GLOBAL
HELSE
NORGE

2019

Abstract book

NORWEGIAN GLOBAL HEALTH CONFERENCE

BERGEN

Contents

"Equity in Out of Pocket Health Care Expenditure in Turkey: An Analysis of 2004 – 2013 Years",

Cheyhan, R, Institute of Health Sciences, Ankara University, PhD Thesis, Ankara, Turkey, 2018.

Health financing can be defined as means of creation of resources necessary to cover health care costs. Aim of health care financing is to create sufficient and sustainable resources to ensure all individuals to access health care. There are also other aims that are productive use of resources, insurance of equity in finance while providing financial protection for all, and protection of households against poverty with means of creation of resources.

Equity in health means absence of systematic differences among groups who have different levels of social advantaged and disadvantaged, and major social determinants of health. Equity in health financing means that individuals make contributions to health care financing in proportion with their financial power. Vertical equity in health financing means that individuals who have different levels of income contribute health financing differently, and horizontal equity means that individuals who have the same level of income contribute health financing the same amount.

In this study, vertical equity in out of pocket health expenditures of 2004 – 2013 years in Turkey was researched. Data of 2004 – 2013 Household Budget Surveys done by Turkish Statistical Institute were used. Descriptive statistics were held by analysing data with SPSS. Concentration indexes, Gini coefficients and Kakwani indexes were produced by analysing data with STATA. Research period of this study includes implementation of Health Transformation Programme that changed Turkish Health System substantially, and transition years of Universal Health Insurance.

Out of pocket health expenditures in Turkey are regressive from 2004 to 2013 years. There is -0,01 increase in regressivity from 2004 (Kakwani index is -0,31) to 2013 (Kakwani index is -0,32). From Health Transformation Programme implementation in 2003 that changed Turkish Health System substantially to transition to General Health Insurance in 2010, and after three years of this, equity in out of pocket health expenditures couldn't be ensured.

The most important improvement in equity in out of pocket expenditures is after two years of Health Transformation Programme implementation (Kakwani index is -0,29 in 2005). Then, an increase in regressivity in out of pocket expenditures is seen due to effects of economic crisis in the World. There is an improvement again in equity in out of pocket expenditures due to transition to General Health Insurance trough out the country after 2010. As a result, equity in out of pocket expenditures in Turkey for the years of 2004 – 2013 remained regressive and vertical equity couldn't be ensured.

Cross-cutting Clinical Contexts of Care to improve Competencies; A qualitative study on the experiences of Malawian nurses involved in the Blantyre-Oslo Neurosurgical exchange Program

Camilla Grøver Aukrust [1] [2] , Johanne Sundby [1], Ruth Prince [1], Patrick Kamalo [3], Chimwemwe Mula [3], Haldor Slettebø [2]

[1] *Department of Community Medicine and Global Health, Institute of Health and Society University of Oslo, Oslo Norway;* [2] *Oslo University Hospital, Oslo, Norway;* [3] *Queen Elizabeth Central Hospital, Blantyre, Malawi.*

Objective

The aim of the institutional health partnership "Blantyre-Oslo Neurosurgical Exchange Program" is to build a sustainable neurosurgical service at Queen Elizabeth Central Hospital (QECH) in Malawi. Through a six months job-training at Oslo University Hospital, the hope is to give Malawian nurses specialist training and to improve their competencies.

This study explores the experiences of the Malawian nurses who have been on the job-training in Norway by investigating main learning outcome as well as perceived applicability upon return to home community.

Methodology

During a one month field trip to QECH, data was collected through 14 in-depth interviews, a focus-group discussion and non-participant observation in the hospital. After transcription, a thematic content analysis revealed 7 main themes.

Results

Competencies gained included clinical skills, professional empowerment, coordination, collaboration and communication. Moreover, the exchange was perceived to be a transformative learning experience. The competencies were regarded as useful upon return. However, the lack of opportunities in local context coupled with growing aspirations from the exchange experience, led to feelings of demotivation for some informants.

Main facilitator for applicability of gained competencies was improvisation.

Main obstacle was the lack of support.

Conclusion

Despite different clinical and contextual environments, the job-training in Norway was perceived to be beneficial by Malawian nurses. The experience was identified as mind-opening and transformative. However, the lack of continuous support upon return was identified as a challenge.

Setting strategic objectives for the Coalition of Epidemic Preparedness Innovations: an exploratory decision analysis

Dimitrios Gouglas[1,2], Kendall Hoyt[3], Elizabeth Peacocke[1], Aristidis Kaloudis[4], Trygve Ottersen[1], John-Arne Røttingen[5]

[1] Division of Health Services, Norwegian Institute of Public Health; [2] CEPI – Coalition for Epidemic Preparedness Innovations; [3] Geisel School of Medicine, Medical School of Dartmouth College; [4] Unit of Economics and Management, Department of Industrial Economics and Technology Management, Faculty of Economics, Norwegian University of Science & Technology; [5] Research Council of Norway

Objective: The Coalition for Epidemic Preparedness Innovations (CEPI) was established in 2016 in response to the West African Ebola epidemic. The vision for CEPI is to develop vaccines to prevent future emerging infectious disease outbreaks from becoming humanitarian crises. Leaders from governments, foundations, industry, and civil society convened earlier that year to formulate CEPI's strategic objectives to support CEPI's first business plan. We demonstrate how decision analysis can support a rational and transparent approach to strategy formulation that accounts for and ranks the preferences of multiple stakeholders with diverse perspectives in an international coalition setting.

Methodology: We used value-focused thinking to identify and structure objectives and combined this with an explorative Discrete Choice Experiment (DCE) to elicit preferences between objectives. This involved 31 expert interviews and several group discussions; mapping of 251 means-ends argument chains from problem statements to fundamental objective concepts relevant to CEPI's strategy formulation; the structuring of a provisional hierarchy of CEPI objectives and policy values; and the formulation of a preferred CEPI strategy based on the preferences of 72 stakeholders elicited via a DCE survey.

Results: Four strategic objectives were defined: improving R&D preparedness; improving speed of R&D response; improving market predictability; improving equity. Prioritizing preparedness and market predictability objectives would generate the most preferred formulation of a CEPI strategy, only if some importance was also placed on equity and response speed objectives. Principles of equitable access, cost coverage, and risk/benefit sharing were perceived as boundaries within which the CEPI strategy should be operationalized.

Conclusion: Decision analytic methodologies can rationalize strategic objective setting in a highly complex global health R&D planning context characterized by strong stakeholder interests and conflicting priorities.

Prioritizing investments in rapid response vaccine technologies for emerging infections: a portfolio decision analysis

Dimitrios Gouglas[1,2], Kevin Marsh[3]

[1] Division of Health Services, Norwegian Institute of Public Health; [2] CEPI – Coalition for Epidemic Preparedness Innovations; [3] Evidera, UK

Objective: In 2017 the Coalition for Epidemic Preparedness Innovations (CEPI) launched a Call for Proposals (CfP) to select a portfolio of platform technologies that would accelerate development, manufacturing and clinical evaluation of vaccines in response to outbreaks of newly emerging infections, through a budget envelope of approximately US$ 140 million. CEPI is faced with complex decisions that involve uncertainty in platform technology performance and portfolio diversity trade-offs. This manuscript reports on the application of a Portfolio Decision Analysis (PDA) framework to support CEPI's investment decisions.

Methodology: Consultations with CEPI stakeholders and document reviews helped identify and structure the criteria against which to evaluate portfolios. 27 subject-matter experts assessed performance of 16 proposals on multiple criteria. Portfolio diversity preferences were elicited via a Discrete Choice Experiment (DCE) and were incorporated into a measure of portfolio value. A simulation-optimization algorithm identified optimal portfolio solutions under different budget constraints and a Monte Carlo simulation estimated ranking probabilities by value for each portfolio solution.

Results: Reviewer assessments varied significantly. Despite this uncertainty, an optimal portfolio emerged from the analysis that corresponded to CEPI decisions at a US$ 140 million budget constraint. The optimal portfolio only had a 60% probability of being preferred to the second-ranked portfolio, pointing to the importance of frequent monitoring of progress made by projects in which CEPI invests.

Conclusion: Despite uncertainty in proposal performance and portfolio-level effects, this study illustrates how PDA can help distinguish portfolios and support decision making, highlighting also some of the challenges likely to be encountered by such analyses more broadly.

A behavior change model for latrine construction and use in rural Côte d'Ivoire

Koffi A.V[,1,2,3,4], Essé C[,1,2], Kouassi D. [1,2], Yapi B.R.[1,2], Moro M.H.[1,2], Kouakou C.[1,2], Bonfoh B.[2], N'Goran K.E.[1,2], Utzinger J.[3,4] , Raso G* [3,4]

1 Université Félix Houphouët-Boigny, Abidjan, Côte d'Ivoire, **2** Centre Suisse de Recherches Scientifiques en Côte d'Ivoire, Abidjan, Côte d'Ivoire, **3** Swiss Tropical and Public Health Institute, Basel, Switzerland, **4** University of Basel, Basel, Switzerland
E.mail : giovanna.raso@swissthp.ch

Objective
In rural areas of low and middle-income countries, intestinal worm infections and diarrhea remain important causes of ill-health. The global strategy for the control and elimination of intestinal worm infections is preventive chemotherapy. In the short term, this method is important for morbidity control, but reinfection is likely to occur due to inappropriate hygiene practices.

Methods
The objectives of this study were to investigate factors influencing latrine construction and use, and to determine how these factors influence the outcomes of community based interventions that aim to improve accessibility to latrines (i.e. community-led total sanitation, (CLTS) and health education on hygiene and intestinal infections. In August 2014 following a behavioral change model, we conducted a knowledge, attitudes, practices, and beliefs (KAPB) baseline survey in 54 communities in Taabo, Djekanou, and Toumodi, south-central Côte d'Ivoire. After implementations of interventions, a KAPB follow-up survey was conducted in February 2016.

Results
overall 1,097 participants responded to a questionnaire at the baseline survey One out of five households reported to possess a latrine, and hence, open defecation was common. Socioeconomic status, age, sex, religion, knowledge about diseases, and educational attainment were significantly associated to latrine use. Our results suggest that latrine construction was significantly improved when CLTS was coupled with a health education intervention (Odds ratio (OR) = 67.0) compared to CLTS alone (OR = 37.74). Though many latrines were constructed, no significant association was found on latrine use following the CLTS intervention alone; in contrast, health education improved latrine use.

Conclusion
Health education has an impact on latrine construction and use. While community-based interventions appear to be highly effective on latrine construction, a longer time might be required to change behaviur with regard to latrine use, in particular if no health education is provided in addition to improved sanitation infrastructure.

Out of Pocket health expenditure and Healthcare seeking behaviour among the urban poor population in India: Implications for Universal Health Coverage

Authors: Ajay K Singh, Kaveri Haldar, LM Singh

Background: Focus on health patterns and determinants of urban poor is crucial in order to move towards universal health coverage. Published literature on morbidity profile, health seeking behaviour, out-of-pocket (OOP) healthcare expenditures and associated financial risk in this population from India is scarce.

Objectives: This study was undertaken to estimate OOP health expenditures and resultant catastrophic health expenditure (CHE) along with their determinants among the urban poor.

Methodology: A cross-sectional survey was conducted among 11,000 individuals from 2,400 urban households in 4 geographically diverse states of India. Along with socio-demographic and economic characteristics, information was collected on illness and hospitalization episodes, treatment seeking behaviour, out-of-pocket expenditure and coping mechanisms utilized. Prevalence of CHE was computed, and logit models were used to identify the determinants of CHE.

Results: Around 37% out-patient and 65% in-patient consultations were sought at 45 health facilities. Average annual household healthcare OOP expenditure was found to be INR 6,689. OOP expenditure on institutional delivery at public and private facilities was found to be INR 2,235 and INR 19,185 respectively. Households spent INR 26,850 per hospitalization, which was catastrophic for 10% of the households, and pushing 4.7% below poverty line. Catastrophic health expenditure rates were significantly higher among males, illiterates, older age groups, those hospitalized at private facilities and those reporting noncommunicable diseases as the reason for hospitalization.

Conclusion: The study not only indicate high OOP expenditure incurred by urban poor, but also point to large socio-economic inequalities. Expected policy response should comprise of interventions aimed at reducing the OOP expenditures and improving access to health care.

Keywords: Urban poor, Out-of-pocket healthcare expenditure, catastrophic health expenditure, Catastrophe and impoverishment and India.

A qualitative study on midwives´ capability, opportunity and motivation to perform evidence-based neonatal resuscitation behavior in a low resource setting

Susanna Myrnerts Höök,*[1,2] Jessica Påfs,[6] Sarah Namusoko,[4] Thorkild Tylleskär,[1] Josaphat Byamugisha,[3,5] Anna Bergström[6,7]

1. Centre for International Health, University of Bergen, Bergen, Norway
2. Sachs' Children and Youth Hospital, Stockholm, Sweden
3. Mulago National Referral Hospital, Kampala, Uganda
4. School of Public Health, College of Health Sciences, Makerere University, Uganda.
5. Dept. of Obstetrics and Gynaecology, College of Health Sciences, Makerere University, Uganda
6. Uppsala University, Women's and Children's health, International Maternal and Child Health (IMCH), Uppsala, Sweden
7. University College London, Institute for Global Health, London, United Kingdom

Abstract

Background:
Asphyxia is a main cause of neonatal mortality. Improved neonatal resuscitation guidelines implies changing behavior. Behavioral change models are useful to understand barriers and enablers. According to the COM-B model, three interacting core components generates behaviour (B): capability (C), opportunity (O) and motivation (M). Many global initiatives focus on improving capability (knowledge/skills) and opportunity (provision of items) – potentially risking not focusing on the major underlying reasons for appropriate behavior. We aimed to explore midwives´ perception on neonatal resuscitation at Mulago Hospital, Uganda, with an estimated 30 000 deliveries per year (60% referrals).

Methods:
In May 2018, we conducted semi-structured individual interviews (n=2) and focus group discussions (n=7) with midwives (n=44) at the high-risk labor ward and theater. All midwives had recently participated in the Helping Babies Breath program. Deductive thematic content analysis guided by the COM-B model was applied to enhance the understanding of factors associated with appropriate neonatal resuscitation practice.

Findings:
Capability: Midwives trust their knowledge but lack some essential theoretical parts to address complicated scenarios and lack knowledge on newborn physiology.

Opportunity: The working environment is challenging with constant lack of essentials. High numbers of deliveries, few staff and continuous rotations makes it hard to provide satisfactory care. Pediatricians seldom help out with resuscitations. Norms on seeking and sharing new information (social opportunity) is limited.

Motivation: The high workload, a feeling of being neglected by the system and structures, low appreciation and a feeling of frequently being blamed by society decreases work-motivation overall.

Conclusions:
The midwives recognized their high capability to enact appropriate neonatal resuscitation behavior but acknowledged need of continuous updates for best practice. Aside from capability, the physical opportunity to enact was perceived to be very low as the social opportunity was not supportive. Motivation remains a challenge that should not be overlooked when informing future interventions.

Risk factors for unintended pregnancy among HIV positive pregnant women in Lira district, post-conflict Northern Uganda: A cross sectional study

Napyo Agnes Kasede[1,2,4], Thorkild Tylleskär[4], Victoria Nankabirwa[3,4], Paul Waako[1], Grace Ndeezi[2], Josephine Tumuhamye[4], David Mukunya[4], James K. Tumwine[2]

[1]Busitema University Faculty of Health Sciences, Mbale; [2]Makerere University, College of Health Sciences, Department of Paediatrics and Child Health; [3]Makerere University, College of Health Sciences, School of Public Health; [4]University of Bergen, Centre for International Health, Norway

Objective

The remarkable progress in the fight against the HIV/AIDS epidemic through prevention of mother-to-child transmission is largely attributed to infections averted by provision of ART to HIV-positive pregnant women and not to prevention of unintended pregnancies. Thus, we determined risk factors for unintended pregnancy among HIV positive pregnant women in Lira district, located in post conflict Northern Uganda.

Methods

This was a cross-sectional analysis of baseline data collected in an on-going observational prospective cohort EMTCT study. Two hundred and thirty six (236) HIV positive pregnant women were enrolled at Lira Regional Referral Hospital and interviewed using a pre-coded semi-structured questionnaire. Data was analysed using Stata version 14

Results

The mean age for women was 29 years (SD 5.3). Median parity was 3 (IQR 2 – 4). Median gestational age was 28 weeks (IQR 22 – 32). Prevalence of unintended pregnancy was 35.6%. Unmet need for contraceptive use was 37.6%. Maternal age (APR=1.1, 95%CI 1.02 – 1.1), using safe days for birth control (APR=3.3, 95%CI 1.2 – 9.2), level of education (secondary level APR=0.5, 95%CI 0.3 – 0.9, tertiary level APR=0.12, 95% CI 0.04 – 0.38), feelings about HIV status (being ashamed APR=2.2, 95% CI 1.4 – 3.4, feeling guilty APR=2.3, 95% CI 1.3 - 4.0, having suicidal feelings APR=3.5, 95% CI 1.2 – 10.4) and being employed (APR=2.6, 95% CI 1.4 – 4.9) were the significant predictors for unintended pregnancy. Reference groups used for comparison were those with no exposure in the explanatory (categorical) variables.

Conclusion:

There is need to integrate family planning services into HIV care in post conflict northern Uganda. Alongside service integration, counselling services should target HIV infected women with lower levels of formal education, those not formally employed and those who suffer self-stigma as a result of being HIV positive.

Occupational noise exposure and hearing loss: A study of Knowledge, Attitude and Practice among Tanzanian iron and steel workers

Israel P. Nyarubeli[1,2,4], Alexander M. Tungu[3], Magne Bråtveit[4], Bente E. Moen[1,4].

[1] Department of Global Public and Primary Care, Centre for International Health, University of Bergen, Årstadveien 21, 5009 Bergen, Norway
[2] Department of Environmental and Occupational Health, Muhimbili University of Health and Allied Sciences, P.O. Box 65015, Dar es Salaam, Tanzania
[3] Department of Physiology, Muhimbili University of Health and Allied Sciences, P.O. Box 65001, Dar es Salaam, Tanzania
[4] Department of Global Public and Primary Care, Research Group for Occupational and Environmental Medicine, University of Bergen, Norway
Corresponding author: Israel P. Nyarubeli, Årstadveien 21, 5009 Bergen, Norway. Tel: +47 555800, Email: israelpau2004@yahoo.co.uk

Objectives: Noise-induced hearing loss (NIHL) is a public health problem that has been increasing in developing countries. However, information about knowledge, attitude and practice (KAP) regarding occupational noise exposure, NIHL and use of hearing protection devices among working populations exposed to high noise levels is not well documented. Our aim was to assess KAP regarding occupational noise exposure, NIHL, audiometry and hearing protection devices among iron and steel factory workers in Tanzania exposed to a high level of noise.

Methods: A modified, validated, structured questionnaire was used to collect information from 253 male workers randomly selected from the production line of the four factories. The sum scores for each domain of KAP were computed. Scores above 75% were defined as good knowledge and positive attitude. For practice, scores of > 50% were defined as good. Independent samples t-test was used to analyze the association between KAP and the continuous variables whilst the chi-squared test was used to analyze the association between dichotomized KAP and categorical variables, i.e. age group, duration of work and educational level.

Results: Most of workers displayed poor knowledge (76%) and poor practice (94%), but the majority (76%) displayed a positive attitude to NIHL and use of hearing protection devices. In addition, most of the workers (86%) had never been provided with hearing protection devices.

Conclusion: Given the high level of occupational noise exposure, formulation and implementation of hearing conservation program with prompt provision of hearing protection devices and training are suggested.

Contrasting HIV prevalence trends among young women and young men in Zambia in the past 12 years: data from demographic and health surveys 2002–2014

Chola Nakazwe[1, 2, 3], Charles Michelo[2, 4], Ingvild F. Sandøy[1, 4], Knut Fylkesnes[1, 2]

[1]Centre for International Health, University of Bergen, Bergen, Norway, [2]School of Public Health, University of Zambia, Lusaka, Zambia, [3]Central Statistical Office, Lusaka, Zambia, [4]Centre for Intervention Science in Maternal and Child Health

Objective

The HIV epidemic remains a concern on the global health agenda, despite progress made in reducing incidence. Investigation of trends among young people is important for monitoring HIV incidence and informing programming. We examined geographical and sub-population differences in HIV prevalence trends among young people aged 15–24 years in Zambia.

Methodology

This study analysed data from Zambia Demographic and Health Surveys (ZDHSs) conducted in 2001–2, 2007, and 2013–14. A two-stage cluster stratified sampling procedure was used to select samples of 8,050, 7,969, and 18,052 for the three surveys, respectively. Young people (15–24 years) with known HIV status were selected for analysis. The outcome variable was HIV status. Log binomial regression analysis of generalised linear models was used to test for trends.

Results

HIV prevalence declined over the period 2001–2 to 2013–14 among young women aged 15–24 years. In urban areas, prevalence declined from 15.2% to 10.7% (aRR 0.66, 95% CI 0.53-0.93) and the corresponding decline in rural areas was from 8.2% to 4.8% (aRR 0.41, 95% CI 0.41-0.85). In contrast, there was an increase in HIV prevalence among urban young men over the same period, from 3.7% to 7.3% (aRR 2.17, 95% CI 0.99-4.75), and, in rural areas, from 2.6% to 3.6% (aRR 1.44, 95% CI 0.78-2.66). Further, there was a narrowing gender gap in terms of HIV infection, the prevalence ratio of females to males declined from 4.2 and 3.1 to 1.5 and 1.3, in urban and rural areas, respectively.

Conclusion

The increase in HIV prevalence among urban young men over the past 12 years, contrasting declining trends among young women in both urban and rural populations, suggests differential effects of prevention efforts. Furthermore, the findings indicate the need for targeted prevention efforts for young men.

Norwegian-Russian network in Antimicrobial stewardship in Dental practice in the Circumpolar Region

Nataliia Davidovich[1,4], Marcus Dyvik Eriksen[4], Nadezhda Davidova[2], Alina Bogomolova[3] Mohammed Al-Haroni[4]*

[1]*Department of Clinical Biochemistry, Microbiology and Laboratory Diagnostics, Northern State Medical University, Arkhangelsk, Russian Federation*
[2]*Department of Therapeutic Dentistry, Northern State Medical University, Arkhangelsk, Russian Federation*
[3]*Department of Oral and Maxillofacial surgery, Northern State Medical University, Arkhangelsk, Russian Federation*
[4]*Department of Clinical Dentistry, Faculty of Health Sciences UiT The Arctic University of Norway, Tromsø, Norway*
* correspondent author: Mohammed Al-Haroni; email: Mohammed.Al-Haroni@uit.no

Introductions and objectives

Antibiotic resistance (AR) is considered one of the major public health concerns today. Dentists contribute to about 8-10% of all outpatient antibiotic prescriptions. The aim of the current project was to establish a network to educate Russian dental professionals on their role in antimicrobial stewardship. The project specific aims were to analyse and then optimize antimicrobial use in dental practice in Arkhangelsk and surrounding areas with coherent evidence-based practice.

Methods

In the first phase of the project, anonymized questionnaire-based survey to check knowledge and practices of antibiotic prescriptions and infection control measures among dentists in Arkhangelsk, Russian Federation was conducted. In the second phase, a summer school to educate and increase competences in proper antibiotic prescribing in dentistry was organised. In the last phase of the project, we aim to establish a molecular laboratory at the Northern State Medical University (NSMU), Arkhangelsk, to help identify resistance determinants in oral bacteria in Russian Federation.

Results

A total of 169 responses were obtained. This represents 22% of dental professional workforce in the region. Overall average knowledge on antibiotic prescription was intermediate at 71.1%, with antibiotic prescription in relation to clinical signs having the poorest knowledge at 64.8% and the highest knowledge being for non-clinical factors at 78.0%. Specialists working in the private sector had significantly better knowledge than general dentists. Accordingly, guidelines on antibiotic prescription was developed and adopted by NSMU for educating and informing dentists on evidence-based practice on antibiotic perception in dental practice.

Conclusion

Our results suggest that there is a continuous need to strengthen education in the area of prescriptions and usage of antibiotics in the dental practice in Russian Federation.

eRegTime: Efficiency of health information management using an eRegistry – a time-motion study in a cluster randomized trial

Mahima Venkateswaran[1, 2], Kjersti Mørkrid[1], Khadija Abukhader[3], Tamara Awwad[3], Buthaina Ghanem[3], Taghreed Hijaz[4], Mervett Isbeih[3], Marie Hella Lindberg[5], J. Frederik Frøen[1, 2]

[1]Global Health Cluster, Division for Health Services, Norwegian Institute of Public Health, Oslo, Norway; [2]Centre for Intervention Science in Maternal and Child Health (CISMAC), University of Bergen, Norway; [3]Palestinian National Institute of Public Health, World Health Organization, Ramallah; [4]Ministry of Health, Ramallah; [5]Arctic University of Norway, Tromsø, Norway

Objective

Data collections in paper-based routine health information systems are often redundant. In the West Bank, Palestine, the health information system in primary healthcare was entirely paper-based and care providers spent considerable amounts of time maintaining multiple client registers. As part of the phased national rollout of an electronic health information system, 167 primary care clinics are currently using an eRegistry for maternal and newborn care. Embedded in this implementation is a cluster-randomized trial (eRegQual) examining the effect of the eRegistry on quality of care. In the eRegTime study, our aim was to investigate whether the use of the eRegistry changes the time-efficiency of health information management by care providers, compared to paper-based systems.

Methods

We used the time-motion observational study design for data collections. Sample size estimations were made to detect a 25% change in time-efficiency with 90% power assuming an intracluster correlation coefficient of 0.1. Twenty-four clinics, 12 from each arm of the eRegQual trial, were chosen by stratified random sampling conditional on lab availability. The primary outcome was the time spent on health information management for antenatal care. Four nurse-midwives, trained in collecting time-motion data, completed observations of full clinic workdays. Linear mixed effects models will be used to compare the time spent on health information management per client per care provider.

Results

Data collection was completed in 10 non-eRegistry and 12 eRegistry clinics. One non-eRegistry clinic was inaccessible due to politically imposed restrictions of movement, while another clinic had stopped providing antenatal care. In total, 261 antenatal visits were observed (mean=12 observations). More first antenatal visits were observed (n=25) in the non-eRegistry clinics than the eRegistry clinics (n=11).

Conclusion

Analysis of the primary outcome is ongoing and results will be available at the commencement of the conference.

eRegCom: The effect of targeted client communication on pregnant women's worries and views of antenatal care – A nested data collection study protocol development

Kjersti Mørkrid[1], Itimad Abbas[2], Itimad Abu Ward[2], Tamara Awwad[2], Istabreq Ayasih[6], Binyam Bogale[1,3], Nora Frøen[4], Buthaina Ghanem[2], Mervett Isbeih[2], Zaher Nazzal[5], J. Frederik Frøen[1,3]

[1]Global Health Cluster, Division for Health Services, Norwegian Institute of Public Health, Oslo; [2]Palestinian National Institute of Public Health, World Health Organization, Ramallah; [3]Centre for Intervention Science in Maternal and Child Health, University of Bergen, Bergen; [4]Arctic University of Norway, Tromsø; [5]An-Najah National University, Nablus.

Objective

Digital health interventions, such as targeted client communication (TCC) to pregnant women, has the potential to impact the quality, utilization, continuity and equity of care. Palestine is implementing a national maternal and child health electronic information system (MCH eRegistry). The MCH eRegistry may include a TCC text messaging service component. A randomized controlled trial (eRegCom) will assess the effectiveness of TCC from the MCH eRegistry to pregnant and postpartum women, on effective coverage of care. The aim of this study is to develop a nested data collection protocol, within the eRegCom trial, to assess the effects of TCC on the women's perceptions and experiences of antenatal care, and their worries in pregnancy.

Methodology

We developed an interview guide with seven demographic questions, and 12 perception/ experience scale questions, and the 13 item Cambridge worry scale. The interview guide was translated from English to Arabic, and the Cambridge worry scale was back-translated to English. We randomly selected 65 pregnant women in gestational week 36 attending antenatal care in one of the 140 primary health centers included in the eRegCom trial, from the MCH eRegistry. Two trained midwives, one in Gaza and one in the West Bank, conducted the mobile phone interviews in Arabic. One medical student entered and analyzed all the responses in excel.

Results

The response rate was 62 % (n=41), and 71% of them had provided their own phone number to be registered in the MCH eRegistry. Respondents' mean age was 28 years (SD=6.47), and 78% did not work or study outside their home. The interview took on average 11 minutes (Min 7-Max 20).

Conclusion

It is feasible to use phone interviews to assess pregnant women's worries and views of antenatal care. The findings will inform the study protocol for a nested data collection, within the eRegCom trial.

Malaria Chemoprevention with Monthly Treatment with Dihydroartemisinin-Piperaquine for the Post-Discharge Management of Severe Anaemia in Children Aged Less Than 5 Years in Uganda and Kenya: A 3-Year, Multi-Centre, Two-Arm Randomised Placebo Controlled Superiority Trial.

Titus Kwambai[1,5], * Aggrey Dhabangi[2], Richard Idro[2], Robert Opoka[2], Simon Kariuki[1], Victoria Watson[5], Nickline Ashitiba[1], Kephas Otieno[1], Aaron M Samuels[6], Meghna Desai[6], John Chandy[2], Bjarne Robberstad[3], Duolao Wang[5], Kamija Phiri[4], Feiko ter Kuile[5]

[1]Kenya Medical Research Institute, Kisumu, Kenya; [2]Makerere University College of Health Sciences, Kampala, Uganda; [3]Centre for International Health, University of Bergen, Bergen, Norway; [4]School of Public Health & Family Medicine, College of Medicine, University of Malawi, Blantyre, Malawi; [5]Liverpool School of Tropical Medicine, Liverpool, UK; [6]Malaria Branch, Division of Parasitic Diseases and Malaria, Centers for Disease Control and Prevention, Atlanta, USA.

Objective

Children hospitalised with severe anaemia (SA) in malaria endemic areas of Africa are at high risk of readmission or death within 6 months post discharge. No strategy specifically addresses this post discharge period. We aim to determine if 3 months of post discharge malaria chemoprevention with monthly 3-day treatment courses of dihydroartemisinin-piperaquine (DP) (PMC-DP) is safe and superior to the standard single 3-day treatment course with artemether-lumefantrine (AL) in reducing all-cause readmissions and deaths by 6 months post discharge.

Methods

We conducted a multi-centre, two-arm, placebo-controlled, randomized trial in five and four hospitals in Uganda and Kenya respectively. Children aged less than 5 years, weighing ≥5 kg with admission haemoglobin of <5g/dL, in both arms received standard in-hospital care for SA and AL at discharge and were randomized two weeks later to receive either DP or placebo at 2, 6 and 10 weeks with 6 months post discharge follow-up. The primary outcome was a composite of death or all-cause re-admission by 6 months from randomization. This trial is registered, number NCT02671175.

Results

Between May 20, 2016 and June 28, 2018 1049 children were randomised (PMC=524, control=525). Participant follow up was completed on November 15, 2018. Data analysis is ongoing, and results will be presented.

Conclusion

This study will be part of a meta-analysis and a model to determine the impact of PMC in different malaria transmission settings in Africa, designed to inform the World Health Organization to determine whether PMC-DP can be considered for the post discharge management of SA.

Respiratory symptoms and lung function among particleboard factory workers in Ethiopia: A cross sectional study

Akeza Awealom Asgedom[1,2]**,** Magne Bråtveit[,3], Bente Elisabeth Moen[1]
[1]Centre for International Health, Department of Global Public Health and Primary Care, Faculty of Medicine, University of Bergen, Bergen, Norway
[2]Ethiopian Institute of Water Resources, Addis Ababa University, Addis Ababa, Ethiopia
[3]Department of Global Public Health and Primary Care, Faculty of Medicine, University of Bergen, Bergen, Norway

Objective
Particleboard workers are exposed to wood dust and formaldehyde implying a risk of different respiratory health problems. The aim of the study was to assess the prevalence of respiratory symptoms and measure lung function among Ethiopian particleboard factory workers and compare with a comparison group.

Methodology
A total of 156 workers (83 exposed and 73 comparison) participated in the study. Lung function test was done in sitting position using Spirometer following America Thoracic Society recommendation. Respiratory symptoms were collected using adapted standard questionnaire combined from British Medical Research Council (BMRC), America Thoracic Society (ATS) and European Community of Respiratory Health Survey (ECRH) to suite the Ethiopian context.

Results
The prevalence of respiratory symptoms ranged 23 – 46% and 2.7 – 15% among particleboard workers and comparisons, respectively. Wheezing, cough and cough with sputum production where the symptoms with highest prevalence among particleboard workers while cough and cough with sputum production were with the highest prevalence in comparisons. All participants had FEV_1/FVC values above 70% which indicates normal spirometry value.

Conclusions
The particleboard workers had higher prevalence of respiratory symptoms compared to the comparison group. The lung function values were above 70% and not significantly different between the two groups. The employer is advised to implement safety measures to reduce the respiratory symptoms and promote workers health.

Genetic Diversity of Astrovirus from Children in Nepal

Sanjaya Kumar Shrestha [1,2], Jasmin Shrestha [1,2], Jennifer Lynn Dembinski [3], Åshild Kristine Andreassen [3], Tor Strand [1]

[1] Centre for International Health, University of Bergen, Norway,   [2] Walter Reed/AFRIMS Research Unit Nepal, [3] Norwegian Institute of Public Health, Norway

Objective

The objective of this study is to describe the classical and novel Astroviruses in stool samples collected from a birth cohort in Nepal.

Methods

We screened 5222 diarrhoeal and non-diarrhoeal stool samples for Astrovirus by ELISA using a commercial kit (ProSpecT). Positive stool samples (148, 2.8 %) were further tested by RT-PCR targeting a conserved nucleotide sequence using specific primers for classical human Astrovirus. PCR positive samples were then sequenced using a primer set targeting the variable region of ORF2 on ABI Prism 3500 Genetic Analyzer and Big Dye Terminator Cycle Sequencing Kit.

Results

Testing the 148 ELISA positive stool samples by RT-PCR, resulted in 124 (84%) positive for classical Astrovirus type 1-8. Twenty-four stool samples, which were negative for classical Astrovirus were processed with primers that target the highly conserved ORF1b region, and can detect both classical and non-classical (MLB) types. One-hundred and twenty-one of the RT-PCR positive samples (121/124) generated good quality sequences for genotyping analysis. Seven different genotypes of classical human Astrovirus were identified (HAstV 1, HAstV 2, HAstV 3, HAstV 4, HAstV 5, HAstV 6 and HAstV 8) with HAstV5 genotype being the most dominant (51/121, 42.2%), followed by HAstV 1(42/121, 34.7%), HAstV 2 and HAstV 8 (9/121, 7.4%), HAstV4 (5/121, 4.1%), HAstV 3 (4/121, 3.3%) and HAstV 6 (1/121, 0.8%).

Conclusion

Astrovirus is an overlooked cause of gastroenteritis among young children worldwide and are present in high diversity of strains. A large genetic variability of strains were found among the circulating strains from children in Nepal.

Evaluation of palm-based biometrics among women in rural Bangladesh

Fatema Khatun[1,2], Rebecca Distler[3], Monjur Rahman[2], Brian Frank O'Donnell[1], Anisur Rahman[2], Frederik J. Frøen[1], Ingrid K. Friberg[1]

[1]Norwegian Institute of Public Health, Oslo, Norway, [2]International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b), Dhaka, Bangladesh, [3]Element Inc. USA

Objective

Unique identifiers are not universal in low- and middle-income countries. Biometrics have the potential to replace the existing name-based patchwork used for identification in these settings. This study examines a comparison of the searching accuracy of a palm-based biometric, run on mobile devices, with a name-based DHIS2 database for identification of individuals in a low- and middle-income country.

Methodology

We tested two systems among 150 women in rural Bangladesh between April and June 2018. One week after registration, the research team searched for enrolled women in both systems. A group discussion was held with the data collectors to understand their perception and ease of use of both systems and challenges faced for using biometric identification methods.

Results

91 (61%) women were identified on the first attempt with a name-based DHIS2 database application while 126 (84%) women were identified on the first attempt with a palm-based biometric. 7% (CI 3.7-12.3) of respondents needed ≥3 attempts for successful identification in name-based database while only 5% (CI: 1.9-9.4) required ≥3 attempts with the palm-based biometric. In 47 cases, the number of attempts was greater with the name-based database than with the palm-based biometric, while in 16 cases, the reverse was true. The palm-based biometric required significantly fewer attempts to identify women than the name-based database (Z= -3.822, p<0.001). Data collectors reported that the palm-based biometric identification was both accurate and easy to use, and they were proud and excited to use this new tool for their work and did not face any major challenges from women or the community.

Conclusion

A palm-based biometric identification system on mobile devices is both an easy-to-use and accurate technology for unique identification of individuals at home or at point of care in low resource settings. The palm-based biometric application was more efficient than standard name-based identification.

The access paradox: Abortion law, policy and practice in Ethiopia, Tanzania and Zambia

Astrid Blystad[1,2] , Haldis Haukanes[3], Getnet Tadele[4], Marte E.S. Haaland[1, 2], Richard Sambaiga[5], Joseph Mumba Zulu[6], Karen Marie Moland[1,2]

[1]Global Health Anthropology Group, Centre for International Health, Department of Global Public Health and Primary Care, University of Bergen, Norway; [2] Centre for Intervention Science in Maternal and Child Health (CISMAC), University of Bergen, Norway; [3] Department of Health Promotion and Development, University of Bergen, Bergen, Norway; [4] Department of Sociology, Addis Ababa University, Addis Ababa, Ethiopia; [5] Department of Sociology and Anthropology, University of Dar es Salaam, Tanzania; [6] School of Public Health, University of Zambia, Zambia

Objective:
This paper explores the relationship between abortion law, policy and women's access to safe abortion services within the different legal and political contexts of Ethiopia, Tanzania and Zambia.

Methodology:
The research had a qualitative comparative design and was conducted in Lusaka, Addis Ababa and Dar es Salaam as hubs for government agencies and international organisations. It targeted formal organisations as policy implementers and stakeholders in support of- or in opposition to - the existing abortion laws. Semi-structured interviews were carried out with study participants (79) differently situated vis a vis abortion, exploring their views on abortion-related legal- and policy frames and their perceived implications for access.

Results:
The abortion laws have been classified as 'liberal' in Zambia, 'semi-liberal' in Ethiopia and 'restrictive' in Tanzania, but what we encountered in the three study contexts was a seeming paradoxical relationship between national abortion laws, abortion policy and women's actual access to safe abortion services. The study findings moreover reveal that the texts that make up the three national abortion laws are highly ambiguous. The on-paper liberal Zambian and semi-liberal Ethiopian laws in no way ensure access, while the strict Tanzanian law is hardly sufficient to prevent young women from seeking and obtaining abortion. In line with Walt and Gilson's call to move beyond a narrow focus on the content of policy, our study demonstrates that the connection between law, health policy and access to health services is complex and critically dependent on the socio-economic and political context of implementation.

Conclusion:
Legal frameworks are vital instruments for securing the right to health, but broad contextualized studies rather than classifications of law along a liberal-restrictive continuum are demanded in order to enhance existing knowledge on access to safe abortion services in a given context.

An assessment of indexes and indicators ability to predict disaster severity in relation to earthquakes and floods.

Authors: Anneli Eriksson[1], Martin Gerdin Wärnberg[1], Thorkild Tylleskär [2], Johan von Schreeb[1]
[1] Centre for Research on Healthcare in Disasters, Department of Public Health Sciences, Health System and Policy, Karolinska Institute, Stockholm, Sweden.
[2] Centre for International Health, University of Bergen, Bergen, Norway

Abstract

Objective
Disasters are defined as events that seriously disrupts the functioning of a society and overwhelms local capacity. Earthquakes and floods cause urgent needs that requires timely decisions to guide type and quantity of assistance and funding. However, information is often missing in the acute phase, causing delays. The objective of this study was to identify predictors for severity and need in the initial phase of earthquakes and floods, in order to guide immediate and appropriate quantity of funding and assistance.

Methodology
In our study we assumed that severity is approximately equal to needs and can be quantified by the number and proportion of people affected who died. We first assessed the ability of four existing indexes to predict severity. Index scores were standardized and plotted against severity in 222 recent earthquakes and 226 recent floods. We then assessed the predictive ability of indicators used in the indexes, for each indicator individually and in different combinations. We used the proportion of variance explained as measure of predictive ability, estimated as the R^2. We assessed the R^2 of different combinations of indicators. To estimate the R^2 of each combination we built a linear regression model.

Results
The first assessment showed no correlation between the index scores and disaster severity. In the second assessment the cross validated R^2 across predictors for each outcome (95%CI) varied between 0.0057 (0.0044 – 0.0701) for undernourishment related to number affected in floods and 0.2006 (0.0181-0.2710) for magnitude to number dead in earthquakes. The highest R^2 (95%CI) we reached in the combination models was 0.1845 (0.0443 – 0.3456).

Conclusion
Our study concludes that the four indexes assessed could not predict severity in the assessed earthquakes and floods, nor could any single indicator or combination of indictors predict severity with any certainty.

'An uneasy compromise'? Strategies and dilemmas in realizing a permissive abortion law in Ethiopia

Karen Marie Moland [1,2]*, Haldis Haukanes[3], Astrid Blystad [1,2], Tadele, Getnet[4]*

[1]*Global Health Anthropology Group, Centre for International Health, Department of Global Public Health and Primary Care, University of Bergen, Norway; [2] Centre for Intervention Science in Maternal and Child Health (CISMAC), University of Bergen, Norway; [3] Department of Health Promotion and Development, University of Bergen, Bergen, Norway; [4] Department of Sociology, Addis Ababa University, Addis Ababa, Ethiopia*
*First and last author have contributed equally to the article

Objective:

At the turn of the century, when the Millennium Development Goals placed maternal mortality reduction high on the global agenda, Ethiopia relaxed its restrictive abortion law to expand grounds in which a woman could legally obtain an abortion. This policy shift took place within a context of strong anti-abortion public opinion shaped by strong religious convictions. This paper explores the tension between public policy and religious dogma for the strategies chosen by Ministry of Health and its partners implementing the new policy, and for access to safe abortion services.

Methodology:

The study employed a qualitative research methodology. It targeted organizations that are key stakeholders in the field of reproductive health including policy makers, advocates for policy change, policy implementers and religious organizations. The data collection took place in Addis Ababa between 2016 and 2018. A total of 26 interviews were conducted, transcribed, and analyzed using the principles of qualitative content analysis.

Results:

Our analysis showed that implementing organizations adopted a strategy of silence not to provoke anti-abortion sentiments and politicization of the abortion issue which could threaten the revised law and policy. This strategy has facilitated a rollout of services and has improved access to safe abortion services. Nevertheless informants were concerned that the silence strategy has prevented dissemination of knowledge about the revised law to the general public, to health workers and to the police. In turn this has caused confusion about eligibility to legal and safe abortion procedures.

Conclusion:

While silence as a strategy works to protect the abortion law, it may also prevent the law from being effective. As a long term strategy, silence fails to expand awareness and access to safe abortion services, and may not sufficiently serve to fulfil the potential of the law to prevent abortion related maternal deaths.

Effectiveness of community versus facility delivery strategies on adherence to dihydroartemesinin-piperaquine for post-discharge malaria chemoprevention in management of severe anaemia in Malawian children

Thandile Nkosi-Gondwe, [1, 2] Bjarne Robberstad, [2] Mavuto Mukaka, [3,4] Feiko O Ter Kuile, [5,6] Saidon Banda [1], Bjorn Blomberg, [2,7] Kamija S. Phiri. [1]

[1.]*University of Malawi, College of Medicine, Blantyre, Malawi.* [2]*University of Bergen, Department of Global Public Health and Primary Care, Centre for International Health, Bergen, Norway.* [3] *Mahidol-Oxford Tropical Medicine Research Unit, Mahidol University, Bangkok, Thailand.* [4]*Centre for Tropical Medicine, Nuffield Department of Medicine, University of Oxford, UK.* [5]*Kenya Medical Research Institute (KEMRI), Centre for Global Health Research (CGHR), Kisumu, Kenya.* [.6]*Department of Clinical Sciences, Liverpool School of Tropical Medicine (LSTM), Liverpool, UK.* [7]*Department of Health Promotion and Development, University of Bergen, Bergen, Norway.*

Background: Children with severe anaemia are at high risk of death within 6 months from hospital. However, no intervention exists during this period. Evidence shows that post-discharge malaria chemoprevention (PMC) for children with severe malarial anaemia reduce this risk. We evaluated the most effective delivery strategy of this intervention and impact of text phone reminders on adherence.

Methods: Between March 2016 and October 2018, we conducted a cluster-randomized trial in Zomba, southern Malawi. We included severely anaemic, under 5 children and randomised them to receive dihydroartemisinin-piperaquine (DHP) within the community or facility at 2, 6 and 10 weeks after discharge and followed for 14 weeks. In community arms, all DHP courses were given at discharge and caregivers collected DHP from hospital in facility arms. Trial groups were: 1) community without a text; 2) community with a text; 3) community with a community health worker reminder; 4) hospital without a text; or 5) hospital with a text. Factorial design analysis for pooled effect of community versus facility delivery was utilised. The primary outcome was high adherence defined as administration of at least seven of nine doses.

Results: Of 375 children enrolled, we found high adherence in 57.3% in group 2, 50.7% group 1, 49.5% group 3, 45.5% group 4 and 40% group 5. In the final model, community had a higher effect on high adherence compared to facility delivery; RR 1.24 (CI 1.06,1.44; P-value=0.006). Provision of text had no effect on adherence; RR 1.03 (CI 0.88,1.21;p-value=0.677). Compared to group 4 (reference group), all community arms had an effect on high adherence: group 1: 1.37; group 2: 1.41; group 3: 1.32; group 5 showed no significant difference.

Conclusion: Community delivery of DHP for PMC resulted in higher adherence than the facility delivery strategy. In addition, SMS reminders had no impact on adherence.

A qualitative approach to developing targeted client communication based on women's and family member's perceptions of health service utilization during pregnancy

Nu UT1, Khatun F1,2, Rahman Q1, Rahman A1, Frøen JF2,3, Friberg IK2 Pervin J1,3, Sarker BK1,
1icddr,b, Dhaka, Bangladesh; 2Norwegian Institute of Public health, Oslo, Norway; 3University of Bergen, Bergen, Norway

Objective:
Identifying an effective communication strategy to increase timely use of routine and emergency services during pregnancy relies on clients' perceptions of the health condition and their preference as to mode of communication. Our primary objective was to understand women's and families' baseline knowledge and perceptions of antenatal care and pregnancy complications in rural Bangladesh. This information was used to develop targeted client communication strategies.

Methods:
A total of 24 in-depth interviews were conducted in May-June, 2017 in two sub-districts of Chandpur district, Bangladesh. Purposive sampling was carried out to select study participants. We interviewed pregnant women (n=10), lactating women (n=5), husbands (n=5), and mother-in-laws (n=4). We developed our interview guide and analyzed results considering the Health Belief Model (perceived susceptibility, severity, and barriers; cues to action; self-efficacy).

Results:
Almost all respondents mentioned that pregnant women need to attend antenatal care. Most mentioned that not attending antenatal care could be harmful for mother and baby. Three women reported that having symptoms was a cue leading to antenatal care attendance. Only women with previous pregnancies could spontaneously recall any of three common complications (anemia, hypertension, diabetes). Women pregnant for the first time did not spontaneously report these common complications. Only three mentioned that hypertension could lead to convulsions. We found that a lack of knowledge on the timing and number of recommended ANC visits is a key barrier to attendance. Women and family members recommended phone calls as more useful than text messages for increasing attendance and timeliness of antenatal care.

Conclusions:
Communication strategies in this population should address recommendations for timing and number of antenatal care visits. They should also address pregnancy complications due to clients' lack of knowledge in those areas. Phone call based reminders are preferred over text messages in this setting.

Contraceptive use, sexual behavior, and barriers to contraceptive use among adolescent girls in rural Zambia

Grønvik, Taran (1), Sandøy, Ingvild Fossgard (1,2,3)

(1) Centre for International Health, University of Bergen, Norway
(2) Center for Intervention Science in Maternal and Child Health (CISMAC), Centre for International Health, University of Bergen, Norway
(3) Department of Global Public Health and Primary Care, University of Bergen, Norway

Objective
To examine sexual behavior, contraceptive use, and perceived barriers to contraceptive use among adolescent girls participating in a cluster randomised controlled trial, examining measures to reduce early childbearing in rural Zambia.

Methods
In 2016, 4922 girls enrolled in grade 7 were recruited to the Research Initiative to Support the Empowerment of Girls (RISE) study from 157 rural schools. We used data from recruitment and from the follow-up interviews conducted in September to December 2017 when 4588 participants were interviewed. Data was collected on sociodemographic background, marital status and knowledge on sexual and reproductive health. The outcomes addressed were sexual activity, contraceptive use, and barriers to contraceptive use, including access to contraceptives, fear of side effects, and cultural norms. Descriptive statistics were used to summarize the data. Risk ratios were estimated with log-binomial regression. Data from all three arms was pooled, and clustering was adjusted for.

Results
The girls were aged between 10 and 20 years old, and the mean age was 13.7. Six of the girls were married at baseline. In the follow-up interviews, 13 % of respondents reported having had sex. A third of the respondents who had been sexually active, had used modern contraceptives. Male condoms and injectables were the most common contraceptives used. Being married, older, and having parents with low educational attainment were significantly associated with sexual activity. The most frequently reported barriers to contraceptive use were fear of side effects, fear of community disapproval, and difficulty in obtaining contraceptives.

Conclusion
Contraceptive use among ever sexually active participants was low, and there were several perceived barriers to obtaining contraceptives among the participants. It is important that misconceptions regarding contraceptives are addressed, and that modern contraceptives are made accessible to adolescents to prevent unintended pregnancies which are both a health risk and decreases opportunities for further education and empowerment.

MPT 64 antigen detection test performs better than Xpert MTB/RIF assay for extrapulmonary tuberculosis in adults in Tanzania

Authors: Erlend Grønningen, Lisbet Sviland, Ester Ngadaya, Marywinnie Nanyaro, William Muller, Lisete Torres, Sayoki Mfinanga, Tehmina Mustafa
Institute(s): Center for International Health/Department of Clinical Medicine - University of Bergen (Norway), National Institute of Medical Research (Tanzania)

Objective
Diagnosing extrapulmonary tuberculosis (EPTB) is challenging. The Xpert MTB/RIF assay (Xpert) endorsed by the WHO for diagnosing EPTB, has shown varying sensitivity. Patients and clinicians are suffering from a lack of better diagnostic tools. We have developed a better and robust diagnostic test based on detection of *Mycobacterium tuberculosis* complex specific antigen MPT64, by immunohistochemistry, from biopsies, biological fluids, and fine needle aspirates. The objective of this study was to validate the MPT64 antigen detection test for diagnosis of EPTB among adults and compare it with routine diagnostic tests in a high TB/high HIV burden setting.

Methodology
196 presumptive EPTB cases (>18 years old) in Mbeya Zonal Referral Hospital (MZRH), Tanzania, were prospectively enrolled between April 2016 and July 2017. The patients were followed up from diagnosis to completion of treatment. Samples including fluids, aspirates and biopsies from any suspected EPTB sites were taken. All the samples underwent routine diagnostic work up; AFB microscopy, culture, histopathology and Xpert. The MPT64 test was implemented in the routine EPTB diagnostic setting. The MPT64 test was read by the pathologists in MZRH. Quality control was done by TM and LS. Composite Reference Standard (CRS) including Xpert, Culture, AFB microscopy, Histology/Cytology findings and response to anti-TB therapy was used to define TB cases.

Results
Of the 197 patients, 76 were defined as having EPTB; 36 TB adenitis, 14 multiorgan, 12 peritonitis, 8 pleuritis, 4 other, 2 disseminated. Of these, 21 were positive for culture, 6 for acid fast staining, 30 for Xpert, and 63 for MPT64. Pooled sensitivity for MPT64 was 94%, Xpert 40%, and culture 32%. The specificity was 88%, 100% and 100%, respectively. 45% of both the non-TB and the EPTB cases were HIV positive.

Conclusions
MPT64 antigen detection test is far better than routine tests for diagnosing EPTB. The test is robust and implementable.

Umbilical cord infections and antimicrobial resistance patterns of isolated organisms among neonates in three primary health care facilities in Uganda: A descriptive study

Josephine Tumuhamye[1, 4], Halvor Sommerfelt[1], Freddie Bwanga[2], David Mukunya[1], Olive Namugga[1], James K Tumwine[3], Victoria Nankabirwa[1, 4]

[1]Centre for Intervention Science in Maternal and Child health (CISMAC),Centre for International Health University of Bergen, Norway, [2]Department of Medical Microbiology Makerere University, [3]Department of Pediatrics and Child Health Makerere University, [4]School of Public Health Makerere University Kampala, Uganda

Background:

In Uganda, the neonatal mortality rate is 27/1000 live births. A quarter of neonatal deaths are due to infections. Umbilical cord infection (omphalitis) is a risk factor of serious neonatal infections. We aimed to describe the bacterial etiology of umbilical cord infections and antimicrobial resistance patterns of pathogens isolated from neonates with omphalitis.

Methods: We conducted a descriptive study among 769 neonates at three primary health care facilities in Kampala. All neonates were examined on day 1 to rule out omphalitis. Swabs were collected from the umbilical cord stump of the neonates with clinical signs of omphalitis (redness or swelling and pus) during the scheduled visits on days 3, 7, 14 and 28. This cohort consisted of HIV-1 unexposed babies in the control arm of a randomized controlled trial that assesses the efficacy of chlorhexidine application on the umbilical cord to prevent omphalitis and neonatal severe illness. Swabs were cultured and antimicrobial susceptibility testing was done.

Results: The mean birth weight was 3.2 (SD 0.4) kgs and 99.6% (n=766) of the neonates were delivered vaginally. The incidence risk of omphalitis was 8.5% (65/766; 95% CI 6.6%, 10.6%) in the first 28 days after birth. Incidence of omphalitis varied; 5.5% on day 3, 2.1% on day 7 and <1% on day 14 and 28. Forty-one bacterial pathogens were isolated from the 65 cases. The most commonly isolated bacteria were *Eschericia coli* (18), *Klebsiella pneumoniae* (7) and *Enterobacter* spp. (4). *E. coli* isolates were susceptible to gentamicin (17) and Ceftriaxone (15), but resistant to ampicillin (12). *K. pneumoniae* isolates were susceptible to ceftriaxone (6) and gentamicin (7) but resistant to ampicillin (6).

Conclusion: The most frequently isolated pathogen were *E. coli, K. pneumoniae* and *Enterobacter* spp. These organisms were generally susceptible to gentamicin and ceftriaxone but resistant to ampicillin.

Functional status of basic neonatal resuscitation equipment in Low resource settings: A survey of public and private health facilities in Lira district

Beatrice Odongkara, Thorkild Tylleskar, Victora Nankabirwa, Grace Ndeezi, Vincentina Achora, Nicola Pejovic, James K Tuwmine

Background: Tremendous efforts have been made to reduce neonatal mortality. Inadequate functional and quality equipment exists in low resource settings with high volume of delivery. To achieve the neonatal related SDGs by 2030, more effort is needed to further reduce new-born deaths from birth asphyxia.

Methods: A cross-sectional survey of HBB resuscitation equipment and functional status was done in both public and private health facilities in Lira district.

Results: Up to 92.3% (24/26), had at least one resuscitation equipment. Thirty-five to 80.8% of facilities had dysfunctional or no key equipment for basic new born resuscitation. Most facilities lacked the timer (53%), appropriate neonatal face masks (42.3%), and stethoscope (80%). Only one facility (3.8%) had a Neonatalie Mannequine for on the job training and resuscitation practice.

Discussion: Inadequate and dysfunctional basic neonatal resuscitation equipment exists in both public and private delivery facilities in low resource settings of post conflict Lira district. If we are to achieve neonatal related SDGs, there is need to bridge the gap between equipment availability and functionality.

Table 1: Functional status of basic neonatal resuscitation in delivery facilities in Lira district

Devices	No. facilities	No. of HF with dysfunctional/no devices	Percentage
Self-Inflation Bag	26	9	34.6
Bag Mask Device	26	10	38.5
Suction Device	26	9	34.6
Stethoscope	26	21	80.8
Masks	26	11	42.3
Timer	26	14	53.8