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CHOICE OF PRIMARY OUTCOMES IN RANDOMISED TRIALS AND SYSTEMATIC REVIEWS EVALUATING INTERVENTIONS FOR POSTPARTUM HAEMORRHAGE PREVENTION: A SYSTEMATIC REVIEW

Authored By: Nasreen Aflaifel, Zarko Alfirevic.

Author Affiliations: University of Liverpool.

Background:

High quality RCTs and systematic reviews are expected to pre-specify primary and secondary outcomes. The primary outcome should be the outcome of highest importance, representing the greatest therapeutic benefit of the intervention, upon which conclusions about the effect of the intervention are largely based.

The problem of postpartum haemorrhage (PPH) remains a concern as it is considered as a major cause of maternal mortality all over the world. A great deal of research is going on globally to find out the most appropriate method of prevention. Large, definitive RCTs in this area are rare and systematic reviews are often needed to provide robust evidence of effectiveness and safety. Therefore, in order to investigate the degree of consensus in the choice and definitions of primary outcomes used in RCTs and systematic reviews, we chose to explore one of the most important health issues related to maternity care – prevention of PPH.

Objectives:

To systematically review the choice and consistency of primary outcomes in RCTs and systematic reviews of PPH prevention.

Design: A systematic review.

Data source: Cochrane database, EMBASE, Ovid (Medline), Web of knowledge, Scopus.

Eligibility criteria:

A full report of RCTs, published after the first CONSORT statement (January 1997 to December 2012) and evaluating the efficiency of any intervention for preventing PPH. Cochrane and non-Cochrane reviews with a main focus on PPH prevention, published in the same period were also included.

Preliminary results:

44 different primary outcomes were reported by 81 RCTs. The most common primary RCT outcomes were related to the incidence of PPH incidence, of PPH > 500ML (period of blood collection not defined) being the most common (7/81, 9%). In 15 systematic reviews, 25 different primary outcomes were reported, with 87% (13/15) of reviews reporting more than one primary outcome. The most common primary outcomes were based on the severity of PPH (10/15, 67%). Primary outcomes in both RCTs and systematic reviews were variably defined, with lack of standardisation.

Preliminary conclusions:

There is worrying lack of consistency in the choice and definitions of primary outcomes in clinical research related to PPH prevention. There is strong need for core set of outcomes to be embraced by the global research community to reduce non-uniformity between studies.

VAGINAL CLEANSING WITH CHLORHEXIDINE DURING LABOUR TO REDUCE MATERNAL AND INFANT INFECTIONS: A SYSTEMATIC REVIEW OF RANDOMISED STUDIES WITH META-ANALYSIS

Authored By: T B Akister, C E Bell, L A Hughes, K Ramkhelawon, D Lissauer.

Author Affiliations: University of Birmingham.

Objectives:

To review the effectiveness of intrapartum vaginal chlorhexidine in the reduction of maternal and neonatal colonisation and infectious morbidity. Such intervention is considered to be accessible to low-resource settings, where infectious morbidity is high.

Design: Systematic review with meta-analysis.

Data sources:

PubMed, Embase, Medline, Cochrane library, CINAHL, AIM, LILLACT, Web of knowledge, RHL, Biomed Central (inception-February 2013).

Study selection: Randomised studies.

Results:

Eleven randomised trials evaluated the efficacy of intrapartum vaginal chlorhexidine interventions. Outcomes were: 1) Maternal colonisation: (n=104), 2) Neonatal colonisation (n=1948), 3) Maternal infection/sepsis (n=12154) and 4) Neonatal infection/sepsis (n=8639). Meta-analysis found no significant differences between the intervention and control groups for maternal colonisation ($p=0.93$, $RR=0.61$, $CI=0.05-8.08$) or for maternal infection/sepsis ($p=0.39$, $RR=0.91$, $CI=0.69-1.20$). There was also no significant difference between the intervention and control groups for neonatal colonisation ($p=0.25$, $RR=0.75$, $CI=0.46-1.22$) or for neonatal infection/sepsis ($p=0.10$, $RR=0.74$, $CI=0.52-1.06$). Further analysis suggested that the preferred method for the intervention was vaginal irrigation.

Conclusions:

Intrapartum vaginal chlorhexidine may improve neonatal outcomes in terms of colonisation and infectious morbidity; however these results were not statistically significant. Although maternal outcomes appeared favourable, they were not statistically significant. The suggestion of potential but the lack of statistically significant results would justify a larger, multicentre randomised controlled trial to definitively evaluate the effect of vaginal chlorhexidine cleansing in labour on maternal and neonatal outcome.

TO COMPARE THE EFFECTIVENESS OF SUBLINGUAL VERSUS VAGINAL MISOPROSTOL IN INDUCING MEDICAL MANAGEMENT OF MISSED MISCARRIAGE

Authored By: Firas Al-Rshould.

Author Affiliations: University of Birmingham.

Background:

Misoprostol is a prostaglandin E1 analogue used for medical management of missed miscarriage, it is safe up to 24 weeks and effective in achieving complete miscarriage (more than 90%), and without incurring the risks of the surgery like: anaesthesia, infection and trauma from instrumentation of the uterus. Studies to date show no superiority of any particular to the others.

Design: Randomized control study conducted in Jordan between the years of 2009 and 2010.

Inclusion criteria:

Women with missed miscarriage admitted to the hospital at 6 to 12 weeks gestational age for medical termination of pregnancy.

Exclusion criteria:

Any women with missed abortion that had any vaginal bleeding and/or abdominal pain before hospital admission.

Sample size: 110 women with missed abortion at 6 to 12 gestational age.

Randomisation:

The women were randomized by using sequential file numbers (quasi-randomisation) to either sublingual or vaginal route of administration.

Outcome: Onset of expulsion of products of conception.

Results:

46/55 women (83%) of sublingual route group and 43/55 women (78%) of vaginal route group started to have vaginal bleeding and uterine contraction after the second Misoprostol dose, R.R= 1.07 (95% C.I 0.89 – 1.28).

Discussion:

There was no significant difference in the sublingual and vaginal route of Misoprostol PGS E1 in inducing medical termination of missed miscarriage.

TURNING MDR EVIDENCE INTO ACTION: A QUALITATIVE STUDY ON THE MATERNAL DEATH REVIEW SYSTEM IN TANZANIA

Authored By: Corinne Armstrong.

Author Affiliations: London School of Hygiene and Tropical Medicine.

Introduction/Aims:

Maternal death reviews (MDR) are UN agency-promoted and nationally mandated in Tanzania as a key tool for improving quality of maternal and newborn care. In facility-based MDR, lessons learned from case review of individual maternal deaths can inform health providers what to do to prevent similar events in the future. In practice, very little is known about MDRs in Tanzania and other low resource countries. In light of a Ministry of Health review of the 2006 national guidelines on MDRs, and in order to inform strategic positioning and project implementation to generate accountability to improve quality maternal and newborn care in facilities in one region of Tanzania, Evidence for Action Tanzania undertook a qualitative research study on MDRs. The aim was to understand the structure, process and actions from facility-based MDRs at the national level and in three hospitals in Mara region.

Methods:

Qualitative interviews were conducted with key national level stakeholders along with health administration at Lake Zone, Mara Region and three district levels. Hospital staff were interviewed at three hospitals in Mara. Fieldwork was completed over three weeks in June 2013. A thematic analysis will be undertaken at the London School of Hygiene and Tropical Medicine in July 2013.

Results:

Results (forthcoming) are expected to uncover barriers and facilitating factors to successful MDR implementation, as experienced by the hospital staff and decentralised health administration, with recommendations for improvement of the current structure and policy on MDR in Tanzania.

AFGHAN WOMEN: A QUALITATIVE STUDY OF THE CULTURE OF CARE IN A KABUL MATERNITY HOSPITAL

Authored By: Rachel Arnold¹, Edwin van Teijlingen¹, Kath Ryan², Immy Holloway¹.

Author Affiliations: ¹Bournemouth University, ²La Trobe University (Australia).

Background:

Central to the provision of respectful care for women having their babies in health care facilities are doctors, midwives and care assistants. We can increase the numbers and skills of health care providers, and include training in professional ethics but how can we ensure respectful care? What is the motivation of health care providers, the context in which they work, and the factors that affect their ability to care?

Aims:

This qualitative, ethnographic PhD study explored the culture of care of one maternity hospital in Kabul Afghanistan. The aim was to understand the barriers and facilitators to quality care, how the Afghan health care providers saw their role, care within the hospital, working conditions and their motivation and values.

Methods:

Participant observation, in-depth semi-structured interviews with hospital staff, focus group discussions with women in the community and background interviews with key informants were used to collect data from diverse perspectives. Kabul Ministry of Public Health Institutional Review Board provided ethical approval.

Findings:

Extreme pressures on this almost exclusively female workforce were highlighted, issues of power and powerlessness in the workplace and in wider society, a hospital culture of blaming, fear of what will happen if a patient dies in their care, and excessive workloads. Of paramount importance for carers was the need to fulfil family obligations and to survive. Afghan women in the community spoke of general dissatisfaction with care practices in hospitals.

INTRODUCTION OF EMERGENCY OBSTETRIC KITS TO MULAGO HOSPITAL, KAMPALA

Authored By: Stephanie Attersley-Smith.

Author Affiliations: East Sussex Healthcare NHS Trust.

Background:

Mulago Hospital, Uganda had 33,000 deliveries in 2012 making it the busiest maternity unit in Africa. A third of maternal deaths at Mulago are due to eclampsia and PPH. All elements of the three delays model are in play with regards to the poor outcomes of women seen at Mulago; worryingly there is substantial delay in women receiving treatment upon arrival. The reasons for this are multifactorial; the difficulty in locating drugs and equipment and lack of clear guidance on how to deal with emergencies plays a substantial part of the problem.

Idea:

I proposed introducing Emergency Kits for dealing with the leading killers. Emergency Kits are used to good effect in many countries around the world. They have minimal set-up and maintenance costs, this make them ideal for use in low-income countries. The kits contain all the drugs and equipment necessary for the initial treatment of a patient presenting with eclampsia or PPH, they also contain a laminated copy of the hospital protocol, contents card for restocking and in the eclampsia kit, instructions for preparation of Magnesium Sulphate.

Implementation:

The kits were endorsed by the department and rolled out in July 2013. To support this intervention posters of the protocols have been displayed, the hospital had a protocol for the management of both conditions, neither had previously been disseminated. Finally I am working with local clinicians to organize in-house CME training in Obstetric Emergencies, aiming that it forms part of compulsory annual updates for all staff.

THE CONTRIBUTION OF HIV TO PREGNANCY-RELATED MORTALITY

Authored By: Clara Calvert, Carine Ronsmans.

Author Affiliations: London School of Hygiene and Tropical Medicine.

Background:

In settings where the HIV prevalence is high, monitoring progress towards MDG-5 requires knowledge of the contribution of HIV to maternal mortality. Surprisingly little is known about the proportion of maternal deaths attributable to HIV, however, and the interaction between HIV and pregnancy is poorly understood. The aim of this study is to summarise the empirical evidence on the contribution of HIV to pregnancy-related mortality.

Methods:

We report on the results of two completed systematic reviews: (1) a meta-analysis of the proportion of pregnancy-related deaths attributable to HIV based on studies comparing mortality in HIV-infected and uninfected pregnant and postpartum women and (2) a meta-analysis of the strength of association between HIV and obstetric complications based on studies comparing the incidence of obstetric complications in HIV-infected and uninfected women.

Findings:

First, the excess pregnancy-related mortality attributable to HIV is much higher than expected: the number of excess pregnancy-related deaths attributable to HIV amongst HIV-infected women is 994 per 100,000 women and an estimated 25% of all pregnancy-related deaths in sub-Saharan Africa are attributable to HIV (rising to 50% in Southern Africa). Second, HIV-infected women have three times the risk of intrauterine infections compared to HIV uninfected women, but the effect of HIV on other obstetric complications is less convincing.

Interpretation:

We discuss the implications of the findings on monitoring progress towards MDG-5, methods to measure HIV as a cause of death in pregnant and postpartum women, and strategies to reduce maternal mortality in sub-Saharan Africa.

VARIATION IN OBSTETRICIANS' PERCEIVED NEED FOR CAESAREAN SECTION

Authored By: Francesca L Cavallaro, Jenny A Cresswell, Carine Ronsmans.

Author Affiliations: Department of Infectious Disease and Epidemiology, London School of Hygiene and Tropical Medicine.

Background:

Achieving Universal Health Coverage post-2015 will require internationally comparable indicators to reliably measure progress. Population-based caesarean section rates have been proposed as a useful indicator to measure coverage of emergency obstetric care, but the lack of consensus on the optimal range of caesarean rates limits their interpretation. Our aim is to document the variation in optimal caesarean rates reported by obstetricians for different delivery characteristics, and determine whether responses vary across countries with low (<5%), medium (5-15%) and high (>15%) caesarean rates.

Methods:

An online survey of obstetricians with recent clinical experience will be conducted in July-August 2013. Particular effort will be made to recruit participants from low- and middle-income countries with a range of national caesarean rates, via online mailing lists of professional societies and other relevant organisations. We aim to recruit at least 200 respondents, with at least 66 each from countries with high, medium and low caesarean rates. Participants will be asked to report the optimal caesarean rate among different categories of deliveries, including clinical and demographic characteristics (such as twins and transverse lie).

Findings:

We hypothesise that there will be wide variation in obstetricians' perceived need for caesarean within each delivery category, and that this variation will be partly explained by the caesarean rate in obstetricians' country of practice.

Interpretation:

These results will help guide the interpretation of caesarean rates as indicators of emergency obstetric care coverage, and contribute to the development of a population-based classification of need for caesareans.

**PROVISION OF EMERGENCY OBSTETRIC CARE IN RURAL NEPAL:
A QUALITATIVE STUDY IN A RURAL, MOUNTAINOUS COMMUNITY OF NEPAL
HIGHLIGHTING THE KNOWLEDGE, ATTITUDES AND PRACTICES OF MATERNAL
HEALTH CARE WORKERS AND LOCAL WOMEN REGARDING THE PROVISION OF
EMERGENCY OBSTETRIC CARE**

Authored By: Trent Corr.

Author Affiliations: Warrington and Halton Hospitals NHS Trust.

Introduction:

This report presents findings from a qualitative study that took place in a district hospital in the Janakpur Zone of Nepal. It aims to portray the current level of Emergency Obstetric Care (EmOC) services in the region, highlight factors affecting the quality of the service provision, and also suggest ways in which improvements could be made.

Findings:

All BEmOC and CEmOC services are provided at the hospital. However there are barriers to providing these services appropriately. Some of these are: lack of skilled staff, lack of equipment and emergency medicines, lack of awareness in the community, and lack of a blood bank. Participants suggested improvements which have helped formulate recommendations in my discussion.

Discussion:

The findings of this report confirm what has been reported in previous literature, but also highlight new barriers; the lack of awareness/education surrounding EmOC in the local communities and that the government offers financial incentives to women that attend ante natal clinics or for institutional deliveries.

My recommendations for future practice:

1. A mass media campaign highlighting the dangers of pregnancy and what EmOC is available in the district.
2. A voluntary EmOC training programme that is available to all healthcare staff in the district.
3. A blood bank set up at the district hospital.
4. A Health Management Information System that will improve stock taking and help prioritise the hospital's finances.

IMPROVING MATERNITY CARE: LOCAL TRAINING, LOCAL TOOLS, LOCAL MONITORING

Authored By: Joanna Crofts¹, Thabani Sibanda², Teclar Mukuli³, Solwayo Ngwenga³, Tim Draycott¹.

Author Affiliations: ¹University of Bristol, ²Wanganui Hospital (New Zealand), ³Mpilo Central Hospital (Bulawayo, Zimbabwe).

Discussion:

The evidence to reduce mortality by making childbirth safer exists, the challenge of implementing this evidence at the point-of-care remains.

The majority of obstetric emergencies training courses conducted in Africa are held off-site, away from the clinical area, for a select number of senior staff.

In high resource settings off-site training is not sufficient: effective quality improvement programmes employ local training for all staff, evidence-based tools to facilitate local care delivery, and monitoring of quality indicators. This is likely to be the case in low-resource settings too, but it is unclear whether these elements can be provided.

Mpilo Central Hospital (MCH), Zimbabwe is a large (~10,000 births/annum) public hospital. In November 2011 a PROMPT train-the-trainers programme was held at MCH.

Effects at MCH:

- Ten one-day PROMPT courses (203 participants) facilitated by MCH staff
- 138/153(90.2%) MCH staff trained within a year (107(78%) no previous training)
- Eclampsia and haemorrhage emergency boxes
- Labour Ward Board
- Maternity Early Warning Score Charts
- Increasing intervention in unwell patients from 4% to 73%
- Development of a Maternity Dashboard, enabling staff to react to local clinical outcomes
- Improved inter-professional working

Implications:

Implementation of local training for a high proportion of local staff is feasible and achievable without payment of per diems. MCH staff have adopted and adapted tools to improve local care.

Systems based training and quality improvement is feasible, alters frontline work practice, and is sustainable. A step-wedged RCT to investigate the clinical effect of this programme in low resource settings should be the next step.

EXPLORATION OF FACTORS THAT CONTRIBUTE TO THE DELAY OF OBSTETRIC FISTULA PATIENTS IN SEEKING TREATMENT

Authored By: Amare Desta, Asmeret Moges, Teferi Abegaz, Mary McCauley.

Author Affiliations: Yirgalem Fistula Hospital, Addis Ababa Hospital (Ethiopia).

Background:

Obstetric fistula is a catastrophic complication of obstructed labour that still occurs to young women in Ethiopia.

Aim:

To assess factors contributing to the delay in seeking treatment for obstetric fistula patients in two hospitals, one rural and the other urban.

Methodology:

A case control study was conducted from October 2012 to April 2013. Face to face interviews were conducted with patients admitted to two hospitals using structured closed ended questionnaires. Data was analyzed using univariate logistic regression analysis.

Results:

290 patients were interviewed, 145 cases and 145 controls. The main factors influencing patients seeking delays to treatment included economical factors (50%), lack of accompanying person (37%), embarrassment (7%) and lack of information (6%). Poor attendance of antenatal checks, high illiteracy rate, lack of understanding, low status of women, poor infrastructure and socio-cultural barriers were all statistically significant.

Conclusion:

Obstetric fistula patients are still suffering needlessly in their communities due to simply factors preventing timely access to treatment. Many women are still isolated and treated as outcasts in their community without the means or support to access care. We must continue to act as advocates of these desperate women through raising awareness and rural community based health education programs.

ON THE TRAIL OF MISOPROSTOL IN THE COMMUNITY: A SECONDARY ANALYSIS OF A PLACEBO-CONTROLLED TRIAL OF SELF-ADMINISTERED MISOPROSTOL FOR THE PREVENTION OF POSTPARTUM HAEMORRHAGE IN UGANDAN HOME BIRTHS

Authored By: James Ditai¹, Sam Ononge², Jill Durocher³, Laura Frye³, Brian Faragher⁴, Florence Mirembe², Josaphat Byamugisha², Beverly Winikoff³, Zarko Alfirevic¹, Andrew Weeks¹.

Author Affiliations: ¹University of Liverpool, ²Makerere University/Mulago Hospital (Uganda), ³Gynuity Health Projects (USA), ⁴Liverpool School of Tropical Medicine.

Background:

Advance misoprostol distribution to prenatal women for self-use at childbirth has been identified as a promising approach to reduce the burden of postpartum haemorrhage (PPH), particularly in home-births without skilled birth assistance.

Methods:

Secondary data from a placebo-controlled, double-blind randomised trial of self-administered misoprostol were analyzed to explore the different delivery scenarios in which the study medicine was taken. Consenting women were given either misoprostol (600µg) or identical placebo ante-natally to be self-administered orally after homebirth for PPH prevention. Women were advised not to take the tablets if they went to a facility to deliver. Used/un-used medicine packs were collected during postnatal follow-up visits and details of use recorded.

Results:

Follow-up data was obtained for 94% (700/748) of women enrolled, with 77% of the medicine packs accounted for. Study medicine was used in 291/299 of home-births and 106/401 of facility-births, leading to a total "uterotonic coverage" of 93%, including facility use of oxytocin. Among facility-users of the study medication (n=106), nearly half reported taking the tablets instead of routine injectables, citing supply shortages, cost, and preference. Reports of therapeutic use of the study medicine to control heavy bleeding were also documented (including in home- and facility-births). Mistimed administration of the tablets before delivery was rare (n=2); no adverse events resulted.

Conclusion:

This analysis provides a snapshot of unsupervised use of "misoprostol" in the community. A range of factors (oxytocin availability, cost, provider knowledge, urgency) appear to influence decisions and behaviours surrounding self-use of the medicine in facilities and homebirths.

PERINATAL DEATH: A RE-ANALYSIS OF DATA FROM THE WHO ANTENATAL CARE TRIAL

Authored By: Therese Dowswell.

Author Affiliations: UK Cochrane Centre.

Discussion:

Women in high resource settings attend for antenatal care on 10-12 occasions according to a pattern laid down in the 1930s. The optimum number of visits has never been established. A major WHO trial in low and middle income countries concluded that reducing routine care to four visits did not increase the risk of adverse outcomes. An observed increase in perinatal death in the reduced visits arm was not statistically significant. Two large cluster randomised trials in Zimbabwe had similar results. However, meta-analysis showed an increased risk of perinatal death of borderline statistical significance with fewer antenatal visits (RR 1.15, 95% CI 1.01 to 1.32).

This finding led to a re-analysis of the original WHO trial data. Secondary analysis identified that increased risk of death with reduced visits occurred before 36 weeks' gestation, and specifically between 32 and 36 weeks (adjusted RR 2.24, 95% CI 1.42 to 3.53). There was no difference in rates of neonatal death. Further analysis was carried out to explore whether findings applied equally to women in both high and low risk groups according to risk factors identified at the first antenatal visit. The findings were similar irrespective of risk categorisation.

Following the publication of the original WHO trial report the "basic" four visit model of antenatal care has been widely implemented in low and middle income countries. The implications of the re-analysis of the original trial data will be discussed.

REACHING OUT – COMMUNITY FISTULA ADVOCATES IN BANGLADESH

Authored By: Christine Edwards, Beatrice Ambauen-Bergen, Felicity Mussell.

Author Affiliations: Gloucestershire Hospitals NHS Trust.

Discussion:

An estimated 2 million women worldwide are living with obstetric fistula – ‘one of the most devastating outcomes of obstructed labour’, with an annual incidence of 50,000-100,000 new cases. The physical, psychological, social and financial impact of obstetric fistula is devastating, with the woman being isolated and rejected because of the incontinence. LAMB project in north-west rural Bangladesh has been providing and facilitating community and hospital maternal health care for over 30 years. The obstetric fistula service was started in 2006, focusing on community awareness raising and prevention, surgical repair, and rehabilitation for women who have been abandoned by their families because of the fistula.

Having received a new lease of life through successful surgery, many of these women are highly motivated to find other women similarly afflicted, and to prevent the same tragedy happening to others. LAMB has now run 3 ‘Community Fistula Advocate (CFA) training courses’ to empower 30 women to return to their communities, to encourage women to access maternity services, and to help women with fistula to come forward for treatment. 67% of new patients presenting with fistulae come because of a previously treated patient. One CFA has personally brought over 20 patients, through very active case finding.

The devastating impact of obstetric fistulae means that many women are reluctant to come forward for treatment, fearing further failure, rejection and humiliation. The confidence instilled by CFAs, who know the misery and have found hope and healing, empowers other women to step forward.

CMF DEVELOPING HEALTH COURSE: HOW SIMULATION TRAINING HAS IMPROVED FEEDBACK

Authored By: Christine Edwards, Louise Ashelby, Jacqueline Hill, Alison Wilkinson, Mary Hopper, Vicky Lavy.

Author Affiliations: Gloucestershire Hospitals NHS Trust.

Background:

The Developing Health Course (DHC) is a two-week course on healthcare in resource-poor settings, organised by Christian Medical Fellowship (CMF). It is attended by healthcare professionals already working, and those preparing to work in resource-poor settings. It provides training covering all medical specialities, with two days devoted to Women's Health, one for Obstetrics and one for Gynaecology. Training is delivered by faculty experienced in working in resource-poor areas, and covers Obstetric and Gynaecological emergencies and routine care, practical skills, and topics specific to women's health in resource-poor areas e.g. VVF and FGM.

Within high-income settings practical simulation training in obstetrics has been shown to improve clinical outcomes^{1,2,3}. To reflect this research we have developed low-cost simulation training, transferable to resource-poor settings, for use in the DHC. In 2010 the course was lecture based, with few practical or simulation stations. In 2013, the course delivered low-cost simulation based training, with a few short topic-based talks.

Method:

We reviewed the feedback over the last four years to determine if this change has improved participants' perception of the course.

Results:

In 2013 96% of candidates (n=25) rated the Obstetric Day teaching as excellent vs. 75% (n=24) in 2010. In 2013 88% (n=24) rated the Gynaecological Day teaching as excellent vs. 79% (n=24) in 2010.

Conclusion:

We conclude that simulation training has improved participants perception and enjoyment of the course, particularly in obstetrics. Through low-cost simulation training we aim to empower participants to train others when working in resource-poor settings.

References:

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INCREASING ACCESS TO CONTRACEPTIVES USING COMMUNITY-BASED DISTRIBUTION (CBD) STRATEGY IN PERI-URBAN COMMUNITIES IN NORTHERN NIGERIA

Authored By: Clara Ladi Ejembi, Nanna Chidi-Emmanuel, Alhaji A Aliyu.

Author Affiliations: Department of Community Medicine, Ahmadu Bello University (Zaria, Nigeria).

Discussion:

Family planning (FP) has been identified as one of the key strategies for maternal mortality reduction and attainment of Millennium Development Goal 5. Unfortunately the contraceptive prevalence rate in Northern Nigeria where maternal mortality is between 6-9 times the rate in some other parts of the country and contraceptive prevalence rate is among the lowest in the world.

Community-based distribution (CBD) strategies are increasing knowledge and uptake of contraceptives among women of reproductive age in 20 communities in Bauchi and Kano states. This programme is supported by Centre for Development and Population Activities (CEDPA) between 2008 and 2010. CEDPA has been working in these communities for the past 10 years.

The study used a population-based before and after study design to determine changes in knowledge and uptake of contraceptives among adult males and females of reproductive age group between 2008, when new phase of the project began and 2010 when the project ended. A total of 675 and 298 females of reproductive age group and young adult males were interviewed respectively. The findings showed significant increase in knowledge with mean number of contraceptives mentioned significantly increased from 4.1 to 5.4 in 2010 ($p < 0.001$). Overall, contraceptive prevalence rate increased among married females from 27.4% to 29.3%. This was significantly higher than the rates of 2.3% and 2.8% respectively contained in the NDHS for the 2 states. It is evident that CBD is a veritable and feasible method to access FP and should be promoted in Nigeria.

IMPROVING THE MEASUREMENT OF UNINTENDED PREGNANCY TO IMPROVE REPRODUCTIVE HEALTH IN MALAWI

Authored By: Jennifer Hall, Geraldine Barrett, Nicholas Mbewa, Andrew Copas, Address Malata, Judith Stephenson.

Author Affiliations: UCL Institute for Global Health.

Background:

Globally 41% of all pregnancies are unintended, partly because 215 million women have an unmet need for family planning. Meeting this need would reduce maternal and neonatal deaths, but doing so requires a greater understanding of pregnancy intention. This research aimed to validate the London Measure of Unplanned Pregnancy (LMUP), a new measure of pregnancy intention, for use in the Chichewa language in Malawi.

Methods:

Three Chichewa speakers translated the LMUP and one translation was agreed which was back-translated and pre-tested on five pregnant women using cognitive interviews. Pregnant women were recruited at antenatal clinics and data were analysed using classical test theory and hypothesis testing.

Results:

125 women aged 15-43 (average 24.5), with parities of 1-8 (median 2) completed the Chichewa LMUP. The full range of LMUP scores was captured. There were no missing data, indicating excellent acceptability, and the scale was internally consistent (Cronbach's alpha = 0.78). Primary component analysis showed the Chichewa LMUP was internally valid. Retesting on 70 showed good stability (weighted Kappa 0.80).

Hypothesis testing confirmed that unmarried women ($p=0.003$), women who had four or more children alive ($p=0.0051$) and women who were below 20 or over 29 ($p=0.0115$) were all more likely to have unintended pregnancies, demonstrating external validity.

Conclusion:

The Chichewa LMUP is a valid measure of pregnancy intention in Malawi. This is the first validation of this tool in a low-income country setting. Use of the LMUP can enhance our understanding of pregnancy intention, giving insight into the family planning services that are required to better meet women's needs and save lives.

THE DEMOGRAPHICS OF WOMEN WHO PRESENT WITH OBSTETRIC FISTULAE TO THE BAHIR DAR HAMLIN FISTULA HOSPITAL, ETHIOPIA

Authored By: Samantha Hayward.

Author Affiliations: Royal United Hospital Bath NHS Trust.

Background:

In the UK, the occurrence of fistulae arising from obstructed labour has been eradicated since the mid-20th century. The United Nations Population Fund suggests 3.5 million women are suffering from vesicovaginal (VVF) and rectovaginal (RVF) fistulae in nine African countries. In Ethiopia, it is estimated that 9,000 women per year develop obstetric fistulae. Good population-based epidemiological studies are lacking and are necessary to identify the true extent of the problem.

Aim:

Identify all women presenting with VVF or RVF to Bahir Dar Hamlin Fistula Hospital and analyse their socio-demographic profile.

Method:

Retrospective case note review of all women attending with VVF and RVF in a ten month period.

Result:

350 women presented with obstetric fistulae with an average age of 30.37 years. The mean duration of labour in this group was 3.3 days (range 1-12 days). Only 54.29% were delivered by health professionals and the stillbirth rate was 87%. Out of this cohort, only four women received antenatal care.

Conclusion:

The retrospective review revealed the presentation age higher than in previous surveys from Addis Ababa, where the mean age is 22.4 years. It is heartening to see that the highest proportion of deliveries are in medical settings and the education programmes are reaching and empowering women to seek assistance. Nevertheless, patients are reaching hospitals too late to prevent the demise of their fetus and formation of genital tract fistulae.

CLEAN BIRTH KITS TO PROMOTE SAFE CHILDBIRTH: PERSPECTIVE OF POLICY MAKERS AND DISTRICT HEALTH OFFICERS IN PAKISTAN

Authored By: Vanora Hundley.

Author Affiliations: Bournemouth University.

Background:

High rates of maternal and neonatal sepsis have been attributed to limited resources and a lack of awareness regarding clean birth practices.

Aim:

To explore the views and perceptions of policy makers and district health officers (DHOs) with regard to CBKs as a means of distributing essential supplies and promoting safe childbirth.

Method:

Data were collected at both decision makers' and implementers' levels: (1) Semi structured interviews with the key federal and provincial level policy makers in Pakistan (2) Questionnaire survey - 89 DHOs inquiring specifically about understanding of CBKs, uptake, and optimal distribution mechanisms in community settings.

Findings:

Participants reported that few women experienced clean births in Pakistan. CBKs were seen as a way of distributing commodities and increasing awareness. Knowledge about CBKs varied: federal level decision makers expressed less certainty than provincial policy makers or DHOs. The availability of CBKs was reported to be greater in Punjab than in Sindh province (97% vs 49%), with free distribution through hospitals and health centres. DHOs identified the current lack of training and guidelines as a deterrent to CBK use.

Implications:

Policy makers and district level implementers need to promote CBK uptake by frontline health workers if kits are to be an effective way of distributing scarce resources. Although support for CBKs was found to be high, knowledge of where and how CBKs were used was sometimes limited. Guidelines could be valuable in increasing awareness and in supporting health workers in CBK distribution and use.

CONTRACTING THE PRIVATE SECTOR TO ACCELERATE PROGRESS TOWARDS MILLENNIUM DEVELOPMENT GOAL 5: EXPERIENCES FROM A VOUCHER PROGRAMME IN NORTHERN INDIA

Authored By: Benjamin Hunter, Susan F Murray, Debra Bick.

Author Affiliations: King's College London.

Background:

Recent maternal health policy in India has focused on a set of narrow targets for mortality and uptake of maternity services, and contracts with private hospitals are increasingly seen as a tool to achieve these targets. The 'Sambhav' scheme (meaning 'anything is possible') was launched in Uttar Pradesh in 2011 to increase uptake of maternity, reproductive and family planning services by women living in urban slums. Vouchers are available in communities and women can use them to receive free services at accredited private hospitals. This presentation highlights some experiences from the Sambhav scheme.

Methods:

Routine data on the number of services used were collected from voucher managers as part of a 'realist' evaluation of the Sambhav scheme in the city of Lucknow. Data were analysed using descriptive statistics. Semi-structured interviews were conducted in English or Hindi with 38 stakeholders, which included programme staff, hospital managers/obstetricians and women service users. Audio-recordings from interviews were transcribed and analysed thematically.

Findings:

By April 2013, more than 24,000 Sambhav vouchers had been used in Lucknow. Most women service users had been accompanied to an accredited hospital by a programme worker but some had little, if any, knowledge of the vouchers. Dissatisfaction with pre-determined 'below-market' rates of payment to hospitals has dogged the scheme. Fixed rates for intrapartum care, regardless of complications, have led to some incidents where women paid for complicated care, or else treatment was withheld and they were referred to other hospitals.

Conclusions:

Programmes that 'contract out' maternity services require appropriate incentives to function as intended.

DETERMINANTS OF INVOLVEMENT IN HOUSEHOLD CHORES AMONG HUSBANDS OF PREGNANT WOMEN IN A RURAL SETTING IN NIGERIA

Authored By: M S Ibrahim, S H Idris, A Abubakar, S S Bashir, M N Sambo, K Sabitu.

Author Affiliations: Ahmadu Bello University (Zaria, Nigeria).

Background:

Annually, 59,900 Nigerian women die from pregnancy-related complications, the second highest in the world after India. Reducing a woman's workload has been shown to improve pregnancy outcome. We conducted a cross-sectional study to identify determinants of husbands' involvement in household chores during pregnancy.

Method:

We administered structured questionnaire to collect information on socio-demographic characteristics, husband's presence at antenatal care (ANC), knowledge of danger signs of pregnancy, involvement in household chores, spousal communication, and joint household decision making. We identified determinants of husbands' involvement by bivariate and multivariate analyses. We obtained additional information through focus group discussions (FGD) and key informant interviews (KII).

Results:

We interviewed 411 married men; mean age was 37.3 ± 10.9 . A total of 284 (69.1%) were at least 10 years older than their wives and 307 (74.7%) were involved in household chores. On bivariate analysis, men who engaged in household chores were more likely to have similar occupations with their wives [OR=2.5, (95% CI: 1.2-5.3)], attend ANC with their wives [OR=13.2; (95% CI: 1.7-101.2)], and have good spousal communication [OR=2.9; (95% CI=1.8-4.6)]. Multivariate analysis revealed husband's presence at ANC [aOR=12.5; (95% CI: 1.6-98.6)] and good spousal communication (aOR=2.9; (95% CI: 1.1-7.9) as independent determinants of husbands' involvement in household chores. The FGDs and KIIs revealed that husbands consider household chores strictly a wife's responsibility or were too busy to engage in it.

Conclusion:

Good spousal communication and husband's presence at ANC determine husbands' involvement in household chores. Addressing gender roles could improve husband's involvement in household chores.

USING EXPERT OPINIONS FOR MEASURING PROGRAMME STRENGTH OF ANTENATAL CARE AND EMERGENCY OBSTETRIC CARE: AN ALTERNATIVE FOR EVALUATING MATERNAL HEALTH PROGRAMMES IN DEVELOPING COUNTRIES

Authored By: Gregory Kabadi.

Author Affiliations: London School of Hygiene and Tropical Medicine.

Background:

Investment in global and national health programmes has over the last decade increased with a growing demand for more evidence of the difference programmes make. Generating evidence from large-scale programmes can be challenging. Programme implementation strength approach can be used to evaluate the effectiveness of a programme through quantifying specific programme components. Few studies have measured programme implementation strength. This study developed a method and used it to estimate the strength of focused antenatal care (FANC) and emergency obstetric care (EmOC) programmes in the Tanzanian health system context.

Methods:

Three groups of participants were involved: 27 national-level maternal-health experts, 28 district-level programme coordinators and 155 health facility in-charges. A list of preselected programme components was prepared using the WHO health-system-building blocks customised for FANC/EmOC. All participants were asked to score each component based on its contributing strength. Participants' preferences were analysed using mean scores and disaggregated by participants' levels.

Findings:

Overall, participants thought that the human resource component had the most contributing strength in programme implementation compared to other components (mean~25% for both FANC and EmOC programmes). Other components and their scores for FANC and EmOC respectively were: drugs and supplies (19.7%, 20%), service delivery (17.2%, 19%), health financing (17.5%, 16%), health information system (11.2%, 10%) and leadership and governance (10.6%, 10%).

Interpretation:

Tanzanian districts can use findings to improve their allocation and use of programme resources. The approach is suitable for effective scale-up of maternal health programmes that can yield formative evidence for desired programme impact.

REDUCING POSTPARTUM INFECTIONS: AN INTERRUPTED TIME SERIES INTERVENTION STUDY IN GUJARAT STATE, INDIA

Authored By: L Kanguru¹, K Ramani², D Mavalankar^{2,3}, P Kalpesh², P Purvi², J Bell¹, J Hussein¹.

Author Affiliations: ¹Impact, University of Aberdeen, ²India Institute of Management (Ahmedabad, India), ³Indian Institute of Public Health (Gandhinagar, India).

Background:

Infection control during childbirth is given little attention especially in developing countries, despite infection being the third major cause of maternal deaths. In particular, evidence on the effectiveness of infection control interventions is lacking. We evaluated the effects of introducing a multifaceted intervention on post partum infection rates after delivery in India.

Method:

Appreciative Inquiry, a multifaceted intervention involving infection surveillance, feedback, infection committees and behaviour change, was introduced in three hospitals, matched with three control hospitals. Levels of postpartum infections among women who had delivered in control and intervention hospitals were measured every month for 16 months. A total of 8,124 women were followed up in hospital and after discharge at home till day 42 postpartum.

Results:

Puerperal sepsis, urinary tract infections, episiotomy and caesarean section wound infections were the main postpartum infections reported. Levels of postpartum infection rates dropped in intervention hospitals from 4.28% (pre-intervention), to 2.51% (intervention) and 1.69% (post intervention). Control hospitals also experienced reductions in infection rates. Logistic regression analysis examining infection and interactions between intervention and control groups showed a larger reduction in the intervention group but the difference was not statistically significant (p value 0.37).

Conclusion:

Infection control is a key, but often neglected component in the improvement of quality of maternity care. Multifaceted interventions have a potential to reduce unnecessary mortality and morbidity but unequivocal effect is difficult to demonstrate. Simply raising awareness of the dangers of infection by conducting a study can help prevent lives from being lost to sepsis.

THE NEED FOR AN INCREASE IN THE AWARENESS OF MENSTRUATION HYGIENE MANAGEMENT (MHM) IN ORDER TO PROMOTE YOUNG WOMEN'S REPRODUCTIVE HEALTH IN ETHIOPIA

Authored By: Haileselassie Kassahune, Mary McCauley.

Author Affiliations: Yirgalem Hospital (Addis Ababa, Ethiopia).

Background:

In Ethiopia menstruation hygiene management is still clouded by taboos and socio-cultural restrictions. This results in many adolescent girls remaining ignorant of the basic physiological facts and hygienic health practices. This impacts negatively on these girls' reproductive health.

Aim:

To assess the knowledge, awareness and challenges faced by adolescent girls with respect to menstruation.

Methods:

A descriptive cross-sectional study was undertaken using quantitative and qualitative methodology. Data was collected from 180 adolescent schoolgirls from three schools. Self-administered structured close-ended questionnaires, focus group discussions and semi-structured in-depth interviews were used.

Results:

Out of 180 respondents, only 38% of respondents were aware of menstruation before their menarche. Only 53% believed that menstruation is a normal physiological process. The majority of the respondents 58% used reusable rags during the menstruation period and 67% confirming that disposable sanitary pads were too expensive. 33% had been absent from school at least once due to menstruation. 58% reported lack of availability of water and lack of separate toileting facilities as the major reason for absenteeism.

Conclusions:

MHM is still severely inadequate in a large proportion of Ethiopian schoolgirls. A lack of basic knowledge, misperceptions and unsafe practices regarding menstruation are common. There is an urgent need to increase awareness of MHM on a national level in line with promoting young women's reproductive and sexual health.

ROLE OF PULSE OXIMETRY IN DETECTING SEPSIS IN ASYMPTOMATIC NEWBORNS IN LOW-INCOME COUNTRIES: A FEASIBILITY STUDY

Authored By: Elsa M King¹, Christopher Lieu², Albion Kasasa³, Andrew K Ewer^{1,4}, Shakila Thangaratinam².

Author Affiliations: ¹University of Birmingham, ²Queen Mary University of London, Barts and the London School of Medicine, ³Saint Francis Referral Hospital (Ifakara, Tanzania), ⁴Birmingham Women's Hospital NHS Trust.

Aims:

- To assess the feasibility of using pulse oximetry as a screening tool in the detection of early-onset sepsis in asymptomatic newborns in low-income countries through a pilot study.
- ii) To evaluate the acceptability of pulse oximetry to mothers and healthcare professionals and the accuracy of pulse oximetry in detecting neonatal sepsis.

Study design: Prospective cohort study.

Place and duration of study:

Saint Francis Referral Hospital, Ifakara, Tanzania between January and March 2013.

Methodology:

All asymptomatic newborns >33 weeks gestation born during the study period were screened using pulse oximetry on two occasions. Newborns with low saturations ($\leq 94\%$ on air) were defined as test positives. The rates of hypoxaemia in asymptomatic newborns were evaluated. Data on acceptability of pulse oximetry as a screening tool for neonatal sepsis was obtained through questionnaires from a proportion of mothers and healthcare professionals working on the post-natal wards.

Results:

A total of 316 asymptomatic newborns were screened, of which 18 (5.7%) had a positive result. The test positive rate was 5.7% (18/316). Detailed clinical examination led to the diagnosis of sepsis in 41 newborns (30/316, 13%), 8 of these were test positive. More than 90% of the mothers (n=50) and healthcare professionals (n=18) were satisfied with screening. There was no significant difference in satisfaction and anxiety between mothers of a test positive and a test negative newborn (median score 56 vs 53, $P = 0.26$).

Conclusion:

Pulse oximetry screening is feasible in this setting, and is acceptable to mothers and healthcare professionals. Further studies are needed to assess the accuracy of the test in detecting sepsis in newborns and its clinical impact on neonatal health.

LOSS IN CHILDBEARING IN MALAWI: NAVIGATING THE MORAL LANDSCAPE

Authored By: Bergeje de Kok, Priscilla Matinga, Blessings Kaunda.

Author Affiliations: Queen Margaret University.

Discussion:

Loss in childbearing (maternal mortality; induced and spontaneous abortions; perinatal mortality) remains a significant problem in low income countries (LICs). In these settings, maternal, neonatal and child health (MNCH) policy promotes institutional deliveries and the removal of barriers to quality care. Practical and cognitive barriers - costs of care, transport, lack of human resources, lack of knowledge of danger signs- are well known. Social barriers require further examination. These include local interpretations of complications in pregnancy and of loss in childbirth, and judgements of women and their entitlement to care. For instance, McCoy et al (2004) suggest that some communities in Malawi treat obstructed labour as a sign of a woman's infidelity; she should confess before care is sought. Furthermore, providers' moral judgements of clients may underpin sub-standard interpersonal care, reported in various studies conducted in LICs (D'Ambruoso et al 2005; Jewkes et al 1998).

We conducted 71 interviews and focus groups in Malawi to examine accounts of maternity care and loss by care providers and community members – including those who experienced loss. We draw on principles of discourse analysis to examine how these accounts address issues of accountability and blame for loss and quality of care. Observations of maternity care suggest how interpretations may inform the behaviour of providers, clients, and guardians. Our social science approach illuminates the moral landscape which women and practitioners must navigate when confronted with (potential) loss in childbearing. Insights gained can help contextualising MNCH policy and programmes. We therefore encourage multi-disciplinary approaches to MNCH.

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IDENTIFYING AND MITIGATING RISKS IN MEDICAL VOLUNTARISM: PROMOTING SUSTAINABLE VOLUNTEERING TO SUPPORT MATERNAL AND INFANT WELL BEING IN UGANDA

Authored By: Emilie Lewis, Louise Ackers, James Ackers-Johnson.

Author Affiliations: Warrington and Halton Hospitals NHS Trust.

Discussion:

The health care system in Uganda is a series of escalating health centres that feed into the National Referral Hospital (NRH). Many of these health centres are in a rural setting and offer basic antenatal, intrapartum and postnatal care. They are vital in encouraging women to deliver in a safe environment with a trained birth attendant.

However many of these health centres (HC) are poorly funded, lack the equipment, infrastructure and personnel they need, namely a trained doctor. The larger health centre IVs may have operating theatres that are not in use, and therefore refer to larger hospitals in cases requiring more complex care.

HCIVs were established to provide 'basic promotive, preventative and curative services', including emergency obstetric surgery and blood transfusions¹. Only 24% of HCIVs can offer these services, therefore putting a greater strain on the already overcrowded Mulago NRH.

The majority of volunteers coming to Uganda concentrate their efforts in Mulago NRH and the smaller regional referral hospitals.

The Sustainable Volunteering Project, operating within the frame of the Ugandan Maternal and Newborn Hub (www.lmpcharity.org) propose that by concentrating on HCs, more achievable goals can be attained as well as reducing the burden on larger hospitals.

Kawempe HCIV was chosen as a pilot site because it accounts for the highest number of referrals to Mulago NRH (5.28%), has 6,000 deliveries per year and a disused operating theatre. Efforts to improve its functionality included restoring the operating theatre and training staff. Initial results were encouraging; caesarean sections commenced and referrals reduced. However the doctor left to further his studies and to this date a replacement doctor has not been found. This highlights both how the system can be improved but also the frustrations of an under resourced health care system.

References:

¹Ugandan Annual Health Sector performance report 2010/11.

DEVELOPMENT OF AN OBSTETRIC FISTULA INTEGRATED CARE PATHWAY (ICP) FOR UGANDA

Authored By: E J MacLaren, S Duffy.

Author Affiliations: Chelsea and Westminster Hospital NHS Trust.

Aims:

To create a single document for doctors, nurses and theatre staff to use in the care of women with Obstetric Fistula attending for assessment and subsequent operations. This document aims to standardise documentation across the Fistula camps (4-6) that are run each year at Kitovu Hospital, Masaka, Uganda and provide a better assessment of operative outcomes.

Methods:

In April 2012 a proposal was made to develop an ICP. A provisional first draft was created taking into account FIGO recommended data collection, Addis Ababa demographic suggestions and further pre operative, post operative and follow up questions. This draft was discussed in Uganda august 2012 and further adaptations were made leading to a final version in March 2013. This was then used for the 67 women who underwent surgery at Kitovu hospital for childbirth injuries in March 2013. The final version was created after input from the nursing and anaesthetic staff having used the pathway for the beginning of the Fistula camp.

Conclusion:

As a result of limited record keeping of assessment and operations, there has been difficulty in assessing outcomes for individual sub groups of patient. The ICP allows surgeons from all over the world to bring their expertise to Uganda and follow a standardised approach to documentation. It will allow better data capture to assess Fistula demographics, pre and post-operative staging, operative technique, complications, post-operative management and follow up. In addition it will provide continuity from surgeon to surgeon and serve to improve the in hospital care we can give these women.

EVALUATING A MATERNAL ACUTE ILLNESS MANAGEMENT COURSE IN A RESOURCE POOR SETTING

Authored By: R McCarthy, G Yuill, L Byrne-Davies, G Byrne, J Hart, S Whiteside, G Byrne.

Author Affiliations: University of Salford.

Introduction:

The early recognition and initial management of acutely ill women is fundamental to reducing severe maternal morbidity and mortality in the UK (CMACE 2011). The Greater Manchester Critical Care Skills Network developed the Acute Illness Management (AIM) Course (2005) and building on its success developed Maternal AIM (2012) specifically for health professionals working within maternity services.

The Maternal AIM course teaches a systematic 'ABCDE' approach to the early recognition and initial management of acutely unwell women using a mixture of workshops, lectures and scenarios. Considering Millennium Development Goal 5, the Maternal AIM course was piloted in a post conflict zone in resource poor Uganda.

Methods:

A multi disciplinary team delivered the course to 5th year medical students from Gulu University and health professionals from Gulu Referral Hospital and St Mary's Hospital Lacor. The day long course was delivered over 6 consecutive days to 115 candidates. The candidates voluntarily completed pre- and post-course multiple-choice questionnaires, and Likert scale evaluation forms for each element of the day. Each candidate undertook a scenario based practice assessment.

Results:

There were highly statistically significant increases in scores from pre to post course for the participants overall. These were statistically significant for the participants of each qualification respectively. 93% of candidates passed the testing scenario. Self assessment evaluation forms demonstrated significant self-assessed improvement in their knowledge (see tables).

Discussion:

The Maternal AIM course has been successfully transferred to and delivered in a developing country. Ongoing support is essential to maintain and further knowledge, competence and skill and to assess the impact of such training programmes.

Table 1		Pre Score (%)	Post Score (%)	Change (%)
Overall	N	84	84	84
	Median	52.0	80.0	24.0
	Quartiles	36.0, 68.0	61.0, 92.0	8.0, 36.0
	Range	8, 100	32, 100	-12, 84
	p-value			<0.001 *
September 2012	N	33	33	33
	Median	64.0	92.0	28.0
	Quartiles	52.0, 72.0	88.0, 96.0	16.0, 42.0
	Range	12, 100	68, 100	-8, 84
	p-value			<0.001 *

Table 1		Pre Score (%)	Post Score (%)	Change (%)
April 2013	N	51	51	51
	Median	48.0	64.0	20.0
	Quartiles	32.0, 60.0	52.0, 80.0	8.0, 28.0
	Range	8, 88	32, 96	-12, 48
	p-value			<0.001 *
med st	N	33	33	33
	Median	64.0	92.0	28.0
	Quartiles	52.0, 72.0	88.0, 96.0	16.0, 42.0
	Range	12, 100	68, 100	-8, 84
	p-value			<0.001 *
nurse/midwife	N	21	21	21
	Median	40.0	60.0	20.0
	Quartiles	26.5, 48.0	48.0, 66.0	12.0, 30.0
	Range	16, 68	32, 80	-12, 44
	p-value			<0.001 *
doctor	N	10	10	10
	Median	78.0	88.0	10.0
	Quartiles	70.0, 85.0	87.0, 93.0	4.0, 13.0
	Range	60, 88	48, 96	-12, 24
	p-value			0.031 *
other	N	20	20	20
	Median	44.0	68.0	22.0
	Quartiles	33.0, 55.0	46.0, 79.0	8.0, 36.0
	Range	8, 64	32, 84	-4, 48
	p-value			<0.001 *
<i>Quartiles presented as 25th, 75th percentiles</i>				
<i>Range presented as minimum, maximum</i>				
<i>p-values from paired Wilcoxon Signed Ranks tests * Statistical significance at 5% level</i>				

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Table 2:

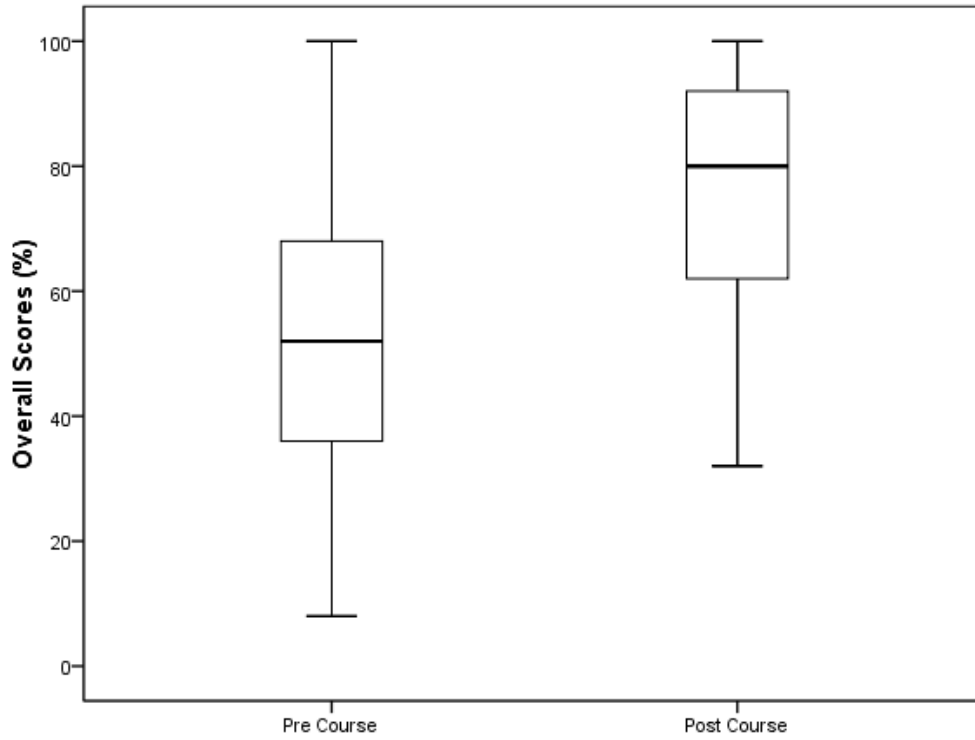
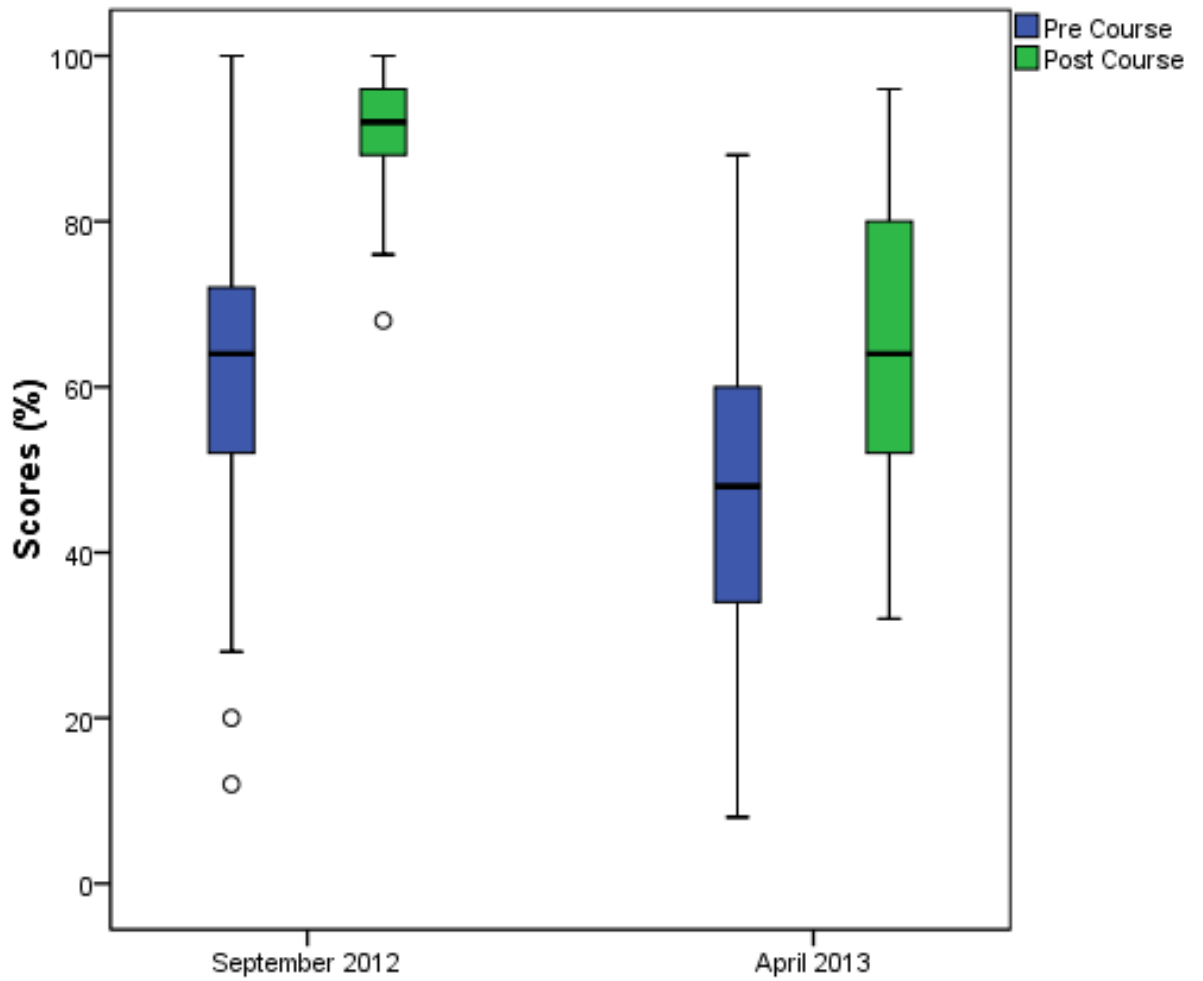


Table 3:



UTERINE RUPTURE IN A RURAL HOSPITAL IN ETHIOPIA

Authored By: Mary McCauley.

Author Affiliations: Yirgalem Hospital (Addis Ababa, Ethiopia).

Background:

Obstructed labour resulting in ruptured uterus is the second most common cause of death related to pregnancy in Ethiopia.

Methods:

Medical records were reviewed retrospectively to determine the incidence and circumstances associated with uterine rupture for a study period of 18 months from August 2011 to January 2013.

Results:

A total of 92 cases were identified. However, only 47 notes were retrievable. The mean age was 27 and the mean parity P3. Only 23% of patients received antenatal care. 64% of patients self referred after labouring at home unattended. The average length of labour prior to arrival was 20 hours and the average distance travelled was over 40 kilometres.

80% of patients arrived in the second stage of labour. All neonates were stillborn. 74% of patients underwent a hysterectomy. The uterus was reparable in 26% of cases accompanied often with bilateral tubal ligation. Average blood loss was 1500mls and 22% of patients received a blood transfusion. 6% of mothers died post operatively and a further 15% suffered significant post-operative complications.

Discussion:

The frequency of ruptured uterus was 5%, giving an incidence of 1 in 19 deliveries. It is urgent that a regional and national effort is made to reduce this unacceptable high incidence. Providing community based health education, devising efficient referral systems and increasing comprehensive emergency care by trained and skilled professionals is essential to reduce this completely avoidable obstetric catastrophe.

MATERNAL MORTALITY IN A RURAL HOSPITAL IN ETHIOPIA

Authored By: Mary McCauley.

Author Affiliations: Yirgalem Hospital (Addis Ababa, Ethiopia).

Aim: To assess the incidence and to circumstances associated with maternal mortality.

Method:

Labour ward registration book was used to obtain details of patients who had died over the past 20 months. Medical records were then reviewed retrospectively.

Results:

A total 48 patients were identified. However, only 28 medical notes were retrievable. The mean age was 25 and mean parity P1. Over half, 57% of all of the patients were antenatal with term pregnancies. 36% of patients self referred, 25% were referred from a health centre and 25% were referred from another hospital. Only 10% received antenatal care. The causes of death were all direct and included the following – severe eclampsia 32%; uterine rupture 28%; haemorrhage 24%; sepsis 10%; and anaesthetic complications 6%. 75% of neonates were stillborn.

21% were comatose on arrival to hospital and died shortly afterwards. 11% died post operatively after surgery for ruptured uterus. On review only 14% of deaths may have been preventable with better inpatient management. Only 32% of patients had a discharge or death summary documented.

Discussion:

The incidence of maternal mortality in Yirgalem was 1 in 67. This small study demonstrates that mothers are still dying needlessly. There is an ongoing urgent effort required to reduce this unacceptably high incidence. Providing thorough community based health education, devising efficient referral systems and increasing comprehensive emergency obstetric care is essential to reduce these potentially preventable maternal deaths.

KNOWLEDGE AND PRACTICE OF MEDICAL PROFESSIONALS REGARDING ANALGESIA IN LABOUR FOR WOMEN IN ETHIOPIA

Authored By: Mary McCauley, Catriona Stewart, Birhanu Kebede.

Author Affiliations: Yekatit 12 Hospital, Yirgalem Hospital (Addis Ababa, Ethiopia).

Aim:

To assess the awareness and attitude of medical professionals towards pain relief in labour.

Method:

A survey was distributed to different medical professionals in both rural and urban hospitals. Data was then collated and compared.

Results:

164 surveys were completed. There was board representation from midwifery students, midwives, nurses, general practitioners, and specialists. 79% of respondents expected women to feel severe pain in labour. 75% were of the opinion that labour pain should be relieved but only 24% have knowledge regarding the WHO pain ladder. Common practices regarding pain management included non-pharmacological only. Reported main barriers to patients receiving analgesia included lack of awareness of patients and medical professionals. Many thought pain relief was not a priority for labouring mothers. 70% had concerns with using methods to relieve the experience of pain in labour. Fears regarding adverse effects on the baby 48%, the mother 12% and the delivery process 24% were reported.

Conclusion:

Nearly all medical professionals expect women to suffer pain during labour. However simple steps to provide effective analgesia are not taken. A general attitude is that labour is a natural process and the patient should have a personal coping ability. Educational efforts must be made to change this viewpoint as well as discussion on a way forward for labour analgesia in Ethiopia.

15 MILLION BABIES “BORN TOO SOON” – PARENTS, PROFESSIONAL GROUPS AND POLITICIANS AMPLIFY THE IMPACT OF THE DATA

Authored By: Lori McDougall, Hannah Blencowe, Mary Kinney, Simon Cousens, Joy E Lawn.

Author Affiliations: London School of Hygiene and Tropical Medicine.

Discussion:

The global action report on preterm birth published the first national, regional and global preterm birth estimates. Preterm birth is the second leading cause of death globally for children under five (1.1million deaths), and rates are rising in most countries with reliable data. This report showed that rapid change is possible, particularly in improved care for preterm babies, and identified priority actions, listing new and expanded commitments to Every Woman, Every Child specific to preterm birth. The report involved over 50 organizations, led by the March of Dimes, Save the Children, PMNCH, and WHO, and the UN Secretary-General Ban Ki-Moon provided a Foreward. The report launch in May 2012 received major media coverage with an estimated reach of 1 billion, including 72 million Twitter “impressions” through a coordinated social media approach. Momentum continued at the 2012 FIGO Congress with the release of a joint statement on preterm birth by professional groups FIGO and IPA. World Prematurity Day 2012 amplified awareness with activities in over 60 countries, wide mobilisation of parent groups, a CNN spot featuring Celine Dion, and a Facebook page. National events with government officials and other stakeholders occurred in Bangladesh, India, Malawi, and Uganda, including a new accountability-tracked commitment preterm birth including investment in scale up of antenatal steroids in Uganda. “Born too Soon” drew global attention to what many consider the world’s most overlooked public health problems and presented practical solutions and actions for change.

THE PREVALENCE OF RHEUMATIC HEART DISEASE IN PREGNANCY AND ITS EFFECTS ON MATERNAL MORTALITY AND ADVERSE PREGNANCY OUTCOMES IN DEVELOPING COUNTRIES: A SYSTEMATIC REVIEW

Authored By: Iona McLachlan.

Author Affiliations: University of Aberdeen.

Objectives:

To assess the prevalence of rheumatic heart disease (RHD) in pregnancy, as well as its effects on maternal mortality and adverse pregnancy outcomes, in low and middle income settings.

Method:

A systematic literature review was conducted where MEDLINE, EMBASE, CINAHL, Cochrane Library and CAB databases were searched. Articles were searched with no date restriction, for literature published in English.

Results:

2597 citations were retrieved from the initial search and 28 articles were eligible for inclusion. All of the articles were observational studies. The included articles were from 13 countries in the developing world which covered Sub-Saharan Africa, East Asia and Pacific, Europe and Central Asia, Middle East and North Africa and South Asia. In hospital based studies, the prevalence of RHD in pregnancy ranged from 0.1% to 6.6% and maternal mortality ranged from 4.6% to 7.6%. In population based studies maternal mortality varied between 0.5% and 6.2%. The most commonly reported incidences of adverse pregnancy outcomes included heart failure (2.4%-80%), pulmonary congestion (1.7%- 25%), arrhythmias (0.7%- 40%), thromboembolic disease (0.7%-40%), infective endocarditis (0.3%-40%), delivery by C-section (2.3%-49.4%) and stillbirths (1.8-7.1%).

Conclusion:

Up to a third of maternal deaths in low and middle income countries are due to non-obstetric causes. Little is known about the specific chronic medical conditions that contribute to these deaths. Our review suggests that RHD may be an important cause of death and disability in pregnancy. The existing studies highlight fundamental knowledge gaps in the understanding of its effect on the burden of disease in pregnancy.

IMPLEMENTATION OF MATERNAL EARLY WARNING SCORE CHARTS IN ZIMBABWE: A LOCAL INITIATIVE THAT HAS IMPROVED THE RECOGNITION AND TREATMENT OF THE UNWELL WOMAN

Authored By: Bobb Tariro Murove¹, Abi Smith², Smlanga Mhlanga¹, Heather Wilcox², Sikangezile Moyo¹, Joanna Crofts².

Author Affiliations: ¹Mpilo Central Hospital (Bulawayo, Zimbabwe), ²RiSQ, Department of Women's Health, North Bristol NHS Trust.

Background:

Maternal Early Warning Score (MOEWS) charts facilitate the timely recognition and treatment of the unwell woman. Such patient safety initiatives are often poorly implemented into clinical areas, perhaps reflecting a lack of local ownership.

Method:

In-hospital, obstetric emergencies training days (PROMPT) held at Mpilo Central Hospital (MCH), Zimbabwe during 2012 introduced the concept of MOEWS. An MCH pilot of MOEWS charts commenced in April 2013. MCH staff adapted an existing MOEWS chart, and had 2,000 charts printed locally. PROMPT 2013 includes a MOEWS workshop.

In-patient spot-check audits were conducted before, one and two months after launching MOEWS. Staff completed a questionnaire at 3 months.

Results:

	MOEWS Launch		
	Before	1-month	2-month
Observations only written in notes	41/43(95%)	1/20(5%)	1/11(9%)
Observations plotted on MOEWS	n/a	19/20(95%)	10/11(91%)
Trigger reached	24/41(59%)	9/19(47%)	6/10(60%)
Action recorded following trigger	1/24(4%)	6/9(67%)	5/6(83%)
MOEWS chart:	Midwives (n=15)		Doctors (n=9)
Knowledge of	13(87%)		8(89%)
Location of	14(93%)		7(78%)
Useful	13(87%)		9(100%)
Receive/provide advice/review following trigger	3(20%) always 12(80%) sometimes		4(44%) always 5(56%) sometimes
Suggested improvements	6(40%)		4(44%)

Conclusion:

MOEWS charts have been successfully integrated into practice at MCH. Staff are aware of MOEWS and find them useful.

The proportion of women in which abnormal observations were recognised and acted upon dramatically increased following the introduction of MOEWS. Following feedback, the MOEWS charts are now being revised for permanent implementation.

Local adaption, training and monitoring were key for the adoption of MOEWS charts into clinical practice.

ETHNIC VARIATIONS IN SEVERE MATERNAL MORBIDITY IN THE UK: A NATIONAL STUDY

Authored By: Manisha Nair, Jenny Kurinczuk, Marian Knight.

Author Affiliations: University of Oxford.

Background:

Previous studies showed a higher risk of maternal morbidity amongst non-white ethnic groups, but were unable to investigate whether this excess risk was concentrated within specific black and other minority ethnic groups in the UK. Our aim was to analyse the specific risks and to further investigate reasons for any disparity.

Methods:

Unmatched case-control study using data from the United Kingdom Obstetric Surveillance System (UKOSS), February 2005-January 2013. Cases were 1,753 women who experienced severe morbidity during the peripartum period. Controls were 3,310 women who delivered immediately before the cases in the same hospital. Multivariable logistic regression modelling was used to adjust for known confounders and to understand their effects.

Results:

Compared with white Europeans, the odds of severe maternal morbidity was 83% higher among black African women (adjusted odds ratio (aOR)=1.83; 95% Confidence Interval (CI)=1.39-2.40), 80% higher among black Caribbean (aOR=1.80; 95% CI=1.14-2.82), 74% higher in Bangladeshi (aOR=1.74; 95% CI=1.05-2.88), 56% higher in other non-whites (non-Asian) (aOR=1.56; 95% CI=1.05-2.33) and 43% higher among Pakistani women (aOR=1.43; 95% CI=1.07-1.92). Adjusting for parity, smoking status, age, inadequate utilization of antenatal care (ANC) and pre-existing medical conditions explained 14% of the increased odds in black Caribbean and 17% in black African groups, but only about 3% in the remaining.

Discussion:

This national study demonstrates an increased risk of severe maternal morbidity among women of ethnic minority backgrounds and suggests that factors such as inadequate utilization of ANC, high parity and belonging to at-risk age groups may explain some of this increased risk.

DISSAGREGATION OF ADOLESCENT FIRST BIRTH DATA FOR IMPROVED PROGRAMME PLANNING AND MONITORING IN EAST AFRICA

Authored By: Sarah E Neal.

Author Affiliations: University of Southampton.

Discussion:

The importance of the adolescent fertility rate (AFR) as a measure of a nation's reproductive health is highlighted by its choice as an indicator within the Maternal Health MDG. However, the use of a single national figure fails to capture the complex patterns and inequalities that occur within countries, as well as the differing contexts in which these pregnancies occur. Further disaggregated data that examine patterns and trends for different groups are needed to enable programmes to be focused on those most at risk and ensure approaches can be targeted for different populations.

This poster describes a comprehensive analysis of adolescent first births using disaggregated data from Demographic and Household (DHS) surveys for three East African countries: Uganda, Kenya and Tanzania. We produce cross-sectional and trend data on adolescent motherhood by marital status, wealth, education, state or district, urban/rural residence and religion. A particular focus of the work is to analyse different patterns and trends by age: in some countries girls may begin their reproductive careers as early as 12, and will obviously face very different experiences and risks to older adolescents. We also use multinomial logistic regression to analyse the social and economic determinants of adolescent first birth with outcomes divided by age (under 16, 16-17 and 18-19). The findings identify groups of adolescents that are particularly vulnerable to adolescent births (including groups with particular risk of birth before the age of 16), and highlights populations where progress has been particularly poor in reducing teenage births.

RISK OF DEATH ON THE DAY OF BIRTH: RECEIVING WIDESPREAD MEDIA ATTENTION THROUGH A PARTNERSHIP WITH SAVE THE CHILDREN

Authored By: Shefali Oza, Simon N Cousens, Joy E Lawn.

Author Affiliations: London School of Hygiene and Tropical Medicine.

Discussion:

The first few days after birth are the riskiest in the human lifespan, but no systematic estimates evaluating this risk exist. We developed a model to estimate the risk of death for the first day and week of life for 186 countries for Save the Children's (STC) 2013 State of the World's Mothers (SOWM) report. Remarkably, we found a very consistent pattern between different income levels, regions, and levels of neonatal mortality rate with, on average, around 35% of newborn deaths happening on the day of birth and 75% in the first week. Thus, a shocking one million babies die annually on their day of birth.

Since its May 7th publication, our risk estimates have received considerable attention through the 2013 SOWM report. By early June, STC estimated the report had 3,100+ media placements in over 100 countries, including major coverage in India, which has the largest number of babies dying on their birth day. The work was featured in local, national, and international media. Major launch events occurred at the UN and World Health Assembly, as well as STC offices worldwide. An STC internal assessment found that a key factor for the substantial media coverage was that the report contained original research, which is rare for such reports. By working closely with the research and media teams at STC, we generated widespread coverage for our research on a topic that is otherwise often overlooked.

SOCIAL AND CULTURAL FACTORS INFLUENCING WOMEN'S ANTENATAL ATTENDANCE AT THE OLD JESHWANG HEALTH CENTRE, THE GAMBIA: AN IN-DEPTH QUALITATIVE INTERVIEW STUDY OF WOMEN, MEN/HUSBANDS AND KEY INFORMANTS

Authored By: K K Rafique, S S Varothayasingham, S P Laing, M J F Cooper, J B Dukureh.

Author Affiliations: Brighton and Sussex Medical School, Ardingly Old Jeshwang Association.

Aims:

Adverse birth outcomes remain common in The Gambia. Attendance at WHO endorsed antenatal care (ANC) services is key to reducing this. This qualitative study aimed to explore social, cultural and practical influences on antenatal attendance at one semi-urban health centre.

Methods:

In-depth interviews were conducted with 20 pregnant women, 8 male partners and 13 key informants (KI). Recruitment was a mix of convenience with subsequent chain ("snowball") sampling. Interviews were electronically recorded, transcribed, and examined using thematic analysis. The candidacy framework¹ was employed to interpret findings.

Results:

Key themes were identified. Women were reluctant to prioritise ANC over household work. Social stigma delayed attendance of unmarried and older married women. Fear of miscarriage and belief in "black magic" caused women to conceal pregnancies during the first trimester. Men and women's responses were broadly similar, however men were more likely to report money as a barrier to ANC access. Men stated that they were main decision-makers and many women reported seeking their permission before attending ANC. Men denied ever preventing their wives' attendance. KIs identified "ignorance" of healthcare and lack of education as the main reasons for delayed attendance. Many KIs refused to accept cultural superstitions as credible reasons for delaying ANC and two denied late attendance was a problem.

Conclusions:

Delayed ANC attendance is heavily influenced by socio-cultural and religious factors, and not simply due to "ignorance". The candidacy model is useful to interpret ANC access in Africa. Focused support for vulnerable single and older women is needed to encourage earlier attendance.

References:

¹M Dixon-Woods, D Kirk, S Agarwal, E Annandale, A Arthur, J Harvey, R Hsu, S Katbamna, R Olsen, L Smith, R Riley, A J Sutton (2006). "Conducting a critical interpretive synthesis of the literature on access to healthcare by vulnerable groups." *BMC Medical Research Methodology* 6(35).

CHILDBIRTH IN CHINA: WOMEN'S VOICES

Authored By: Joanna Raven, Nynke van den Broek, Fangbiao Tao, Huang Kun, Rachel Tolhurst.

Author Affiliations: Liverpool School of Tropical Medicine.

Discussion:

China has made great strides in reducing maternal and neonatal mortality. In the context of both improved utilisation and outcomes, and rapid socio-economic development and health system reform, it is timely to consider the quality of services. There is limited data available, particularly in rural areas, on quality of maternal health care. Recent studies have identified high CS rates throughout China, suggesting the need to explore the processes underlying these rates. Women's expectations and experiences of delivery services are an important part of understanding the situation.

Using a qualitative research design, thirty five semi-structured interviews and five focus group discussions were conducted with women who delivered in the past 12 months in the selected 8 facilities of one rural County in Anhui Province. Data were transcribed, translated and analysed using Framework approach.

Expectations such as having an NVD, skilled providers and privacy during childbirth were met. Other aspects were not met including place of delivery, companionship during labour, pain relief, cleanliness of the environment, and participating in decision making.

Listening to women voices about their expectations and experiences of care is vital if we are truly committed to providing good quality care. This study illustrates the need to build accountability and communication between providers and women and their families for improved quality of care and informed consent and decision making. This has implications for continued clinical quality, costs to women and their families as well as to the health system, and for birth outcomes in the widest sense.

THE VISUAL SISTERHOOD METHOD BY ILLITERATE MAASAI TRADITIONAL BIRTH ATTENDANTS: A PILOT STUDY

Authored By: Yadira Roggeveen¹, Renske Schreuder¹, Joske GF Bunders¹, Jos van Roosmalen^{1,2,3}.

Author Affiliations: ¹Athena Institute, Vrije Universiteit, ²VU Medical Centre, ³Leiden University Medical Centre (Netherlands).

Background:

Involving communities in monitoring and evaluation through Quantitative Participatory Methods could create a 'win-win': communities gain in analysis, action and voice, and scientists/practitioners through the insights generated. Illiterate Maasai traditional birth attendants (TBAs) in Ngorongoro, Tanzania, were interested in measuring MMR, as maternal deaths were encountered, but the magnitude of the problem not felt. Previously, Maternal Mortality Ratio (MMR) was estimated at 642 (R B Johnson et al, 2005).

Objective: To test if illiterate TBAs could be involved in measuring MMR.

Methods:

Practitioners, researchers and TBAs collaboratively adapted the WHO Sisterhood method (1997) into a visual tool, which was pilot tested.

Results:

14 TBAs interviewed 496 women, leading to a Sisterhood sample size of 2241 (respondents plus sisters) and MMR of 689 (CI 419-959). A trained research assistant performed a Sisterhood in the same area, including 474 respondents, leading to a Sisterhood sample size of 1487 (respondents plus sisters) and MMR of 484 (95% CI 172-795). Challenges encountered will be discussed. Advantages included: increased awareness amongst TBAs that maternal mortality was not exceptional, but a shared experience. TBAs were involved in presenting results to hospital staff, local leaders and politicians, advocating action to reduce maternal deaths.

Conclusion:

Quantitative Participatory Methods can and should be applied in maternal health research to increase its potential. Illiterate TBAs are able to perform the Visual Sisterhood Method, which needs further improvement. We invite others to test, develop and improve the Visual Sisterhood Method.

References:

R Chambers (2010). A Revolution Whose Time Has Come? The Win-Win of Quantitative Participatory Approaches and Methods. *IDS Bulletin*, 41, 45-55.

R B Johnson, M Magoma, P W Leslie, T Bennett, MG (2005). Maternal mortality and morbidity in Ngorongoro district, Northern Tanzania.

As cited in: M Magoma, J Requejo, O M R Campbell, S Cousens, V Filippi (2010). High ANC coverage and low skilled attendance in a rural Tanzanian district: a case for implementing a birth plan intervention. *BMC Pregnancy and Childbirth* 2010, 10; 13.

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CARBETOCIN VERSUS OXYTOCIN FOR PREVENTION OF POSTPARTUM HAEMORRHAGE: A RANDOMISED CONTROLLED TRIAL

Authored By: Sergio Rosales-Ortiz, Rogelio A Pérez Aguado, Roberto Sanchez Hernandez, Maria Castorena, Flor G Lucas Cristobal, Miriam A Carbajal González, Ioannis D Gallos, Arri Coomarasamy.

Author Affiliations: University of Birmingham.

Objective:

Postpartum haemorrhage (PPH) is the leading cause of maternal death worldwide. Prophylactic uterotonics are effective in reducing PPH, and the drug of choice is oxytocin. Carbetocin, a newer analogue of oxytocin, has greater biological effect and longer half-life. It is also more heat-stable than oxytocin, which is of critical importance to resource poor settings. In this study, we compare the effectiveness of carbetocin with oxytocin.

Design: A randomised controlled trial.

Setting: Tertiary maternity hospital in Mexico.

Participants: 1210 pregnant women with at least one risk factor for PPH.

Interventions:

Carbetocin 100 mcg as a single intravenous bolus compared with oxytocin 20 international units as a 6-hour infusion, administered immediately after childbirth.

Main outcome measures:

The primary outcome was PPH exceeding 500 ml. Secondary outcomes included the volume of blood loss, severe PPH (blood loss > 1000 ml), change in haemodynamic and clinical variables within 24 hours of childbirth, and the need for additional uterotonic treatment.

Results:

There was a reduction in PPH with carbetocin when compared with oxytocin (18.4% vs. 25.8%; RR=0.67, 95% CI: 0.54, 0.83; NNT 14, 95% CI: 8, 37). For the secondary outcomes, the mean blood loss was less with carbetocin when compared with oxytocin ($366 \pm SE 7.8$ ml vs. $400 \pm SE 7.6$ ml, $p < 0.001$). The incidence of blood transfusion was similar in the two groups (1.7% vs. 2.6%; RR=0.67, 95% CI 0.31 to 1.38). The incidence of severe PPH did not differ between the two groups (1.3% vs. 1.6%; RR=1.15, 95% CI 0.42 to 3.16). Fewer participants receiving carbetocin required additional uterotonics (1.5% vs. 5.8%; adjusted RR = 0.3; 95% CI 0.14 to 0.61), and fluid resuscitation (20.6% vs. 24.2%; adjusted RR = 0.77, 95% CI 0.62 to 0.95). No significant difference in the haemodynamic variables was found.

Conclusions:

This is the largest trial comparing carbetocin with oxytocin. An updated meta-analysis, combining the results from six randomised trials, including this study, found that carbetocin was associated with a reduction of PPH compared with oxytocin.

PREVALENCE OF GESTATIONAL HYPERTENSION AND PROTEINURIA DURING PREGNANCY AND IN THE POST-PARTUM PERIOD: A COMMUNITY-BASED, PROSPECTIVE COHORT STUDY IN THE BRONG-AHAFO REGION OF GHANA

Authored By: Caitlin Shannon, Alex Manu, Karen Edmond, Sam Newton, Gyan Thomas, Seeba Amengo Etego, Charlotte Tawiah, Lu Gram, Maureen O'Leary, Seth Owusu Agyei, Betty Kirkwood, Lisa Hurt.

Author Affiliations: London School of Hygiene and Tropical Medicine.

Background:

Hypertensive diseases of pregnancy are a major cause of maternal and perinatal mortality and morbidity world-wide. Few community-based studies of the prevalence of hypertension (defined as diastolic of 90 mmHg or above or systolic of 140 mmHg or above) and proteinuria during pregnancy are available from low income countries. In addition, studies in which information on gestational hypertension in the community is linked with information on care-seeking are lacking, especially in sub-Saharan Africa.

Methods:

This prospective cohort study was conducted in the Brong Ahafo Region in Ghana. Data collection started on July 1st 2012 and will end on July 31st 2013. Study participants were pregnant women providing written consent. They were visited at home up to three times during pregnancy (at 6, 8 and 9 months), within a week of delivery and around 8 weeks postpartum. Data on pregnancy outcomes, morbidities, and care-seeking were collected at each visit, along with blood pressure and protein urine measurements. Data on admissions and referrals were collected in the four main district hospitals and all health centres in the study area, with the woman's unique identifying number allowing for linkage between community and facility data.

Findings:

To date 12,774 participants have been enrolled, and 11,433 have delivered (90.0%). Over 80% are expected to have complete postpartum measurements by the end of follow-up. Preliminary analyses suggest that the percentage of women with a diastolic blood pressure \geq 90 mmHg measured in the community is 1.8% in late pregnancy (32 or more weeks' gestation), 2.9% in the first week postpartum and 2.1% after the end of the postpartum period (7 or more weeks' postpartum).

At the conference, we would like to present data on the community-based prevalence of hypertension, pre-eclampsia and eclampsia in the study population and an analysis of the care-seeking patterns and hospital diagnoses in women with and without these conditions. Lastly, we would also like to present our experiences of setting up a large-scale data collection system in rural Ghanaian communities, measuring blood pressure and proteinuria in women's homes using research staff with no previous medical training.

BIRTH PREPAREDNESS, CARE-SEEKING AND PERINATAL SURVIVAL: A PROSPECTIVE COHORT STUDY IN THE BRONG-AHAFO REGION OF GHANA

Authored By: Caitlin Shannon, Alex Manu, Karen Edmond, Sam Newton, Gyan Thomas, Seeba Amengo Etego, Charlotte Tawiah, Lu Gram, Maureen O'Leary, Seth Owusu Agyei, Betty Kirkwood, Veronique Filippi, Lisa Hurt.

Author Affiliations: London School of Hygiene and Tropical Medicine.

Background:

Reducing the global burden of perinatal mortality is critical to achieving the Millennium Development Goals. Studies of birth preparedness in sub-Saharan Africa and South Asia suggest that it can increase facility delivery, which is associated with improved perinatal outcomes. However, most evidence is retrospective and there are no published studies either using a validated measure or in Ghana. The aim of this PhD research project was to develop a valid measure of preparedness and to apply that measure to assess the complex relationship among preparedness and care-seeking and birth outcomes in the Brong-Ahafo Region of Ghana.

Methods:

This population-based, prospective cohort study was conducted in the Brong Ahafo Region of Ghana. Study participants were pregnant women providing written consent. Women were visited in their homes up at 6 months, 8 months and 9 months pregnancy, once within a week of delivery and once after the end of the postpartum period, during which data on morbidities, care-seeking, facility admission and pregnancy outcome were collected. Data on birth preparedness were collected at the 8-month visit.

Findings:

Between 15 July 2012 and 15 May 2013, 9,831 participants were enrolled in the cohort and provided complete birth preparedness data (98.7%, N=9,963 total enrolled). Among the 7,623 completing postpartum follow-up to date (77.5%), the perinatal mortality rate was 30.2 per 1,000 deliveries, including 126 stillbirths and 108 neonatal deaths.

Preliminary analysis, using a composite indicator for preparedness (that has not been validated), women considered sufficiently prepared were no more likely than those who were not to experience a perinatal death (RR=1.03; 95% CI [0.77-1.39]; p=0.81). There was weak evidence that prepared women were less likely to experience a stillbirth (RR=0.77; 95% CI [0.54,1.08]; p=0.12), while women delivering at home were no more likely to experience a stillbirth (RR=0.96; 95%CI [0.65,1.45]; p=0.86).

At the conference, we plan to present our validated index and its association to stillbirth, neonatal death and perinatal death and care-seeking patterns.

HOW DID AN 'APPRECIATIVE INQUIRY' INTERVENTION TO IMPROVE INFECTION CONTROL IN MATERNITY CARE WORK? A QUALITATIVE STUDY IN INDIA

Authored By: Bharati Sharma¹, KV Ramani¹, Dileep Mavalankar², Lovney Kanguru³, Julia Hussein³.

Author Affiliations: ¹Indian Institute of Management (Ahmedabad, India), ²Indian Institute of Public Health (Gandhinagar, India), ³University of Aberdeen.

Objective:

To investigate how Appreciative Inquiry (AI) influenced infection control practices. This study was a part of a larger interrupted time series study.

Methods:

AI, an organisational change agent focuses on positive aspects (what is done well). During the intervention, all cadres of hospital personnel were brought together to share their experiences of saving women's lives during childbirth. They agreed on do-able action plans for improving infection control in their hospitals. Between three and six months after the intervention, 31 in-depth interviews were conducted and observation checklists used to investigate the perceived influence of AI on clinical practices, human resource management and work culture.

Results:

AI was perceived as having a positive influence on team relationships; improving communication across the power hierarchy of hospitals; fostering trust and cooperation with inclusion of the marginalized and non-technical staff in the team; and developing better understanding of one's own role and those of the others. The intervention did not lead to changes in human resource policies, financial and information systems or leadership and governance. Pre-existing factors such as power and autonomy of leaders, the leader's motivation for change, leadership styles and a background of organizational reform such as accreditation influenced the AI process.

Conclusions:

AI can lead to changes in infection control practices in hospitals. AI meetings serve as a forum for team building, shared decision making, problem solving, capacity building and a means for developing a shared ideology and values for service delivery, thereby setting-up an organisational 'work culture'. Reforms such as accreditation appear to put organizations into a receptive, high alert, active mode.

MATERNAL HEALTH PROMOTION - A POST 2015 STRATEGY?

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Author Affiliations: ¹Bournemouth University, ²Green Tara Trust, ³University of Sheffield, ⁴Barcelona Centre for International Health Research (CRESIB), Universitat de Barcelona (Spain), ⁵Institute of Clinical Effectiveness and Health Policy (Buenos Aires, Argentina).

Keywords:

Tradition, South Asia, development, low-income, community, health promotion, socioeconomic factor.

Discussion:

Nepal is the 17th poorest country in the world. Women are not the main decision-makers with regards to their reproductive health. Green Tara Trust (GTT) set up a programme to improve the uptake of maternal care practices in rural Nepal via health promotion activities in the community. The programme is novel because it seeks to improve maternal health service uptake via bottom-up participatory methods.

This research aimed to compare the effectiveness of the GTT health promotion strategy, with standard care for mothers in a developing country community setting.

The research was a mixed-methods evaluation of a maternity care intervention in rural Nepal. Data were collected using a controlled before-and-after, cross-sectional survey; with socio-economic, cost and health uptake questions. Survey findings from 1227 women, with their last child less than 2 years old, were combined with focus group and key informant interview findings to understand the impact of health promotion on decision-making.

The relation between the maternal health uptake belonging to the intervention group, and the respondents' background (education, household income and parity) was examined.

The health promotion intervention appeared to improve maternal health uptake. Low educational level, low household income, and multiparity were risk factors for non-attendance. The evaluation suggests that practice should be socio-culturally appropriate and inclusive not only of women but also their families. This evaluation has implications for Nepalese practice and policy; the finding that maternal health promotion is central to achieving maternal health goals nationally suggests that health promotion should be part of the nurse midwifery curriculum.

IMPROVING MATERNAL HEALTH PRACTICES AND SIGNIFICANT DRIVERS OF CHANGE IN FOUR COUNTRIES: MEASUREMENT, PRELIMINARY INSIGHTS AND LESSONS LEARNED

Authored By: Laura Smethurst, Catherine Harbour, Natalie Maplethorpe, Laxmi Chhaya, Zoe Fortune, Kavita Abraham-Dowsing.

Author Affiliations: BBC Media Action.

Background:

BBC Media Action is developing TV and radio programming to help improve maternal health behaviours in Bangladesh, Ethiopia, India and South Sudan. Standard measures are being used across the four countries to measure programming impact upon health seeking practices and the potential drivers of change: knowledge, attitude, self-efficacy, social norms and interpersonal discussion (Fishbein and Cappella, 2006).

Methods:

Programming impact will be assessed using a longitudinal study design. Cross-sectional surveys will be conducted at baseline, midline and endline in each country over a two to three year period. Approximately 8,000 women with an infant aged 0-9 months will be surveyed at each time point. Differences in outcomes between women exposed to the programming and those not exposed will be examined at midline and endline. Formative qualitative research was conducted at the start of the project to inform programming and additional qualitative research will be conducted to help understand impact and provide contextual information at country-level on how potential drivers might impact behaviours.

Findings:

Insights from the formative research and the baseline data are currently being aggregated. Some interesting insights are emerging, which will be available in autumn 2013. Research continues and full findings on programming impact and on the relationships between behaviours and potential drivers will be available in 2016/17.

Interpretation:

Preliminary insights will highlight similarities and differences in enablers of and barriers to uptake of recommended maternal health practices across the four countries. The implications for programme design and measurement development will be discussed.

GENITAL FISTULA IN MALAWI

EPIDEMIOLOGY, AETIOLOGY AND SURGICAL OUTCOMES

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Introduction:

Every year more than 350,000 women die due to pregnancy related complications, for every woman that dies, 15 to 30 others survive, but suffer from disabilities – including fistula. In Malawi the prevalence varies from 0.064/1000 - 1.6/1000 women.

Method:

A retrospective audit was carried out looking at all operative repairs of genital fistulas carried out over two camps, which included 150 women.

Analysis:

From 150 women the mean age of repair was 32 years old, 14% were primipara while 14% were grandmultiparas. Poor obstetric care is linked to social inequalities; of these women 30% received no education and 60% only partial primary education. VVF has many social implications, 35% of these women were divorced as a result.

The majority of cases were secondary to obstructed labour with 48% resulting in c-section, 46% svd and 5% an instrumental delivery. Fetal outcomes were poor with 60% resulting in Stillbirth and 28% an early neonatal death. Also 9% of fistulas were iatrogenic or secondary to cancer.

From the fistulas 30% were vesicovaginal, 31% urethrovaginal and 4% rectovaginal. 14% were rarer types such as ureteric, vault and cervical vaginal fistulas. There are often huge delays from insult to surgery with only 32% having had an operation within a year; also 20% had previously had unsuccessful surgery. Although repairs are difficult, in experienced hand the outcomes were good- 94% left the hospital cured.

Conclusion:

Obstetric fistula remains a major problem in developing counties, with prolonged obstetric labour being the biggest cause. Improving obstetric services and access can help decrease this.

MATERNAL DEATH: THE ELEPHANT IN THE ROOM: A GROUNDED THEORY OF COMMUNITY'S PERCEPTIONS AND EXPERIENCES OF MATERNAL DEATH IN ACEH, INDONESIA

Authored By: Suryane Susanti, Christine Furber, Tina Lavender.

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Background:

Indonesia has one of the highest rates of maternal mortality rate (MMR) in South East Asia. Community participation has been effective in reducing maternal mortality in some areas in Indonesia. However, in Aceh province, the prevalence remains higher than the general Indonesian MMR.

Aim:

To gain understanding of pregnancy and childbirth experiences from multiple perspectives in relation to the use of maternal health services in Aceh.

Objectives:

To explore the role of the community in influencing maternity practices/decisions. To explore factors which promote and hinder engagement with the maternal health programme.

Methodology and Setting:

The conceptual framework is based on the importance of community engagement in improving maternal health. A qualitative study design, with a Grounded Theory approach was utilised. This approach was chosen to gain understanding of social processes and ways in which the experience of pregnancy and childbirth occur. Ethical approval was gained. The setting was in two villages of Aceh Besar District in Aceh, Indonesia.

Analysis and Result:

Interviews were conducted with 19 women, 15 family members, 2 midwives, 3 kaders, 1 student midwife and 1 village leader. Focus Group Discussions were conducted with a group of 3 senior midwives and another group with 3 student midwives. Four observations were conducted at the midwife's private clinics, health centre and in the community. The main emerging themes are: the value of midwifery in the community, decision making of maternity care, social control of childbearing and distancing of maternal deaths.

Implications:

Understandings of social processes related to maternal health can assist in informing strategies to improve the quality of maternal health care in Aceh, Indonesia.

NEURODEVELOPMENTAL OUTCOMES IN PRETERM BIRTHS: EVIDENCE FROM LOW-INCOME COUNTRIES

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Background:

The improvement of neonatal care has led to increased survival of preterm infants. About 15 million babies – accounting for more than 1 in 10 of all infants born in 2010 were premature. Of the top 10 countries with the largest number of preterm births, 9 of them are in low-income countries. These infants face both immediate and lifelong health complications as a result of the complications of preterm delivery. Recent studies have shown that about 40% of these children may have learning difficulties with up to 15% having major physical impairments requiring special education. The expenses of long-term care for individuals with disabilities due to preterm is a significant cost factor in healthcare.

There is little information on the burden or prevalence of long-term neurodevelopmental impairment in low-income countries, where the highest proportion of neonatal morbidity occurs. As such, the long-term effect of prematurity in infants is unknown as most populations studied are from the developed countries.

Aims:

This review aims to show the risk of neurodevelopmental disorders in preterm infants from low-income countries.

Methods:

We conducted a database search on Medline and Embase from conception to August 2013 and selected studies that compared neurodevelopmental outcomes assessed as standardised tests of a term cohort and preterm cohort in a developing/low-income country. There were no language restrictions on the searches and a formal assessment of the study quality was undertaken using the Newcastle Ottawa Scale (NOS).

Results:

There were 4 papers in total with all 4 full papers available for review.

Four studies (2 from China, 1 from Brazil and 1 from India) evaluated psychomotor, perceptual motor, executive function, IQ and cognitive outcomes in 283 preterm infants with gestational age ranging from <28 to 37 weeks.

Interpretation:

The review showed that there are long term negative outcomes for babies born prematurely, however more studies are needed in this area.

WHEN LAW MEETS REALITY: LIFE-SAVING AND HEALTH-PRESERVING PREGNANCY TERMINATION WORLDWIDE

Authored By: Ewa Truchanowicz.

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Discussion:

Abortion laws are showing a trend for liberalisation worldwide, but there plenty of examples for ineffectiveness of legal codes in provision of safe and accessible abortions in practice. There are some countries in the world where abortion, even for life-saving or health-preserving reasons, is illegal. In some cases the criminal penalties can be avoided by invoking other co-existing laws, but this complex process is not always readily available to women requiring termination to preserve their lives or health. In other countries access to legal and safe abortion for medical reasons (life-saving or health-preserving) is enshrined in law, but in practice the access is highly restricted. Several cases are presented demonstrating how such restrictions result in devastating consequences. Proponents of restrictive abortion laws claim these will limit the number of abortions, but evidence to date demonstrates that they merely push abortion into the grey zone of illegal practice, with no effect on the overall total number of procedures. Restrictive laws relating to abortion per se, and limiting women's reproductive choices, ultimately result in restricted access to abortion on medical grounds leading to health-impairment and deaths.

THE EFFECTS OF REDEFINING THE ROLE OF TRADITIONAL BIRTH ATTENDANTS: MULTI-ACTOR PERCEPTIONS FROM MALAWI

Authored By: Isabelle Uny.

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Discussion:

Traditional Birth Attendants (TBA) are non-formally trained, community-based providers of care during pregnancy and birth. The effectiveness of decades of training TBAs to reduce maternal mortality has been extensively researched and debated. The late 1990s demise of the TBAs coincided with the WHO shift in focus towards promoting skilled birth attendants (SBA) presence at every delivery.

In 2007, in Malawi, in a radical move, the Government banned TBAs from conducting deliveries, based on its own assessment of the ineffectiveness of TBA training in improving maternal outcomes, and WHO recommendations. However, the downsizing of TBAs' roles is complicated by the enduring lack of adequate facilities and SBAs available to pregnant women, and the negative experiences women sometimes have in facility-based deliveries.

In this novel qualitative study, forty four in-depth interviews and twenty one focus group discussions were conducted in three rural areas of Central and Southern Malawi, to explore perceptions of the TBAs redefined role from the perspectives of TBAs themselves, SBAs, women, men, and other stakeholders. Initial analysis, using grounded theory methodology, shows discontent on the part of TBAs, their sometimes partial compliance with the ban, and their definite concerns over the current lack of linkages between TBAs and SBAs, both of whom serve women maternal health needs.

Although mortality is steadily reducing in Malawi, this study calls for a more qualitative look at the context and real consequences of such a policy shift.

ASSESSMENT OF KNOWLEDGE AND PRACTICE OF PHC WORKERS ON CAUSES AND RISK FACTORS OF MATERNAL MORTALITY IN ZAMFARA STATE, NORTHERN NIGERIA

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Keywords: Maternal mortality, knowledge of causes/risk factors, PHC workers, Zamfara.

Introduction/Background:

Maternal Mortality still remains a public health concern in Nigeria, and indeed in some other developing countries. A startling number of women still die each year from causes linked to pregnancy and childbirth. According to 2012 estimates 287,000 women die, which translates into nearly 800 women per day and more than 30 in one hour. Eighty five per cent of these deaths occur in sub-Saharan African and South Asia. Many if not most are thought to be avoidable. The major causes in our environment are indeed avoidable, curable or preventable and they include haemorrhage, sepsis, unsafe abortion, eclampsia and obstructed labour. Since most maternal death occur during delivery and post partum period, thus emergency obstetric care, skilled attendants at birth are therefore among the necessary components of strategies to reduce maternal mortality.

Methodology:

Structured close ended questionnaires, were administered to 350 respondents, also focus group discussion to collect data on knowledge and practice of frontline (PHC) workers with regard causes and risks of Maternal Mortality and Morbidity was used.

Results:

Of the 350 respondents, more than 70% were community health extension workers (CHEWS), 94% of the respondents were males. All respondents heard about maternal mortality, but only 60% knew about some direct causes of maternal mortality, while only 30% had good knowledge of the risk factors associated with Maternal Mortality.

A low percentage had good knowledge of danger signs during pregnancy, delivery and post partum period. Also found in the study was that up to 80% of the Primary Health Care (PHC) facilities lacked standard labour ward.

Conclusion:

The study revealed inadequate knowledge about the causes and major risk factors of maternal mortality among Primary Health Care (PHC) workers and poorly developed infrastructure to address these menace. This call for concerted effort in form of in house training and retraining of these important categories of health workers in our settings.

COMMUNITY LEVEL APPROACHES TO REDUCING CULTURAL AND ETHNIC BARRIERS TO MATERNAL HEALTH IN PERU

Authored By: Nicole Vidal.

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Discussion:

Despite being a middle income country, Peru has one of the highest maternal mortality rates in the Americas. According to Amnesty International, poor, rural indigenous women are more likely to die from pregnancy related complications because they are denied the same level of maternal health services other women in the country receive. Barriers to care include geographic isolation, health staff who do not speak indigenous languages, and cultural and ethnic discrimination. One approach to improving access to health services has been through the use of Community Health Worker (CHW) programmes. Although CHWs are recognized as an important frontline health source, there is a significant lack of literature concerning their role as community level providers of maternal health services.

Using a combined grounded theory and case study methodology, this study investigates the experiences of CHWs working in Andean communities and their relationships with other community members and health and social service professionals. Findings from this study suggest that CHWs bring care directly to their communities in a way that community members can relate to and feel comfortable with while also forming part of the wider health system. Focusing on participants' reports of challenging cultural and ethnic barriers through adopting professional affiliation, this study identifies CHWs as a vital link between rural community members and other providers of these services. CHWs are therefore valuable community level health providers and important to improving access to maternal health services.

ROOM FOR ONE MORE? EXPLORING THE PRACTICALITIES AND ATTITUDES OF INTEGRATING COMMUNITY MATERNAL BLOOD PRESSURE MONITORING INTO THE EXISTING HEALTHCARE SYSTEM OF MALAWI

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Background:

In many developing countries pre-eclampsia is under-detected due to low antenatal care attendance. This could potentially be improved using trained community volunteers to measure maternal blood pressure (BP). Malawi has existing structures for community health monitoring and a culture of unpaid volunteering. This study aimed to evaluate the feasibility of integrating antenatal BP screening by volunteer health-workers into Malawi's existing healthcare system.

Methods:

Two questionnaires were circulated amongst a convenience sample from four community outreach clinics around Pirimiti Hospital, Malawi (Response rate: 53.3%). Questionnaire 1 targeted community nurses, midwives and Health Surveillance Assistants (HSAs) (N=15); exploring their skills, workload and receptiveness to additional projects. Questionnaire 2 targeted community volunteers (N=17); exploring the practicalities of incorporating them into a pre-eclampsia screening project and their motivations for volunteering.

Results:

HSAs conduct a wide range of public health initiatives. 80% felt positive toward taking on maternal BP monitoring within outreach clinics, though 72% stated that they would need extra training. Most felt that payment was required. All local volunteers were unemployed members of the community, with many having multiple roles. The average time commitments were 10 hours a week, equating to part-time hours. However, a high drop out rate was cited. Although self-reported motivations were primarily to benefit their community, expectations and lack of clarity regarding payment were described. Other concerns included transport difficulties and training deficits.

Conclusions:

A large-scale project should incorporate HSAs to supervise volunteers. Volunteers could be incentivised with bicycles, uniforms or money for meals to reduce the drop-out-rate.

CAN MISOPROSTOL LIFT YOUR MOOD? DATA FROM A PLACEBO-CONTROLLED RANDOMISED TRIAL OF SELF- ADMINISTERED MISOPROSTOL FOR PPH PREVENTION IN RURAL UGANDA

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Objective:

To describe the postnatal quality of life in Eastern Ugandan women, and assess its relationship to intrapartum variables.

Design: A placebo-controlled, double-blind randomised trial.

Participants:

Pregnant women at least 34 weeks of gestation living in Mbale district Uganda were recruited at a regional hospital and 3 health centres.

Intervention:

Pregnant women attending four antenatal clinics over a 2-month period were randomised. They were given either misoprostol (600µg) or identical placebo to be self-administered orally if they did not reach a facility for delivery. After delivery, the women were visited at home (ideally at 3-5 days postnatally) and their quality of life assessed using adapted Dartmouth COOP scales.

Results:

748 women were randomised to either misoprostol or placebo and 700 (94%) followed up. The clinical outcomes are reported elsewhere. Responses were influenced by delivery complications and poor outcomes, but only 0.6% described their postnatal quality of life as 'pretty bad' or 'very bad'. Of those who took the study drug, women in the misoprostol arm reported significantly higher mood (73% vs 57%; $p=0.02$) irrespective of place of delivery. There were no other differences in quality of life between the groups.

Conclusion:

Ugandan women generally describe a good quality of life postnatally, but this is influenced by complications. Women receiving misoprostol had significantly higher mood postnatally – further research is needed to confirm this.