, Kamsvåg-Magnusson et al.

Oral mucositis is a painful condition with inflammation and ulceration of the mucous membranes in the mouth, caused by chemo- and radiotherapy and is particularly frequent in hematopoietic stem cell transplantation (HSCT). Pain intensity varies, but the pain is often so severe that the patient is unable to eat solid food (grade 3) or even to consume liquids (grade 4). In very severe cases the patient cannot talk, nor swallow saliva. Oral mucositis is reported by patients to be one of the most painful and debilitating side effects of cancer treatment.

Specific pharmacological and psychological interventions that can reduce oral mucositis symptoms are evaluated in randomized controlled trials. The studies are carried out on a national level at the different pediatric HSCT centers in Sweden.

Psychosocial studies in children with cancer and their families

Psychosocial issues in children and adolescents with cancer and their parents

Ljungman, Engvall, et al.

In addition to being a part of the Pediatric Oncology research group at the Department of Women's and Children's Health, Uppsala University, Ljungman takes part in, and shares leadership of, the Psychosocial Oncology research group headed by Professor Louise von Essen. The projects have resulted in a number of publications and they can be categorized in either one of the two following main groups: 1. Cancer during adolescence - Psychosocial and health economic consequences and 2. Occurrence, development, and treatment of posttraumatic stress disorder (PTSD) among parents of children with cancer. Presently this has moved on to a multi-institutional collaboration in one part of a new strategic research proposal from Uppsala University, the U-Care program. The aim is to provide, and with scientific rigor evaluate, internet-based stepped-care treatment for parents of children with cancer with PTSD and for adolescents with cancer with psychosocial problems.

Psychosocial functioning 20 years after hematological stem cell transplantation

Arvidson et al.

Follow up program of BMT in Uppsala, where all survivors of hematological bone marrow transplantation since 1985 are followed both somatically and psychologically. Focus is on quality of life as well as organ function.

Design and evaluation of care environment and technical tools in pediatric radiotherapy

Engvall et al.

Umeå University, Karolinska Institutet Stockholm, and Uppsala University are included in a multicenter study. The Institute of Design, Umeå and Skandion Clinic are co-workers. The project started 2012, focusing on design and evaluation of care environment and technical tools in Pediatric radiotherapy. The aims are to develop methods and material for pre-treatment information and preparation, develop methods that enable contact between child and parents during treatment, and finally to evaluate these methods to identify which methods that should be implemented in the Skandion clinic.

Implementing a Pediatric Early Warning Score for increased patient safety

Engvall et al.

In order to increase patient safety, a pediatric early warning score (PEWS) was introduced in the daily routine at the medical, surgery, and orthopaedic wards, excluding neonatology, at the University Hospital of Pediatrics in Uppsala 2013 (Målqvist&Engvall). The aim is to determine the effect of the implementation of PEWS at the different wards at the hospital. The focus is on both process and outcome variables. The used implementation method is based on a participatory approach. The impact of PEWS on health outcomes among children admitted to the University Hospital of Pediatrics in Uppsala will be investigated.

Neuroblastoma: somatostatin receptors as prognostic markers

Georgantzy et al.

Neuroblastoma (NB) is the most frequent extracranial malignant tumor of childhood, originating from cells of the adrenal medulla or the sympathetic nervous system and exhibits a unique biological and clinical heterogeneity. Chromogranin A (CgA) is a protein that serves as circulating tumor marker in adult neuroendocrine tumors (NETs), where increasing concentrations indicate disease progression. Elevated CgA concentrations in blood have been reported in NB. Chromogranin B (CgB) is a peptide less studied in tumors derived from nervous system. Neuron-specific enolase (NSE) is a well-established tumor marker in NB, and its concentrations in blood is elevated in advanced staged disease, and is a prognostic marker of poor outcome. Neuroendocrine cells as in NB have certain biochemical similarities with normal nerve cells, and express both general and specific markers/proteins. NB cells have certain neuroendocrine properties like CgA and catecholamine secretion. The aims of this study are to investigate the expression of different neuroendocrine markers, CgA, CgB, NSE etc in clinical NB, and to determine how these proteins are correlated to tumor stage, biological markers, prognosis and outcome.

Functional and genetic studies of pediatric neural tumors

Pfeifer with collaborators Diaz de Ståhl, Johanna Sandgren, Chandrasekhar Kanduri .

Tumor specific genetic changes have been identified in several brain tumor types in children using array CGH and expression arrays, in a joint project with the Karolinska Institute. Using .global array and genome-wide sequencing-based analyses, we have found individual tumor-specific aberrations in many pediatric medulloblastomas, necessitating possible individualized therapy in the future.

Studies on the role of noncoding RNA in neural tumors are ongoing, and suggest that nc RNA, originating from the large bulk of nontranscribed DNA, may have key regulatory functions in neuroblastoma and possibly other pediatric neural tumors.

National bio bank for pediatric neural tumors

Susan Pfeifer, coordinator.

A collaborative effort since 2009 between the six universities in Sweden and the Childrens Cancer Foundation and its neural network NBCNS (neuroblastoma CNS tumors in children) with the goal of establishing a well functioning national biobank of pediatric neural tumors., ie brain tumors and neuroblastoma. The biobank has started 2012. Yearly 60 brain tumor biopsies and 15 neuroblastoma biopsies are expected to be biobanked. The aim is to include all biopsied pediatric solid tumors (about 120/year). The purpose of the biobank is to facilitate research leading to improved diagnostics, estimation of prognosis, and the development of new therapeutic strategies.

Difficult decisions and ethical aspects in pediatric oncology

At the intersection of curative and palliative treatment in pediatric oncology

Frost et al.

The aim is to examine to what extent there is a distinctive focus on palliative treatment in departments of pediatric oncology in Sweden, and how children in terminal care and their families perceive the meaning and importance of palliative care.

Experiences and ethics of sibling donors

Frost et al.

Uppsala collaborative study between the medical and philosophical faculty, which will in a later phase collaborate with international colleges. The study will concentrate on the impact of being used as a donor during childhood. Emphasis is put on psychological, social and ethical questions.

Pediatric Surgery and Pediatric Urology

Rolf Christofferson

Members of the group

Ammar Al-Mashhadi, MD, PhD-student
Gertrud Angsten, MD, PhD
Gillian Barker, MD, PhD
Rolf Christofferson, associate professor, MD, PhD
Johan Danielson, MD, PhD-student
Felipe Donoso, MD
Helene Engstrand Lilja, associate professor, MD, PhD
Peter Flacker, MD
Fanny Fredriksson, MD, PhD-student
Elisabet Gustafson, MD, PhD-student
Niclas Högberg, MD, PhD
Ann-Marie Kassa, RN, research nurse
Göran Läckgren, professor, MD, PhD
Erik Sköldenberg, MD, PhD
Anders Stenbäck, MD, PhD

Publications 2012-2014

1. Dantonello T M, Lochbühler H, Schuck A, Kube S, Godzinski J, Sköldenberg E, et al. Challenges in the Local Treatment of Large Abdominal Embryonal Rhabdomyosarcoma. *Annals of Surgical Oncology*. 2014;21(11):3579-3586.
2. Engstrand Lilja H. Barnkirurgi, Terapikompedium Pediatrisk. 2014.
3. Fredriksson F, Christofferson R H, Carlsson P, Lilja H E. Locally increased concentrations of inflammatory cytokines in an experimental intraabdominal adhesion model. *Journal of Pediatric Surgery*. 2014;49(10):1480-1484.
4. Reutter H, Draaken M, Pennimpede T, Wittler L, Brockschmidt F F, Ebert A, et al. Genome-wide association study and mouse expression data identify a highly conserved 32 kb intergenic region between WNT3 and WNT9b as possible susceptibility locus for isolated classic exstrophy of the bladder. *Human Molecular Genetics*. 2014;23(20):5536-5544.
5. Wester T, Borg H, Naji H, Stenstrom P, Westbacke G, Lilja H E. Serial transverse enteroplasty to facilitate enteral autonomy in selected children with short bowel syndrome. *British Journal of Surgery*. 2014;101(10):1329-1333.
6. Danielson J, Karlom U, Wester T, Graf W. Efficacy and quality of life 2 years after treatment for faecal incontinence with injectable bulking agents. *Techniques in Coloproctology*. 2013;17(4):389-395.
7. Fredriksson F, Nordborg C, Hallén T, Blomquist E. Haemangiopericytoma presenting with acute intracerebral haemorrhage : a case report and literature review. *Acta Oncologica*. 2013;52(4):753-758.
8. Georgantzi K, Sköldenberg E, Stridsberg M, Jakobson A, Christofferson R. Chromogranin A In Neuroblastoma : Correlation To Stage And Prognostic Factors. 45th Congress of the International Society of Paediatric Oncology (SIOP) 2013, 25th-28th, 2013, Hong Kong, China. *Pediatric Blood & Cancer*. 2013;60(S3):228-228.
9. Hermansson O, George M, Wester T, Christofferson R. Local delivery of bupivacaine in the wound reduces opioid requirements after intraabdominal surgery in children. *Pediatric surgery international* (Print). 2013;29(5):451-454.

10. Högberg N. Experimental and Clinical Necrotizing Enterocolitis. [Thesis]. Uppsala: Acta Universitatis Upsaliensis; 2013. Digital Comprehensive Summaries of Uppsala Dissertations from the Faculty of Medicine, 898.
11. Högberg N, Stenbäck A, Carlsson P, Wanders A, Engstrand Lilja H. Genes regulating tight junctions and cell adhesion are altered in early experimental necrotizing enterocolitis. *Journal of Pediatric Surgery*. 2013;48(11):2308-2312.
12. Normann E, Fahlen A, Engstrand L, Engstrand Lilja H. Intestinal microbial profiles in extremely preterm infants with and without necrotizing enterocolitis. *Acta Paediatrica*. 2013;102(2):129-136.
13. Angsten G, Finkel Y, Lucas S, Kassa A, Paulsson M, Engstrand Lilja H. Improved outcome in neonatal short bowel syndrome using parenteral fish oil in combination With ω -6/9 Lipid Emulsions. *JPEN - Journal of Parenteral and Enteral Nutrition*. 2012;36(5):587-595.
14. Högberg N, Carlsson P, Hillered L, Meurling S, Stenbäck A. Intestinal ischemia measured by intraluminal microdialysis. *Scandinavian Journal of Clinical and Laboratory Investigation*. 2012;72(1):59-66.
15. Högberg N, Carlsson P, Hillered L, Stenbäck A, Engstrand Lilja H. Intraluminal intestinal microdialysis detects markers of hypoxia and cell damage in experimental necrotizing enterocolitis. *Journal of Pediatric Surgery*. 2012;47(9):1646-1651.

Dissertations 2014

-

Agencies that support the work/Funding

-

Basal metabolic rates in prematurely born babies during postnatal growth

Gertrud Angsten, Roger Olsson, Stefan Branth

The basal metabolic rates in six prematurely born babies have been determined with indirect calorimetry and are correlated to their development in weight and height during their first 6 years of life. The project will give new information on whether the basal metabolic rate can predict the energy demands in prematurely born babies or not.

Gastrostomy tube feeding – a successful therapy

Gertrud Angsten, Johan Danielson, Heléne Engstrand Lilja

In our hospital records, there are over 300 children that have received a surgical gastrostomy for enteral nutrition. We will collect data on their development in weight and height, and send them a questionnaire which questions about complications following surgery and their perceived quality of life. This will hopefully give us information how the procedure can be developed in terms of patient safety, quality of life and cosmesis. The study will be presented as a poster and a scientific paper.

Studies on anorectal malformations and anal incontinence

Johan Danielson, Wilhelm Graf, Urban Karlbom, Tomas Wester

This project addresses the long term outcome of anorectal function and quality of life (QoL) in adult patients operated for anorectal malformations (ARM) in childhood. It also evaluates different strategies to reduce persistent anal incontinence after primary ARM surgery. The first study is of all ARM patients that have undergone primary surgical repair at the section of pediatric surgery between 1961 and 1993. The follow-up includes e.g. a validated QoL questionnaire, which also is

answered by sex- and age-matched controls. A second study compares the functional outcome of ARM patients operated with the modern Peña procedure (posterior sagittal anorectoplasty) with that of patients operated with older types of surgery. The third study evaluates anorectal function and QoL in ARM patients subjected to dynamic graciloplasty due to anal incontinence in adulthood. The fourth study evaluates the effect on anorectal function and QoL two years after treatment with a new method against anal incontinence; anorectal submucosal injections of dextranomer particles suspended in non-animal hyaluronic acid (Solesta).

Metabolic balance in children with short bowel syndrome and home parenteral nutrition

Heléne Engstrand Lilja, Stefan Branth, Roger Olsson, Gertrud Angsten

A metabolic balance study in eight children with intestinal failure of different causes was performed. The children stayed 3 days in the hospital, and blood samples for analyses of liver function, acid-base-balance, thyroid function, hormones, glucose, lipids and amino acids were drawn. Loss of nitrogen, fatty acids and different ions were determined in urine and faecal samples. Measurements of bone mineral density was performed with Dual-energy X-ray absorptiometry (DEXA) and basal metabolic rate with indirect calorimetry. The study will give new data on the metabolic balance in children with home parental nutrition due to intestinal failure. The manuscript is in preparation for publication.

Intestinal microbial profiles of infants with short bowel syndrome using 454-pyrosequencing technique

Helene Engstrand Lilja, Niklas Nyström, Yigael Finkel och Lars Engstrand

This project compares the enteral bacterial flora in infants with short bowel syndrome (SBS) and healthy infants. Bacterial overgrowth (BO) is a common problem in these infants but specific diagnostic methods of BO is missing. In this study we investigate which bacteria are involved with bacterial overgrowth in infants with SBS by analysing bacterial-specific DNA in stool samples with the 454-pyrosequencing technique. Pyrosequencing is the method of choice to demonstrate bacterial diversity, but is not quantitative. Low bacterial diversity has previously been associated with IgE-associated eczema in children. Low bacterial diversity in infants with SBS may result in less stimulation of the immune system, that could cause BO. In this study we also want to investigate if a low and altered bacterial diversity in infants with SBS can be corrected with fecal transplantation from a healthy relative. Fecal transplantation has successfully been used in adults with e.g. refractory bacterial enteritis, but never in children with SBS.

Is it possible to prevent postoperative peritoneal adhesions in infants?

Fanny Fredriksson, Rolf Christofferson, Helene Engstrand Lilja

Postoperative adhesions are a leading cause of abdominal pain, bowel obstruction and infertility. These complications represent a heavy burden to both patients and healthcare providers. The knowledge on postoperative adhesions in children is limited, and due to a long expected lifespan, infants would benefit the most from reduction of adhesion formation. This project comprises four parts: (1) A retrospective study of infants that have undergone laparotomy during the first year of life (1976-2011, n=1017) with a questionnaire follow-up. The study will define the proportions of the problem and the time-scale for developing complications. (2) Establishing a relevant and reproducible experimental model (rat) for intra-abdominal adhesions. The model will elucidate adhesion formation development from the initial peritoneal trauma and which mediators that are involved. (3) Prevention of adhesion formation in the experimental model, using e.g. Kineret (Anakinra) an IL-1 receptor antagonist, Rapamycin (Sirolimus), PVAC (Carbazate-modified

polyvinyl alcohol). The number and extent of adhesions as well as the bursting strength of a constructed intestinal anastomosis will be quantified. (4) A prospective study, examining RNA expression profiles in peritoneal tissue samples from patients with bowel obstruction and compare them to those of healthy children. We hypothesise that genes that mediate inflammation, coagulation and matrix formation are up-regulated, while fibrinolytic genes are down-regulated in children with bowel obstruction. Hopefully, children at high risk of adhesion-related complications can be identified and be offered reductive therapy in the future.

Isolation and transplantation of hepatocytes

Elisabet Gustafson

In liver failure, regardless of cause, there is a clinical need for alternatives to liver transplantation. Hepatocyte transplantation is one option that has been held promising for a long time. The method has however been hampered by an early clearance of the transplanted cells by the innate immune system. We have established a method for isolation and culture of human hepatocytes from liver biopsies. The cells have been used for in vitro experiments analyzing the different aspects of innate immunity when the cells come in contact with ABO-compatible blood. Besides the inflammatory reactions from neutrophils and the complement system, there is also activation of several steps in the blood coagulation system. The study has also included attempts to control the adverse effects from the innate immune system by use of inhibitors controlling different aspects of thromboinflammation. The aim of this project is to gain knowledge that may improve the short- and long term survival of transplanted hepatocytes

Microdialysis studies in experimental and clinical necrotizing enterocolitis

Niclas Högberg, Anders Stenbäck och Helene Engstrand Lilja

Necrotizing enterocolitis (NEC) is the most serious gastrointestinal disorder in newborn infants with an incidence of 10 to 15% in those with very low birth weight (VLBW <1500 g). More than 90% of the infants who develop NEC are born prematurely. The risk of NEC is inversely related to gestational age and birth weight. The disease is characterized by inflammation of the bowel that can progress to bowel necrosis and multiple organ failure. Despite extensive research, NEC remains a major cause of death in neonates, with mortality rates approaching 40 % in VLBW infants. Intestinal ischemia is thought to be an important component of the pathogenesis of NEC, causing variable degrees of ischemia of the small and large intestine, ranging from mild ischemia of the intestinal mucosa to transmural necrosis of the gut wall. There is a need for a new, sensitive and specific diagnostic method for early identification of NEC in order to attenuate its course. We have recently shown that rectal intraluminal microdialysis in an animal model of NEC is a reproducible, sensitive and specific, non-invasive early diagnostic method to detect intestinal hypoxia. At present we are investigating if rectal intraluminal microdialysis is a useful early diagnostic method of intestinal hypoxia in infants suspected of suffering from NEC.

Implementation of the national follow-up program for anorectal malformations in a tertiary university hospital

Björn Sjöström, Rolf Christofferson

Anorectal malformation means absence of a normal anus, most oftenly with a fistula from rectum to the perineum, vestibulum or urethra. Approximately forty children are born with anorectal malformations annually in Sweden, and of these, 10-12 children are operated at Akademiska sjukhuset. Up to 78% of children with ARM have associated malformations, e.g. genitourinary, spinal, cardiac or skeletal. Adults and adolescents that have been operated for ARM report impaired anal continence and less quality of life than matched controls, which underlines the importance of a

structured follow-up with early and aggressive treatment of e.g. constipation and soiling. In order to harmonize the follow-up, the Swedish Pediatric Surgical Association launched a national follow-up program in 2010. The aims of this study are to (1) to validate the implementation of the program at Akademiska, (2) to classify ARM according to the Krickbeck classification, and (3) to analyze the functional outcome at 5 and 14 years, during the interval of 1999 to 2014.

High blood pressure in children with hydronephrosis

Ammar Al-Mashhadi, Arne Stenberg

Arterial hypertension a growing health problem in the Western world, leading to e.g. myocardial infarction and stroke. Hypertension can be caused by renal dysfunction. Hydronephrosis is a relatively common (1%) condition after birth, and is characterized by dilation of the renal pelvis. Hydronephrosis is usually due to a partial ureteropelvic junction obstruction. Hydronephrosis may lead to progressive renal dysfunction. Although hydronephrosis is common, its pathophysiology is poorly understood and its clinical management is debated. Non-operative management of neonatal hydronephrosis is currently advocated, since the renal function can be rather well preserved for years. However, the long-term consequences of this new strategy are not known. We have recently discovered a strong connection between hydronephrosis (experimental and congenital) and obstructive nephropathy and hypertension in later life. Increased oxidative stress and reduced nitric oxide (NO) bioavailability in the affected kidney(s) are thought to drive this process. In experimental hydronephrosis, we intend to determine if increased oxidative stress and reduced NO bioavailability in the macula densa cells can explain the arterial hypertension and the reduction of kidney function. The relative role of the systems can be determined by anti-oxidative therapy and/or NO-stimulatory therapy. We will also determine if relief of the obstruction, by either nephrectomy or pyeloplasty, reduces hypertension and salt-sensitivity in hydronephrosis. Also the roles of the renin-angiotensin system, reactive oxygen species, the renal sympathetic nerve activity, inflammatory molecules and infectious agents in hydronephrosis during early and adult age will be addressed. In children with hydronephrosis, we intend to determine if they have increased oxidative stress and/or decreased NO bioavailability and if they develop hypertension and renal disease in later life.

A national, prospective study of children with disorders of sexual development (DSD)

Gillian Barker, Maria Halldin, Agneta Nordenskjöld et al.

Every year, approximately 40 children are born in Sweden with external genitalia that are not typically masculine or feminine. This disorder of sexual development (DSD) can be caused by a variety of alterations on the chromosomal, gonadal, or phenotypic levels. In this national, multicenter project, the parents of all children born in Sweden with DSD are asked to take part of a prospective study which will follow the treatment and development of the child. The four DSD centers in Sweden (Uppsala, Stockholm, Göteborg, and Lund) are involved in the study, Uppsala. The lead investigators are Agneta Nordensköld and Anna Nordenstam at the Astrid Lindgrens Barnsjukhus. This work has led to collaborative work between the centres. One of these is an application to the Ethical Committee has been submitted to carry out a randomized controlled trial of a free foreskin graft in hypospadias repair, which will also be run in 3 centres (Uppsala, Stockholm and Göteborg).

Long-term effects of endoscopic treatment of high-grade vesicoureteral reflux

Göran Läckgren, Anders Stenbäck, Erik Sköldenberg

Approximately 1% of all children have vesicoureteral reflux (VUR; back-flow of urine from the bladder to the ureter), and half of them develop clinical symptoms of urinary tract infections (UTI) of varying severity. The reflux is graded I-V. In 1993, endoscopic treatment of VUR with dextranomer particles in non-animal hyaluronic acid (Deflux) was introduced. Submucosal injection of Deflux below the ureteral orifice in the bladder reduces VUR and can be done on an out-patient basis. This project addresses the long-term effects of Deflux therapy in children with advanced VUR (grade IV-V) in two cohorts (1993-8 and 1998-2003). In the first study, the hospital records (in Uppsala and the local hospital) of patients 1993-2003 (n=214) are reviewed, and parameters such as documented UTI, cystometry findings, micturition cystograms, renal scintigraphies, as well as morbidity and intercurrent diseases, are extracted. In the second study, a questionnaire is filled in by, and telephone interview is performed with the parents or patients with focus on UTI and signs of bladder dysfunction. In the third study, a clinical assessment of the patients is performed at the local hospital, combined with MAG-3 renal scintigraphy to detect residual VUR, and ultrasonography of the kidneys and bladder. In the fourth study, the 52 patients that had residual, symptomatic VUR despite Deflux therapy, and subsequently were subjected to open reimplantation of the ureter(s), will be reviewed and worked-up as the other 214, thereby permitting a head-to-head comparison of Deflux therapy vs. Open surgery for the first time. In the fifth study, all the micturition cystograms of all the patients will be reviewed to determine whether the type of VUR or the bladder volume affects Deflux outcome or not. The project will reveal the long-term effects of Deflux in VUR, and identify risk factors for severe UTI, and thereby the possibility to avoid them. The rationale for comparing two cohorts regarding outcome and kidney function is to distinguish between children that need early, active treatment and children that may not need treatment for their VUR at all.

Paediatric Inflammation

Kjell Alving

The group of Paediatric Inflammation Research covers a wide spectrum of paediatric specialties, roughly divided into five interrelated subgroups focusing on allergology, pulmonology, rheumatology, gastroenterology, and nephrology, respectively. During 2014, Kjell Alving was appointed Professor of Respiratory Pharmacology.

Members of the group during 2014

Kjell Alving, professor
Lillemor Berntsson, PhD
Magnus Borres, adjunct professor
Maria Cederblad, PhD student
Gianni Celsi, associate professor
Ingrid Dahlbom, PhD
Sten Dreborg, associate professor
Tony Hansson, associate professor
Charlotte Heijkenskjöld Rentzhog, PhD student
Annika Hollsing, PhD
Lars Holmberg, PhD
Jennifer Johnsson, PhD student
Johan Kaarme, PhD student
Pia Kalm Stephens, research nurse
Birgitta Karanikas, research nurse
Hans Kollberg, associate professor
Stina Krantz, PhD student
Elisabet Lundmark, PhD student
Åsa Neuman, PhD student
Tryggve Nevéus, senior lecturer
Lennart Nordvall, associate professor
Britt-Inger Nyberg, research assistant
Niklas Nyström, PhD student
Christophe Pedroletti, PhD
Inger Jönson Ring, PhD student
Jörgen Syk, PhD
Nikos Tsolakis, PhD student
Monica Westerlund, associate professor
Anders Öman, paediatrician

Publications 2012-2014

2014

1. Darsow U, Brockow K, Pfab F, Jakob T, Petersson CJ, Borres MP, Ring J, Behrendt H, and Huss-Marp J, *Allergens. Heterogeneity of molecular sensitization profiles in grass pollen allergy--implications for immunotherapy?* Clin Exp Allergy, 2014. **44** (5): 778-86.

2. Heijkenskjold-Rentzhog C, Nordvall L, Janson C, Borres MP, Alving K, and Malinovschi A, *Alveolar and exhaled NO in relation to asthma characteristics--effects of correction for axial diffusion*. Allergy, 2014. **69** (8): 1102-11.
3. Irander K, Borres MP, and Ghafouri B, *The effects of physical exercise and smoking habits on the expression of SPLUNC1 in nasal lavage fluids from allergic rhinitis subjects*. Int J Pediatr Otorhinolaryngol, 2014. **78** (4): 618-22.
4. Johansson H, Norlander K, Hedenstrom H, Janson C, Nordang L, Nordvall L, and Emtner M, *Exercise-induced dyspnea is a problem among the general adolescent population*. Respir Med, 2014. **108** (6): 852-8.
5. Johnson J, Malinovschi A, Alving K, Lidholm J, Borres MP, and Nordvall L, *Ten-year review reveals changing trends and severity of allergic reactions to nuts and other foods*. Acta Paediatr, 2014. **103** (8): 862-7.
6. Kalm-Stephens P, Sterner T, Kronholm Diab K, and Smedje G, *Hypersensitivity and the working environment for allergy nurses in sweden*. J Allergy (Cairo), 2014. **2014**: 681934.
7. Katelaris CH, Kurosawa M, Moon HB, Borres M, Florvaag E, and Johansson SG, *Pholcodine consumption and immunoglobulin E-sensitization in atopics from Australia, Korea, and Japan*. Asia Pac Allergy, 2014. **4** (2): 86-90.
8. Konradsen JR, Nordlund B, Onell A, Borres MP, Gronlund H, and Hedlin G, *Severe childhood asthma and allergy to furry animals: refined assessment using molecular-based allergy diagnostics*. Pediatr Allergy Immunol, 2014. **25** (2): 187-92.
9. Krantz C, Janson C, Borres MP, Nordvall L, Alving K, and Malinovschi A, *Nasal nitric oxide is associated with exhaled NO, bronchial responsiveness and poor asthma control*. J Breath Res, 2014. **8** (2): 026002.
10. Neuman A, Bergstrom A, Gustafsson P, Thunqvist P, Andersson N, Nordvall L, Kull I, and Wickman M, *Infant wheeze, comorbidities and school age asthma*. Pediatr Allergy Immunol, 2014. **25** (4): 380-6.
11. Nilsson C, Nordvall L, Johansson SG, and Nopp A, *Successful management of severe cow's milk allergy with omalizumab treatment and CD-sens monitoring*. Asia Pac Allergy, 2014. **4** (4): 257-60.
12. Nozawa A, Okamoto Y, Moverare R, Borres MP, and Kurihara K, *Monitoring Ara h 1, 2 and 3-sIgE and sIgG4 antibodies in peanut allergic children receiving oral rush immunotherapy*. Pediatr Allergy Immunol, 2014. **25** (4): 323-8.
13. Olen O, Neuman A, Koopmann B, Ludvigsson JF, Ballardini N, Westman M, Melen E, Kull I, Simren M, and Bergstrom A, *Allergy-related diseases and recurrent abdominal pain during childhood - a birth cohort study*. Aliment Pharmacol Ther, 2014. **40** (11-12): 1349-58.
14. Patelis A, Gunnbjornsdottir M, Borres MP, Burney P, Gislason T, Toren K, Forsberg B, Alving K, Malinovschi A, and Janson C, *Natural history of perceived food hypersensitivity and IgE sensitisation to food allergens in a cohort of adults*. PLoS One, 2014. **9** (1): e85333.
15. Patelis A, Janson C, Borres MP, Nordvall L, Alving K, and Malinovschi A, *Aeroallergen and food IgE sensitization and local and systemic inflammation in asthma*. Allergy, 2014. **69** (3): 380-7.
16. Stenberg Hammar K, Hedlin G, Konradsen JR, Nordlund B, Kull I, Giske CG, Pedroletti C, Soderhall C, and Melen E, *Subnormal levels of vitamin D are associated with acute wheeze in young children*. Acta Paediatr, 2014. **103** (8): 856-61.
17. Thacher JD, Gruziova O, Pershagen G, Neuman A, Wickman M, Kull I, Melen E, and Bergstrom A, *Pre- and postnatal exposure to parental smoking and allergic disease through adolescence*. Pediatrics, 2014. **134** (3): 428-34.
18. Berntson L, Nordal E, Fasth A, Aalto K, Herlin T, Nielsen S, et al. Anti-type II collagen antibodies, anti-CCP, IgA RF and IgM RF are associated with joint damage, assessed eight years after onset of juvenile idiopathic arthritis (JIA). Pediatr Rheumatol Online J. 2014 Jun 11;12:22.
19. Kazamia K, Holmquist L, Fagerlund A, Berntson L. Children with juvenile idiopathic arthritis frequently experience interruptions to their medical therapy. Acta Paediatrica. 2014;103(5):529-536.

20. Cedstromer A, Ahlqwist M, Andlin-Sobocki A, Berntson L, Hedenberg-Magnusson B, Dahlstrom L. Temporomandibular condylar alterations in juvenile idiopathic arthritis most common in longitudinally severe disease despite medical treatment. *Pediatr Rheumatol Online J*. 2014 Sep 14;12:43.
21. Berntson L. Anti-inflammatory effect by exclusive enteral nutrition (EEN) in a patient with juvenile idiopathic arthritis (JIA): brief report. *Clinical Rheumatology*. 2014;33(8):1173-1175.
22. Cederblad M, Nevéus T, Åhman A, Österlund Efraimsson E, Sarkadi A. "Nobody asked us if we needed help" - Swedish parents' experiences of enuresis. *J Ped Urol*. 2014;10(1):74-9.
23. Grandahl M, Oscarsson M, Stenhammar C, Nevéus T, Westerling R, Tydén T. Not the right time: why parents refuse to let their daughters have the human papillomavirus vaccination. *Acta Paediatr*. 2014;103(4):436-41.
24. Nevéus T, Leissner L, Rudblad S, Bazargani F. Respiration during sleep in children with therapy-resistant enuresis. *Acta Paediatr*. 2014;103(3):300-4.
25. Grandahl M, Tydén T, Rosenblad A, Oscarsson M, Nevéus T, Stenhammar C. School nurses' attitudes and experiences regarding the human papillomavirus vaccination programme in Sweden: A population-based survey. *BMC Public Health*. 2014;14:540.
26. Nevéus T, Leissner L, Rudblad S, Bazargani F. Orthodontic widening of the palate may provide a cure for selected children with therapy-resistant enuresis. *Acta Paediatrica*. 2014. [ePub ahead of print]
27. Cederblad M, Sarkadi A, Engvall G, Nevéus T. Infrequent enuresis, the uninvestigated majority. Comparisons between children with enuresis of varying severity. *J Pediatr Urol*. 2014;[ePub ahead of print].

2013

28. Nilsson MC, Hambræus-Jonzon K, Alving K, Wiklund P, Bergquist M, and Freden F. Distant effects of nitric oxide inhalation in lavage-induced lung injury in anaesthetised pigs. *Acta Anaesthesiol Scand*, 2013. 57 (3): 326-33.
29. Sverrild A, Malinovschi A, Porsbjerg C, Backer V, and Alving K, Predicting airway hyperreactivity to mannitol using exhaled nitric oxide in an unselected sample of adolescents and young adults. *Respir Med*, 2013. 107 (1): 150-2.
30. Enroth S, Dahlbom I, Hansson T, Johansson A, and Gyllensten U, Prevalence and sensitization of atopic allergy and coeliac disease in the Northern Sweden Population Health Study. *Int J Circumpolar Health*, 2013. 72.
31. Glaumann S, Nopp A, Johansson SG, Borres MP, Lilja G, and Nilsson C, Anaphylaxis to peanuts in a 16-year-old girl with birch pollen allergy and with monosensitization to Ara h 8. *J Allergy Clin Immunol Pract*, 2013. 1 (6): 698-9.
32. Malinovschi A, Fonseca JA, Jacinto T, Alving K, and Janson C, Exhaled nitric oxide levels and blood eosinophil counts independently associate with wheeze and asthma events in National Health and Nutrition Examination Survey subjects. *J Allergy Clin Immunol*, 2013. 132 (4): 821-7 e1-5.
33. Syk J, Malinovschi A, Johansson G, Undén AL, Andreasson A, Lekander M, and Alving K, Anti-inflammatory Treatment of Atopic Asthma Guided by Exhaled Nitric Oxide: A Randomized, Controlled Trial. *J Allergy Clin Immunol Pract*, 2013. 1 (6): 639-648 e8.
34. Glaumann S, Nopp A, Johansson SG, Borres MP, Lilja G, and Nilsson C, *Anaphylaxis to peanuts in a 16-year-old girl with birch pollen allergy and with monosensitization to Ara h 8*. *J Allergy Clin Immunol Pract*, 2013. 1 (6): 698-9.
35. Berntson L, Nordal E, Aalto K, Peltoniemi S, Herlin T, Zak M, Nielsen S, and Rygg M for the Nordic Study Group of Paediatric Rheumatology (NoSPeR). HLA-B27 predicts a more chronic disease course in an eight year follow-up cohort of patients with juvenile idiopathic arthritis. *J Rheumatol* 2013; May40(5):725-31
36. Cedströmer AL, Andlin-Sobocki A, Berntson L, Hedenberg-Magnusson B, Dahlström L. Temporomandibular signs, symptoms, joint alterations and disease activity in juvenile

idiopathic arthritis- an observational study. *Pediatric Rheumatol Online J*, 2013 Oct 17;(11)1:37

37. Nystrom N, Berg T, Lundin E, Skog O, Hansson I, Frisk G, Juko-Pecirep I, Nilsson M, Gyllenstein U, Finkel Y, Fuxe J, and Wanders A, *Human enterovirus species B in ileocecal Crohn's disease*. *Clin Transl Gastroenterol*, 2013. **4**: e38.
38. Lindgren A, Glad Mattsson G, Mattsson S, Nevéus T. Två barn i varje skolklass med 7-åringar lider av enures -- skolhälsovården har en nyckelroll: enkät visar att förbättringar behövs. *Läkartidningen*. 2013;110:2058-60
39. Storm T, Tranebjærg L, Frykholm C, Birn H, Verroust PJ, Nevéus T, et al. Renal phenotypic investigations of megalin-deficient patients: Novel insights into tubular proteinuria and albumin filtration. *Nephrol Dial Transplant*. 2013;28(3):585-91.

2012

40. Heijkenskjöld-Rentzhog C, Alving K, Kalm-Stephens P, Lundberg JO, Nordvall L, and Malinovschi A, The fraction of NO in exhaled air and estimates of alveolar NO in adolescents with asthma: methodological aspects. *Pediatr Pulmonol*, 2012. **47** (10): 941-9.
41. Malinovschi A, Alving K, Kalm-Stephens P, Janson C, and Nordvall L, Increased exhaled nitric oxide predicts new-onset rhinitis and persistent rhinitis in adolescents without allergic symptoms. *Clin Exp Allergy*, 2012. **42** (3): 433-40.
42. Patelis A, Gunnbjörnsdóttir M, Malinovschi A, Matsson P, Onell A, Hogman M, Alving K, and Janson C, Population-based study of multiplexed IgE sensitization in relation to asthma, exhaled nitric oxide, and bronchial responsiveness. *J Allergy Clin Immunol*, 2012. **130** (2): 397-402 e2.
43. Syk J, Alving K, and Undén AL, Association between self-rated health and asthma: a population-based study. *Clin Respir J*, 2012. **6** (3): 150-8.
44. Borte S, Janzi M, Pan-Hammarström Q, von Döbeln U, Nordvall L, Winiarski J, Fasth A, Hammarström L. Placental transfer of maternally-derived IgA precludes the use of Guthrie card eluates as a screening tool for primary immunodeficiency diseases. *PLoS One*. 2012;7(8):e43419.
45. Dreborg S, Lee TH, Kay AB, and Durham SR, *Immunotherapy is allergen-specific: a double-blind trial of mite or timothy extract in mite and grass dual-allergic patients*. *Int Arch Allergy Immunol*, 2012. **158** (1): 63-70.
46. Simon-Vecsei Z, Király R, Bagossi P, Tóth B, Dahlbom I, Caja S, Csosz É, Lindfors K, Sblattero D, Nemes É, Mäki M, Fésüs L, Korponay-Szabó IR. A single conformational transglutaminase 2 epitope contributed by three domains is critical for celiac antibody binding and effects. *Proc Natl Acad Sci U S A*. 2012 Jan 10;109(2):431-6.
47. Nordal E, Zak M, Aalto K, Berntson L, Fasth A, Herlin T, Lahdenne P, Nielsen S, Peltoniemi S, Straume B, Rygg M. Validity and predictive ability of the juvenile arthritis disease activity score based on CRP versus ESR in a Nordic population-based setting. *Ann Rheum Dis* 2012 Jan 17
48. Prokopec KE, Berntson L, Oman A, and Kleinau S. Upregulated complement and Fc receptors in juvenile idiopathic arthritis and correlation with disease phenotype. *J Clin Immunol*. 2012 Feb 11
49. Torkzad MR, Ullberg U, Nystrom N, Blomqvist L, Hellstrom P, and Fagerberg UL, *Manifestations of small bowel disease in pediatric Crohn's disease on magnetic resonance enterography*. *Inflamm Bowel Dis*, 2012. **18** (3): 520-8.
50. Nevéus T, Brandström P, Linnér T, Jodal U, Hansson S. Parental experiences and preferences regarding the treatment of vesicoureteral reflux. *Scand J Urol Nephrol*. 2012;46(1):26-30.

Reviews 2012-2014

1. Bjermer L, Alving K, Diamant Z, Magnussen H, Pavord I, Piacentini G, Price D, Roche N, Sastre J, Thomas M, and Usmani O, *Current evidence and future research needs for FeNO measurement in respiratory diseases*. Respir Med, 2014. **108** (6): 830-41.
2. Austin P, Bauer S, Bower W, Chase J, Franco I, Hoebeke P, et al. The standardization of terminology of lower urinary tract function in children and adolescents: update report from the standardization committee of the International Children's Continence Society. J Urol. 2014;191(6):1863-5.
3. Jacinto T, Alving K, Correia R, Costa-Pereira A, and Fonseca J, *Setting reference values for exhaled nitric oxide: a systematic review*. Clin Respir J, 2013. **7**: 113-20.
4. Dreborg S, *[Reported research fraud just the tip of the iceberg?]*. Lakartidningen, 2013. **110** (37): 1584-5.
5. Dreborg S, *When should adrenaline be given and by whom?* Pediatr Allergy Immunol, 2013. **24** (1): 97-8.
6. Dreborg S, Roberts G, Lau S, Santos AF, Halken S, and Host A, *The history of pediatric allergy in Europe - from a working group to ESPACI and SP-EAACI*. Pediatr Allergy Immunol, 2013. **24** (1): 88-96.
7. Nevés T. Can postpyelonephritic renal scarring be prevented? Pediatr Nephrol. 2013;28(2):187-90.
8. Nevés T, Sillén U. Lower urinary tract function in childhood; Normal development and common functional disturbances. Acta Physiol. 2013;207(1):85-92.
9. Nevés T. Sleep enuresis. In: The encyclopedia of sleep. Editor: Kushida CA. Waltham, MA: Academic Press 2013:229-34.
10. Van Laecke E, Nevés T. Urinary function in cerebral paresis. In: Dan B, Mayston M, Paneth N, Rosenbloom L, editors. Cerebral palsy: Science and Clinical Practice. London, UK: Mac Keith Press; 2013. p. 627-36.
11. Ludviksdottir D, Diamant Z, Alving K, Bjermer L, and Malinovschi A, Clinical aspects of using exhaled NO in asthma diagnosis and management. Clin Respir J, 2012. **6** (4): 193-207.
12. Dreborg S, *The risk of allergic reactions to allergen extracts in personnel*. J Allergy Clin Immunol, 2012. **129** (3): 870-1; author reply 871.
13. Fiocchi A, Burks W, Bahna SL, Bielory L, Boyle RJ, Cocco R, Dreborg S, Goodman R, Kuitunen M, Haahtela T, Heine RG, Lack G, Osborn DA, Sampson H, Tannock GW, Lee BW, Allergy WAOSCoF, and Nutrition, *Clinical Use of Probiotics in Pediatric Allergy (CUPPA): A World Allergy Organization Position Paper*. World Allergy Organ J, 2012. **5** (11): 148-67.

Agencies support the work/Funding

Regionala forskningsrådet (SEK 150,000) (Lillemor Berntson).

During the year Kjell Alving (co-applicant) received a 5-year grant of SEK 35 million from the Swedish Foundation for Strategic Research together with Karolinska Institutet and Gothenburg University.

Current research projects within the group

Allergy

The allergological research is focused on the characterization (phenotyping) of children and young adults with asthma with the help of biomarkers. Senior researchers in this subgroup are Kjell Alving, Magnus Borres, Lennart Nordvall, Christophe Pedroletti and Sten Dreborg, and PhD students are Charlotte Heijkenskjöld Rentzhog, Jennifer Johnson and Nikos Tsolakis. The research is mainly based on large patient cohorts where clinical data and biobank material are collected. For example, the MIDAS cohort (532 asthma patients and controls, age 10-35 years at baseline survey), the SPAIS cohort (959 children, age 13-14 years at baseline survey), and the NOAK cohort (187 adults with asthma participating in an interventional study over one year) are utilized in our research. A three-year follow up of the MIDAS cohort and a 15-year follow up of the SPAIS cohort has been ongoing during 2014. Main research objectives are: 1. Development of feasible biomarkers in preschool children. 2. Development and clinical evaluation of local and systemic biomarkers of Th2-driven inflammation, alone and in combination. 3. Characterization of non-atopic asthma in young subjects. 4. The influence of IgE sensitisation pattern on inflammation and asthma morbidity. The collaboration with Karolinska Institutet has been further developed during the year, resulting in a large grant from the Swedish Foundation for Strategic Research. Further, collaboration with diagnostic industry in the region (Aerocrine, Thermo Fisher Scientific and Olink) has been ongoing and further developed. The common theme for these collaborations is the development of clinical biomarkers in asthma.

Pulmonology

The group's pulmonological research is focused on cystic fibrosis (CF) and the related disorder primary ciliary dysfunction (PCD) and involves Annika Hollsing, Stina Krantz and Hans Kollberg. The group participates in an EU-sponsored double-blind study investigating egg yolk-derived immunoglobulin (IgY) as a promising prophylactic treatment of pseudomonas infections in CF. Since pseudomonas infections constitutes one of the most serious complications of CF, and is notoriously difficult to get rid of once established, this non-antibiotic treatment has the potential to greatly reduce morbidity, costs and antibiotic resistance. The group is also conducting a prospective 5-year study on the evaluation of novel lung function tests and non-invasive exhalation tests, to enable the early detection of decline in lung function, signs of upcoming exacerbations, and bacterial colonisation in CF. The group is specifically looking at the clinical utility of exhaled and nasal nitric oxide in CF and PCD. The group is also part of a Nordic research consortium that perform multicentre research on CF. During the year, the consortium has focused on *Staphylococcus aureus* and *aspergillus* infections in CF, and planning has been undertaken for a study investigating the influence of different fatty acids on pulmonary function as well as for two pharmaceutical studies on gene modification and potentiation in patients with CF.

Rheumatology

The main focus of rheumatological research is on patients with juvenile idiopathic arthritis (JIA). The Nordic multicenter study on JIA is ongoing, and preparations for a 15-year follow-up study were made during 2014. Lillemor Berntson will continue as the Swedish coordinator and supervisor, and Maria Ekelund (paediatrician, Jönköping) will start PhD studies within the project. Also within the project, a study on potential serological risk markers has been finalised and published in collaboration with Johan Rönnelid, Department of Medical Sciences. Yet another study within the project, on ankle arthritis as a risk marker for severe disease, has continued during the year. This is part of a PhD project by Anna-Clara Esbjörnsson (physiotherapist, Karolinska Institutet). In a regional project on medical treatment of children with JIA for the last 10 years, the medical burden

of current medical strategies and difficulties in clinical practice has been presented. In the frame of an odontological PhD project, a publication on risk factors for temporomandibular alterations in patients with JIA has been published. The project on microbiota and anti-inflammatory effect of exclusive enteral nutrition in JIA has continued. The project has expanded during 2014 to include patients from the Sach's Children and Youth Hospital, Stockholm. Results from the first patient in a pilot study was published in 2014.

Gastroenterology

Much of the group's gastroenterological research is focused on paediatric Crohn's disease. A translational research group with preclinical and clinical researchers from Uppsala University and Karolinska Institutet work on a hypothesis based on the potential role of RNA viruses as a pathogenic factor in Crohn's disease. Two retrospective studies have been finished and a large prospective cohort of paediatric Crohn's disease patients is now ready for further examination. In a subcohort, the effect of exclusive enteral nutrition therapy (ENT) on intestinal virome and microbiome is studied. Together with colorectal surgeons, a prospective cohort of Crohn's disease patients who need surgical treatment with ileocecal resection is being developed. A collaboration with SciLifeLab is under development. In a pilot projects, ENT is tested against obesity. In collaboration with paediatric surgeons, the treatment of enteral dysbiosis is evaluated in children with short bowel syndrome.

Nephrology

Uppsala University Children's Hospital is a recognized international centre of expertise in research on paediatric lower urinary tract function. Tryggve Nevéus, who leads these activities, has recently been elected President of the International Children's Continence Society (ICCS), which is the relevant global research organisation in this field. In international guidelines, three therapies are recommended as first-line treatment of enuresis: the antidiuretic drug desmopressin, the enuresis alarm and day-time bladder training – the latter called urotherapy. The first two of these methods are evidence-based, whereas urotherapy is not. In a prospective, randomised study the group has during 2014 been able to provide evidence that urotherapy is in fact ineffective for this indication. These results, which have been provided by Tryggve Nevéus and Maria Cederblad, will have global impact. More than 25% of enuretic children do not respond to any of the standard therapies. In a double-blind, randomised, placebo-controlled, cross-over study, conducted by Tryggve Nevéus and Elisabet Lundmark, it has been evaluated whether noradrenergic medication, influencing arousal mechanisms, is useful in therapy-resistant enuretic children. This study has just been completed and it can be seen that active treatment is indeed better than placebo. The results will be published during 2015. A prospective study on the treatment of therapy-resistant enuresis with an orthodontic device that widens the nasal airways during sleep has been started, and approximately one third of the patients have been evaluated. This study is performed by Tryggve Nevéus and Ingrid Jönson Ring.

Child health and parenting

The group is interdisciplinary and focuses on societal support to children and their families. Projects range from prevention through early intervention to specialised child protection. Our special area of interest is parenting support, including both universal services and parenting programmes. We specifically deal with effectiveness studies as well as implementation research and translating research results into practice. All trials we conduct include a health economic evaluation of the intervention as well as qualitative studies with different stakeholders, including users.

Child Health and Parenting Research Group

Anna Sarkadi, M.D., PhD, Associate professor, Adjunct senior lecturer

Members of the group during 2014

Pär	Bokström	PhD student
Maria	Cederblad	RN, PhD student
Anton	Dahlberg	Psychologist, Research Assistant
Natalie	Engsheden	RN, PhD student
Helena	Fabian	Postdoc
Inna	Feldman	Research fellow
Karin	Fängström	Clinical Psychologist, PhD student
Kine	Johansen	Licensed Physiotherapist, PhD student
Dagmar	Lagerberg	Docent emerita
Steven	Lucas	M.D., PhD
Margaretha	Magnusson	RN, PhD
Laleh	Nayeb	Licensed Speech Therapist, PhD student
Gabriel	Otterman	M.D., MPH
Jenny	Pitkänen	Research Assistant
Raziye	Salari	Research fellow
Filipa	Sampaio	PhD student
Anna	Sarkadi	M.D., PhD, Associate Professor
Claes	Sundelin	Professor emeritus
Antónia	Tökés	Research Assistant
Michelle	Voon	Research Assistant
Thomas	Wallby	RN, PhD
Michael	Wells	PhD student
Monica	Westerlund	PhD, Docent emerita
Annika	Åhman	RM, PhD
Monica	Östberg	PhD, Docent emerita

Dissertations 2014

Annika Åhman

Publications 2011-2014

2014

- Rahmqvist, J. Wells, M. and Sarkadi, A. Conscious parenting: A qualitative study on Swedish parents' motives to participate in Triple P, the Positive Parenting Program. *J Child and Family Studies* 2014;23(5): 934-944
- Åhman, A. Maras, G. Axelsson, O. Rubertsson, C. Sarkadi, A. Lindgren, P. Ultrasonographic fetal soft markers in an unselected population: incidence and association to trisomies and invasive tests *Acta Obstetrica et Gynecologica Scandinavica* 2014 Apr;93(4):367-73.
- Sarkadi, A. Filipa Sampaio, Michael P Kelly, and Inna Feldman: A novel approach using outcome distribution curves could be used to estimate the population-level impact of a public health intervention *Journal of Clinical Epidemiology* 2014 Jul;67(7):785-92.
- Sarkadi, A. THE INVISIBLE FATHER. How can we help fathers feel less alienated in child health care services? Editorial. *Acta Paediatrica* 2014. 103 (3), 234-235
- Salari, R. Wells, MB and Sarkadi, A. Child behavioural problems, parenting behaviours and parental adjustment in mothers and fathers in Sweden. *Scandinavian Journal of Public Health* 2014 Nov;42(7):547-53.
- Feldman, I. Sarkadi, A. Sampaio, F and Kelly, MP. Response to Invited Commentary: Methods to address control for confounding and nonperfect randomization when using outcome distribution curves to estimate the population-level impact of a public health intervention. *Journal of Clinical Epidemiology* 2014 Nov;67(11):1286-8.
- Cederblad, M. Englund, G. Sarkadi, A. Nevés, T. Infrequent enuresis, the uninvestigated majority comparisons between children with enuresis of varying severity. *J Pediatr Urol.* 2014 Sep 3.
- Cederblad, M. Nevés, T. Åhman, A. Efraimsson, E.Ö. Sarkadi, A. "Nobody ever asked us if we needed help!" Swedish parents' experience of enuresis in their child. *J Pediatric Urology* 2014 Feb;10(1):74-9.
- Frasier LD, Kelly P, Al-Eissa M, Otterman GJ. International issues in abusive head trauma. *Pediatr Radiol.* 2014 Dec;44 Suppl 4:S647-53.
- Peltonen K, Ellonen N, Pösö T, Lucas S. Mothers' self-reported violence toward their children: a multifaceted risk analysis. *Child Abuse Negl.* 2014 Dec;38(12):1923-33.
- Molarius A, Simonsson B, Lindén-Boström M, Kalander-Blomqvist M, Feldman I, Eriksson HG. "Social inequalities in self-reported refraining from health care due to financial reasons in Sweden: health care on equal terms?" *BMC Health Serv Res.* 2014 14:605.
- Titova OE, Hogenkamp PS, Jacobsson JA, Feldman I, Schiöth HB, Benedict C. "Associations of self-reported sleep disturbance and duration with academic failure in community-dwelling Swedish adolescents: Sleep and academic performance at school". *Sleep Med.* 2014 Sep 19.
- Bergström, M., E. Fransson, A. Hjern, L. Köhler and T. Wallby (2014). "Mental health in Swedish children living in joint physical custody and their parents' life satisfaction: A cross-sectional study." *Scandinavian Journal of Psychology* 55(5): 433-439.
- Döring N, Hansson LM, Andersson ES, Bohman B, Westin M, Magnusson M, Larsson C, Sundblom E, Willmer M, Blennow M, Heitmann BL, Forsberg L, Wallin S, Tynelius P, Ghaderi A, Rasmussen F. Primary prevention of childhood obesity through counselling sessions at Swedish child health centres: design, methods and baseline sample characteristics of the PRIMROSE cluster-randomised trial. *BMC Public Health.* 2014 Apr 9;14:335.

Swedish publications

- Otterman G, Tindberg Y. Special: Barn som far illa - Skador av våld hos små barn - tecken, handläggning och diagnostik. Lakartidningen. 2014 Nov 18;111(47):2098-101. Swedish.
- Köhler M, Lucas S. Special: Barn som far illa - Barnuppföstran utan våld - en rättighet för varje barn. Lakartidningen. 2014 Nov 18;111(47):2095-7. Swedish.
- Lucas S, Jernbro C. Special: Barn som far illa - Försummelse av barn - ett försummat problem. Lakartidningen. 2014 Nov 18;111(47):2102-4. Swedish.

Lagerberg D. Barnets bästa – absolut och relativt. Funderingar kring ett aktuellt exempel (assisterad befruktning). I: Ann-Christin Cederborg & Wiweka Warnling-Nerep (red). Barnrätt. En antologi. Stockholm: Norstedts Juridik 2014. S. 238-256.

2013

- Wells, M. Varga, G. Kerstis, B. Sarkadi, A. Swedish child health nurses' views of early father involvement: A qualitative study. *Acta Paediatrica* 2013 Jul;102(7):755-61.
- Raziye Salari, Helena Fabian, Ron Prinz, Steven Lucas, Inna Feldman, Amanda Fairchild and Anna Sarkadi. The *Children and Parents in Focus* project: A population-based cluster randomised controlled trial to prevent behavioral and emotional problems in children. *BMC Public Health* 2013, 13:961
- Wells, M. Engman, J. Sarkadi, A. Who is most welcome here? A qualitative study on Swedish child health centre's environment from a gender perspective. In press, *Semiotica* 2013.
- Engsheden, N., Sarkadi, A., Fabian, H. Offering Preventive Marital Educational Program (PREP) for Couples During Pregnancy: Self-Selection and Program Effects. *Family Relations* 2013; 62: 676-685
- Khanolkar AR, Sovio U, Bartlett JW, Wallby T, Koupil I. Socioeconomic and early-life factors and risk of being overweight or obese in children of Swedish- and foreign-born parents. *Pediatr Res.* 2013 Sep;74(3):356-63. 2013.108. Epub 2013 Jun 25.
- Otterman G, Lainpelto K, Lindblad F. Factors influencing the prosecution of child physical abuse cases in a Swedish metropolitan area. *Acta Paediatr.* 2013 Aug 22. doi: 10.1111/apa.12399. [Epub ahead of print]
- Arving C¹, Brandberg Y, Feldman I, Johansson B, Glimelius B. Cost-utility analysis of individual psychosocial support interventions for breast cancer patients in a randomized controlled study. *Psychooncology.* 2014 Mar;23(3):251-8. doi: 10.1002/pon.3411. Epub 2013 Sep 23.

Swedish publications

- Lahne K, Otterman G, Janson S. [Too few unexplained deaths among children are investigated in Sweden. Expanded audit according to English model proposed]. *Läkartidningen.* 2013 Nov 13-19;110(46):2061-3. Swedish. No abstract available.
- Wallby, T. Fabian, H. Sarkadi, A. Familjecentraler har bättre förutsättningar att ge föräldrastöd. Nationell kartläggning (Family centres have better capacities to provide parenting support. A national survey). *Läkartidningen* 23/24 2013
- Sarkadi, A. Nayeib, L. Kristiansson, R. Magnusson, M. Wallby, T. Lucas, S. Vem bestämmer om forskning på BVC? Ett talande exempel om språkscreening. Debattinlägg. *Läkartidningen* 2013.

2012

- Abbasian, S. Sarkadi, A. Co-producing parenting support in sparsely populated areas: a successful Swedish example. *Barn* 2012; 30(4):129-148
- Åhman, A. Lindgren, P, Sarkadi, A. Facts first, then reaction – Expectant fathers' experiences of an ultrasound screening identifying soft markers. *Midwifery* 2012 Oct;28(5):e667-75.
- Bröms K, Norbäck D, Sundelin C, Eriksson M, Svärdsudd K. A nationwide study of asthma incidence rate and its determinants in Swedish pre-school children. *Eur J Epidemiol.* 2012 Sep;27(9):695-703.
- Engsheden, N., Sarkadi, A., Fabian, H. Offering Preventive Marital Educational Program (PREP) for Couples During Pregnancy: Self-Selection and Program Effects. *In press Family Relations*
- Holmberg, Kirsten, Bölte, Sven. Do Symptoms of ADHD at Ages 7 and 10 Predict Academic

Outcome at Age 16 in the General Population? Epub ahead of print: *Journal of Attention Disorders* (ISSN 1087-0547)2012

- Lagerberg D, Magnusson M. Infant gender and postpartum sadness in the light of region of birth and some other factors: a contribution to the knowledge of postpartum depression. *Arch Womens Ment Health*. 2012 Apr;15(2):121-30
- Magnusson, Margaretha, Lagerberg, Dagmar, Sundelin, Claes. Organizational differences in early child health care: mothers' and nurses' experiences of the services. *Scandinavian Journal of Caring Sciences*(ISSN 0283-9318) 2012;26:1(161-168)
- Ostberg M, Rydell AM. An efficacy study of a combined parent and teacher management training programme for children with ADHD. *Nord J Psychiatry*. 2012 Apr;66(2):123-30.
- Salari, R. & Sarkadi, A. Parenting Scale – which version should we use? *Journal of Psychopathology and Behavioral Assessment*. 2012;34(2):268-281
- Sampaio, Filipa, Feldman, Inna, Sarkadi, Anna. A Cost-Effectiveness Analysis of the Triple P Program in Uppsala Municipality, Sweden. 5th European Public Health Conference. *European Journal of Public Health* 2012;22:S2:101-101
- Stenhammar, C. Wells, M. Åhman, A. Edlund, B. & Sarkadi, A. “Children are exposed to temptation all the time” - parents' lifestyle-related discussions in focus groups. *Acta Paediatrica Scandinavica* 2012;101(2):208-15.
- Wallby T, Modin B, Hjern A. Child health care utilisation in families with young or single mothers in a Swedish county. *J Child Health Care*. 2012 Nov 28. [Epub ahead of print]
- Wells, M & Sarkadi, A. Do father-friendly parental leave policies promote early father involvement? A review of Swedish fathers' participation in parental leave and child health services. *Journal of Child and Family Studies* 2012;21(1):25-31
- Widarsson, M. Kerstis, B. Sundquist, K. Engström, G. Sarkadi, A. Support needs of expectant mothers and fathers: a qualitative study. *Journal of Perinatal Education*, 2012;21(1):36–44.

2011

- Gottvall M, Tydén T, Larsson M, Stenhammar C, Höglund AT. Challenges and opportunities of a new HPV immunization program perceptions among Swedish school nurses. *Vaccine*. 2011 Jun 20;29(28):4576-83
- Kristjánsdóttir J, Olsson GI, Sundelin C, Naessen T. Could SF-36 be used as a screening instrument for depression in a Swedish youth population? *Scand J Caring Sci*. 2011 Jun;25(2):262-8.
- Lagerberg D, Magnusson M, Sundelin C. Child health and maternal stress: does neighbourhood status matter? *Int J Adolesc Med Health*. 2011;23(1):19-25.
- Lagerberg D, Magnusson M, Sundelin C. Drawing the line in the Edinburgh Postnatal Depression Scale (EPDS): a vital decision. *Int J Adolesc Med Health*. 2011;23(1):27-32.
- Magnusson M, Lagerberg D, Sundelin C. How can we identify vulnerable mothers who do not reach the cut off 12 points in EPDS? *J Child Health Care*. 2011 Mar;15(1):39-49. doi: 10.1177/1367493510397622.
- Ostberg M, Hagelin E. Feeding and sleeping problems in infancy--a follow-up at early school age. *Child Care Health Dev*. 2011 Jan;37(1):11-25.
- Stenhammar, C. Bokström, P. Edlund, B. Sarkadi, A. Using different approaches to conducting postal questionnaires affected response rate and cost-efficiency. *Journal of Clinical Epidemiology* 2011; 64 (10):1137-43
- Wallby T, Hjern A. Child health care uptake among low-income and immigrant families in a Swedish county. *Acta Paediatr*. 2011 Nov;100(11):1495-503.

Agencies that support the work/Funding

2012-2018	<i>FORMAS, FAS, VINNOVA, VR common grant for child and youth mental health research.</i> Long-term effects of population-based parenting interventions. Outcomes, costs and benefits	29 400 000 SEK
2014	<i>ALF</i>	851 000 SEK
2014	<i>Skandia Health economic evaluation of prevention of mental health problems in children</i>	1 600 000 SEK
2014	<i>Allmänna Barnhuset. A validation study of the computer software In My Shoes</i>	350 000 SEK

Project 1: Child Health Centres service development

Sweden is in the international forefront both in terms of children's rights and the equity of welfare services. For almost three decades there was no apparent need to change service delivery within the child health services. However, society structures as well as macroeconomic and political circumstances imply a need to develop more effective and equitable services. **Thomas Wallby's** work concerns the equity and accessibility of the CHC preventive health services. The contents of the CHC services also need to become increasingly evidence-based. PhD students **Laleh Nayeb** and **Kine Johansen** work directly on improving the evidence-base of child health services through developing better methods for screening of children with language and motor developmental problems, respectively. PhD student **Maria Cederblad** deals with a common issue at the top end of the CHC age-group: nocturnal enuresis where care at the CHC needs to improve to alleviate the social stigma of the condition and to provide children with evidence-based advice.

Although child health services should address both mothers and fathers, the latter are often omitted in both research and child health care. **Michael Wells** is a PhD student with focus on father-inclusive policies and practices in Sweden. In his upcoming dissertation he makes the point that father-friendly policies do not necessarily need to father-friendly practices in the frontline services for children's healthcare.

An important question when reforming services is which interventions have effect on the long run. The BiF intervention was conducted in 2000-2004 by the research group and was initiated by Professor emeritus **Claes Sundelin**. It consisted of screening for postpartum depression, a sensitivity enhancing curriculum for everyday parent-child interaction (ICDP), language stimulation including three book gifts and materials promoting reading to the child, a booklet about motor development, support of social networks, and client-centred counselling. **Dagmar Lagerberg** and **Margareta Magnusson** are still busy publishing results from the trial – results that affect service provision.

The senior members of the group, **Monica Östberg** and **Monica Westerlund** are valuable resources and regularly visit the research seminars and participate in discussions on study design and PhD projects. Monica Westerlund is also co-supervisor for Laleh Nayeb.

Project 2: Effects, costs, and cost-effectiveness of parenting support interventions

Research has shown that there is a strong association between parental behaviour and developmental outcomes in children. Previous studies have shown that when parents are taught strategies that are more consistent, warm, authoritative, moderate and firm in the context of parenting programs, children's rates of problematic behaviours decrease. Several research project in our group therefore concern parenting programs. **Raziye Salari** is looking at factors that influence parents' motives to participate in parenting programs and how that might be influenced. We received major funding for

a project on long-term effects of parenting programs as preventive interventions, where **Helena Fabian** is project leader. The study is planned as a quasi-experimental design with three arms: two intervention arms and a comparison condition. The aim of the project is to determine what mix of parenting support interventions will lead to best outcomes on children's mental health on the population level. The intervention is Triple P (Positive Parenting Program) and the two intervention types are universal and universal plus selected intervention, where the latter is more intense and involves identification of vulnerable groups/individuals. **Antónia Tökés** and **Jenny Pitkänen** are research assistant in the project, responsible for the sorting and scanning of more than 6000 questionnaires yearly.

From the parenting literature we also know that harsh and over-reactive discipline correlates with difficulties in marital adjustment. PhD student **Natalie Engsheden** therefore focuses on evaluating preventive couple relationship education aiming to improve couple communication and conflict solving strategies.

In parenting program research the extent of health economic evaluations is limited, nationally as well as internationally. An important focus of our group is therefore to conduct such analyses. **Inna Feldman** leads this research and PhD student **Filipa Sampaio** and research assistant **Michelle Voon** are involved in this quite ground-breaking effort to model long-term effects of early interventions and thus provide decision-makers tools to base investment decisions on.

Another aspect of decision-making is that done before fetal diagnostics by expectant parents. Our most recent PhD **Annika Åhman** has adapted and is now concluding the RCT of a web-based decisional aid to improve the chances of fetal diagnostics actually being based on an informed decision.

Project 3: Child maltreatment and its consequences

The law forbidding corporal punishment passed 1979 reflects the Swedish values and ideologies that recognize children's rights and the importance of meeting their needs. However, the rates of severe forms of physical abuse have been stable since the early 1990s, and there has been an increase in mild forms of physical punishment, such as grabbing or shaking the child, especially in stressful situations, by "average" Swedish parents. **Steven Lucas**, chief medical officer of Child Health Services and **Gabriel Otterman** from the Child Protection Team both do important research on the correlates and consequences of violence exposure in the home, with special focus on bullying and the circumstances of child abuse in Swedish society, respectively.

Preschool children are in an especially vulnerable situation when it comes to child maltreatment investigations, as their capacity to communicate their experiences in unaided face-to-face interviews is limited. Two PhD students in the group, **Karin Fängström** and **Pär Bokström** are therefore working on validating a computer-assisted interview called In My Shoes, for use with preschool children. Of today, 46 of the 50 planned interviews have been conducted and research assistant **Anton Dahlberg**, also a psychologist, assist the group with important work rating the interviews to ensure that there is an objective observer, not involved in the project that rates accuracy of children's accounts in relation to a video-recorded child health visit.

Student projects at the research group

Rebecka Lindsten. Svenska förskolebarns beteenden skattade av föräldrar och förskolepedagoger genom Strengths and Difficulties Questionnaire

Supervisors: Helena Fabian and Raziye Salari

Åsa Nordenhäll. FÖRÄLDER I FACEBOOKLAND – En kvalitativ intervjustudie med föräldrar födda på 80-talet om information och stöd i föräldraskapet

Supervisor: Anna Sarkadi

Undergraduate Teaching

Education at the Department of Women's and Children's Health

Tryggve Neveus

During 2014, as in previous years, a large number of students have participated in the broad range of programmes available at the Department. We continuously educate medical and nursing students in paediatrics and gynecology/obstetrics during their pregraduate study programs. The number of medical students is steadily increasing – presently around 180 students per year. We have a crucial role in the education of biomedical laboratory scientists. The Department also gives the postgraduate Registered Midwife course, the postgraduate course in Specialist Paediatric Nursing as well as the International Health Masters program.

The postgraduate Registered Midwife Programme

The registered Midwife Programme is a 90 ECTS degree program. The cornerstones of the education are reproductive health and midwifery, and the students are prepared for independent work within the fields of maternal health, youth health (contraceptive counselling), and infertility. The programme provides theoretical as well as clinical education and has a profile in global reproductive health and violence against women because of excellent resources at the department. Within the program it is possible to obtain a Master's degree, which in turn is a prerequisite for future PhD studies.

The postgraduate Specialist Paediatric Nursing Programme

The postgraduate education in paediatric nursing was extensively revised and restarted in 2010. The course is partly web-based and partly based on weekly seminars as well as practical education at paediatric in- and outpatient wards. As these programs are available on an advanced level, students are given the opportunity to obtain a Master's degree.

Obstetrics/Gynaecology and Paediatrics within the Registered Nurse Programme

The course in "Nursing and medical care in gynecological, obstetric and pediatric care", 12 ECTS, is a part of the fourth semester of the three-year Nursing programme, which involves several departments at Uppsala University. Both theoretical and practical education, as well as web-based seminars and seminars using problem-based learning methods are included, and the course is given every semester. The nursing programme is presently undergoing extensive restructuring, which also affects the courses within the program given by our Department. One consequence will be that an elective course on paediatric and gynaecologic nursing in a global perspective will be started.

The Biomedical Laboratory Science Programme

Students attend their first course, Basic Biomedical Laboratory Science, during their first semester, and their project work during their last semester. The students from Mittuniversitetet are also examined at our department. Collaboration with Ghent and Dublin within the Erasmus programme include several students each year.

Obstetrics/Gynaecology and Paediatrics within the Medical Study programme

Medical students spend 15 weeks during their 9th and 10th semester at the department, studying paediatrics and gynaecology/obstetrics. The studies comprise lectures, seminars (including problem-based learning) and auscultation at the hospital's various in- and outpatient wards. The department also cooperates with several hospitals outside Uppsala for parts of the students' clinical education. The students' rating of the courses have been steadily improving during recent years: the paediatric course is rated highest of all clinical courses within the medical study program. A restructuring of the medical study program is under way and will be implicated during 2015.

The International Health Master Programme

The International Health Master Programme is a 120 ECTS degree program that yields a M.Sc. in International Health. The programme starts with a course on basic Global Health which is followed by courses in research methods, global nutrition, sexual and reproductive health and rights, public health in humanitarian action and child health. The studies end with a 30 ECTS thesis on a global health issue.

Research Education

Lena Hellström Westas

The department has extensive PhD education within Paediatrics (including paediatric nursing), Paediatric Surgery, Obstetrics/Gynecology (including midwifery) and International Maternal and Child Health (IMCH). The number of doctoral students has increased during the last years and is now stable above 100. Fourteen new doctoral students were admitted in 2014 (Paediatrics 5; Obstetrics/Gynecology 4; IMCH 5). During the year, there were 8 dissertations (Paediatrics 1; Obstetrics/Gynecology 3; IMCH 4), 1 licentiate dissertation and 15 half-time seminars, as compared to 2014 when there was 14 dissertations, and 16 half-time seminars. At the end of 2014 there were 114 registered doctoral students at the Department of Women's and Children's Health (Paediatrics 45; Obstetrics/Gynecology 38; IMCH 31).

The doctoral students have varying backgrounds, a majority are recruited among paediatricians and obstetricians/gynecologists who perform their specialist training in the university hospital, or at local hospitals within the Uppsala region. The number of specialist nurses and midwives who register for doctoral studies has increased during the last years. International doctoral students constitute a substantial proportion of the doctoral students. The projects are often carried out in collaboration with institutions in the the different countries and the students regularly come to Uppsala for theoretical courses and contacts with their supervisors.