

MTb

BULLETIN of the NETHERLANDS SOCIETY for TROPICAL MEDICINE and INTERNATIONAL HEALTH

Nº 03 / SEPTEMBER 2017 - VOLUME 55

A photograph of a woman holding a young child in front of a wall made of cracked, reddish-brown mud. The woman is wearing a light orange hooded sweatshirt and a long, patterned skirt with horizontal bands of floral and solid colors. The child is wearing a blue and green long-sleeved shirt. The wall has many deep, irregular cracks, suggesting a dry or arid environment. The overall tone of the image is somber and evocative.

SAFE MOTHERHOOD AND REPRODUCTIVE HEALTH



CONTENT

Editorial 2

RESEARCH

Generating Evidence for Strengthening the Health Workforce in Ethiopia 3

The Female Community Health Nursing Initiative in Afghanistan: A Situation Analysis 11

Obstetric Fistulas in Uganda – a burden of the poor 14

REVIEW

Cervical cancer in low- and middle-income countries: a clinical overview of prevention and treatment 8

INTERVIEW

Reach for the moon, and you will catch a star – Interview with Marleen Temmerman 17

CONSULT ONLINE

Genital mass – myoma or malignancy? 19

RECTIFICATION – 20

LETTER FROM THE TROPICS

Collaboration to improve women's health in Gondar region, Ethiopia 21

BOOK REVIEW

The War on Women and the brave ones who fight back 22

Cover: Lesotho

THE RIGHT TO SAFE MOTHERHOOD: TAKING STOCK AND LOOKING FORWARD

This edition of MTb takes us back to 1987, the year in which the Working Party on International Safe Motherhood and Reproductive Health (WP) was established under its former name Dutch Consultancy for Maternal and Child Health. The focus has always been on women's health in low income countries and non-western immigrants in the Netherlands.

Thirty years have passed, and while the number of maternal deaths worldwide has decreased, it is still unacceptably high at around 300,000 per year. Members of the WP are active in both individual and collective projects directed at improving maternal and reproductive health. While the original focus was on obstetrics, nowadays urogynaecology and gynaecologic oncology are addressed as well.

During the era of the Millennium Project (2000 – 2015), the work of the WP was targeted to goal 4 and 5, reducing child mortality and improving maternal health. Unfortunately the targets have not been met; the unfinished agenda has been reformulated under the 2030 Agenda for Sustainable Development.

Each day 830 women die during pregnancy or within 42 days of termination of pregnancy from causes related to the pregnancy or its management, with 99% of these cases taking place in low-income countries. Around 80% of these deaths are caused by obstetric complications like excessive blood loss, sepsis, hypertension, obstructed labour and complications related to unsafe abortion. The startling fact is that Most of these deaths could have been prevented, if women had received quality care in time. Due to limited access to care because of unavailability of services, long distances to be covered, transportation problems, too few skilled health workers, cultural beliefs or gender-

based inequality, women often do not get the right care at the right time.

Good medical care for women throughout their lives is a basic human right and vital to the prosperity of every country. This requires well-functioning health systems, as well as efforts to influence determinants of health. Acknowledging the importance of properly functioning health systems and the comprehensiveness of such activities is key to improving safe motherhood and reproductive health.

This edition is dedicated to safe motherhood and reproductive health and contains contributions from several WP members, including the PhD researches on health workforce issues in Ethiopia and Afghanistan and the description of the collaboration of several partners with the Gondar University in Ethiopia.

The articles on obstetric fistula and cervical cancer draw attention to gynaecologic problems which pose a particular high burden on women in Low Income Countries, and which – in the case of cervical cancer – is often diagnosed at a late stage. Maternal care includes care for all women throughout their lifespan; the case-report shows that rare but severe gynaecologic conditions can even occur in a teenage girl.

The book *The war on women and the braves ones who fight back* is an overwhelming account of violations against women, showing a grim picture of women's lives. At the same time however it urges to 'fight back'. Marleen Temmerman dedicated her lifelong work to improving women's and reproductive health worldwide. In this interview, she passionately shares her ideas on acting locally whilst thinking globally. She is an inspiration for us all.

Let this MTb stimulate you to continue doing whatever you can to help women in need.

MYRRITH HULSBERGEN, JELLE STEKELENBURG



2010: Public hospital in the city of Borama near the border with Ethiopia.
© SHUTTERSTOCK

Generating Evidence for Strengthening the Health Workforce in Ethiopia

Investments in the health workforce are central to achievement of health-related sustainable development goal (SDG) targets.^(1,2) Ethiopia faces multiple challenges with its health workforce. These include shortages of manpower, poor quality of education and training, and uneven distribution and retention of health work-

ers. The country has made notable efforts to address these challenges, including doubling the health workforce in the public sector in the past five years.⁽³⁾ Evidence is critical for informing Ethiopia's policy makers about the effectiveness of the policies and programmes that are implemented to facilitate achievement of its Human Resources for Health (HRH) targets.^(4,5) Through the USAID funded Strengthening HRH Project, Jhpiego and its partners have been supporting the government of

Ethiopia to improve HRH management, to increase the production and quality of training of health workers, and to generate evidence. Three PhD candidates enrolled at the VU University in Amsterdam used data generated by the HRH Project to develop their theses. Below are excerpts from their thesis papers, addressing the quality of pre-service education, health worker task analysis and retention of health workers, respectively.

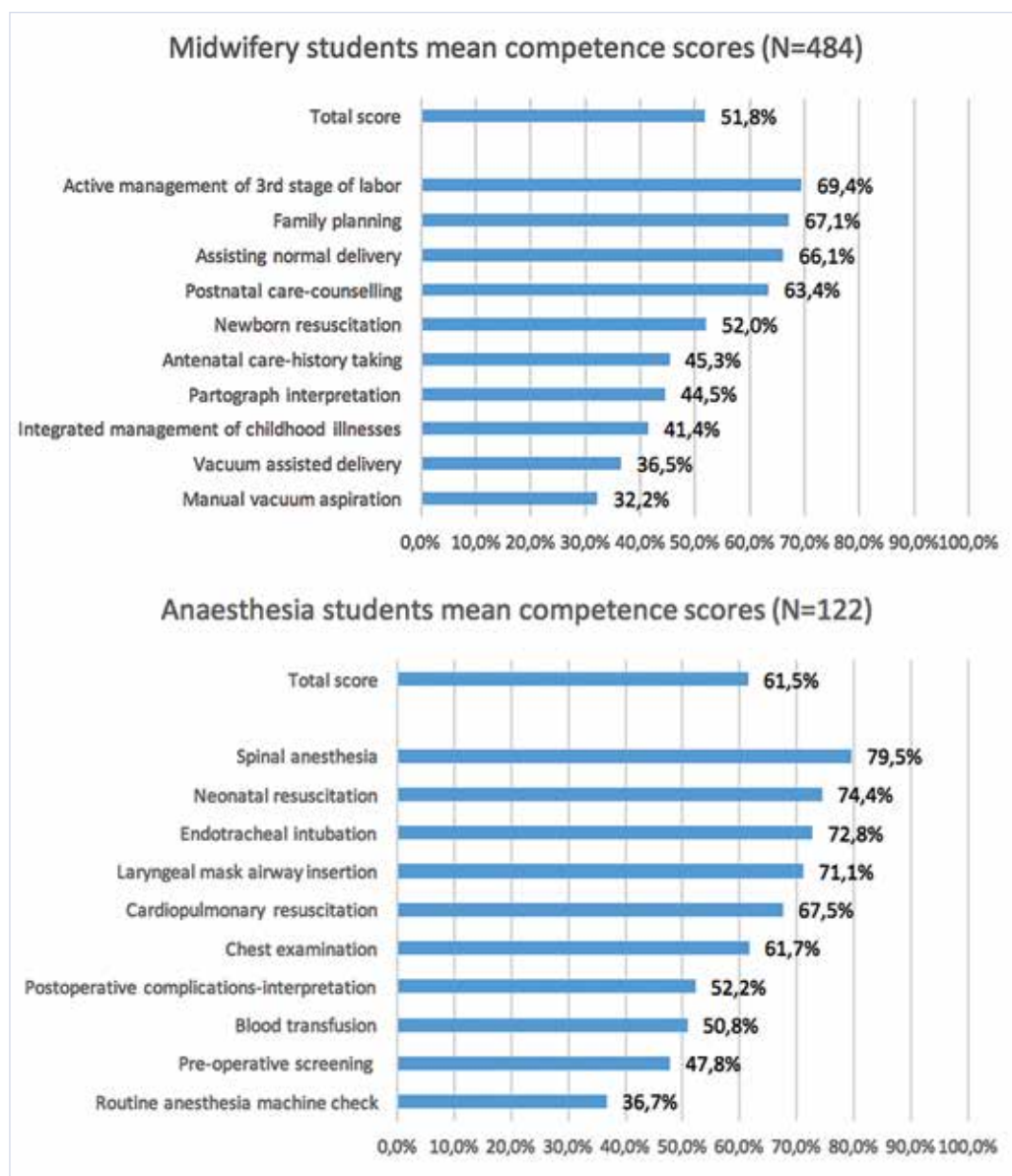


I. QUALITY OF PRESERVICE EDUCATION FOR HEALTHWORKERS ^(6,7)

METHODS

The HRH Project conducted a national study to assess the quality of education in public midwifery and anaesthesia schools in June and July 2013. All public Ethiopian institutions with anaesthesia and/or midwifery pre-service education programmes were eligible for the study. The study recruited 484 midwifery and 122 anaesthesia students who had completed their final year and were just about to graduate, and covered 25 out of 30 eligible midwifery schools and 6 out of 10 anaesthesia schools. Student competence was assessed using objective structured clinical examination (OSCE) and data on educational resources and quality of the teaching/learning environment collected through structured interviews.

Figure 1: Midwifery and anaesthesia students' competence scores in OSCE, Ethiopia, 2013



RESULTS

Midwifery students scored 51.8% overall, while anaesthesia students scored 61.5% in the competence assessments on the respective sets of skills that were assessed, as shown in Figure 1. Midwifery scores ranged from 32.2% for manual vacuum aspiration to 69.4% for active management of third stage of labour. Anaesthesia scores varied from 36.7% for routine anaesthesia machine check to 79.5% for spinal anaesthesia.

Less than half of the midwifery students reported adequate numbers of classroom instructors (43%), skill laboratory assistants (28.9%), and clinical preceptors (21.5%). The corresponding percentages for anaesthesia students were 38.5%, 4.9% and 35.6%, respectively. Only 56.2%, 44.6% and 19.2% of midwifery students thought their instructors were effective in facilitating learning in classrooms, skills laboratories and clinical sites, respectively. Among anaesthesia students, the corresponding figures were 50%, 9% and 47.1%. Classroom resources were deemed to be available and helpful by 43.8%

of midwifery and 26.2% of anaesthesia students, while skills laboratory resources were said to be available and helpful by 28.3% of midwifery and 9% of anaesthesia students. About half of each student group felt they received sufficient practical experience: 49.6% of midwifery students and 55.7% of anaesthesia students. The study also found that only 32% of midwifery and 57.4% of anaesthesia students met the curriculum requirements of having conducted at least 20 deliveries and 200 intubations before graduation, respectively.

IMPLICATIONS

Our findings suggest weaknesses in the quality of pre-service education, given the poor performance of students in certain essential skills, and based on the reported lack of adequate resources at the training institutions. This has important implications for education institutions and regulatory bodies, which have a responsibility to ensure that their programmes meet the standards for quality teaching

and learning. It is also a concern for the health sector where safety and quality of care are high priorities.

II. HEALTH WORKER TASK ANALYSIS^(8,9,10)

METHODS

The HRH Project conducted a task analysis study to assess gaps in the education and practice of midwives, anaesthetists and health extension workers (HEWs). Draft task lists were developed from relevant documents and validated by experts. The final lists consisted of 86 midwifery, 74 anaesthesia and 62 HEW tasks. Data were collected in December 2013 from health workers with six months to four years of professional experience. A total of 138 midwives, 137 anaesthetists, and 82 HEWs participated in the study. We measured four indicators: frequency of performance, criticality of the task, competence, and timing/location of training.

RESULTS

We selected five tasks from each cadre that are directly relevant to maternal health (Table 1). The large majority of midwives considered themselves competent in providing all the selected tasks, including family planning services and basic emergency obstetric and newborn care (BEmONC). They indicated that they performed these tasks frequently (daily or at least once a week).

Most felt that these tasks were highly critical for patient outcomes (69-75%), except for family planning (47.8%). Around two-thirds of the respondents said they had learned the tasks during pre-service education, except for BEmONC (47.1%). Generally, family planning received lower scores for frequency, criticality, competence and training during pre-service education compared to the other four tasks.

Almost all anaesthetists rated themselves as being competent in pre-anaesthetic evaluation, selecting and administering anaesthetics, patient monitoring during anaesthesia, basic life support, and management of anaesthesia-related complications (92% or more). Nine out of 10 stated that they performed all the tasks frequently (daily or weekly), except for basic life support (38.6%) and management of anaesthesia related complications (64.2%). The majority (82-88%) also felt that these tasks were highly critical, and said they had learned them during pre-service education.

Almost all HEWs considered themselves competent in providing family planning services. More than half of them indicated they performed these tasks frequently. Except for family planning (46.3%), most of the HEWs said the tasks were highly critical. The tasks that were cited most as topics covered during pre-service education were family planning and post-natal care. Clean and safe delivery received generally lower ratings across all the four variables.

IMPLICATIONS

All three cadres feel confident in their ability to perform the tasks assigned to them. Additional emphasis is recommended for tasks performed less frequently and those that are cited less as topics covered during pre-service education.

III. RETENTION OF HEALTH WORKERS⁽¹¹⁾

METHODS

The study employed a two-stage cluster sampling design to assess nurses' intention to leave their jobs and its determinants. Four hundred and twenty four nurses were randomly sampled from 125 public health facilities. Data were collected in June 2014 using interviews. Percentages and composite mean scores (ranging from 1 to 5) were computed and multivariable logistic regression analysis was done.

RESULTS

Half of the nurses (50.2%) intended to leave their job in the next year. The multivariable regression model showed that three variables were significantly associated with intention to leave. Nurses who had a university degree were more likely to intend to leave their jobs in the next year compared to nurses who had a diploma (adjusted odds ratio (AOR)=2.246; 95% CI=1.212- 4.163; $p<0.01$). Nurses with limited opportunities for professional development were more likely to intend to leave their current jobs (AOR=1.398; 95% CI=1.056-1.850; $p<0.02$). Intention to leave declined by 5% for each year of work experience (AOR=0.948; 95% CI=0.914- 0.982; $p<0.01$; Table 2).

IMPLICATIONS

The high rate of intention to leave the job suggests a need for improved retention mechanisms for junior nurses and bachelor degree holders, and better opportunities for on-the-job professional development.

OVERALL CONCLUSION

Evidence from the assessment of graduating students and task analysis suggests that strengthening the health workforce in Ethiopia will require additional efforts to improve the quality of pre-service education. Task analysis results suggest that additional efforts should be made to strengthen HEWs' pre-service education on all the tasks presented in this paper, as well as family planning and BEmONC for midwives. The alarmingly high rate of nurses who intend to leave their jobs also requires serious attention.



SHARON KIBWANA, MPH, PROGRAM MANAGER, JHPIEGO, 1615 THAMES STREET, BALTIMORE, MD 21231 SHARON.KIBWANA@JHPIEGO.ORG

TEGBAR YIGZAW, MD, MPH, DEPUTY CHIEF OF PARTY, JHPIEGO ETHIOPIA

FIREW AYALEW, MA, MSC, RESEARCH TEAM LEADER, JHPIEGO ETHIOPIA

JELLE STEKELENBURG, MD, PHD CONSULTANT IN OBSTETRICS AND GYNAECOLOGY, LEEUWARDEN MEDICAL CENTRE, PROFESSOR IN INTERNATIONAL ASPECTS OF REPRODUCTIVE HEALTH, IN PARTICULAR SAFE MOTHERHOOD, UNIVERSITY MEDICAL CENTRE GRONINGEN

JOS VAN ROOSMALEN, MD, PHD, PROFESSOR, INTERNATIONAL SAFE MOTHERHOOD, VU UNIVERSITY AMSTERDAM



REFERENCES

- Campbell J, Dussault G, Buchan J, Pozo-Martin F, Guerra Arias M, Leone C, et al. A universal truth: no health without a workforce. Forum report. Third global forum on human resources for health, Recife, Brazil. Geneva: Global Health Workforce Alliance and World Health Organization; 2013.
- Global Strategy on Human Resources for Health: 2010. World Health Organization 2016
- The Federal Democratic Republic of Ethiopia Ministry of Health. National Human Resource for Health Strategic Plan for Ethiopia 2016 – 2025. Addis Ababa, 2016.
- Kuhlmann E, Lauxen O, Larsen C. Regional health workforce monitoring as governance innovation: a German model to coordinate sectoral demand, skill mix and mobility. *Human Resources for Health*. 2016;14:71. doi:10.1186/s12960-016-0170-3.
- Pozo-Martin F, Nove A, Lopes SC, et al. Health workforce metrics pre- and post-2015: a stimulus to public policy and planning. *Human Resources for Health*. 2017;15:14. doi:10.1186/s12960-017-0190-7.
- Yizgaw T, Ayalew F, Kim Y-M, et al. How well does pre-service education prepare midwives for practice: competence assessment of midwifery students at the point of graduation in Ethiopia. *BMC Medical Education*. 2015;15:130. doi:10.1186/s12909-015-0410-6.
- Kibwana S, Woldemariam D, Misganaw A, Teshome M, Akalu L, Kols A, et al. Preparing the health workforce in Ethiopia: A Cross-sectional study of competence of anesthesia graduating students. *Education for Health* 2016;29:3-9.
- Yizgaw T, Carr C, Stekelenburg J, et al. Using task analysis to generate evidence for strengthening midwifery education, practice, and regulation in Ethiopia. *International Journal of Women's Health*. 2016;8:181-190. doi:10.2147/IJWH.S105046.
- Kibwana S, Teshome M, Molla Y, Carr C, Akalu L, van Roosmalen J, Stekelenburg J. Education, Practice and Competency Gaps of Anesthetists in Ethiopia: Task Analysis. *Journal of Perianesthesia Nursing*. May 2017. DOI: <http://dx.doi.org/10.1016/j.jopan.2017.02.001>
- Ayalew F, Temam G, Woldemariam D et al. Identifying Gaps in the Practices of Rural Health Extension Workers in Ethiopia: A Task Analysis Study. Submitted to BMC Health Services.
- Ayalew F, Kols A, Kim Y, et al. Factors Affecting Turnover Intention among Nurses in Ethiopia. *World Health & Population*. 2015; 16 (2):62-74. doi:10.12927/whp.2016.24491

Table 1: Analysis of selected tasks relevant to maternal health, Ethiopia, 2013

TASK	% of health workers who reported that:			
	They were proficient or competent in performing the task	They were trained during pre-service education to perform the task	The task was highly critical to patient outcomes	They routinely (daily or weekly) performed the task
Midwifery (n = 138)				
Family planning counselling and services	89.1	54.3	47.8	65.2
Antenatal care	96.4	73.2	72.5	77.5
Clean and safe delivery	98.8	69.6	73.2	91.3
BEmONC	94.2	47.1	75.4	72.4
Postnatal care	99.3	68.1	68.8	92.0
Anaesthesia (n = 137)				
Pre-anaesthetic evaluation	98.5	87.6	83.9	89.1
Select and administer anaesthetics	92.0	86.9	86.1	94.9
Patient monitoring under anaesthesia	98.6	83.2	81.8	90.5
Basic life support	96.3	85.4	88.3	38.6
Manage anaesthesia related complications	100	83.2	83.2	64.2
Health Extension workers (n = 82)				
Family planning services	98.8	56.1	46.3	75.6
Focused antenatal care	98.8	48.8	64.6	61.0
Clean and safe delivery	78.0	35.4	58.5	51.2
Essential newborn care	96.3	50.0	58.5	73.2
Post-natal care	100	57.3	62.2	85.3

Table 2: Factors associated with intention to leave

Predictors	Bivariate logistic regression			Multivariable logistic regression**		
	Crude OR/ coefficient	p-value	95% CI	Adjusted OR/ coefficient		
	p-value	95% CI				
Gender (ref. Male)						
	0.811/ -0.209	0.282	0.554-1.188	-	-	-
Age in years	0.953/ -0.049	0.002	0.924- 0.982	-	-	-
Marital status (ref. Single)						
Currently married	0.881/ -0.126	0.521	0.600- 1.296	-	-	-
Divorced/widowed	1.240/ 0.215	0.782	0.270- 5.689	-	-	-
Dependents/ family members (ref. No)						
Yes	0.764/ -0.269	0.216	0.499- 1.170	-	-	-
Place of birth (ref. Rural)						
Urban	0.965/ -0.036	0.856	0.657-1.418	-	-	-
Educational qualification (ref. Diploma)						
Bachelor of Science	1.840/ 0.610	0.038	1.035-3.273	2.246/ 0.809	0.010	1.212- 4.163
Years of public health service	0.956/ -0.045	0.008	0.924- 0.988	0.948/ -0.054	0.003	0.914- 0.982
Currently fulfilling compulsory service obligation (ref. No)						
Yes	1.080/ 0.077	0.795	0.604- 1.930	-	-	-
Type of facility (ref. Hospital)						
Health center	1.010/ 0.010	0.977	0.501- 2.036	-	-	-
Importance of decision-making factors						
Poor Living conditions	1.265/ 0.235	0.016	1.045-1.531	1.202/ 0.184	0.215	0.898- 1.608
Poor working environment	1.202/ 0.184	0.057	0.995-1.453	0.779/ -0.250	0.129	0.563- 1.076
Poor relationship with supervisor and co-workers	1.294/ 0.258	0.008	1.070-1.565	1.153/ 0.142	0.263	0.899- 1.479
Work burden	1.066/ 0.064	0.419	0.913- 1.244	-	-	-
Inadequate opportunities for professional development	1.434/ 0.361	0.001	1.165-1.766	1.398/ 0.335	0.019	1.056- 1.850
Inadequate basic salary	1.210/ 0.190	0.043	1.006- 1.455	-	-	-
**All factors were entered into the multivariable model after which stepwise selection was used to remove them from the full model; OR=odds ratio; CI= confidence interval						



Cervical cancer in low- and middle-income countries: a clinical overview of prevention and treatment

CASE

Mariumu is a 37-year-old female, parity 4. She is from rural Tanzania and visited rural health clinics several times with vaginal discharge. According to the STI guidelines, she was treated for sexually transmitted disease several times. Because discharge came back after each treatment very soon, she was referred to the regional hospital. On speculum examination, cervical cancer was suspected. She had an examination under anesthesia and was diagnosed with cervical cancer stage 2B (infiltration in the parametria). She was referred to the national cancer hospital and was prescribed chemoradiation. Radiation therapy was free of charge, but unfortunately the national cancer hospital did not have chemotherapy in stock. She went to the local pharmacy to find out that chemotherapy cost 200 USD, which she could not afford. She received only radiotherapy and was sent home. Six months later, she developed severe abdominal pain radiating to her left leg. Her left leg was edematous. She consulted the rural health center and was prescribed paracetamol for 3 days. She had agonizing pains for months and appalling vaginal discharge. After 6 months, she stopped urinating and went subconscious. She died 4 days later.

Cervical cancer accounts for 0.5 million cases and 260,000 deaths annually, of which 85% in low- and middle-income countries (LMIC)⁽¹⁾. The burden of cervical cancer is high in LMIC since the disease is more prevalent, quality of care often poor, and women are diagnosed in a later stage. Cervical cancer is caused by a persistent human papilloma virus (HPV) infection. It takes 10-15 years after infection to develop into cervical precursor lesions of cervical cancer and cervical cancer itself: ample time to screen and treat. Cervical cancer is highly preventable by HPV vaccinations and treatment of pre-cancerous lesions. Early-stage cervical cancer is treatable with surgery, and locally advanced stage cervical cancer with (chemo) radiation. Unfortunately, most women in LMIC are diagnosed in the stage of disseminated cervical cancer and only palliative care can diminish some of the symptoms.

In this article, we will focus on available evidence on prevention and treatment of cervical cancer in LMIC settings. Awareness, education, access to reproductive health care, and integration of cervical cancer prevention in existing health services are issues that need urgent attention, in order to make prevention of cervical cancer efficient. Major global stakeholders are the Global Alliance for Vaccines and Immunization (GAVI), Cervical Cancer Action (CCA) and the World Health Organization (WHO).

PRIMARY PREVENTION

HPV vaccination is effective and requires two injections in girls between the age of 9-14 years (for women 15 years or older a three-dose schedule is recommended). The efficacy of the HPV vaccine in preventing Cervical Intraepithelial Neoplasia (CIN) 2 or worse by any HPV type is about 62%⁽²⁾. Although HPV vaccination could prevent cervical cancer, it does not replace screening. Vaccination reduces abnormal screening tests and subsequent therapy for precursors of cervical cancer.

SECONDARY PREVENTION

Secondary prevention consists of elimination of Cervical Intraepithelial Neoplasia (CIN). CIN, the precursor lesion of cervical cancer, is categorized into CIN1, -2, and -3. If left untreated, CIN2 or -3 (collectively referred to as CIN2+) can progress to cervical cancer in a period ranging from 10-15 years. Suitable screening methods for detecting CIN in LMIC are HPV testing and Visual Inspection with Acetic Acid (VIA). Most efficient is a single-visit screen-and-treat approach to prevent multiple visits to a health facility. Cytology-based screening programs are not suitable in LMIC since they require sophisticated infrastructure.

In HIV-positive women, rates of incidence of CIN2+ lesions are higher (Hazard Ratio 2.55 (95% CI 1.69-3.86)), depending on their CD4+ count⁽³⁾. The rate of persistence or recurrence of CIN2+ after treatment is also higher. Therefore, we recommend that cervical cancer screening should be integrated in HIV treatment services⁽⁴⁾.

- HPV testing: sensitivity of a single High Risk HPV (hr-HPV) test exceeds 90-95%, allowing only a few screening visits in a lifetime. WHO advises intervals of 10 years, starting from the age of 30 years in LMIC⁽⁵⁾. Specificity of HPV tests is lower than cytology based testing. Hr-HPV testing does not need skilled laboratory technicians⁽⁶⁾. Women with a positive hr-HPV may be referred

for VIA and cryotherapy or loop electrosurgical excision procedure (LEEP) in the same visit (one visit approach).

- VIA: after the application of the acetic-acid (vinegar) to the cervix, acetowhite positive lesions will appear in case of cervical dysplasia. Although sensitivity nearly reaches sensitivity of cytology, specificity is usually lower (49-86%), which might lead to overtreatment. False positive acetowhite lesions are usually seen in case of infection (cervicitis) or chronic inflammation.

There are three primary treatments for CIN suitable for LMIC: cryotherapy, LEEP, and cold knife conization (CKC), which will be explained below:

- Cryotherapy: Cryotherapy is affordable in LMIC and in a meta-analysis of 28,827 cases it achieved cure rates of 85% (CIN3), 92% (CIN2) and 94% (CIN1)(5). The tip of the cryo should cover the entire lesion. Double freezing is recommended (3 minutes each, interrupted with a period of 5 minutes of thaw). A relatively novel means of treating pre-malignant cervical lesions is the thermo-coagulator which uses heating (100-110 degree Celsius) instead of freezing. A meta-analysis shows same performances compared with cryotherapy with less side effects^(7,8). Lesions larger than 75% of the cervix need excisional therapy (LEEP or CKC)⁽⁹⁾.
- LEEP: The benefits of LEEP are greater compared to cryotherapy, and the downsides were fewer or similar. However, there are greater resource-related implications for LEEP than for cryotherapy, which is why LEEP is not available in all settings. LEEP is recommended in large lesions (>75% of the cervix) and for intra-cervical lesions⁽⁹⁾.
- CKC: Cold knife conization is defined as excision of a cone-shaped or cylindrical wedge from the cervix uteri that includes the transformation zone and all or a portion of the endocervical canal. It is utilized for the definitive diagnosis of intraepithelial lesions, for excluding microinvasive carcinomas, and for conservative treatment of cervical intraepithelial neoplasia (CIN).

TREATMENT OF CERVICAL CANCER IN GENERAL

Each country or region has treatment and referral plans in place for women diagnosed with invasive cervical cancer to be referred to tertiary-level institutions. Diagnosis is often made clinically and confirmed with pathology.

TREATMENT OF EARLY STAGE CERVICAL CANCER

Early stage cervical cancer is defined as FIGO stages 1A1, 1A2 (micro-invasive carcinomas) and 1B1 (less than 4 cm). In most LMIC, staging is done clinically during pelvic examination. The size of the tumour is measured, the relation of the tumour with the vaginal vault, involvement of parametrial tissue and sacro-uterine ligaments as well as involvement of rectum. Chest x-ray and ultrasound are recommended to rule out pulmonary metastasis and hydronephrosis, respectively. CT-scan or MRI is advised in case of stage 1B2 or more. In Table 1, the treatment modalities available in most LMIC are depicted.

PALLIATIVE CARE

Cervical cancer is very distressing for the patient and her relatives, and women in LMIC in particular can have a very painful journey when they are diagnosed with the disease. They should not be left alone during this journey, and in many countries it is therefore possible to deliver home based care to these patients. Women with cervical cancer in advanced stages or women with recurrence of cervical cancer need palliative care to relieve symptoms. Symptoms and palliative care of cervical cancer patients are ^(10, 11):

- Pain: medication for all women should be available according to the WHO Pain Relief guidelines: start with paracetamol and add NSAID, codeine, amitriptyline and opioids when necessary. Pain medication should be administered to suppress pain.
- Vaginal discharge: can be treated with metronidazole orally or applying local solution.
- Vaginal bleeding: if available palliative radiotherapy can decrease the bleeding
- Nausea: anti-emetics
- Constipation: laxatives
- Rectovaginal fistula: colostomy if surgeon and colostomy bags are available
- Psychological distress: counselling and support

CONCLUSION

Cervical cancer is common in LMIC. However, it can be prevented by vaccination and screening. In many LMIC, vac-



Table 2: Cervical cancer treatment modalities commonly available in low- and middle income countries

Stage	Tumour extends to	Risk of lymph node metastasis	Treatment
IA1	invasion less than 3 mm, linear extension < 5 mm	< 0,5%	conisation or simple hysterectomy
IA2	invasion between 3-5 mm and/or linear extension of less than 7 mm without LVSI*	1.3 %	conisation or simple hysterectomy
IA2	invasion between 3-5 mm and/or linear extension of less than 7 mm with LVSI*	12%	conisation or simple hysterectomy with pelvic lymphadenectomy
IB1	depth of invasion > 5 mm and/or linear extension > 7 mm but < 4 cm	14-20%	radical hysterectomy with pelvic lymphadenectomy(10).
IB2	more than 4 cm but still confined to the cervix	25%	chemoradiation
Higher stages	Infiltration in vagina, parametria or metastasis to lymph nodes	n/a	chemotherapy with radiotherapy

* LVSI= lymph vascular space invasion

cination of girls against HPV virus is or will soon be included in their national immunization programs. Screening programs are based on HPV tests or Visual Inspection with acetic acid. For women who are diagnosed positive at screening for precursors, affordable treatment is available to prevent cervical cancer. When cervical cancer is diagnosed in early stages, surgery is the treatment of choice. However, most patients will be diagnosed in advanced stages. Palliative care should be available for all women with advanced cervical cancer.

Healthcare providers in first and second level institutions have an important role in the prevention of cervical cancer, and need to refer patients in time in case of (suspicion of) cervical cancer. Health workers should also provide care and support to women who have been discharged home from the hospital for palliative care. Patients with advanced stage cervical cancer in LMIC need treat-

ment in tertiary hospitals since treatment is often multimodal and complex.

Effective immunization and screening and treatment programs may prevent suffering and premature deaths in the future.



HELEEN J VAN BEEKHUIZEN, MD, PHD, ONCOLOGICAL GYNAECOLOGIST, ERASMUS MC, ROTTERDAM, THE NETHERLANDS
JOGCHUM J BELTMAN, MD, PHD, ONCOLOGICAL GYNAECOLOGIST, LUMC, LEIDEN, THE NETHERLANDS CONTACT: H.VANBEEKHUIZEN@ERASMUSMC.NL

REFERENCES

1. Ferlay J, Soerjomataram I, Dikshit R, Eser S, Mathers C, Rebelo M, et al. Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN 2012. *Int J Cancer*. 2015 Mar 01;136(5):E359-86.
2. Harper DM, DeMars LR. HPV vaccines – A review of the first decade. *Gynecologic Oncology*.
3. Whitham HK, Hawes SE, Chu H, Oakes JM, Lifson AR, Kiviat NB, et al. A Comparison of the Natural History of HPV Infection and Cervical Abnormalities among HIV-Positive and HIV-Negative Women in Senegal, Africa. *Cancer Epidemiol Biomarkers Prev*. 2017 Jun;26(6):886-94.
4. Denslow SA, Rositch AF, Firnhaber C, Ting J, Smith JS. Incidence and progression of cervical

- lesions in women with HIV: a systematic global review. *Int J STD AIDS*. 2014 Mar;25(3):163-77.
5. Sauvaget C, Muwonge R, Sankaranarayanan R. Meta-analysis of the effectiveness of cryotherapy in the treatment of cervical intraepithelial neoplasia. *Int J Gynaecol Obstet*. 2013 Mar;120(3):218-23.
6. Kuhn L, Denny L. The time is now to implement HPV testing for primary screening in low resource settings. *Prev Med*. 2017 May;98:42-4.
7. Dolman L, Sauvaget C, Muwonge R, Sankaranarayanan R. Meta-analysis of the efficacy of cold coagulation as a treatment method for cervical intraepithelial neoplasia: a systematic review. *BJOG*. 2014 Jul;121(8):929-42.
8. Campbell C, Kafwafwa S, Brown H, Walker G, Madetsa B, Deeny M, et al. Use of thermo-coagulation as an alternative treatment modality in a 'screen-and-treat' programme of cervical screening in rural Malawi. *Int J Cancer*. 2016 Aug 15;139(4):908-15.
9. Santesso N, Schunemann H, Blumenthal P, De Vuyst H, Gage J, Garcia F, et al. World Health Organization Guidelines: Use of cryotherapy for cervical intraepithelial neoplasia. *Int J Gynaecol Obstet*. 2012 Aug;118(2):97-102.
10. Merriman A, Kiwanuka R. Palliative Care. A Textbook of Gynecology for Less-Resourced Locations [serial on the Internet]. 2012: Available from: http://www.glowm.com/resource_type/resource/textbook/title/a-textbook-of-gynecology-for-less-resourced-locations/resource_doc/35.
11. Engender Health, Path. Palliative Care for Women With Cervical Cancer: A FIELD MAN-UAL2003: Available from: http://screening.iarc.fr/doc/RH_palliative_care_guide.pdf.

The Female Community Health Nursing Initiative in Afghanistan: A Situation Analysis

This article shows the roles (actual and expected) of female community health nurses (CHNs) in health services in Afghanistan, taking stock of an education programme introduced in 2010.

WHO (2006) reported a health worker density in Afghanistan of 41 per 100,000 population. The nurse density was as low as 6.6 per 100,000 population (Ministry of Public Health, MoPH, 2007).⁽¹⁾ The role of nurses in the management of diseases and in the context of task shifting has been the object of a number of studies and reviews. A study in Spain showed that nurses successfully addressed 86.3% of cases of acute disease of low complexity in primary care⁽²⁾. A meta-analysis of 20 studies on task shifting from physicians to nurses showed that nurses provided more frequent and longer services than doctors with similar referrals, prescriptions, or investigation services⁽³⁾. A Cochrane review of 16 intervention studies (25 articles) suggested, with some caution, that appropriately trained nurses can be as effective as doctors in providing health services⁽⁴⁾.

In 2010, the Afghan MoPH introduced the Community Health Nursing Education (CHNE) programme, modelling the successful experience of community midwifery programmes elsewhere. CHNs are responsible for the provision of a wide range of services at peripheral health facilities. These services include health promotion, integrated management of neonatal and childhood illnesses (IMNCI), first-aid, referrals, immunization services, nutrition counselling, and certain tasks in tuberculosis, malaria and leishmaniasis control programmes. Furthermore, they are supporting disadvantaged and vulnerable individuals. The International

Council of Nurses core competencies enable CHNs to support Afghanistan's Basic Package of Health Services⁽⁵⁾.

METHODOLOGY

With the aim of documenting the current situation of community nurses in Afghanistan, a study was conducted, using a mixed method approach of participatory task analysis, time-motion task study, key informant interviews and focus group discussions. Two peer-facilitated task analysis workshops were held to identify the type and frequency of tasks provided by CHNs. A diary was used to record the time that CHNs spent carrying out various tasks. To assess different viewpoints on CHNE programme strengths and weaknesses, lessons learned and the role CHNs should play in providing health services, qualitative data were collected from MoPH officials, donor agency representatives, individuals with key roles in the CHNE programme and policy and curriculum development, and from health service managers.

FINDINGS

The programmes were funded by 10 different donors and implemented by 23 different NGOs using the national curriculum. The CHNE programmes had graduated 1487 students by April 2017. An additional 510 students were still studying at that time. Of the 791 students that had graduated from CHNE programmes by February 2016, 469 (59.2%) were deployed to public health facilities. Deployment data for graduates of programmes after Feb 2016 are not yet available.

In November 2015, 166 CHNs were deployed, out of which 123 CHNs participated in a task analysis exercise. The CHNs reported performing several clinical tasks (Fig. 1), in particular: 1) administering injections, providing dressings and performing minor surgical procedures, 2) provid-

ing in-patient care, 3) providing health education, and 4) performing some non-clinical administrative tasks (all mentioned by more than 85% of the respondents). Preparing workstations and sterilizing equipment were also frequently reported (more than 80%).

More than 75% of participants performed these five tasks at least once per week.

The CHNs reported to have received most of their training in the form of pre-service education. They had learned clinical tasks performed at the outpatient department for a large part also through formal in-service training. On-the-job coaching was mentioned by few respondents as the most important channel of training. More than 50% of the respondents reported being confident to provide the services that were expected of them.

More than 50% of the respondents reported being confident to provide the services that were expected of them.

Most of the CHNs expressed their frustration with the lack of formal recognition of CHN as a standard MoPH staff category. Also the low salary of CHNs compared to nurses and midwives was mentioned as a source of discontent.

The analysis of task diaries kept by 50 CHNs gave a median number of working days of 16.5 (range 5-21) per month and an average length of a working day of seven hours. The tasks reported by 90% or more CHNs were health education and first-aid services. The three tasks performed most frequently were health education (65.6% of working days documented), adult and child first-aid (58.1% and 54.8% of days, respectively) and IMNCI (48.9% of days) (Table 1). Community outreach services were not reported during the task analysis workshop. Follow-up by phone with 21 of



the task analysis workshop participants showed that community outreach was not part of the CHN job descriptions, although several CHNs did provide private services within their communities.

Interviews conducted with health facility managers and other key informants (MoPH managers, CHN school managers, and faculty members) revealed appreciation of the contribution of CHNs, with some of the interviewees suggesting that additional clinical tasks could be delegated to the CHNs. All of the 23 CHNE programme implementing agencies, however, were dissatisfied with the competency, recruitment and retention of faculty staff. They emphasized inadequate capacity building and salaries of the CHNE faculty. In some programmes, students were recruited who had completed only 8th grade while the recommended minimum prequalification level for recruiting community nursing students was 12th grade. Few programmes were happy with the deployment rate of graduates. They also complained of inadequate infrastructure and amenities in the schools. The health facility managers reported that the performance of their facilities had improved with CHNs, but they wanted them to provide more advanced nursing services.

DISCUSSION

The CHNE programme has been designed to address the shortage of human resources for nursing services at remote health facilities.

The findings of this study show that the additional health workforce of CHNs has actually alleviated this shortage. The community based selection and deployment strategy adopted from the community midwifery programme has been successfully implemented. The services currently provided by the CHNs are perceived as satisfactory by some of the study participants, although additional expectations documented in the study indicate that both the job profile and the

Figure 1. Tasks performed by CHNs (N=123)

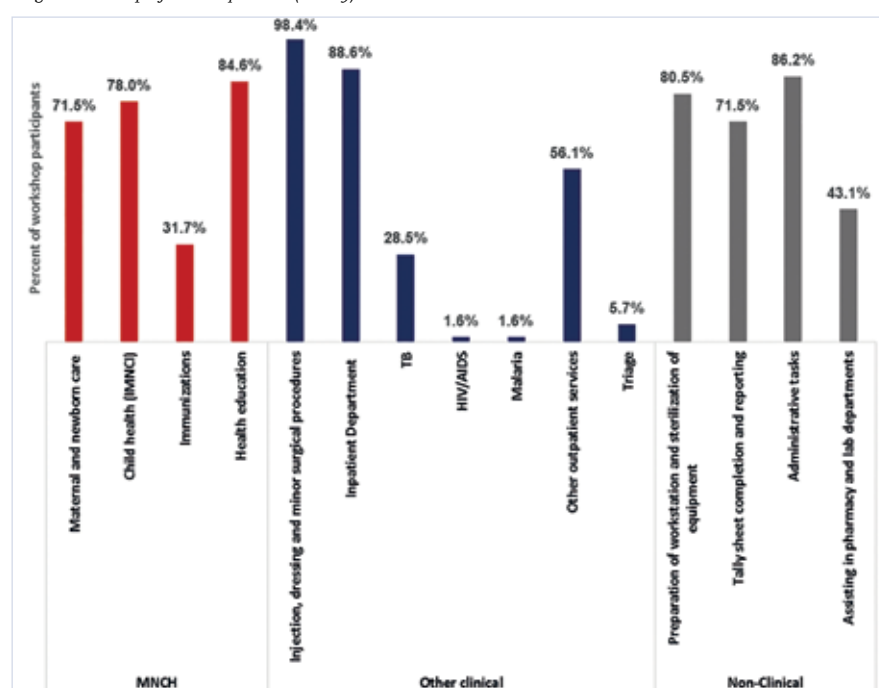
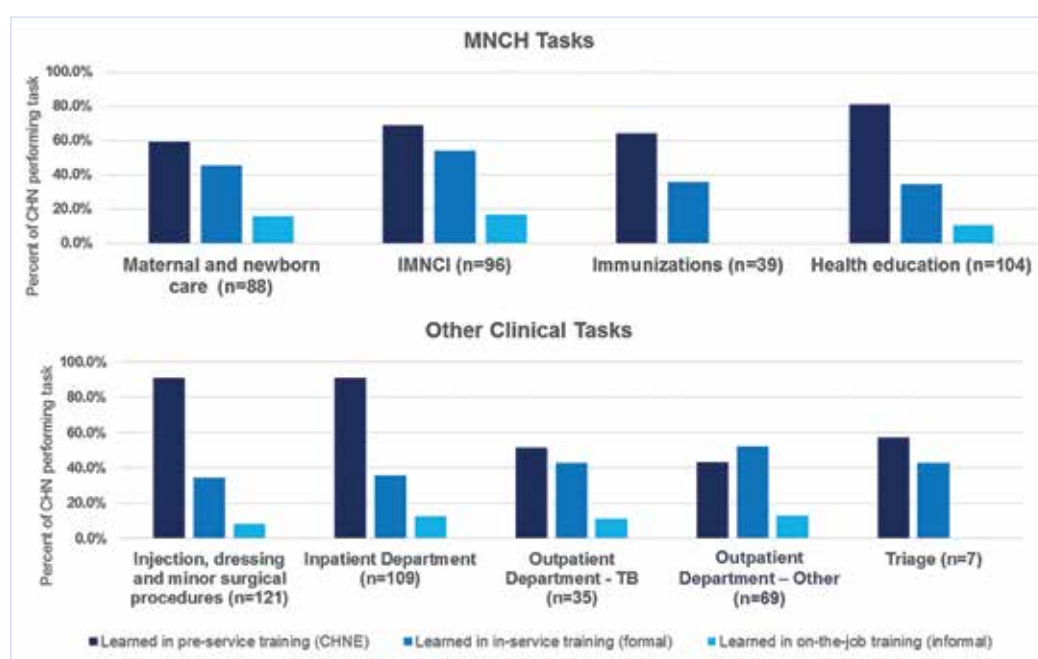


Figure 2. Type of training received for routine tasks performed by CHN



curriculum of the programmes should be revised to address these needs.

Home visits that could be implied by the term “community” in CHN have not been part of the activities that are expected from CHNs. Community based services by the CHNs require more attention, during their pre-service education as well as at the health facilities themselves. An improved preservice curriculum, improved clinical prac-

tice opportunities and more accurate posting of the cadres are important for improvement of the skills and confidence of the CHNs and further success of the programme. Furthermore, CHNs are not recognized as civil servants and are paid low salaries and most often further career development pathways are not defined. This research and other studies show that these are key aspects associated with low job satisfaction ^{(6) (7)}. In order to improve



Table 1: Tasks performed by CHNs according to completed task diaries

	# CHNs reporting the tasks (Total 50)		# of workdays CHNs reported the task (Total 786)	
	n	%	n	%
Maternal, newborn, child and reproductive health services				
Family planning	42	84%	346	44.0%
Antenatal care	40	80%	347	44.1%
Delivery (assisting midwife or doctor)	43	86%	282	35.9%
Postnatal care	39	78%	284	36.1%
Immunizations	39	78%	320	40.7%
Integrated management of child and newborn health illnesses	39	78%	384	48.9%
Health education	46	92%	516	65.6%
Other clinical services				
Adult first aid	45	90%	457	58.1%
Child first aid	45	90%	431	54.8%
TB/malaria	43	86%	309	39.3%
Mental health	38	76%	299	38.0%
Health education (other)	46	92%	290	36.9%
Non-clinical services				
Tally sheet completion and reporting	36	72%	180	22.9%
Assisting in pharmacy and lab departments	38	76%	367	46.7%
Staff meetings	44	88%	238	30.3%
In-service training	40	80%	-	-
Community based services				
Home visit	29	58%	102	13.0%
Community meetings	25	50%	104	13.2%

the role of community health nurses these aspects should be addressed.



PARTAMIN MANALAI: MONITORING, EVALUATION AND RESEARCH DIRECTOR, JHPIEGO-AFGHANISTAN; CORRESPONDING AUTHOR, PARTAMIN@JHPIEGO.ORG

NASRATULLAH ANSARI: COUNTRY DIRECTOR, JHPIEGO-AFGHANISTAN AND PHD CANDIDATE AT VU AMSTERDAM (NL)

JELLE STEKELENBURG: PROFESSOR INTERNATIONAL ASPECTS OF REPRODUCTIVE HEALTH, IN PARTICULAR SAFE MOTHERHOOD DEPARTMENT OF HEALTH SCIENCES, GLOBAL HEALTH, UNIVERSITY MEDICAL CENTRE GRONINGEN/ UNIVERSITY OF GRONINGEN (NL)

HANNAH TAPPIS: MONITORING, EVALUATION AND RESEARCH ADVISOR, JHPIEGO-BALTIMORE (USA)

REFERENCES

1. MoPH. Afghanistan National Health Workforce Plan. 2012:1-51, MoPH, Kabul, Afghanistan.
2. Iglesias B, Ramos F, Serrano B et al. A randomized controlled trial of nurses vs. doctors in the resolution of acute disease of low complexity in primary care. *J Adv Nurs*. 2013 Nov; 69(11):2446-57. doi: 10.1111
3. Martínez-González NA, Rosemann T, Djalali S, Huber-Geismann F, Tandjung R. Task-shifting from physicians to nurses in primary care and its impact on resource utilization : a systematic review and meta-analysis of randomized controlled trials. *Med Care Res Rev* 2015; 72(4):395-418.
4. Laurant M, Reeves D, Hermens R, Braspenning J, Grol R, Sibbald B. Substitution of doctors by nurses in primary care. *Cochrane Database of Systematic Reviews* 2005, Issue 2. Art no CD001271. Doi: 10.1002/14651858.CD001271.pub2
5. MOPH Afghanistan. A Basic Package of Health Services for Afghanistan 2010/1389. 2010. MoPH, Kabul, Afghanistan.
6. Ayalew F, Kibwana S, Shawula S et al. Understanding job satisfaction and motivation among nurses in public health facilities of Ethiopia: a multilevel analysis. Unpublished.
7. Ayalew F, Ababa A. Factors affecting turnover intention among nurses in Ethiopia. *Heal Hum Resour* 2015;62-74.

COLOPHON

MT Bulletin of the Netherlands Society for Tropical Medicine and International Health

ISSN 0166-9303

CHIEF EDITOR
Leon Bijlmakers

EDITORIAL BOARD
Alies Coenders - Jan Auke
Dijkstra - Myrrieth van
Hulsbergen - Esther Jurgens
- Annefleure Langedijk -
Josephine van de Maat -
Ed Zijlstra

LANGUAGE EDITING
Eliezer Birnbaum

COVER PHOTO
Hanneke de Vries

DESIGN
Mevrouw van Mulken

Photos on page 3, 16 and 24:
Shutterstock

© NVTG 2017



Obstetric Fistulas in Uganda – a burden of the poor

Kagando, Western region

Day after day, young women came to Kagando Mission Hospital after the radio announced a free fistula camp. Each woman has a sad story to tell. Lea, a 16-year-old girl tried to deliver her baby at home for days without a skilled birth attendant. By the time she reached the hospital, her baby was dead and her vaginal wall showed a euro-sized hole towards the bladder. She could not afford an operation and left the hospital leaking. Christina, 27 years old, had two caesarean sections. Both children did not survive. Due to complications during her second caesarean, her uterus was removed. Not much later, she developed a hole between her bladder and vagina. 13-Year-old Stella walked for days to reach the hospital, her dress full of foul smelling yellow stains. Her mother died, and her father looked for a job in the city leaving his daughter with 'the workers at home'. She was sexually abused till her urine loss made her unattractive.

INTRODUCTION

It is called "a social injustice", the "result of the egregious failure of health systems" and even a "human rights tragedy". In describing the burden of (obstetric) fistulas, the use of superlatives is not feared. As a complication of obstructed labour, rape, or other trauma, fistulas are an abnormal connection between the vagina and rectum or bladder and leave a woman incontinent for faeces,

urine or even both. Besides the physical consequences of the constant leakage of bodily fluids, the associated foul smell and stigmatization has enormous social and economic, not to mention emotional and psychological consequences.

The WHO estimates that worldwide between 50,000 and 100,000 women develop obstetric fistulas (OF) each year and 2 million women live with untreated fistula in Asia and sub-Saharan Africa (SSA). However the exact number remains difficult to measure.^[1,2] Within SSA, Uganda has the highest prevalence of OF with an estimated lifetime prevalence of 19.2 per 1000 women of reproductive age.^[3] Only 62 percent of these women have sought treatment; others were too embarrassed, or among other reasons, did not know where to find treatment.^[4] Even if all would seek treatment, at the current rate that fistulas are surgically managed, it would take at least 55 years to treat all existing patients, let alone to treat the new cases that develop every year.^[5]

According to the WHO, most cases can be prevented, firstly by delaying the age of first pregnancy and secondly by improving access to obstetric care.^[1] Obstetric fistulas have been practically eliminated in many countries, yet in low- and middle-income countries "the most dispossessed, outcast, powerless group of women in the world"^[6] are still at risk of this condition.^[7] The uneven global and national distri-

bution of OF suggests a complex picture of determinants contributing to fistula development. Because Uganda has the highest prevalence of OF in all countries in Sub Sahara Africa and because of the author's personal interest and experience in fistula camps in Uganda, this study aims to create understanding of

the determinants of OF in Uganda to provide a framework for improvement of health policy.

METHODS

To understand the determinants that contribute to the development of OF, a review of literature was done using the PubMed/MEDLINE database as well as data from Ugandan DHS and the Ministry of Health*.

The results were analysed using the model for the main determinants of health by Dahlgren and Whitehead.^[8] This model unfolds the range of factors that threaten, promote or protect health. It depicts four levels for policy intervention, and one level that is 'fixed' or uncontrollable,

namely age, sex and genetics (see Figure 2). The epidemiological pattern of OF suggests considerable inequity in the distribution of determinants of health, thus making this model highly relevant to approach the problem. For the purpose of this journal, only the most relevant results and references are cited.



Figure 1. A few days after surgery. Women carry their indwelling catheter in a little bucket.

© JANSZEN, KAGANDO, 2016



Figure 2. Model for the main determinants of health according to Dahlgren and Whitehead.^[8]

* The key words for the PubMed search were synonyms for obstetric fistula in combination with Uganda. Using the snowballing technique (within Pubmed and Google Scholar) several papers and review articles were found. Search terms (Title / Abstract): vaginal fistula / genital (tract) fistula / vesicovaginal fistula / rectovaginal fistula / obstructed labour / prolonged labour; MeSH terms: vaginal fistula / vesicovaginal fistula / rectovaginal fistula.

RESULTS

CONSTITUTIONAL AND INDIVIDUAL LIFESTYLE FACTORS

During obstructed labour the foetal head cannot pass the pelvis of the mother during the last stage of labour. Immaturity of the pelvis increases the likelihood of cephalopelvic disproportion (CPD) which may result in OF.^[9] Because the female pelvis continues to grow until late adolescence, an age below 18 years is associated with OF.^[9,10] Constitutional factors like race and height (<150 cm) seem to be related to OF; African women are believed to have a narrower pelvis than Europeans which predisposes them to CPD.^[10-13] Malnourished women are more susceptible to OF due to reduced height and poorer healing after (birth) trauma.^[6,12] Yet malnourished women also give birth to smaller children (< 3500 grams), which is a protective factor for developing OF.^[11,12,14]

SOCIAL & COMMUNITY NETWORKS

Cultural norms and beliefs play an important role when it comes to the position of women and the choices they are able to make. The high unmet need for family planning, limited participation in decision-making, and acceptance of wife-beating are just a

few indicators that female empowerment in Uganda is limited.^[4,15] Although knowledge of family planning methods seems to be widespread in Uganda, limited empowerment is associated with limited use of these methods.^[4,13] Furthermore, sexual violence by the intimate partner is common in Uganda and has been associated with OF.^[4,10]

LIVING AND WORKING CONDITIONS

Although education is free in Uganda, 1 in 5 women have never had any form of education in Uganda and are considered illiterate.^[4] Being able to read is protective with regard to developing OF in SSA.^[11] Also, a woman who is the income-earner is less likely to be associated with OF compared to a housewife.^[11] The distance to a health-care unit is relevant; the mean distance to the nearest emergency obstetric care unit is significantly higher among women with OF.^[11] Birth by Caesarean is strongly associated with OF, which is most likely a reflection of the presence of obstructed labour.^[11] Additionally, even though the significant delay in seeking care suggests damage might already be done before hospital arrival, a substantial part of the observed fistula is due to injuries created by the surgeon.^[11]



GENERAL SOCIOECONOMIC, CULTURAL AND ENVIRONMENTAL CONDITIONS

In certain regions of Uganda the risk of developing OF is significantly higher compared to other regions.^[9,16] The explanation might be found in the accumulation of determinants: women living in remote rural areas are generally younger at marriage and first intercourse, have lower education, less wealth, are less empowered and live far from a healthcare unit with obstetric care facilities.^[4,16]

CONCLUSION AND RECOMMENDATIONS

Early childbearing, malnutrition, low socio-economic status and low empowerment of women, low community awareness and overall lack of access

to emergency obstetric care paint the picture of OF. Poverty and low education link these determinants, creating a web that is disproportionately hard to escape from for the poorest women. Consequently, aiming to improve the socioeconomic status or education of women in remote areas will theoretically influence both the prevention of obstructed labour as well as the access to care in case of obstructed labour, even without improving health care services.

The inequity that lies at the base of OF means that the Ministry of Health needs to improve healthcare services of family planning, emergency obstetric care and skilled birth attendance,



as well as co-operation with other ministries to tackle the determinants that shape the environment for OF.



GEERTE DEN HOLLANDER (1), MD; ERICA JANSZEN (2), MD

-THIS PAPER IS A SHORT VERSION OF A REVIEW THAT IS UNDER CONSIDERATION FOR PUBLICATION ELSEWHERE-

1 MEDICAL DOCTOR INTERNATIONAL HEALTH & TROPICAL MEDICINE (MD IH & TM) WITH A SPECIAL INTEREST IN GLOBAL MATERNAL HEALTH CORRESPONDING AUTHOR; G.C.DENHOLLANDER@GMAIL.COM

2 UROGYNAECOLOGIST OLVG-OOST, MD IH & TM, PARTICIPATING IN FISTULA CAMPS IN UGANDA

REFERENCES

1. World Health Organization. 10 facts on obstetric fistula [Internet]. 2014 [cited 2016 Nov 8]. Available from: http://www.who.int/features/factfiles/obstetric_fistula/en/
2. Tunçalp Ö, Tripathi V, Landry E, Stanton K, Ahmed S. Measuring the incidence and prevalence of obstetric fistula: approaches, needs and recommendations. Bull World Health Organ. 2015;(October 2014):60–2.
3. Maheu-Giroux M, Filippi V, Samadoulougou S, Castro MC, Maulet N, Meda N, et al. Prevalence of symptoms of vaginal fistula in 19 sub-saharan africa countries: A meta-analysis of national household survey data. Lancet Glob Health. 2015;3(5):e271–8.
4. Uganda. Uganda Bureau of Statistics. Uganda Demographic and Health Survey 2011. Kampala: UBOS and Calverton, Maryland: ICF International Inc.; 2012: 47-54, 78-95, 105-121, 217-234, 269-270.
5. Ahmed S, Tunçalp Ö. Burden of obstetric fistula: From measurement to action. Lancet Glob Health. 2015;3(5):e243–4.
6. Wall L. Obstetric fistulas in Africa and the developing world: new efforts to solve an age-old problem. Womens Health Issues. 1996;6(4):229–34.
7. United Nations. Intensifying efforts to end obstetric fistula. Geneva; United Nations General Assembly; 2016:1-19, A/71/150.
8. Dahlgren G, Whitehead M. Policies and strategies to promote social equity in health. Background document to WHO – Strategy paper. Stockholm: Arbetsrapport/Institutet för Framtidsstudier; 2007:1-67.
9. Kabakyenga JK, Östergren P-O, Turyakira E, Mukasa PK, Pettersson KO. Individual and health facility factors and the risk for obstructed labour and its adverse outcomes in south-western Uganda. BMC Pregnancy Childbirth. 2011;11(73):p10.
10. Maheu-Giroux M, Filippi V, Maulet N, Samadoulougou S, Castro MC, Meda N, et al. Risk factors for vaginal fistula symptoms in Sub-Saharan Africa: a pooled analysis of national household survey data. BMC Pregnancy Childbirth. 2016;16(1):82.
11. Barageine JK, Tumwesigye NM, Byamugisha JK, Almroth L, Faxelid E. Risk factors for obstetric fistula in western Uganda: A case control study. PLoS One. 2014;9(11):e112299.
12. Konje JC, Ladipo OA. Nutrition and obstructed labor. Am J Clin Nutr. 2000;72(1 SUPPL.).
13. Handa VL, Lockhart ME, Fielding JR, Catherine S, Brubakery L, Cundiffy GW, et al. Racial Differences in Pelvic Anatomy by Magnetic Resonance Imaging. Obs Gynecol. 2008;11(4):914–920.
14. Black RE, Allen LH, Bhutta ZA, Caulfield LE, de Onis M, Ezzati M, et al. Maternal and child undernutrition: global and regional exposures and health consequences. Lancet. 2008;371(9608):243–60.
15. Do M, Kurimoto N. Women's empowerment and choice of contraceptive methods in selected African countries. Int Perspect Sex Reprod Health. 2012;38(1):23–33.
16. Sagna ML, Hoque N, Sunil T. Are some women more at risk of obstetric fistula in Uganda? Evidence from the Uganda Demographic and Health Survey. J Public Health Africa. 2011;2(2):e26.





Reach for the moon, and you will catch a star

Interview with Marleen Temmerman



REACH FOR
WHAT YOU WANT
TO CHANGE OR
IMPROVE, AND AT
LEAST YOU WILL
ACHIEVE PART OF
IT. EVENTUALLY
IT ALL COMES
DOWN TO THINK
GLOBALLY, BUT
ACT LOCALLY

Marleen Temmerman, gynaecologist and fighter for human rights, just celebrated her 64th birthday but she is not thinking about retirement just yet. She works as head of the Obstetrics and Gynaecology department of the Aga Khan University in Nairobi. She desires to achieve 'more of the same' in the battle to further lower maternal mortality and to improve women's rights. We very much enjoyed discussing with her the challenges and achievements of the past years and her ideas for the near future.

HOW TO ACT LOCALLY

In 1986, Marleen started to work in Nairobi in the Pumani Maternity Hospital (PMH), quite a challenging setting.

I wanted to combine clinical work with training and research and got the opportunity to work as lecturer/researcher at the University of Nairobi. After some fundraising, I bought the first ultrasound machine and started a training program. I was involved in a research program, which was carried out in PMH. There were around 100 deliveries per day and there was a shortage of everything, including doctors and midwives. This resulted in a combination of clinical work, teaching and research. Later, I got involved in project management.

After five years, I moved back to Belgium but stayed in touch with the hospital and the project management. Nowadays, the hospital has foetal monitoring, incubators, ultrasound, ambulances and a working communication system with referral clinics. Maternal and perinatal mortality has

decreased significantly. In the 1980s we had 2 stillbirths a day, compared with 2 per week these days. Maternal deaths were weekly events; now very few women are dying, and many of these are unavoidable deaths.

These days, I work for Aga Khan University, a private not for profit university in Nairobi, where I am the head of Obstetrics and Gynaecology. I hope to establish a public private partnership with PMH, since it has become a teaching hospital and a centre of excellence with a huge impact on quality of care combined with opportunities for training doctors and midwives. The hospital is also an excellent place for research. My dream is to create a bridge between people working in clinical care and those who are involved in public health. Interventions to reduce maternal mortality include: 1) encouraging women to deliver in health facilities, but also investing in quality of care during childbirth and 2) investing in women's rights and access to reproductive health services for girls and women.

HOW TO THINK GLOBALLY

Safe motherhood should continue to be sky-high on the international agenda. In 2010, the United Nations Secretary General (UNSG) office assessed the MDGs and found that number 4 (reduction of child mortality) and especially number 5 (reducing maternal mortality) were lagging. It took seven years before universal access to reproductive and sexual health and family planning was incorporated in MDG 5. Hence, the UNSG Mr. Ban Ki-moon initiated EWEC (i.e. Every Woman, Every Child), a partnership between UN, governments, private sector, public sector, civil society,



champions, mission organizations, and all constituencies to support MDG 4 & 5, resulting in an acceleration of implementation. In 2015, the world did not meet the millennium goals but still had a lot to celebrate. Never before had the world achieved such an improvement in health as at that moment. Maternal mortality actually decreased globally from 1600 to 800 mothers dying per day because of pregnancy related issues.

KEY FACTORS IN SAFE MOTHERHOOD

We learned a lot about the local differences in low-resource countries. What stands out in countries that met MDG 5 (for example Rwanda) is strong governmental leadership as well as strong collaboration with the donor community. In Kenya, we do have a strong champion. First Lady Margaret Kenyatta started an important program, 'Beyond Zero (maternal mortality)', bringing all constituencies together to engage in women's and child health.

The percentage of women giving birth in a health centre increased from 32% in 2010 to 88% nowadays. The government is now increasing investment in structural improvements of quality of healthcare in the facilities.

MARLEEN'S PASSION AND IDEAS

My biggest passion is improving health and taking women's rights on a higher level. In 2007, I was asked to join politics. After refusing initially, I took the step into politics to have the chance to bridge the healthcare sector and politics. I enjoyed my 6 years as a senator in the Belgian Parliament and working globally with the European Parliamentary Forum as well as in the IPU (Inter-Parliamentary Union). I left my senate seat in 2012 to join WHO as Director of Reproductive Health and Research. Working with the UN was interesting and I loved it very much. Having retired from the UN, I am happy to be back in Kenya.

MORE OF THE SAME IN THE FUTURE

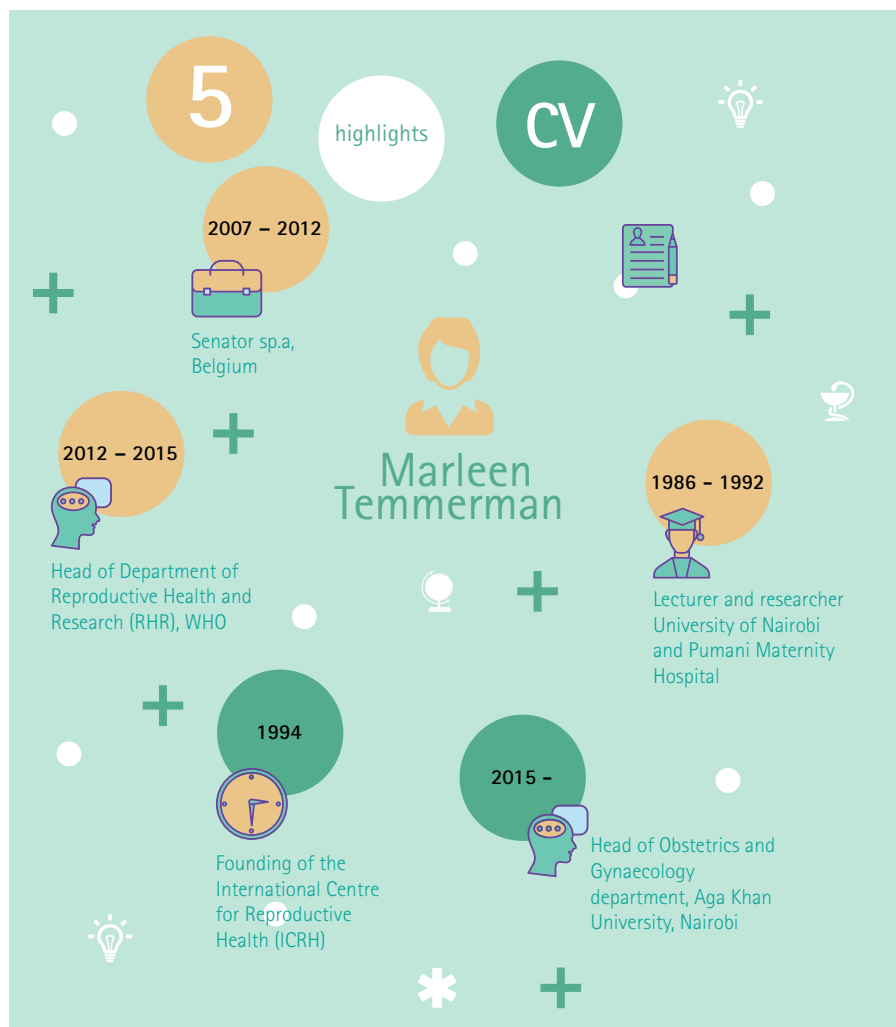
I hope to continue my work for the coming five to six years. I want to achieve 'more of the same'. Besides that, I want to be a role model for young doctors. I would like to show them that there is not just one magic bullet, but that a lot of little magic bullets together will enable us to improve the world. As an individual, you can make the difference, and it gives me energy to see improvement.

I am an optimist who enjoys life and work as well as connecting with people, especially young people and health care providers.

I always use my three keys: astonishment, indignation and responsibility. As a little girl and more in my teenage years, I often thought "How is this possible?" (mainly related to inequities), followed by "What can we do about it?" Instead of complaining, one should take responsibility in one's own way. Know that you can't improve everything, but try to contribute just a little. That's my motivation. My mother always used to say "Reach for the moon, and you'll catch a star". I translated it as "Reach for what you want to change or improve, and at least you will achieve part of it". Eventually it all comes down to "Think globally, but act locally".



ANDREA VAN MEURS AND JANNEKE WOLSWINKEL
CONTACT: JANNEKEWOLSWINKEL@GMAIL.COM



Genital mass – myoma or malignancy?



SETTING

This case originates from a general rural hospital in Kalongo, Uganda. The hospital has an inpatient capacity of 300 beds, distributed among 4 wards: Medical, Surgical, Maternity and Pediatrics. It has basic diagnostic facilities, including a laboratory, X-ray and ultrasound. The medical staff consists of 5 medical officers, a CEO and 2 specialists (1 surgeon, 1 doctor in tropical medicine). 30% of patients live below the poverty line; 40% live just above this threshold. The nearest referral hospital is a 2.5 hour drive by car.

CASE

A 15-year old girl presented at the outpatient department with a mass protruding from the vagina. The tumour had become apparent several days earlier, after experiencing the urge to defecate. The patient had a regular menstrual cycle. She did not appear ill during physical examination. On inspection of the genitalia, a malodorous, white-coated mass was seen. It was mobile and soft on palpation and did not seem adherent to the vulva. There was

no vaginal discharge nor loss of blood. The mass itself was non-tender but examination was painful. Due to the pain and the fact that the girl was a virgin, vaginal internal examination was not performed. Therefore, the origin of the tumour was difficult to ascertain. An abdominal ultrasound was not helpful. It was decided to do further inspection and possible resection under anesthesia.



SPECIALIST ADVICE

Gynaecologists were consulted for advice on the differentials. They suggested a few possible diagnoses, including a myoma nascens (however, both the young age and the fact that the tissue was soft on palpation was not typical), granulomatous tumour, venereal infection (however, the patient was not sexually active) or a caruncle originating from the urethra (which could be associated with Bilharzia).

FOLLOW-UP

Inspection was performed under general anesthesia. Except for the mass protruding from the vagina, the vulva was normal on inspection. The meatus of the urethra was not affected. Vaginal walls were smooth and the mass was not adherent to the vagina. On palpation, the cervical os was identified, with the stalked tumour imbedded in the cervix. The tumour extended until about 3 cm proximal to the external os. It had two different consistencies, being soft on palpation at the front with central necrosis, but firm at the back. As resection in toto would entail resecting half the cervix, a partial resection of the mass was performed. The specimen was sent to Kampala for pathological analysis.

The pathology report stated: 'Invasive tumour composed of ovoid cells with eosinophilic cytoplasm and atypical mitotic figures. The features are those of embryonal rhabdomyosarcoma.'

Several weeks after the partial resection, the patient came for follow-up and to discuss the further treatment plan. The primary treatment options for cervical rhabdomyosarcoma are radiotherapy and chemotherapy, both of which are only available in Kampala. However, at the time, radiotherapy was not possible as the machine was not working. Furthermore, the patient did not have the means to afford either radio- or chemotherapy. With the consent of the patient and her parents, a total abdominal hysterectomy was performed

as best available treatment option in this setting. The uterus was sent to Kampala for pathologic examination.

The second pathology report stated the following: 'Histological sections show a cervix partly infiltrated by spindle cell tumor. This is part of a rhabdomyosarcoma. The excision margins are free of tumor.'

The patient was advised to return for yearly follow-up, during a period of at least 10 years.

BACKGROUND OF RHABDOMYOSARCOMA OF THE FEMALE GENITAL TRACT

PATHOPHYSIOLOGY AND EPIDEMIOLOGY

Rhabdomyosarcoma (RMS) is a malignant neoplasm.⁽¹⁾ It accounts for 2-3.5% of cancers among children and adolescents, and it is the most common soft tissue sarcoma of early childhood.^(1,3) RMS embryologically originates from skeletal muscle cells. It can occur anywhere in the body, but the most common sites are the head and neck region, the genitourinary tract and the extremities.^(1,2) Tumours can be divided into four histologic

subtypes: embryonal, pleomorphic, spindle cell and alveolar.⁽³⁾ Of these, embryonal rhabdomyosarcoma accounts for 58% of all RMS and is therefore the most common.⁽¹⁾

RMS of the genitourinary tract accounts for 3.5% of all RMS cases.⁽³⁾ Of these, vaginal RMS usually occurs in the first decade of life, while cervical RMS commonly occurs in the second and third decades. Only 0.5% of RMS in girls originates from the cervix.⁽¹⁾ Presenting features are vaginal bleeding and/or a bulky mass.

THERAPY AND PROGNOSIS

RMS is most commonly treated by fertility sparing surgery, with neo-adjuvant chemotherapy and/or radiotherapy. Prognostic factors include the age of the patient, the histopathology

of the tumour, the site of origin and the extent of the disease.⁽²⁾ Following treatment, the overall 5 year survival rate for embryonal RMS is 73% and 47% in alveolar RMS. Vaginal lesions have a survival rate of 96%, as compared to 60% in cervical lesions.⁽²⁾

TAKE HOME MESSAGES

- RMS is a malignancy most commonly occurring in (early) childhood and adolescence.
- In RMS of the genitourinary tract, vaginal origin is most common and arises in the first decade of life.
- Cervical RMS is rare, mostly occurs in the second and third decades of life and has a worse prognosis.
- In high-resource settings, RMS can be treated with radiotherapy, chemotherapy and fertility sparing surgery.



ALIES COENDERS - MEDICAL DOCTOR (TROPICAL DOCTOR IN TRAINING) - CONSULTONLINE@TROPENOPLEIDING.NL

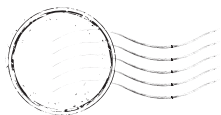
ANNE DE LEPPER - MEDICAL DOCTOR GLOBAL HEALTH AND TROPICAL MEDICINE, DR. AMBROSOLI MEMORIAL HOSPITAL, KALONGO, UGANDA

REFERENCES

1. Narin MA, Karalok A, Basaran D, Turkmen O, Turan T, Tulunay G. Embryonal Rhabdomyosarcoma of the Cervix in Young Women. *J Adolesc Young Adult Oncol.* 2016;5(3):261-6.
2. Pommert L, Bradley W. Pediatric Gynecologic Cancers. *Curr Oncol Rep.* 2017;19(7):44.
3. Nasioudis D, Alevizakos M, Chapman-Davis E, Witkin SS, Holcomb K. Rhabdomyosarcoma of the lower female genital tract: an analysis of 144 cases. *Arch Gynecol Obstet.* 2017;20(6). [Epub ahead of print].

Rectification

In the article 'From Tropical Medicine to Global Health?' by Ed Zijlstra, in MT-2 of June 2017, some of the tables and figures were not displayed correctly. You will find the correct version of the article at <https://www.nvtg.org/underpublicaties/MT>.



Collaboration to improve women's health in Gondar region, Ethiopia

Gondar is the most populous and geographically largest part of the Amhara region in Ethiopia. The topography is characterized by difficult terrain, making access to modern means of transportation challenging. Pregnant women face difficulty in accessing good quality obstetric care. Anecdotal evidence and everyday observation show that most cases of maternal mortality and severe acute maternal morbidity reported at Gondar University Hospital (GUH) (uterine rupture, obstetric fistula, haemorrhage, puerperal infection, complications of abortion and cases of intrapartum fetal death and birth asphyxia) are reported in women who arrived from hard to reach areas. Inability to get quality care on time is usually the result of unavailability of services, inaccessibility due to distance, limited transportation facilities or high costs. Even after reaching a clinic in good condition, casualties still happen as a result of inadequate or actually harmful care.

Much effort has been made by the government of Ethiopia as well as by non-governmental organizations to improve the situation. The number of health professionals at all levels has increased significantly; health care accessibility has also increased due to road construction, construction of new health facilities and upgrading of the existing ones. Below we describe the collaboration between Gondar University (GU), World Vision (WV), the Liverpool School of Tropical Medicine (LSTM) and the Working Party International Safe Motherhood and Reproductive Health (WP), an example of such effort.

In June 2015, a team from WV, the LSTM and the WP spent a busy and fruitful week in Gondar University Hospital. This resulted in an agreement between all four parties and a Memorandum of Understanding (MoU) was signed. In this MoU, different activities to be undertaken were described: rolling out the Life Saving Skills in Emergency Obstetric and Neonatal Care Course, research activities and development of subspecialty programmes.

LIVERPOOL LIFE SAVING SKILLS-EMERGENCY OBSTETRIC AND NEONATAL CARE TRAINING (LSS-EMONC)

Rolling out the LSS-EmONC course, as developed by LSTM, is the core of the collaboration. A first training was conducted in June 2015. Health care providers from different levels participated in the training: consultant obstetricians and gynaecologists (5), residents (5) and midwives (20) from GUH as well as from local health centres. Three months later a team from GUH, the WP and WV made follow-up visits to four participating health centres. Concurrently, a two-day training of the trainer course (ToT) was provided to the GUH team to facilitate the LSS training. A third visit by the WP was organised in February 2016, which brought a LSS-training to another 27 participants and a new follow-up visit to four participating health centres. The scheduled visits in September 2016 and February 2017 were cancelled because of the political unrest in Gondar.

As noticed during training sessions and field visits, the training package is ideal for the Ethiopian situation. Leading causes of morbidity and mortality in the Ethiopian setting are covered, more emphasis is placed on the practical part of training, and this very intensive LSS-training is done in only four days

compared to the extended BEmONC training being given in Ethiopia (21 days). During our field visits, we observed trainees using knowledge and skills achieved during the training. Furthermore, supportive supervisions scheduled three months after the training helped local health care providers to implement new information and good practices on the ground. More follow-up visits and mentorship are scheduled to be implemented in the programme.

RESEARCH ACTIVITIES

Since the MoU was signed, many research ideas were raised and there were efforts to implement them. So far, only two student projects have been conducted. Departure of some staff members from the GUH side, concentration only on issues related to LSS-training, and difficulties in understanding each other's working culture, together with the political unrest in Gondar, might be some of the reasons for the sub-optimal achievement in this area. Since research is a potential area for scaling up the collaboration to a national level or beyond, all parties committed to the MoU need to analyse the shortcomings in this area and find the way forward. Joint research projects could be a catalyser in the remaining period of the collaboration.

SUBSPECIALTY PROGRAMME SUPPORT

Another area of collaboration was assisting the obstetrics & gynaecology (Obs & Gyn) department of GUH in the newly established subspecialty fields, gynaecological oncology and urogynaecology. During the visit in June 2015, a gynaecologic oncologist, a member of the visiting team, operated on some cases of ovarian and cervical cancer and shared her experience with the team at GUH. Eventually, the WP identified and contacted a Dutch

professor in urogynaecology to visit GUH in the autumn of 2017 to assess the specific needs in further developing the subspecialty programme.

FUTURE OF COLLABORATION

Even though the political situation in Gondar was not ideal during the last year for international collaborations, some opportunities have developed in favour of our collaboration. New hospitals have opened in the districts where the collaboration project is being implemented and are staffed with medical doctors, anaesthetists and emergency surgical officers. Enabling these hospitals to become a CEmONC centre is a top priority for the Regional Health Office. GUH is also eager to empower selected hospitals to become affiliation sites for resident and medical student-training. These are ideal opportunities to implement better supervision of the staff, which will be beneficial for the long-term results of the LSS-training. Research will be done on all locations to increase the data and get more medical staff involved in research activities. Subspecialty training will continue in GUH, focusing on urogynaecology, oncology and possibly laparoscopy. Hands-on training under close supervision combined with data-collection will be base of this long-term training.

CONCLUSION

Our collaboration has created a close relationship between the parties at a personal and institutional level. We have taken important steps. A number of professionals from GUH as well as midwives from the surrounding health centres have been familiarized with the LSS training. Basic LSS-training materials have been provided to the Obs & Gyn department. Key officials at the Ministry of Health are informed about the advantages of the LSS-training versus the BEmONC training, which may have implications for the future. Further development of the collaboration requires more face-to-face meetings between the leaders of the programme, which will also help to find the way forward to collaboration in research and building the subspecialty training programmes. Provided the political situation in Ethiopia stays stable and funding for sustained collaboration after the initial phase can be found, the perspectives for further development of the collaboration are promising.



BIRHANU A. AYANA, MD, OBSTETRICIAN AND GYNAECOLOGIST, GONDAR UNIVERSITY, ETHIOPIA
BIRHANUA31@GMAIL.COM

MYRRITH HULSBERGEN, MD, OBSTETRICS AND MINIMAL INVASIVE SURGERY,
FRANCISCUS VLIETLAND, SCHIEDAM, THE NETHERLANDS/BIRHANU

*Acknowledgement: many thanks to
Prof. J. Stekelenburg for his contribution to this article.*



THE WAR ON WOMEN AND THE BRAVE ONES WHO FIGHT BACK

Written by Sue Lloyd-Roberts
Simon & Schuster, 2016
ISBN 9781471153907

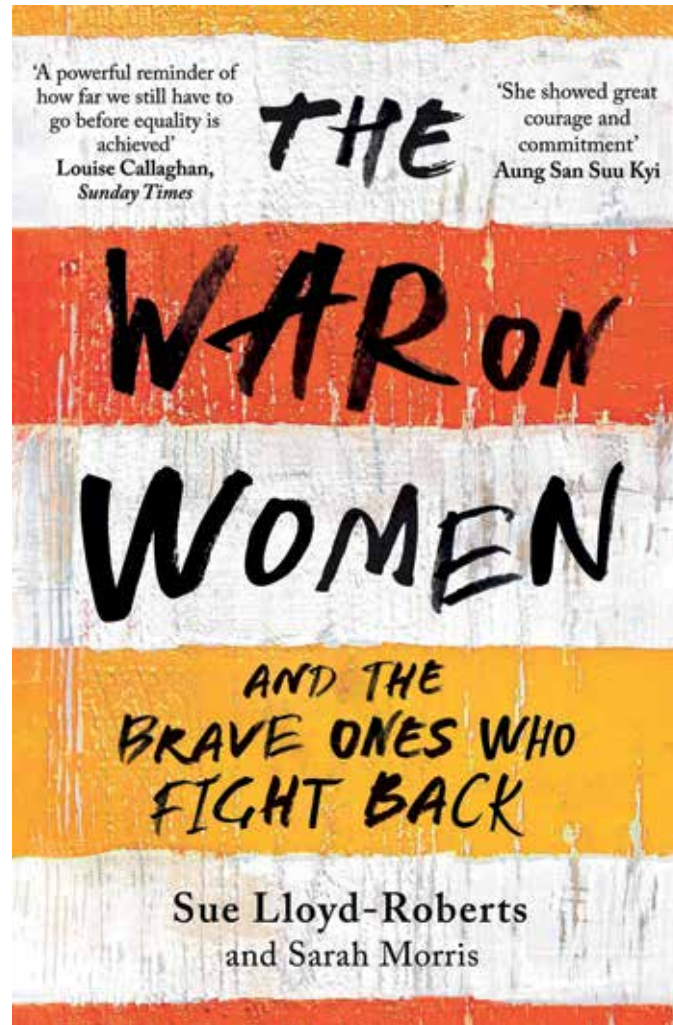
“Can you imagine holding down your five-year-old daughter, and they are cutting her and she is screaming and calling out ‘Mum’ and Mum is the one holding down your legs and there is nothing Mum can do?” says 36-year-old Maimouna from the Gambia. This is the moment Maimouna decides not to follow in her mother’s footsteps to become the village circumciser, a highly regarded and financially rewarding position in her local community. She flees Gambia, leaving her children behind, is denied asylum in the UK and lives with the daily threat of being deported back to Gambia. Her husband has remarried and her children are in the care of a neighbour. If Maimouna is forced to return, she will be forced to cut. Otherwise, she will be killed.

Maimouna features in a BBC documentary about female genital mutilation (FGM) (<https://www.youtube.com/watch?v=pVCgC6Lucwc>) and the first chapter of *The War on Women*, both from the hand of Sue Lloyd-Roberts, a multi-award winning journalist. Lloyd-Roberts spent most of her 30-year-long career reporting about human rights abuses and atrocities worldwide. In *The War on Women* she puts the spotlight on women’s lives. It is an overwhelming account of places in the world where women cannot decide about their own lives and bodies. Where women are bought and sold, abused, raped, tortured

and killed. Where women are inferior to men and need to be controlled, because their intelligence and sexuality might be a threat to men. Where 'all that matters for a woman are the three Vs: her vagina, her virginity and her virtue.'

The book describes how culture, tradition and religion are used to explain why women are treated this way. In Amman, Lloyd-Roberts visits a man who is serving a six-month sentence in prison for killing his sister. She dishonoured his family by choosing her own husband. "We are in charge of the chastity of our women. If she loses her chastity, the honour of the family is lost. This thing will continue, and rightly so. It is our way", says the man, a hero according to his fellow-inmates. It is considered normal behaviour for UN Peacekeeping forces to use the sexual services of trafficked young women. When these young women want to testify against their abusers, the police are not interested, as described in the aptly titled chapter 'Boys will be boys'. An imam is quoted on FGM: "The Prophet did it, (...) and so this is legalized by Islamic law". Neither the Koran nor the Bible mentions FGM.

Lloyd-Roberts is not afraid. She travels to sometimes unsafe countries, using disguises and acting skills if necessary to reach her goal. She visits and accompanies the women involved, but also talks to government officials, religious leaders and local men. Her stories are thoroughly researched and well written. They make you angry, sad and maybe leave you dispirited. Lloyd-Roberts' purpose is not only to inform and make the reader aware of the human rights abuses against women worldwide. She also wants to portray the people who fight for women's rights and try to change cultural, traditional and religious practices.



One of these people is Isa Touray, director of a non-governmental organisation. She presents Gambian village leaders with arguments to stop FGM and hold 'Drop the knife ceremonies' to stop initiating girls by mutilation. Another example is a campaign against male shop assistants in lingerie shops in Saudi Arabia. Perhaps a minor issue in the light of human right abuses, but says Reem Assad about her successful Facebook campaign, "It sums up the craziness of attitudes towards women in the only country in the world where women are not allowed to drive". Her next campaign is about a better infrastructure to send women to work, i.e. a safe transport system (so women can travel unaccompanied by male relatives) and day-care facilities for working women in a country that is called 'the world's largest women's prison'. Another group that wants to change cultural views of

how women should behave is Operation Anti Sexual Harassment (OpAntiSH) in Egypt. This group of young men and women, including survivors of sexual assault, form a force against pre-planned gang sexual assaults of women during demonstrations. The first few days of the 2011 uprising in Tahrir Square were called the Age of Chivalry because men and women were free to demonstrate side by side. This changed very quickly when gangs of men and the military isolated female demonstrators and sexually assaulted them. Again, this happened during the demonstrations in 2012/13 against President Morsi. The OpAntiSH provided an essential service in rescuing and protecting women, a service the Egyptian government was unwilling to provide because the women "know they are among thugs. By getting herself involved in such circumstances, the woman has 100 percent responsibility."

This book is the result of Lloyds-Roberts' anger about the wrong done to women. It shows her passion to uncover injustice and her skill in making difficult subjects into interesting stories. My advice: read it.



MARIEKE LAGRO, MLAGRO@HOTMAIL.COM

IT IS AN
OVERWHELMING
ACCOUNT OF
PLACES IN
THE WORLD WHERE
WOMEN CANNOT
DECIDE ABOUT
THEIR OWN LIVES
AND BODIES.



STUDENT FORUM

FROM THE EDITORIAL BOARD

In this new section of *MTb*, we welcome contributions from (medical) students who at some point during their studies have written a thesis or a paper, for instance as part of a course in tropical medicine or global health, or after an elective, internship or research period abroad. Only abstracts will be published, while the full report will be made available on the NVTG website.

Contributions should have a maximum of 300 words including title, name, affiliation and e-mail address; see also Author Instructions (www.nvtg.org). All contributions will be subject to review by the Editorial Board and selected on the basis of excellence, relevance and style.

NVTG

Membership of the Netherlands Society for Tropical Medicine and International Health (NVTG) runs from January 1st to December 31st and may commence at any time. Membership will be renewed automatically unless cancelled in writing before December 1st. Membership includes *MTb* and International Health Alerts. An optional subscription to *TM&IH* carries an additional cost. Non NVTG members can subscribe to *MTb* through a student membership of the Society for € 40 per year by sending the registration form through our website www.nvtg.org/lidworden.php or by sending name and postal address by e-mail to info@nvtg.org or MTredactie@nvtg.org. Contributions and announcements should be submitted to the editorial office by e-mail: info@nvtg.org or MTredactie@nvtg.org. Closing date for December issue is 21st of October 2017.

Disclaimer: all views expressed in this journal are of the authors only and are not necessarily shared by the editors of *MT*. Letters and articles may be edited for purposes of clarity and space.

Netherlands Society for Tropical Medicine and International Health

President: A.A.L.J. (Ankie) van den Broek

Secretary: M.G.P. (Marieke) Lagro

Secretariat: J.C. (José) Hoppenbrouwer

P.O. Box 82

3738 ZM Maartensdijk

The Netherlands

+31(0)6-53515773

info@nvtg.org

www.nvtg.org