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# REVIEW ARTICLE Obstetric fistula in low-income countries

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#### 1. Introduction

Obstetric fistula (OF) remains a major public health problem in areas where unattended obstructed labor is common and maternal mortality is high. Historically, this condition occurs outside of the medical system and results in social isolation. The global prevalence and incidence of OF are largely unknown. The most frequently cited figures are 2 million cases worldwide and an annual incidence of 50 000 to 100 000 cases [1].

OF presents a major clinical challenge to physicians in low-income countries. Much of the published literature on OF pertains to clinical aspects of the problem, yet diagnosis, treatment, and outcome of fistula repair are still not standardized, and no evidence-based relationships have been established.

A comprehensive understanding of OF includes not only prevention measures, but identification of women with the condition, access to care, and reintegration after repair. A recent supplement to the *International Journal of Gynecology and Obstetrics* published in November 2007 [2] contributed significantly to the evidence base for fistula. In the present paper, quantitative, evidence-based public health research pertaining to OF in low-income countries is systematically reviewed.

#### 2. Methods

Medline and Science Citation Index databases were searched to identify articles on OF published between 1990 and 2008. Searches

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## ABSTRACT

*Objective:* To identify, survey, and systematically review the current knowledge regarding obstetric fistula as a public health problem in low-income countries from the peer-reviewed literature. *Methods:* The Medline and Science Citation Index databases were searched to identify public health articles on obstetric fistula in low-income countries. Quantitative evidence-based papers were reviewed. *Results:* Thirty-three articles met the criteria for inclusion: 18 hospital-based reviews; 6 on risk factors/prevention; 4 on prevalence/incidence measurement; 3 on consequences of obstetric fistula; and 2 on community-based assessments. *Conclusion:* Obstetric fistula has received increased international attention as a public health problem, but reliable research on the burden of disease and interventions is lacking.

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were conducted with the key terms: "vaginal fistula, urinary fistula, vesicovaginal fistula, rectovaginal fistula, fistula, urinary bladder fistula, or rectal fistula," and "obstructed labor complications, pregnancy complications, pregnancy," as well as separate searches for "obstetric fistula." The search was first conducted in February 2007 then repeated in July 2008 for updates.

Articles that were quantitative, evidence-based, in English, and regionally focused on low-income countries were selected for the review. Articles that focused solely on the clinical aspects of care, case studies, presentations of cases, and research on repair outcomes and techniques were not included. The sequence and criteria for exclusion are given in Fig. 1. Case series papers presenting psychosocial data were included. References of primary articles were searched for secondary references.

In addition to the quantitative research papers reviewed in this article, the searches produced numerous evidenced-based qualitative research reports, review papers, opinions/editorials (commentaries, advocacy), and programmatic papers (current and suggested initiatives) pertaining to OF in low-income countries. The full bibliography of all articles identified is available at the University of Michigan Global Initiatives website (http://www.med.umich.edu/obgyn/ research/global/index.htm).

### 3. Results

The 33 quantitative, evidence-based research papers that met the criteria for inclusion were categorized according to scope and research topic: 18 hospital-based reviews; 6 risk factors/prevention papers; 4 prevalence/incidence measurements; 3 consequences of OF papers; and 2 community-based assessments.

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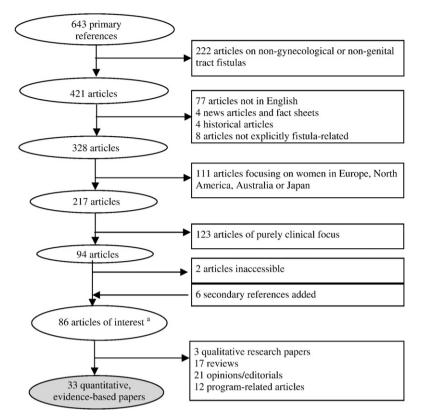


Fig. 1. Search methodology. aReferences for articles of interest that are not included in this review are available at: http://www.med.umich.edu/obgyn/research/global/index.htm.

#### 3.1. Hospital-based reviews

Eighteen retrospective, hospital-based papers met the criteria for inclusion. Of these, 15 papers were case series or descriptive studies of general fistula patient characteristics (summarized in Table 1), and most were from Ethiopia or Nigeria.

Of the 5 case series based in Ethiopia, 4 were based at the Addis Ababa Fistula Hospital, the largest fistula repair center in the world. As summarized in Table 1, the women often acquired fistula at a young age and with the first pregnancy [3–7]. Furthermore, participants reported high divorce rates and low educational levels. Patients at Addis Ababa traveled 700 km or more and walked an average of 12.3 hours to reach the hospital [3]. Many were dependent on others for their livelihood, and some presented with other disabilities or suffered marked weight loss [4]. Another study found that distance, financial constraints, and poor knowledge were the most frequently cited problems for delays in decision and transport to health institutions during labor [7]. However, in general, the women had little or no access to healthcare, prenatal or emergency obstetric care.

Six of the descriptive studies were conducted in Nigeria [8–13] and, as summarized in Table 1, presented demographic characteristics and labor experiences similar to those of patients in Ethiopia, although Nigerian women tended to be older and developed fistula at higher parity (4 or 5). In addition, 1 study found that the women experienced delays in seeking care during obstructed labor mainly due to a lack of permission to seek care and little accessible transportation. Also among other diseases and causes, the traditional Hausa surgery known as "gishiri cutting" (a series of random cuts made inside the vagina with a sharp instrument to enlarge the birth passage) was mentioned as a cause of fistula [12]. One study reported a hospital-based incidence estimate of 1.1 per 1000 births [13].

One study in Ghana reviewed cases over a 25-year period and found the highest incidence to occur at the extremes of reproductive age and parity. A crude incidence of 1 OF per 1000 deliveries was estimated [14]. In a more recent study in Niger, characteristics of women with OF who were treated at the Niger Fistula Center at the National Hospital were mostly consistent with those presented in other case series. However, the majority of these women began the birthing process at home but delivered in a health center. While the labor duration is shorter on average than those found in previous case series, there is still indication that women are reaching the healthcare system too late, highlighting delays in access as a major problem [15].

In a recent descriptive study in Zambia, most of the women were found to have married or developed fistula at a later age than in other studies, indicating problems with prenatal care (had more visits) and access to emergency obstetric care [16].

Finally, another recent case series covered first-time fistula patients in East Africa. Findings were consistent with those from other regions, although the women had experienced shorter labor durations and more delivered in hospitals. As such, findings highlight problems with the quality and timeliness of emergency obstetric care access [17].

In addition to case series presented in Table 1 and summarized above, 2 other hospital-based reviews were identified. One specifically reviewed postcoital injuries in Ethiopia at the Addis Ababa Fistula Hospital, reporting 91 women with fecal incontinence, 46 of whom had a rectovaginal fistula [18]. The majority occurred "under the cover of marriage" and the rest were kidnapped and raped with or without intention of marriage. All of the women were either divorced or abandoned after the onset of fistula [18]. Another retrospective review of 470 women with fistula in Nigeria examined perineal nerve injury post partum, 5% of whom noted significant motor weakness; another 470 patients were evaluated prospectively, where 65% either had a history or current signs of perineal nerve injury [19].

The final hospital-based study on obstetric destructive procedures in Ghana reviewed 2870 deliveries from 1990–1993. Of the 28 women (less than 1%) whose deliveries involved obstetric destructive procedures, 27.2% also suffered from vesicovaginal fistula and Download English Version:

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