



# Quality of life in pre- and post-treatment among obstetric fistula patients at Kisii Hospital, Kenya

Judy Mwangi<sup>1</sup>, Stephen Mutiso<sup>2</sup> and Ruchi Puri<sup>3</sup>, Jennifer Gatebi<sup>4</sup>

## Abstract

**Background** Urinary incontinence has been noted to be a major barrier to social activities, entertainment or physical recreation. Ample evidence suggests that urinary incontinence affects a person's quality of life.

**Objective** To establish the impact of a combined surgical procedure and health promoting intervention to quality of life in women treated for obstetric fistula.

**Method** This prospective study focused on women undergoing treatment in Kisii Level Five Hospital in Nyanza Region, Kenya in September 2009. Treatment comprised surgical care, physiotherapy, health education and psychosocial support. The outcome parameters were self-reported incontinence and quality of life measured by the psychometric tool; King Health Questionnaire (KHQ), obtained upon admission and at six months follow-up. Ethical accept was obtained from the AMREF Scientific and Ethical Review Committee.

**Results** 53 women were interviewed at baseline and 40 were followed up after six months. 27 of 40 patients (68%) had vesicovaginal fistula, the other 12 patients (30%) had recto-vaginal fistula, while 1 (3%) patient had both. Full continence was achieved for 26 of the 40 (65%), and an additional 9 patients (23%) had improved from continuous to stress incontinence. Only 5 of 40 patients had failed repair ( $p < 0.05$ ). The KHQ outcomes showed significant improvements for all dimensions of quality of life measure, except personal relationships.

**Conclusion** Women with obstetric fistula were found to drastically improve the continence and quality of life after undergoing a combined surgical and health promoting programme in hospital.

## About the AUTHORS

1 African Medical and Research Foundation (AMREF), Nairobi, Kenya.

2 Kenyatta University, Nairobi, Kenya.

3 Department of Obstetrics and Gynaecology, Hubert-Young Center for Global Health, Duke Global Health Institute, Duke University Medical Center, USA

4 African Medical and Research Foundation (AMREF), Nairobi, Kenya

**Contact:**  
Judy W Mwangi  
juddys2@yahoo.com

## Introduction

Health Related Quality of Life (HRQoL), a multidimensional construct referring to patients' perceptions of the impact of disease and treatment on their physical, psychological and social function and well-being (1), is crucial in the assessment of health care interventions (2). Urinary incontinence, in whichever form, sweepingly affects the life of the patients. Causes of urinary incontinence in women include childbirth, menopause and surgery (3). Vesico-vaginal fistula occurs mostly when labour is prolonged/obstructed forming an abnormal opening between a woman's bladder and vagina, and subsequent urinary incontinence (4). A similar pathophysiology exists for recto-vaginal fistula, which is followed by faecal incontinence. The two conditions may co-exist.

It impacts not only the physiological and physical, but also the psychological

realms of a person's life (5). It is conceived as a lack of health, which generates feelings of anger and sadness, as well as embarrassment. There is also the stigma associated with urinary/stool incontinence. Due to the smell of urine, patients avoid social gatherings and lose self-confidence, which has a proportional impact on their social interactions, their sexual life and emotional health (5;6). Obstetric fistula survivors who have been shunned and isolated typically experience intense feelings of shame, self-loathing and depression (8). Obstetric fistula survivors often avoid social contact because of feelings of shame, which negatively influences their quality of life (QoL) (3;9;10).

Up to the present, only a few studies have investigated QoL after fistula surgery so there is paucity of information. Overall, the existing studies show that the symptoms in most patients are reduced after treatment, which leads to an increase of



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different aspects of well-being (5).

The paper aims to establish the impact of a combined surgical and health promoting intervention to quality of life in women treated for obstetric fistula in Kisii Level Five Hospital, Kenya in 2009. It is anticipated that the study findings will be used to contribute towards policy advocacy and improvement in future programming of maternal and reproductive health initiatives in the country.

### Methods

The study used a prospective before-and-after design. The outcome parameters were self-reported incontinence and QoL. A structured interviewer-administered tool was used to collect demographic data, while a King Health Questionnaire (KHQ) tool was utilised to gather QoL measures from all consenting women on admission and six months later during a follow-up visit at the hospital. The KHQ is a psychometric tool designed to assess the impact of urinary incontinence on QoL in women. The KHQ contains 21 questions categorised into nine domains (general health perception, incontinence impact, role limitations, physical limitations, social limitations, personal relationships, emotions, sleep/energy, and severity of urinary symptoms) (10). Weighted summary scores in each domain range from 0 to 100, with higher scores indicating greater impairment. The last part of the questionnaire was a list of bladder problems plus a category covering other options. These items are not summed to form a domain score. However, only the first eight of KHQ dimensions were utilised for this study, as women with fistula were incontinent throughout, thus leaving the last part of KHQ inapplicable.

### Patients

At Kisii Level Five Hospital in Nyanza Region, Kenya, a total of 53 women underwent repair for obstetric vesico-vaginal and/or recto-vagina fistula in September, 2009. 40 of the patients (75%) were followed up after six months. The others were lost to follow up as they hailed from distant areas and were referred to other health facilities nearest to them for further management. 27 of 40 (68%) patients had vesico-vaginal fistula, 12 (30%) patients had recto-vaginal fistula, while 1 (3%) had both. No other medical conditions were noted. The median age of the women was 28 years (15-70); age at marriage 18 years (15-25), while age at birth of first child was 16 years (13-24). The number of living children ranged from 0-8 (1 in median), but 11 (28%) had no living children. Primary repair cases were 34 (85%), while the rest, 6 (15%), were repeated repair cases. Other patients' characteristics are outlined in Table 1.

**Table 1** Characteristics of the 40 patients followed-up

	Patients n=40	100 %
<b>Marital status</b>		
Married	25	62.5
Single	9	22.5
Divorced/Separated/widowed	6	15.0
<b>Education</b>		
None	5	12.5
Primary	27	67.5
Secondary	6	15.0
Tertiary	2	5.0
<b>Employment status</b>		
Working class	2	5.0
Farmer/business	18	45.0
Housewife	20	50.0
<b>Social support following fistula</b>		
Partner	6	15.0
Close relatives	24	60.0
Distant relatives	2	5.0
None	8	20.0
<b>Duration lived with fistula (years)</b>		
<5	12	30.0
5-10	15	37.5
10+	13	32.5
<b>Baby outcome</b>		
Alive	11	27.5
Stillbirth	29	72.5
<b>Number of children following fistula</b>		
None	33	82.5
1+	6	15.0
Unknown	1	2.5

### Health promotion activities carried out

Apart from surgery, the women admitted also underwent medical follow up at two weeks and one month following repair. Physiotherapy was offered to improve urinary incontinence, while health education was carried out to inform and empower the women and their family. The health education also focused on informing on appropriate future maternal health care and hygiene practices to promote quick recovery and prevent recurrence of the condition. Psychotherapy was carried out in all women due to high levels of depression noted in women suffering from fistula and experienced trauma following difficult child birth, child loss, occurrence of fistula and subsequent marital breakdown and stigma (Table 2).



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**Table 2** Combined surgical and health promotion activities

Interventions (general)	Interventions (specific)	Time period
Surgery/medical follow up	Fistula repair	Within the first week of screening/admission
	Catheterisation	At surgery
	Catheter removal	2-weeks following surgery
	Medical review	Within one month following surgery
Physiotherapy	Pelvic floor exercises	Before and after surgery
Health education	Information on cause and prevention of obstetric fistula	Before and after surgery
	Family planning	
	Future pregnancies	
	Antenatal care and delivery	
	Sexual practices	
Psychotherapy	Group counseling	Before and after surgery
	Couple counseling	
	Individual counseling	

### Ethics

The patients participated after informed consent. Ethical review was obtained from the African Medical and Research Foundation (AMREF) Scientific and Ethical Review Committee.

### Statistics

As the variables are not normally distributed, non-parametric statistical analyses have been used (Fisher's exact test for comparison of frequencies, and Wilcoxon test for paired data). A p-value < 0.05 was considered significant. The material seemed too small for sub-group analyses. Identification of patient characteristics associated with specific outcomes was carried out by univariate analyses, followed by a multivariate analysis. SPSS version 17.0 software was used for the analyses.

### Results

Prior to intervention, 100% of the women were continuously incontinent. Significant improvement was seen after the combined intervention. Full continence was achieved for 26/40 (65%), and additional 9 patients (23%) had improved from continuous to stress incontinence. Only 5 of 40 patients had failed repair ( $p < 0.05$ ).

Univariate analyses revealed that foetal outcome was

associated with incontinence, as those who delivered stillborn babies were more likely to report incontinence ( $p=0.043$ ). None of the women with liveborn babies had self reported incontinence. No other associations between patient characteristics and outcomes were found, thus a multivariate analysis was not carried out. The KHQ outcomes at six months post-repair showed significant improvements in all the dimensions, except from personal relationships. The details are presented in Table 3.

**Table 3** Kings Health Questionnaire (KHQ) scores

Dimension	Median Score Pre-surgery (range)	Median Score Post-surgery (range)	P-value (Wilcoxon rank test)
General health perceptions	50 (0-100)	25 (0-100)	0.000
Incontinence impact	67 (0-100)	33 (0-100)	0.000
Role limitations	83 (0-100)	0 (0-100)	0.000
Physical limitations	100 (0-100)	0 (0-83)	0.000
Social limitations	67 (0-100)	22 (0-100)	0.000
Personal relationships	50 (0-100)	67 (0-100)	0.193
Emotions	100 (11-100)	28 (0-100)	0.000
Sleep/energy	67 (0-100)	16 (0-100)	0.000

### Discussion

This study showed that almost nine of ten patients with obstetric fistula had effect of the combined surgical and health promoting programme on their incontinence and about two of three patients became fully continent. Furthermore, QoL increased dramatically for seven out of eight of the dimensions compared to baseline before intervention.

The patients in this study had background characteristics typical of fistula patients documented in Kenya and other parts in developing countries (11-15). The African Medical and Research Foundation (AMREF) is an African-based Non-Governmental Organization that has been implementing the Safe Motherhood Initiative including prevention and treatment of obstetric fistula both at community and health facility level since 2006. Prior to this project, the Safe Motherhood Initiative had been running obstetric fistula outreaches and camps since 1995 in the remote health facilities, where healthcare is almost inaccessible to the women due to poor road infrastructure and long distances to these facilities. However, that activity included a surgical approach, exclusively, with no follow-up or non-surgical interventions.



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In the present study, improvement in QoL following intervention was recorded in the emotion dimension. This dimension focused on three sub-components; feelings of depression, anxiety/nervousness and feeling bad about one-self. In general, depression is characterized by feelings of sadness, emptiness, dissatisfaction, lowered self-esteem, inactivity, self-depreciation and despair (16). A previous study has shown that most women suffering from fistula also suffer from depression (11). Unless the women were aware that fistula could be treated and gained access to provide subsidised treatment and care, women would live with the fistula for life (11). Lack of knowledge about the root cause of fistula persists in many communities, heightens the level of stigma and discrimination, in addition to increasing delays in seeking surgical repair (14). These factors were reflected in the women interviewed in the present study. About two thirds of the women reported to have lived with fistula for over 10 years, with the longest duration recorded in a patient in this study being 40 years.

In African culture, woman's worth can easily be determined by the number of children that she bears for her husband and therefore a barren woman is seen as a disgrace and of no use to her husband (18), which could aggravate feelings of anxiety and depression. This reflects the scenario in the study group, in which the mothers who suffered a traumatic delivery, mostly lost their children at birth, had no other living children and also had not been able to get more children following fistula; factors that could have easily contributed to exacerbate stigma, thus heightened depression.

Loss of continence and inability to maintain hygiene standards among these women may also be accompanied by alienation from family and friends and this may be additionally detrimental to the patient's self-confidence (19-20). Interestingly, personal relationships were not improved by the combined surgical and health promoting programme. Both social limitations and personal relationships had the lowest score at follow-up. These two dimensions involve other persons, and the women may require some more time to regain the level of activity they engaged in prior to the occurrence of fistula. There was no significant association between the social demographic characteristics and incontinence. However, the foetal outcome was associated with incontinence; those who delivered stillborn babies were more likely to report incontinence. Foetal outcome is implicated with prolonged/obstructed labour, which denotes a higher chance of developing fistula/incontinence.

This study was not sizable for sub-analysis. Researchers from Ethiopia found no association between social

demographics and depression markers, but noted differences in relation to continence (21). In Kenya, the present authors observed no significant difference in depression between primary and repeated cases (14).

The strength of the study was its real life setting and that it did not exclude important patient groups on forehand. The relatively high follow-up rate is also considered a strength.

This study has the following limitations; 1) there was no control group; 2) the sample size was very small, which could lead to type-2 failures; 3) the patients had no follow-up performed later than the six months follow-up. In addition, the significance found in this study could be due to a type-1 failure, which could be reduced by repeating the study. The measurement of personal relationships focused on relationships with a partner, sex life and family life, and the answers may be influenced by the advice given to abstain from sex for six months following surgery. This advice guarantees time for the fistula to heal, but also affects the sexual relationships with the partners further. The bias and limitations call for careful interpretation and caution in generalisation of the results. On the other hand, until larger studies in higher quality design may indicate otherwise, implementation of the combined programme under further monitoring seems indicated, because obstetric fistula is very important to treat due to its impact on the QoL of the patient. From this study, it is not possible to identify which or if any specific elements in the combined surgical and health promotion programme are of most importance. This is, however, a general problem for all combined interventions, and therefore the attention should be on implementing the complete programme. When monitoring the implementation, more data will be gathered to further evaluate the effect and to perform relevant sub-group analyses.

### Conclusion

In conclusion, women with obstetric fistula were found to drastically improve their continence and quality of life after undergoing a combined surgical and health promoting programme in hospital. We recommend early repair of fistula to prevent prolonged diminishing of quality of life in the patients. In addition, to promote prevention of development of obstetric fistula, we also recommend health promotion programmes at community and health facility level for the benefit of the women, the families and the society as a whole.



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### Contribution Details

JM and SM designed the study, SM, JM and RP performed the research, JM and JG collected the data, JM and JG analyzed the data, JM and SM wrote the paper, and SM, RP & JM edited the paper.

**Competing Interests:** None declared

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