Now in its third year, this international interdisciplinary event is an open forum for discussion of all scientific and clinical aspects of pregnancy related issues and disorders. Using a multi-professional and inter-specialty approach this event promises plenty of opportunity for discussion and debate set in an informal atmosphere.

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DRUG INFORMATION TO PREGNANT AND BREASTFEEDING WOMEN IN NORWAY

PHYSICIANS’ PERCEPTION OF TERATOGENIC RISK AND CONFIDENCE IN PRESCRIBING DRUGS IN PREGNANCY – INFLUENCE OF MEDICINES INFORMATION CENTRES

DO PATIENTS UNDERSTAND AND ADHERE TO LOW MOLECULAR WEIGHT HEPARIN DURING AND AFTER PREGNANCY?
Invited Speakers Abstracts

Separating Fact from Fiction: Interactions between oral health and adverse pregnancy outcome
Dr Amir Azarpazhooh, Assistant Professor, Disciplines of Dental Public Health and Endodontics, Faculty of Dentistry, University of Toronto, Toronto, ON, Canada
Since the US Surgeon General’s report on oral health in the year 2000, there has been an increased interest in determining whether a link exists between oral infections and overall health, although the mechanisms are generally unknown. This presentation will evaluate the ‘association’ and ‘reversibility’ between obstetric outcomes and maternal oral diseases, on the basis of an evaluation of the highest level of evidence available to date. An understanding of the strength of such correlations is important to allow dental and health care providers to counsel with pregnant women about the maintenance of good oral health habits during pregnancy.

Eradication of mother to child transmission of hepatitis B in subSaharan Africa
Dr Monique Andersson, Stellenbosch University, Tygerberg Campus, Western Cape Province, South Africa
Worldwide about 240 million people have chronic hepatitis B infection. In sub-Saharan Africa >8% of the population are HBV chronic carriers. HBV transmission to the infant is the main source of ongoing infection in high-prevalence communities. Active immunisation at birth is the cornerstone of preventing HBV MTCT. In much of Africa the first dose is given at between 4 and 6 weeks of age. HBV screening and antiviral therapy are not accessible to the majority of African women. Strategic political and financial investment could lead to the elimination of HBV MTCT in sub-Saharan Africa in the next few decades.

The feasibility of RCTs for interventions offered in pregnancy? The experience of a study to evaluate the Group Family Nurse Partnership (gFNP) programme
Professor Jacqueline Barnes, Director, Institute for the Study of Children, Families and Social Issues, Department of Psychological Science, University of London, UK
This paper will discuss the actuality of obtaining RCT evidence of early interventions starting in pregnancy. It will present issues that have arisen recruiting to the First Steps study, an RCT of Group Family Nurse Partnership, offered to potentially vulnerable mothers in early pregnancy and lasting until infants are 12 months of age. Views of midwives about the trial and their role in identifying participants will be presented and ways that the study recruitment pathway was amended to identify sufficient participants for the trial. The relevance of the amendments and ensuing evidence for any roll-out will be discussed.

A decade of hemodynamic evaluation of Appalachian pregnancies
Dr David Chaffin, Joan C Edwards School of Medicine, Marshall University, Huntington, WV, United States
Evidence from a variety of sources suggests that the hemodynamic state (cardiac output and peripheral vascular resistance) early in pregnancy is associated with the prevalence of adverse outcomes. One possible reason that anti-hypertensives have so far failed to improve perinatal outcomes would be confounding heterogeneity in the underlying hemodynamics. In a region rich with pathology, impedance cardiography was used to evaluate the hemodynamics in more than 2000 pregnant women at risk for preeclampsia due to chronic hypertension, diabetes or a past history of preeclampsia. Blood pressure alone is shown to be inadequate to safely and effectively guide anti-hypertensive therapy.

Implicating the 2015 NICE update for Diabetes in Pregnancy Update
Dr Anne Dornhorst, Imperial College Healthcare NHS Trust, London, United Kingdom
The 2015 NICE Diabetes in Pregnancy update guidelines on the diagnosis of gestational diabetes are out of step with the rest of the international diabetic community. This talk will address the evidence behind these new guidelines and how they will change clinical practice.

Treating Hyperemesis Gravidarum in a Day Case Setting
Mrs Caitlin Dean, Hyperemesis Nurse Specialist, Pregnancy Sickness Support, Dunmore Farm, Treesmill, Par Cornwall, UK
Women with hyperemesis gravidarum can experience frequent and lengthy admissions for IV rehydration. This in turn can lead to significant social and emotional impacts for the pregnant woman and her family and elective termination for otherwise wanted pregnancies. By treating HG in a day case setting with a rapid rehydration regime the biopsychosocial impacts of the condition can be limited leading to an increase in positive pregnancy outcomes, improved mental health for the mother and cost savings for the hospital.
iHOPE: International Collaboration to Harmonise Outcomes for Pre-Eclampsia
Dr James M N Duffy, NIHR Doctoral Fellow, University of Oxford, Balliol College, Oxford, United Kingdom
Currently studies evaluating interventions for pre-eclampsia have reported many different outcomes. Such variation contributes to an inability to compare, contrast, and combine individual studies, limiting the usefulness of research to inform clinical practice. The development and use of a core outcome set would help to address these issues.
A core outcome set would ensure a minimum set of outcomes, important to all stakeholders, are routinely collected and reported in a standardised fashion. It would not need to be extensive, but rather comprise of particularly important consensus outcomes. The study intends to reach a consensus by utilising Delphi methodology. An online Delphi survey enables all stakeholders to participate in a process that assesses the extent of agreement (consensus measurement) and then resolves disagreement (consensus development).

Termination of pregnancy in women with medical co-morbidities
Dr Babatunde A. Gbolade, The Leeds Teaching Hospitals NHS Trust, St. James's University Hospital, Leeds, UK
While most women requesting termination of pregnancy are healthy, a significant proportion present with a variety of known medical co-morbidities. Accessing services can be challenging for such women as most free-standing independent services do not have the facilities and personnel. These women are referred to NHS Hospitals. However, between 2002 and 2012, there was a steady decrease in the proportion of NHS-funded terminations of pregnancy performed in NHS Hospitals from 53% to 36%. This has resulted in less experience of late surgical terminations. There are no national data about women with known co-morbidities requesting termination of pregnancy and outcomes. We will present our referral pathways, management protocols, outcomes data and recommendations.

Intrapartum interventions and risk of perineal trauma
Professor Khaled M K Ismail, Professor of Obstetrics and Gynaecology, School of Clinical & Experimental Medicine, College of Medical & Dental Sciences, University of Birmingham/Birmingham Women's NHS Foundation Trust, UK
Trauma to the genital tract is commonly seen with vaginal births. This can be associated with significant morbidity particularly with obstetric anal sphincter injuries (OASIS). Several demographic, antenatal and intrapartum factors determine an individual’s risk for sustaining perineal trauma and long-term pelvic floor disorders. Labour and childbirth is an integrated, multi-faceted process the clinical factors of which will change as the pregnancy progresses. This talk aims to review the current evidence for the contribution of such variables which include, parity, mode of delivery, birthing position, perineal support programmes and episiotomy. The talk will also introduce the feasibility of developing a prediction model that can facilitate the process of counselling and decision-making.

Placental dysfunction and the etiology of fetal growth restriction and prenatal depression
Dr Rosalind M John, Reader in EpiGenetics, Cardiff School of Biosciences, Cardiff University, Cardiff, Wales, United Kingdom
The placenta is both a sophisticated transport device and also a major endocrine organ manufacturing hormones that act on both the maternal and fetal systems to ensure a successful pregnancy. I will present evidence that aberrant placental signalling can result in both low birth weight and abnormal maternal adaptations to pregnancy with relevance to the origins of maternal mood disorders in human pregnancy.

Normal and pathological development of the human skeleton before 21 weeks GA
Professor Inger Kjær, University of Copenhagen, Panum Institute, Copenhagen N, Denmark
The onset, location, sequence and morphology of different skeletal components in the human fetus until gestational age 21 weeks will be highlighted. Based on the mapping of the normal skeleton, skeletal deviations in the fetus will be demonstrated. Examples of deviations will be shown in the extremities, the vertebral column and the cranium in fetuses with holoprosencephaly, Down's syndrome, Turner's syndrome, anencephaly, fetal amniotic band sequence and chondrodystrophy. Special focus will be given to those deviations which can be seen through later prenatal ultrasound scanning; specifically the hand/foot development, the cervical column, the nasal bone and the cranial base.
Invasion mechanism of the protozoa parasite Trypanosoma cruzi and possible local defenses of the human placenta
Dr Ulrike Kemmerling, MSc PhD, Associate Professor, Program of Anatomy and Developmental Biology, Institute for Biomedical Sciences, Faculty of Medicine, University of Chile, Santiago, Chile
Diverse pathogens, including Trypanosoma cruzi the causative agent of Chagas’ disease, are able to cross the placental barrier and infect both the placenta and fetus. The parasite induces detachment and disorganization of the trophoblast as well as selective destruction of basal laminae and collagen I in the villous stroma. Endogenous proteases such as MMP-2 and MMP-9 (matrix metalloproteases) increase their expression and activity during this process. On the other hand, the global congenital infection rate is low, suggesting the presence of local placental antiparasitic mechanisms. The epithelial turnover of the trophoblast is proposed as one of these mechanisms, since the parasite induces proliferation, differentiation and apoptotic cell death in this tissue.

Coping with pregnancy termination for fetal abnormality
Dr Caroline Lafarge, School of Psychology, Social Work & Human Sciences, Faculty of Health and Human Sciences, University of West London, Brentford, UK
Pregnancy termination for fetal abnormality (TFA) can have significant psychological impact on those involved. Most studies examine the negative psychological consequences of TFA. However, little is known about the process of coping, despite evidence of a relationship between coping processes and psychological adjustment. This talk will present an overview of the research conducted on women’s coping with TFA and the relationship between coping strategies and psychological adjustment. It is hoped that by understanding the way women cope with TFA, health professionals will be able to support women through this event and provide optimal care.

Morning sickness and sialorrhea: endocrine side effects of placental endokinin-mediated local vasodilation?
Professor Philip Lowry, University of Reading, Whiteknights, Reading, United Kingdom
The human tachykinin, endokinin, occurs in significant concentrations in placental extracts. As endokinin has a potency similar to substance P at the NK1R, it is likely that the primary function of endokinin is as the principal placental NK1R agonist mediating local desirable vasodilation, thus enhancing substance transfer. Although the emetic and salivary actions of substance P are well known, its complete absence from the placenta explains why its role in pregnancy has not been considered. I propose that placental endokinin, by spilling into the mother’s general circulation, is the likely cause of the NK1R-mediated emesis and sialorrhea in pregnancy.

Israeli Parents’ Experience of Feticide
Professor Ronit D. Leichtentritt, Bob Shapell School of Social Work, Tel Aviv University, Tel Aviv, Israel
The presentation will outline the experience of Israeli mothers and fathers who underwent feticide. Feticide is relatively a common procedure in Israel, yet an unspoken one. No social discourse concerning feticide exists in Israel, no Hebrew words address this procedure, nor are any rituals associated with the death of an unborn baby (no funeral, mourning rituals or grave). Feticide is thus an unrecognized, unacknowledged experience. The objectives of the presentation are, therefore: (a) to describe the experience of feticide from the parents’ point of view. (b) To reveal the various forms in which Israeli society constructs the phenomenon of feticide as evident in the parents’ narratives (e.g., rituals, terminology, rules of exclusion and inclusion), and (c) To describe the ways in which parents perceive and evaluate the short and the long-term consequences of the experience.

The health improvement project for teens intervention for adolescent girls: outcomes from a randomized controlled trial
Dr Dianne Morrison-Beedy, PhD, RN, WHNP-BC, FNAP, FAANP, FAAN, Senior Associate Vice President, USF Health Dean, College of Nursing, University of South Florida, USA
This study evaluated a sexual risk-reduction (SRR) intervention targeting low-income, sexually active teenage girls. Girls (n=738), recruited in a midsize U.S. city, were randomized to a theory-based SRR intervention or control group. Data were collected at baseline, and 3, 6, and 12 months post-intervention. Both interventions included four small-group sessions and two booster sessions. Girls receiving the SRR intervention showed decreases in total episodes of vaginal sex, unprotected vaginal sex acts, and total number of sex partners and were more likely to be sexually abstinent. Medical record audits documented a 50% reduction in positive pregnancy tests.

Cervical Length Screening: Technique and Pitfalls
Dr Diana Rodriguez, Boston Maternal Fetal Medicine, Harvard Medical School, MA, USA
During this talk, you will learn about technique for cervical length screening during pregnancy using transvaginal ultrasound including method for improving your imaging.
Risk information and prenatal examinations

In Sweden all pregnant women are offered a second trimester ultrasound in mid-pregnancy. The vast majority accepts this offer. Screening for the detection of a fetus with Down Syndrome or other chromosomal abnormalities has until 2006 mainly been based on advanced maternal age, previous fetal malformations and hereditarness. So far, it has been necessary to perform an invasive test to be able to analyze the chromosomes of the fetus. To predict who should be offered the invasive test, the CUB-test (Combined Ultrasound and Biochemical screening) has been offered in an unequal manner in different counties in Sweden. A more sensitive test is the NIPT - Non Invasive Prenatal Testing which means analysis of cell-free fetal DNA is now valid for detecting chromosomal abnormalities. In a near future it may be possible that a simple blood sample from the woman will give us the fetuses total set of genes without any threats for the fetus. The new method raises some essential questions. There may be a risk for unreflected decisions due to the simplicity of the test. Further, there are unknown what information strategies are reasonable when introducing a method that is able to describe the fetal genes via a simple blood sample. There are of great importance to ensure that the parents to be are able to make informed decisions about prenatal examinations when introducing new methods.

What can midwives do to reduce the rising caesarean rates in the antenatal period

Dr Hala Phipps, Senior Clinical Lecturer, Faculty of Nursing and Midwifery, The University of Sydney, Sydney

One of the greatest challenges in modern obstetric practice is to find effective methods of reducing the rates of operative delivery, especially caesarean section. There are several factors that contribute to the rising caesarean section and this talk will highlight the important role midwives play in reducing both caesarean section and instrumental delivery.

Help! My Dialysis Patient is Pregnant

Dr Madeleine V. Pahl, M.D., Director of Research Operations Office for Translational Science, Institute of Clinical and Translational Science, University of California, Irvine, US

This lecture will review the management of the pregnant dialysis patient. We will discuss the dialysis prescription, the treatment of hypertension and volume overload and associated co-morbidities of chronic kidney disease patients, such as anemia and renal osteodystrophy.

Management of Antiepileptic Drugs Before, During and After Pregnancy

Dr Anne Sabers, MD, DMSc, The Epilepsy Clinic, University State Hospital, Denmark

Managing of antiepileptic medical treatment of fertile women with epilepsy present several unique challenges. The efficacy of oral contraceptives can be affected by antiepileptic drugs and vice versa. In a similar way, pregnancy may reduce the efficacy of antiepileptic drugs and lead to aggravation of epileptic seizures. Offspring’s of women receiving AEDs are at increased risk for congenital malformations and the risk is associated with specific drug regimens. Physicians have to face and handle all these specific issues to ensure sufficient therapeutic decisions throughout the ages of reproductive life.

Pregnancy outcomes in hemodialysis patients

Mala Sachdeva, Jyotsana Thakkar, and Ilene Miller

Division of Kidney Diseases and Hypertension, North Shore-LIJ Health System, 100 Community Drive, Great Neck NY 11021

Background: Pregnancy among women on chronic dialysis has been reported in 1-7% of women. It has been more than a decade that the U.S. experience of pregnancy in women on hemodialysis has been reported. The purpose of this survey was to evaluate practice patterns and to trend maternal and fetal outcomes in the pregnant female on hemodialysis over the past five years.

Methods: An anonymous internet based survey consisting of 23 questions was electronically mailed to U.S. nephrologists.

Results: To date, 122 nephrologists have responded to the survey. Over the past five years, more than 122 pregnancies are being reported. During this time period, 46% of the respondents have cared for pregnant females on hemodialysis. In 32% of the reported pregnancies, dialysis was initiated during the pregnancy while 61% of the conceptions occurred within the first five years of being on maintenance dialysis. Three pregnancies were reported as occurring between 5-10 years on hemodialysis and three pregnancies after being on dialysis for a duration of more than 10 years. Of the reported pregnancies 30% did not result in live births. 52% of the pregnancies were complicated by preeclampsia.
There were no maternal deaths. 47% of nephrologists/or a member of their staff counsel their female dialysis patients about contraception. With respect to the dialysis prescription, most nephrologists prescribe 4 to 4.5 hours of hemodialysis. 64% of respondents provide dialysis for six days per week. Only 25% aimed for a target predialysis BUN of less than 20mg/dL while 65% of nephrologists targeted a BUN less than 50mg/dL. 76% of respondents do not have access to fetal monitoring during dialysis for their pregnant patient. There are approximately 27% of nephrologists who are somewhat to very uncomfortable caring for a pregnant woman on hemodialysis.

**Conclusion:** Providing intensive hemodialysis is a common treatment approach for the pregnant women on hemodialysis. There remain a significant number of poor maternal or fetal outcomes. Formal guidelines outlining the care of the pregnant woman on dialysis need to be established both nationally and internationally. Hopefully such guidelines will improve outcomes.

Corresponding Author: Mala Sachdeva, MD msachdeva@nshs.edu

**Wellbeing of Children Born After Assisted Conception All You Need to KNOW - lessons from research**
Professor Alastair G Sutcliffe, Institute of Child Health, University College London, United Kingdom

There are more than 5 million children born after assisted conception. In the UK rates of birth are 2% of all children, in Denmark 5%.

All known aspects of their health will be presented, from prematurity, neonatal health, birth defects, growth child development, cancer risk future health risks.

The Speaker will be concluding lots of positive things about these children and their prospects based on in depth knowledge.

**LLETZ treatment of CIN 2-3 in the first Trimester of pregnancy - Is it the time to change the indications?**
Dr. Efraim Siegler, President, Israeli Society of Colposcopy and Cervical and Vulvar Pathology, Carme Medical Center, Israel

Cervical Intraepithelial Neoplasia 2-3 is considered as a premalignant lesion but during pregnancy the consensus guidelines are to treat by it only if invasive cancer is suspected.

The aim of our study is to describe our experience with 81 women diagnosed with CIN 2-3 during pregnancy and treated by LLETZ during the first trimester or observed only.

Cervical cancer was diagnosed in 6.7% of study populations. In 41 women LLETZ was performed during the first 16 weeks cervical cancer was diagnosed in 7.3%, CIN 2-3 in 85.4% and no complications like severe bleeding, abortions or premature labor occurred.

LLETZ procedure performed during the first trimester appears to be a safe procedure.

**Diabetes in Pregnancy**
Maryam Sattari, University of Florida College of Medicine, USA

The prevalence of diabetes in pregnancy is on the rise as an increasing proportion of patients with type 1 diabetes are living to childbearing age. Furthermore, the on-going epidemic of obesity has led to an increased prevalence of gestational and type 2 diabetes in women of childbearing age. This talk will highlight important issues in high-quality diabetes care in females of childbearing age with special emphasis on different stages (preconception, pregnancy, and postpartum).

**Ro/SSA positive women’s experiences on pregnancy**
Dr Joanna Tingström, Karolinska Institutet, Stockholm, Sweden

The results from this study highlights the vulnerable situation that women and their families experience when there is a risk for the child to develop CHB. It is important to develop structured programmes for the surveillance of pregnancy in women who are SSA/Ro52 positive and to refer these women to specialized centers where the experience to manage the situation and with the possibility of maintaining updated information, surveillance and treatment is available. The programme should also include guidelines for the involved personnel in the chain of care and make relevant information accessible for the women/families.

**Current role of Imaging in the diagnosis and management plan of placental adhesive disorder**
Dr Elspeth Whitby, University of Sheffield, Sheffield, UK

Placental Adhesive disorder is increasing exponentially and can result in serious obstetric haemorrhage at the time of delivery if not diagnosed prior to delivery. US imaging can provide information in some of the cases but it is becoming apparent that the extent of the condition is better diagnosed with MRI when reported by experience radiologists. Unfortunately there is no training in the image features of this condition. This talk will illustrate the role of US and MRI and explain the diagnostic features on both modalities.
The prevention, diagnosis and treatment of sepsis in pregnancy

Professor James Walker, Department of Obstetrics and Gynaecology, Leeds Institute of Biomedical & Clinical Sciences, St James University Hospital, Leeds, UK

Sepsis a major cause of maternal death. Semmelweis showed that hand hygiene can reduce the risk. Pasteur and Lister advanced the understanding of infection and the concept of aseptic techniques. However, the mortality during childbirth remained high. It was not until the advent of antimicrobials that significant advances were made. Now it is the failure of diagnosis and the slowness of initiation of treatment, which are the main problems. There is a golden hour when successful treatment can greatly increase rate of the survival. The use of MOEWS charts has greatly increased the accuracy of diagnosis and initiating treatment.

Challenges in IBD pregnancy

Dr C. Janneke van der Woude, MD, PhD, gastroenterologist, Gastroenterology and Hepatology, Erasmus MC, Rotterdam, The Netherlands

Trying to conceive and being pregnant is an emotional period for those involved. There are a lot of uncertainties that arise, especially among those patients receiving maintenance treatment for inflammatory bowel disease (IBD), or with a newly diagnosed IBD or flare that needs intervention during pregnancy. As many IBD patients are diagnosed between 20-40 years of age, their reproductive plan should be part of the treatment strategy. However, management of a pregnant IBD patient presents even a bigger challenge for health care providers. The current US Food and Drug Administration (FDA) classifications do not fully address the fact that the benefits of treatment of some chronic conditions might outweigh the risk of fetal drug exposure. In this chapter the effect of IBD drugs on fertility and pregnancy outcomes will be discussed. However, as large studies are lacking in most situations, risks, even if small, must be discussed with the patients, preferably during preconception clinics as advocated by the European Crohn’s and Colitis (ECCO) consensus on reproduction in patients with inflammatory bowel disease in order to focus on delivering a new healthy life.

Preconception counselling for Women with Epilepsy: factors influencing and barriers to uptake

Dr Janine Beverley Winterbottom, University of Liverpool, The Walton Centre NHS Foundation Trust, United Kingdom

This talk will present the results of a qualitative study investigating the processes of women with epilepsy (WWE) preparing for pregnancy. The results highlight the value of examining the subjective experiences of reproductive aged WWE, and contribute important insights into the part played by women within the decision-making process, and in the broader context of their personal experience, relationships, family and social life. The most significant finding from analysis was the inconsistent use of the term ‘planning’ both by women and their clinicians. Barriers to planning included misunderstandings about what interventions were required; and the influence of risk information.

Substance misuse disorder in pregnancy: complications, treatment and outcomes

Dr Kim Wolff, King’s College London, Institute of Pharmaceutical Science, London, United Kingdom

It has been estimated that around one in every thousand women in Great Britain is dependent on opioids. The majority of these are childbearing age. Neonates delivered by substance misusing women tend to be premature and underweight. There is an evidence-base which suggests that if maintained on the opioid substitute methadone during pregnancy, opioid dependent women tend to have longer gestation, neonates with near normal birth weight (>2,500g) and lower neonatal mortality compared with pregnancy outcomes in non-maintained heroin-dependent women but substitution therapy is not available for women who use other substances. This presentation will discuss the complications that arise from substance misuse during pregnancy and how these impact of outcomes with and without treatment interventions.
Day 1:

Oral Presentation Abstracts

RISK FACTORS OF ANAEMIA AMONG PREGNANT WOMEN IN A MIDDLE EASTERN HOSPITAL - A PILOT APPROACH

Al Khasawneh, E., Seshan, V., Fransis, F., Siddiqui, S., Raman, S., Al-Farsi, Y.M., Elizabeth, E.

Dr. Esra Al Khasawneh
Dean, Associate Professor
College of Nursing
Sultan Qaboos University
P.O.Box: 66, Al Khoud
Postal Code: 123
Sultanate of Oman
Email: esra@squ.edu.om

Background: Nearly six hundred thousand women die each year during pregnancy and about 8% to 16% of the maternal deaths are directly related to gestational anaemia. The importance of multifactorial analysis of anaemia and its risk factors is mandatory to curb the mortality and morbidity rates due to the disease condition. This study was conducted to investigate the risk factors of anaemia during pregnancy among Omani women.

Methods: A hospital based cross sectional survey was performed in antenatal clinics of hospitals in Muscat region, Oman between June to August 2014. Our sample consisted of 91 pregnant women recruited using convenience sampling, having gestational weeks between 23 to 36 weeks who met the inclusion criteria. Data was collected using Self-Administered Structured Questionnaire. Descriptive Statistics described the variables used. Linearity used for finding association between dependent and independent variables.

Results: The results of the study showed prevalence of anaemia identified in this study is 42.9%. Linear analysis identified the major risk factor for anaemia is the gestational weeks (p<0.01), BMI (p<0.03) and parity (p<0.03). While other dependent variables did not show significant relationships with gestational anaemia, the descriptive characteristics of the sample, as well as the mean Hb levels for each category suggest socioeconomic status, education, gravida and parity are in trends with anaemia.

Conclusions: Women who are in their reproductive age need to be educated about the risk factors and the impact of anaemia during pregnancy, enabling them to develop health seeking behaviour to prevent gestational anaemia.

Day 2:

Oral Presentation Abstracts

PREGNANCY EXPOSURE REGISTRIES: A DISCUSSION OF METHODOLOGIES WITH AN EMPHASIS ON HEALTH CARE PROVIDER INVOLVEMENT

Susan Sinclair PHD, MPH, RN
University of North Carolina Wilmington, Clinical Research Program, 601 South College Road, Wilmington, NC 28403-5995, USA

Medication exposures during pregnancy can result in adverse pregnancy and neonatal outcomes. Counseling women about the safety of medication use during pregnancy is complicated by a lack of data necessary for an informed discussion. Pregnancy exposure registries are implemented to obtain more data about the safety of specific medication exposures during pregnancy. These prospective, observational studies focus primarily on the detection of safety signals suggestive of a teratogenic mechanism; however other pregnancy and neonatal endpoints such as fetal loss, prematurity, and infant neurodevelopmental outcomes are also measured. Pregnant women are enrolled early in pregnancy and followed until the end of pregnancy; infants are typically followed for up to 1 year of age.

Pregnancy exposure registries require unique methodologies for success. Enrollment can be challenging particularly if the pregnancy exposure is rare; therefore, an all-comers enrollment approach is used. A
coordinating center collects data from multiple reporters per participant (e.g., prescriber, obstetric provider, pediatric provider). An additional in-country coordinator serves to maintain data privacy in global registries. An expert committee reviews individual and aggregate data on an on-going basis. Targeted follow-up is conducted for cases with abnormalities to evaluate confounders and the temporal association between the development of the abnormality and the timing of the medication exposure. It is often not feasible to enroll a disease-e-matched unexposed comparison group, so population parameters or estimates from published studies may be used as an external comparison group. Various techniques are built into the study design to minimize bias and identify safety signals.

Most pregnancy exposure registries rely on voluntary reporting by health care providers who have eligible women in their practice; participation is optimized through streamlined data collection processes requiring minimal time and resource involvement. Pregnancy exposure registries are often slow to produce meaningful information; therefore, health care provider awareness and participation are critical for improving the quality and timeliness of information that can be used for evidence-based practice.

Day 3:

Poster Presentation Abstracts

IMAGERY OF THE ANEURYSM OF GALEN VEIN  
Alexandru Cărăuleanu¹, Răzvan Socolov¹, Maria Stamatin² 
Demetra Socolov¹  
1. “Gr. T. Popa” University of Medicine and Pharmacy, Iasi, Department of Obstetrics – Gynecology 
2. “Gr. T. Popa” University of Medicine and Pharmacy, Iasi, Department of Neonatology

Abstract The aneurysm of Galen vein is a rare anomaly of intracranial circulation. Galen vein malformations prognosis in children is unfavorable. Antenatal, Galen vein aneurysm is suspected when an ultrasound examination identifies in the brain, a liquidan structure localized behind the third ventricle. Color Doppler ultrasound helps in differentiating aneurysm of Galen vein from other cystic cerebral median lesions. Ultrasound diagnosis of these malformations could facilitate postnatal therapy, greatly improving prognosis. The aneurysm of Galen vein was first described in 1937 by Jager. Until 1984, less than 200 cases have been reported in the literature. Doppler ultrasound has allowed the first prenatal diagnosis. Galen vein aneurysm is a vascular malformation of choroid plexus. Due to the increased flow and turbulence, the vein wall is hypertrophied. Normally, Galen vein venous drainage is directed by sagittal sinus, but in some cases, thrombosis may be missing. The phenomenon of "stealing" is produced because the shunt, with the consequence of cerebral area hypoperfusion.. The widespread use of routine prenatal ultrasound, allowed detection in the third trimester, of several cases of aneurysm of Galen vein. Useful in identifying the anomaly and its differential diagnosis from other lesions with space replacement, Doppler ultrasound is useful in fetal cardiovascular assessment, establishing the gravity of the case. Ultrasound diagnosis of these malformations facilitated postnatal therapy, greatly improving prognosis. In conclusion, Galen vein aneurysms and its possible complications can be detected by ultrasound and prognostic indices are useful in choosing the best therapeutic alternative. Prenatal ultrasound identifies an anechogenic formation localized behind the third ventricle, but color Doppler examination is useful in differentiating aneurysm of Galen vein from other cystic median lesions. The same investigation can detect also the complications, such as congestive heart failure or those localized in the brain: cerebral hemorrhage, hydrocephaly.

Keywords: Galen vein, aneurysm, ultrasound

GIANT INTRALIGAMENTARY UTERINE LEIOMYOMA AND ITS COMPLICATIONS  
A. Carauleanu*, R. Socolov*, R. Popovici, D.Socolov*  
* Institute of Medicine and Pharmacy « Gr.T.Popa », Iasi, Romania

Abstract Uterine leiomyomas are benign tumors arising from uterine smooth muscle. Although their pathogenesis remains unclear, they are the most common tumor of the female reproductive tract, occurring in as many as half of women older than 35 years. Uterine leiomyomas represent the most common benign tumors of the female reproductive tract. Giant uterine leiomyomas are very rare and represents a great diagnosis and therapeutic challenge. The size of the leiomyoma and its location generate characteristic manifestations. The entire pelvic anatomy can be completely changed. Hence, the surgical technique is not the standardized one. The surgical intervention begins from the best exposed uterine side. At first, either adnexectomy is performed
on that side, or the interadnexal hysterectomy technique is applied, followed by adnexectomy. Hysterectomy is performed concomitantly on both uterine sides, with the purpose of mobilizing the uterine body and exteriorizing it as much as possible. Another technique that can be performed consists in the initial sectioning of the uterosacral ligaments, which increases the uterus mobility. Total hysterectomy is also possible, but it involves higher blood loss and surgery takes longer. It would be optimum for the hysterectomy duration to be as short as possible and the blood loss to be as low as possible. This way, the surgical technique can be simplified by practicing first subtotal hysterectomy or polymyomectomy followed by the totalization of the intervention and potentially adnexectomy. The totalization of the intervention by extracting the cervix immediately after the subtotal hysterectomy is not subject to the same technical difficulties as totalization of a hysterectomy performed years before. In such cases, the visceral peritonization of the cervical stump determines the elevation of the urinary bladder, which is injured during surgery, while uncovering the cervix.

Keywords: leiomyoma, hysterectomy, complications

CHORIONIC VASCULAR ENDOTHELIAL TRYPTOPHAN CATABOLISM WITH POTENTIAL FOR REGULATING THE VASCULAR TONE IS ALTERED IN FETAL GROWTH RESTRICTION AND PREECLAMPSIA
Zardoya-Laguardia P, Blaschitz A, Frank S, Lang I, Gauster M, Sedlmayr P.
Harrachgasse 21/7 8010 Graz (Austria)

OBJECTIVES: The establishment of an adequate feto-placental circulation is required for a successful pregnancy. Pregnancy complications such as intrauterine growth restriction (IUGR) or preeclampsia (PE) have been associated with an impaired placental blood flow. Indoleamine 2,3-dioxygenase-1 (IDO1), a tryptophan (Trp)-degrading enzyme, might be involved in this regulation. Indeed, preliminary studies have shown that tryptophan degrading activity is down-regulated in IUGR placental tissue and IDO1 mRNA levels are reduced in PE. Therefore, we hypothesize that there is a causal relationship between reduced IDO1 expression in the placental vasculature and IUGR and PE.

METHODS: IDO1 protein expression was assessed by Western blotting in IUGR, pre-eclamptic and praevia placentae (chosen as pre-term control), and also in placental arterial endothelial cells (PLAEC) from uncomplicated pregnancies. Moreover, IDO1 localization was determined by immunohistochemistry (IHC) in villi from IUGR, pre-eclamptic and pre-term controls. IDO1 mRNA levels were measured in PLAEC by q-PCR. Vasorelaxation of pre-constricted placental arteries as a measure of IDO1 activity was assayed by myography upon exposure of vessels to Trp

RESULTS: Vasorelaxation in a dose response manner was observed after treatment with Trp of pre-constricted placental arteries. By Western Blotting, a significant decrease in IDO1 protein expression was found in IUGR (n=5, gestational age (GA) 35.9 ± 1.3 weeks) and PE (n=13, GA 33.9 ± 2.1 weeks) in comparison with pre-term controls (n=5, GA 33.6 ± 1.8 weeks), whereas on the level of mRNA not significant differences were detected among these groups. Constitutive IDO1 protein and mRNA expression was observed in PLAEC from normal term placentae. IHC revealed that in some cases (three in the PE group, one in the control placentae) IDO1 protein expression in the chorion was not restricted to the vascular endothelium but also present in macrophages in regions affected by chronic villitis and intervillositis.

CONCLUSION: Vascular tone in chorionic vessels is likely to be regulated by IDO1 via Trp metabolism. IDO1 Expression is down-regulated at the protein level in IUGR and PE placentae. Further studies need to be conducted to elucidate a potential causal relationship between deficient vascular endothelial IDO1 with some pregnancy complications.

ENNIATINS INDUCES EMBRYONIC TOXICITY IN MOUSE BLASTOCYSTS THROUGH APOPTOSIS
Wen-Hsiung Chan*
Department of Bioscience Technology and Center for Nanotechnology, Chung Yuan Christian University, Chung Li, Taiwan

Abstract
Enniatins (ENNs) are mycotoxins found in Fusarium fungi and they appear in nature as mixtures of cyclic depsipeptides. Previous studies have established that ENN inhibits cell proliferation and induces apoptosis. However, its side-effects, particularly those on embryonic development, have not been well characterized as yet. In the current study, we examined the cytotoxic effects of ENN on mouse embryos at the blastocyst stage, subsequent embryonic attachment and outgrowth in vitro, and in vivo implantation by embryo transfer. Blastocysts treated with 5-10 μM ENN exhibited significantly increased apoptosis and a corresponding decrease in total cell number. Notably, the implantation success rate of blastocysts pretreated with ENN was lower than that of their control counterparts. Moreover, in vitro treatment with 5-10 μM ENN was associated with
increased resorption of post-implantation embryos and decreased fetal weight. In addition, ENN appears to induce injury in mouse blastocysts through intrinsic apoptotic signaling processes to impair sequent embryonic development. These results collectively indicate that ENN has the potential to induce embryonic cytotoxicity.

*Correspondence to: Dr. Wen-Hsiung Chan, Department of Bioscience Technology and Center for Nanotechnology, Chung Yuan Christian University, Chung Li, Taiwan 32023 E-mail: whchan@cycu.edu.tw

MR IMAGING FOR FETAL BRAIN ABNORMALITIES: SUB-STUDY FINDINGS

M.L.S. Lie, R.H. Graham, S.C. Robson
School of Geography, Politics and Sociology, Newcastle University, Claremont Bridge Building, Claremont Road, Newcastle upon Tyne, NE1 7RU, UK

Objectives: The MERIDIAN study aimed to establish whether fetal MRI improves the accuracy of diagnosis of fetal developmental brain abnormalities following ultrasound screening. Nested within this multi-centre prospective diagnostic accuracy study, a sociological sub-study was conducted to assess the acceptability to participants and their family of fetal MRI as a technology and its contribution to their decision making about whether to continue or terminate their pregnancy.

Methods: We carried out 44 narrative interviews, with 41 women and 18 partners or other family members. Participants were purposively sampled to include women who underwent MRI at three different centres. Termination of pregnancy was discussed with 18 participants and chosen by 7. Interview data were analysed using a generative thematic approach. Atlas.ti was used to assist the analysis.

Results: Overall, women’s perspectives of the added value of fetal MRI were dependent on the type of brain abnormality diagnosed and their MRI experience, which varied with MRI site, gestational age and BMI. Fetal MRI can provide parents with valuable information to help them understand a fetal brain abnormality and come to a conclusion about continuing or ending a pregnancy. The discomfort and anxieties of undergoing an MRI scan can be mitigated in a number of ways.

GINGER IS INEFFECTIVE FOR HYPEREMESIS GRAVIDARUM AND CAUSES HARM: AN INTERNET BASED SURVEY OF SUFFERERS

CR Dean and ME O’Hara
1 Pregnancy Sickness Support, Dunmore Farm, Treesmill, Par, Cornwall, UK PL24 2TU

Background: Ginger is commonly suggested to women experiencing all severities of pregnancy sickness from mild symptoms through to the extreme end known as hyperemesis gravidarum (HG). Evidence for its efficiency is sparse despite its well known status. However, it is thought not to do harm and perhaps for this reason it is suggested regularly to pregnant women. Those suffering HG report that it is suggested constantly by everyone from complete strangers to consultants and midwives.

Method: A self-selected internet based survey of 512 women who had been hospitalised for HG within the past five years. Participants were recruited principally through social media and were predominantly UK based. Internet survey platform Survey Monkey was used and questions were mostly asked using Likert-type scales with the option for additional free text responses.

Results: Women reported that ginger is regularly suggested for HG and 87% of respondents have tried it. 88% of those report that it is completely ineffective. 51% of respondents who tried ginger reported that it actually exacerbated symptoms, increased acid reflux and caused pain on vomiting. 82% of women reported that suggestions of ginger caused a worsening of their mood inducing feelings of anger, isolation, guilt and exacerbating the feeling that they are misunderstood. 79% of women who had ginger suggested by an HCP reported that it eroded their trust and confidence in the HCPs.

Conclusion: HCPs should stop suggesting ginger to women with hyperemesis. Not only is it ineffective, but it can cause harm to the sufferer and damages the patient-HCP relationship.
I COULD NOT SURVIVE ANOTHER DAY: LESSONS FROM WOMEN’S EXPERIENCE OF ABORTION FOR SEVERE PREGNANCY SICKNESS
CR Dean and C Murphy
1 Pregnancy Sickness Support, Dunmore Farm, Treesmill, Par, Cornwall, UK PL24 2TU

Background: Therapeutic termination for hyperemesis gravidarum (HG) is long established and presenting for termination for HG at BPAS clinics indicate that it is more common than current statistics suggest. Calls to the Pregnancy Sickness Support (PSS) helpline provide a space where women can discuss their experiences and it has long been noted that many of these women have not been offered alternatives to termination such as treatment with established safe medication. The two charities wanted to shed light on the impact of termination for HG on the women undergoing them.

Method: A self-selected internet based survey of 71 women who had ended pregnancies while suffering HG in the 10 years in the UK. Participants were recruited principally through social media. Internet survey platform Survey Monkey was used and questions were a combination of choices, such as medications used, and free text boxes to discuss their experiences.

Results: 84% of the women surveyed said they would have wanted to continue with the pregnancy if they had not been suffering HG. 40% said they had asked for medication and it had been refused. 66% said they requested a particular medication and it was refused, most commonly ondansetron and steroid treatment. Fear over safety of medication was a major reason for refusal of medication by HCPs. Greif following termination was similar to that noted for foetal anomaly termination.

Conclusion: Women should not feel guilty or stigmatised for seeing therapeutic termination for hyperemesis but women who want to continue with their pregnancies should be supported and receive prompt access to treatment.

PRESSURE LOW, PRESSURE HIGH: THE PROBLEM OF POSTNATAL BP
A.E. Cairns, P. Leeson, L. Mackillop, K.L. Tucker, R.J.M McManus
Nuffield Department of Primary Care Health Sciences, University of Oxford
New Radcliffe House, Radcliffe Observatory Quarter,
Woodstock Road, Oxford, OX2 6GG

Background
Gestational hypertension and pre-eclampsia affect approximately one in ten pregnancies. There has been considerable focus on blood pressure (BP) control during pregnancy, especially with respect to pregnancy outcome. However, hypertensive disorders of pregnancy persist during the postpartum period, and complications can occur during this time hence control – at a time of changing blood pressure – remains important.

Despite this, there is very little evidence regarding adjustment of anti-hypertensive medications following delivery. We therefore surveyed healthcare professionals involved in the care of postnatal women with hypertensive disorders of pregnancy in order to understand current practice.

Research questions
Do clinicians have a preference for a particular anti-hypertensive medication for use in the postnatal period?
What BP thresholds do clinicians use when adjusting anti-hypertensive medications postpartum?
When down-titrating anti-hypertensive medications, do clinicians reduce the dose by a certain proportion at a time?
When down-titrating multiple anti-hypertensive medications how do clinicians approach this?
Do the approaches used differ between different clinical groups?

Methods
We conducted an online survey of Obstetricians, Obstetric Physicians, General Practitioners, and Midwives, in several primary and secondary care centres in the UK. Two separate questionnaires were designed: for prescribing and non-prescribing healthcare professionals respectively. 262 prescribing and 128 non-prescribing clinicians were invited to complete the survey by email. A reminder email was sent 3 weeks after the initial invitation.

The study received ethical approval from the University of Oxford (MS-IDREC-C1-2015-019).
Results
Replies were received from 101 clinicians giving an overall response rate of 26%. Clinicians reported using labetalol most commonly postpartum (91%), followed by modified-release nifedipine (60%), with the majority reporting using the BP thresholds recommended by NICE when down-titrating medication (63% systolic and 79% diastolic). This was not the case when increasing medication postpartum, when 46% selected the NICE threshold for systolic BP and only 35% selected the NICE diastolic threshold. Regarding the approach to how to down-titrating medications postpartum, there was a diverse range of responses: the commonest response was that the approach to adjustment would be dependent on the BP. When down-titrating multiple medications the commonest response was to reduce one medication at a time.

Discussion
Overall this small survey suggested considerable heterogeneity in current management of hypertension in the postnatal period, which we believe is related to the lack of evidence and guidance in this area. This survey supports the need for additional research about how to manage this period in women with hypertensive disorders of pregnancy in order to optimise BP control and improve patient experience.

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DRUG INFORMATION TO PREGNANT AND BREASTFEEDING WOMEN IN NORWAY
JA Jahnsen and SF Widnes.
RELIS Vest, Haukeland University Hospital, P.O. Box 1400, 5021 Bergen, Norway.

Background:
In the Norwegian population of 5 million people, approximately 60 000 women are pregnant annually. Traditionally, women with questions regarding the use of medicines approached their family physician, midwife or the local pharmacist. With easy access to information through international websites and chat forums, the traditional channels of information have lost some of their impact. However, medical information on the internet is not necessarily evidence-based. The Norwegian medicines information centres (RELIS) therefore established the internet service “TryggMammaMedisin.no” in June 2011. The name of the service can be translated to “SafeMummyMedicine”. In “TryggMammaMedisin.no”, experienced pharmacists and physicians provide tailor-made and evidence-based answers to questions regarding medicines and herbal supplements from pregnant and breastfeeding women. The aim of this presentation is to characterize 4 years' experience with TryggMammaMedisin.no.

Methods:
Data on enquiries were extracted from the “TryggMammaMedisin.no” database. The experiences of employees at RELIS with answering questions are also included in the presentation.

Results:
In the first four years of service “TryggMammaMedisin.no” has received about 2000 questions per year, with a total of 8301 questions. About 60% of the questions regard drug use in pregnancy, 30% regard breastfeeding, and 10% regard both categories. The questions show a great variation in terms of complexity. The vast majority of questions are relatively uncomplicated, but express insecurities regarding the safety of medicines. Enquiries concerning the use of allergy medicines, short-term use of analgesics and nasal decongestants were the most prevalent. Questions regarding medicines used for mental health, especially antidepressants, were also common. According to our experience, these questions are generally more complex as they generally involve both describing benefits of treating maternal disease and possible risks of medicines treatment.

Discussion and conclusion:
Questions to “TryggMammaMedisin.no” may be characterized in several ways. One type of questions typically has a component of mistrust in the physician. This mistrust seem to be caused by reading information about the safety for the fetus or breast feeding baby that contradict what the physician said during the consultation. Another type of questions typically concern women with a chronic disease who have a good dialogue with their physician. For these women, “TryggMammaMedisin.no” can provide background information about their medications and explain and support the physician’s therapeutic choices. Usually, these women plan their pregnancy ahead of time, which provides opportunities for optimizing the drug therapy prior to conception.
Despite using very little resources on marketing, and instead utilizing existing networks within the Norwegian health professional system, “TryggMammaMedisin.no” is established as an important medicinal information service for pregnant and breastfeeding women. “TryggMammaMedisin.no” will be expanded with a telephone service within the next year, and this will likely increase awareness and use. The demand for information shows that there is a need for a service like “TryggMammaMedisin.no” in Norway.

**PHYSICIANS’ PERCEPTION OF TERATOGENIC RISK AND CONFIDENCE IN PRESCRIBING DRUGS IN PREGNANCY – INFLUENCE OF MEDICINES INFORMATION CENTRES**

T Bakkebø, SKF Widnes, J Schjøtt
RELIS Vest - Regional medicines information and pharmacovigilance centre, Haukeland University Hospital, 5021 Bergen, NORWAY (Presenting author and corresponding author)

**Background**
Several studies have shown that physicians attribute unrealistically high teratogenic risks to the use of drugs. As a result, physicians may be reluctant to prescribe drugs to pregnant women. However, only a limited number of drugs have been proved to be teratogenic. Therefore, it is important to study interventions that ensure rational therapeutic decisions for drug use among pregnant women. One such intervention is clinical decision support provided by medicines information centres.

**Objective**
To examine whether physicians’ teratogenic risk perception and confidence in prescribing drugs to pregnant women is altered after advice from Norwegian medicines information centres - RELIS

**Method**
Physicians who consulted RELIS for information on patient-specific drug use in pregnancy from November 2013 to April 2014 completed questionnaires before and after receiving advice from RELIS. A scale from 1 to 7 was used to rate confidence in prescribing and perception of teratogenic risk. The lower part of the scale represented a low perception of teratogenic risk and that the physician felt confident in prescribing a drug in pregnancy.

**Results**
A total of 45 physicians participated in the study and they assessed 64 drugs or categories of drugs. Advice from RELIS increased confidence in prescribing, with a statistically significant mean change on the scale from 4.11 to 2.90. In addition, the assessment of teratogenic risk was reduced after advice from RELIS with a mean change from 3.17 to 2.49, though not significant.

A subgroup of 26 physicians completed questionnaires both before and after advice from RELIS and they assessed a total of 32 drugs or categories of drugs. In 94% of these assessments, advice from RELIS changed the physician’s confidence in prescribing. Perception of teratogenic risk changed in 78% of the assessments of drugs or categories of drugs.

**Conclusions**
Our results imply that provision of clinical decision support could influence use of drugs during pregnancy. This concerns in particular physicians’ confidence in prescribing.

**DO PATIENTS UNDERSTAND AND ADHERE TO LOW MOLECULAR WEIGHT HEPARIN DURING AND AFTER PREGNANCY?**

Authors Names & Job Titles:
S Bond, Medical Student and P Hughes, Consultant Obstetrician and Gynaecologist
Department of obstetrics and gynaecology, St George’s University Hospital NHS Foundation Trust, Tooting, London SW17 0QT. Email: m1102893@sgul.ac.uk

**Aims & Objectives:**
The intention of this study was to assess patients’ levels of understanding about their treatment with dalteparin (Fragmin) in pregnancy and the puerperium, how confident they felt about self-injection and their self-predicted adherence to the treatment.

**Methodology:**
Women on an antenatal or postnatal regime of Fragmin injections were recruited at St George’s Hospital over two weeks in September 2013.
A survey of 11 questions was devised with guidance from consultant obstetricians and was used in face-to-face interviews with consenting patients. The questions explored how confident the patients were that they understood why they were taking Fragmin, how they should administer the injections and how to safely dispose of needles. Patients were asked how many times they had practiced the injection before their discharge from hospital and who would administer the injections at home. Participants were also asked to predict how likely they were to adhere to the full treatment plan.

**Results:**
35 participants were interviewed (20 women had commenced Fragmin treatment antenatally and 15 women had commenced treatment postnatally). The demographics of the population studied were representative of the women delivering in St George’s in 2012.

The mode and median responses to all questions was “confident” or “very confident”, with the exception of the question relating to understanding of risks and side effects when the mode and median responses were, respectively, “not at all confident” and “not very confident”.

The postnatal group were considerably more likely than the antenatal group to report they were “not at all confident” with needle disposal, risks and side effects, and how and where to give the injection. None of the antenatal group was unsure who to contact for support or advice, in contrast with a third of the postnatal group. There were, however, high rates of self-predicted adherence across both groups.

57% of patients (70% of AN group; 40% of PN group) could state a clinical reason why they had been selected for thromboprophylaxis. 37% knew only that it was to prevent clots, and 6% were unable to give a reason.

**Conclusions:**
Patient confidence regarding Fragmin administration and intentions to adhere to treatment were high. There was, however, some lack of understanding about indications for treatment and its possible risks and side effects.