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Need for a global obstetric fistula training strategy

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ABSTRACT

Obstetric fistula is a complication of childbirth that often follows obstructed labor and is almost exclusive to low-resource countries. The original Global Burden of Disease Study (GBD 1990 Study) reported an incidence of 8.68 per 100 000 and a prevalence of 51.35 per 100 000 for women aged 15–44 years in low-resource regions. The most cited global prevalence estimate is 2 million women. Although the global burden of obstetric fistula remains unclear, the number of women suffering from the condition is increasing, while surgical treatment remains limited. There are few experienced fistula surgeons and past surgical training approaches have been inconsistent. The *Global Competency-Based Fistula Surgery Training Manual* developed by FIGO and partners contains a set curriculum and, to ensure its implementation, a global strategy and training program have been developed. This paper describes key elements of the training program and its implementation. The anticipated impact of the training program is a reduction in global morbidity caused by obstetric fistula.

1. Obstetric fistula: Global context

Obstetric fistula is a complication of childbirth that often follows obstructed labor, a consequence of which, in most cases, is the death of the baby [1,2]. Prolonged pressure of the bony parts of the fetus against the soft tissues of the pelvis leads to tissue necrosis that creates an abnormal communication between the urethra, bladder, ureter, and/or rectum with the vagina and sometimes the uterus or cervix. These communications are therefore genitourinary and/or rectovaginal [3]. This results in total urine or fecal incontinence, or both. The psychosocial consequences are severe. Women are often abandoned by their husbands and families [4,5], and the stigmatization from the condition prevents them from leading their daily lives [6].

Whereas genitourinary fistulae from nonobstetric causes occur worldwide, obstetric fistulae are almost exclusive to low-resource countries. The fundamental issue for women in low-resource countries is poor access to emergency obstetric care. WHO states: "One of the principal measures to reduce maternal mortality and prevent fistula formation is to ensure that women have a skilled professional present during childbirth and have access to comprehensive obstetric care services" [1]. Millennium Development Goal (MDG) target 5a is to reduce the maternal mortality ratio (MMR) by three-quarters by 2015. Sub-Saharan Africa has the highest MMR in the world, at 640 maternal deaths per 100 000 live births, followed by South Asia at 280 maternal deaths per 100 000 live births [7]. WHO estimates that obstructed labor occurs in 5% of live births and 8% of maternal deaths [8]. In Africa and Asia, obstructed labor causes 4.1% and 9.4% of maternal deaths respectively; in Africa, 46.5% of births are attended by skilled health workers, whereas in Asia the figure is 65.4% [8–10]. Women who have survived obstructed labor may be left with the severe birth trauma of obstetric fistula. As countries tackle the challenges of improving access to quality maternal health services to reach MDG target 5a they will concurrently tackle key elements of fistula prevention.

2. The global burden of obstetric fistula

The most commonly cited global prevalence estimate is 2 million women living with obstetric fistula worldwide, with an annual incidence of 50 000 to 100 000 new cases. These figures have been cited by WHO [1] and are often misquoted as WHO estimates, although they originate from a paper by Waaldijk and Armiya'u [11]. However, the available evidence on the global extent of the problem is unclear. Most available figures come from numbers of cases seen at treatment centers and not from population-based surveys, and are likely to be an underestimate of the true extent of the problem. In their review, Stanton et al. [12] discuss the challenges of measuring obstetric fistula, highlight that few studies describe the methodology used for determining prevalence and/or incidence, and suggest that the Global Burden of Disease (GBD 1990 Study) estimates should be used. The GBD estimates for obstetric fistula among women aged 15–44 years in low-resource regions are an incidence of 8.68 per 100 000 women (amounting to 82 000 new cases annually) and a prevalence of 51.35 per 100 000 women, with prevalent cases at that time estimated at 654 000 [12]. The highest figures among women aged 15–44 years are

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in Sub-Saharan Africa, with an incidence of 18.8 per 100 000 women and a prevalence of 184.0 per 100 000 women [12].

Two nationally representative population-level Demographic Health Survey (DHS) fistula prevalence estimates based on the full sample are for Uganda and Malawi. They estimate a life-time fistula prevalence of 2.6% and 4.7% for Uganda and Malawi, respectively [13]. Another study from Malawi, using the sibling-based method described in the review by Stanton et al. [12], estimated a prevalence of 0.16% [14]. A representative population-based study of rural Ethiopia found a 0.21% (treated and untreated) fistula prevalence among women aged over 15 years [15]; this is the only study known to the authors in which the questionnaire was validated by clinical examination.

What is known is that the global number of women suffering from obstetric fistula will continue to increase while women do not have access to surgical treatment and where preventative efforts are slow to improve. Therefore, immediate and appropriate surgical treatment and care for women currently suffering from fistula must happen alongside prevention efforts.

3. Global surgical treatment and training efforts and challenges

A series of needs assessments conducted from 2003–2005 by UNFPA and EngenderHealth in 25 African countries demonstrated a lack of routine fistula treatment services and surgeons performing fistula surgery [16]. The need for national and subnational fistula programs has been highlighted by WHO [1]. An increased effort has been made, and much has been done to support countries, although many international agencies, nongovernmental organizations (NGOs), and national governments have been working with a variety of approaches to fistula service provision and surgical training methods. Some descriptions of the various models of fistula care services have been documented and include specialist/stand-alone centers, out-reach camps, and services integrated at district hospital level and at university teaching hospitals [17–19].

WHO reports that, since 2003, only 12 000 women have received obstetric fistula treatment in over 45 African, Asian, and Middle Eastern countries [8]. One challenge is the difficulty of obtaining accurate numbers of patients who have received surgical treatment across regions. There are often multiple organizations supporting services, each with their own reporting processes. Parallel reporting of interventions often leads to double counting, but could also result in underestimation when there is a lack of coordination among organizations. This highlights the need to have coordinated programmatic and national monitoring to ensure more accurate measurement of needs met and gaps in services. The Data, Indicators and Research Group of the International Obstetric Fistula Working Group, coordinated by the Centers for Disease Control and Prevention, is developing process indicators for obstetric fistula programs that should be available in the near future [12]. It is recognized that agreement on defined data to monitor patient care processes and outcomes is necessary. There are many locally developed routine patient-level data collection systems and some are freely available for surgeons to utilize, such as that developed by the Geneva Foundation for Medical Education and Research [20]. Despite this, inconstancy in data recording and definitions remains. The use of common classifications and definitions is important for any useful comparison and contribution to evidence-based best practice.

The overriding challenge is the relatively small number of experienced fistula surgeons globally. These surgeons are in demand not only to provide quality services, but also to train new surgeons. As a broad estimate, most countries in Africa and Asia have at least 1 trained fistula surgeon, although some with a longer history of treatment provision and training activities—such as Ethiopia and Nigeria—have tens of individuals who have performed surgery. The demand on these surgeons is compounded by the general lack of health workers in these same settings. No Sub-Saharan African country has more than 1 doctor per 1000 population, whereas there are 3–4 per 1000 in much of Europe [21]. There is also a lack of general surgeons as well as fistula surgeons [16,17]. Furthermore, health professionals may also be juggling the competing demands of private practice—services that are available for the few that can afford them. A clear challenge is that obstetrics, gynecology, and surgical services for maternal health are overburdened, and there are few trained physicians available to cope with the demand.

The different surgical and training approaches preferred by individuals means that there has been a lack of consistency in the training of new fistula surgeons. There are few documents available to support clinical management and training; however, these include the WHO guideline "Obstetric fistula: guiding principles for clinical management and programme development" [1]; Waaldijk's "Obstetric Fistula Surgery: Art and Science – Basics" [22]; and Hancock and Browning's "Practical Obstetric Fistula Surgery" [23]. Furthermore, previous efforts to provide training have not been coordinated between the different organizations and individuals who have implemented these activities. Much of the training to date has involved gynecologists receiving on-the-job training through the observation of and participation in operations on a series of cases, but without a set curriculum that incorporates theory as well as practice or a set of clearly defined learning objectives. Owing to lack of data on the subsequent activities carried out by "trained" fistula surgeons, it is unclear how many of them regularly practice their skills or the subsequent patient outcomes.

There is also a lack of consensus on best practices and little research has been undertaken into investigating optimal clinical practices. There is a clear and urgent need for structured training as an immediate priority. Those few with valuable surgical and training experience must be brought together to inform a structured strategic global training program.

4. The fistula surgical training manual

Coordinated and structured training is vital to ensure that motivated physicians and surgeons alike have the skills necessary to repair fistulae. The newly released *Global Competency-Based Fistula Surgery Training Manual* represents a coordinated response to training for fistula care [3]. Development of the manual was led by the Global Education Team (GET), which includes representatives from several organizations working on fistula care, including FIGO, the International Society of Obstetric Fistula Surgeons (ISOFS), UNFPA, EngenderHealth, and the Royal College of Obstetricians and Gynaecologists (RCOG).

The manual contains an agreed standardized curriculum that will facilitate standardized consistent training, and seeks to provide a framework that, in turn, will promote a more reliable standard of care for patients. The trainers and facilitators are fistula surgeons, nurses, and other specially trained health professionals. The course is structured at 3 levels: standard, advanced, and expert level fistula training, estimated to take 3, 12, and 24 months, respectively. These timelines are for guidance only as the manual follows a shift in postgraduate clinical training in the UK from a time-based apprenticeship model to a competency-based framework where progress relies on acquisition and demonstration of skills [24]. The trainee evaluation process includes case-based discussions, structured performance-based assessment, and a logbook of competency. Good recording of patient information and clinical audit practice are integrated into the curriculum and assessment process.

5. Development of a training program

Although the manual alone provides a useful reference point for adoption in a variety of settings, its wider strategic implementation must be ensured. Global training objectives and a corresponding training program have been developed by FIGO and partners. The success of the training program is dependent on several key elements