

The Biopsychosocial Impact of Vesicovaginal Fistula Repair: A Cross-Sectional Analysis.**L.M. Houlihan¹, M. Lynch²**¹Surgical Trainee RCSI Ireland²Senior Consultant Surgeon, Kitovu Hospital, Masaka, Uganda.**Correspondence to:** Dr. Lena Mary Houlihan, Email Address: 109374485@umail.ucc.ie

Background: Great efforts have been made in recent years to increase the possibility of vesicovaginal fistula (VVF) repair so as to holistically improve the quality of life of the affected women. This research was aimed at collecting, identifying and qualitatively analyzing the post-operative VVF data, including long-term clinical, psychological and social outcomes of vesicovaginal fistula repair.

Methods: This was a cross sectional study using a questionnaire designed by the researchers to identify and qualitatively assess the post-operative biopsychosocial implications of VVF repair in women previously suffering with multiple fistula afflictions. Interviews took place over a 4-month period between May 2013 and August 2014 inclusive in Kitovu Hospital at Masaka in Uganda during the VVF Outpatient Clinics. The women who attended the VVF Outpatient Clinic completed the comparative questionnaire, either by themselves or via a translator. This data was qualitatively analyzed by the researchers from a pre- and post-operative perspective. The biopsychosocial outcomes were measured to assess holistic improvement in the patient's quality of life.

Results: A total of post-repair 43 women attended the VVF Outpatient Clinic. Patients who underwent repair experienced an overall marked improvement in all aspects of their lives, most prominently where 98% of women experienced a post-operative improvement in urinary incontinence, depression, shame and social isolation. This study also identified a 42% decrease in the formerly widespread social stigma associated with women who had a fistula.

Conclusion: The results reflect positively on the impact, which repair has on these women's quality of life, as well as on the education and campaign efforts pioneered by the medical and lay community. VVF repair undoubtedly holistically improves these women's lives.

Keywords: Biopsychosocial, Impact, Vesicovaginal Fistula, Repair.

Introduction

Vesicovaginal fistula (VVF) is an abnormal communicating tract between the mucosa of the bladder, or the gastrointestinal tract, and the vagina. Although VVF is an uncommon occurrence in industrialized countries due to more developed healthcare infrastructure, the incidence of fistula is extremely high in resource- limited countries^{1,2}. In Sub-Saharan Africa fistula is a very common complication of obstructed or prolonged labour, or any other obstetric trauma resulting in an annual incidence of 33,000 fistulas³. It is difficult to comprehensively ascertain the extent of this crisis, but it is estimated that fistula occurs in 2 % of 6.5 million cases of obstructed labour in developing countries². Awareness of this condition is poor in the affected countries where it is most prevalent.⁴ Women in these territories are familiar with the concept of VVF, however the understanding and perception of the implications of this condition remains fragmented and deficient⁵.

Fistula represents a serious female morbidity, resulting in distressing physical symptoms including urinary incontinence, faecal incontinence, foot drop, pain, excoriation and dermatitis, wetness, odor, infertility, vaginal stenosis, pelvic inflammatory disease and pelvis discomfort⁶⁻⁸. Not only can this, but the psychological and social impact of fistulas in affected woman be

devastating. Crippling psychological consequences of VVF include depression, shame, loneliness, suicidal ideation, anxiety, a feeling of worthlessness and lack of femininity. Shocking social repercussions consist of isolation, societal, familial and partner rejection, and poor social support⁹. The combined physical, psychological and social ramifications leads to a stigma, which pervades throughout local, regional and continental communities, seriously depreciating the effected women's well-being, zeal and quality of life^{6, 10}.

The numbers being treated is far smaller than the actual prevalent population due to the humiliation associated with fistula in society⁵. Early referral of VVF sufferers is essential to prevent magnification of fistulas symptoms. VVF repair is a straightforward surgical procedure, which has a success rate of up to 80 or 90%, although multiple surgeries may be necessary in particularly difficult scenarios¹¹.

Success in treating this condition must be assessed not only from a surgical and physical angle, but also from a psychosocial perspective. Our study aims to evaluate the specific physical, psychological and social impact of VVF repair on sufferers of this condition. We sought to identify the patients' most prevalent pre-operative ailments and investigate whether surgical repair holistically improved their symptoms and quality of life.

Patients and Methods

This cross sectional qualitative study was aimed at identifying and qualitatively assessing the post-operative biopsychosocial implications of VVF repair on women previously suffering with multiple fistula afflictions. This study was conducted in Kitovu Hospital at Masaka, Uganda. Kitovu Hospital was the first hospital in Uganda to introduce 'VVF camps' in 1989; a bi-annual/quarterly session wherein large numbers of women with VVF are invited to the hospital and subsequently undergo a repair by local or international surgeons who visit specifically to assist these camps. Ethical approval was gratefully obtained from the Senior Medical Director and Committee of Kitovu Hospital Masaka Uganda. All women who attended Kitovu VVF Outpatient Clinic over a period of 4 months were recruited to participate in this study. The women of this study gave informed consent and subsequently filled out the research questionnaire. The participants eligible for this study were women who had undergone VVF surgical repair and had attended Kitovu Hospital VVF Outpatient Clinic for their follow-up appointment.

This questionnaire was devised by the study's researchers. After a comprehensive review of the literature prominent physical, psychological and social implications of VVF were identified. This study's questionnaire investigated whether these consequences were present in our participant's lives pre-operatively and whether these ailments had improved, deteriorated or were persistently present post VVF repair. By asking about specific multidimensional effects associated with fistula, our aim was to identify the specific impact of fistula repair in these women.

Physical effects investigated included:

1. Urinary Incontinence
2. Faecal Incontinence
3. Foot Drop
4. Pain
5. Excoriation and Dermatitis

Psychological effects investigated included:

1. Depression
2. Shame

3. Loneliness
4. Suicidal Ideation
5. Anxiety
6. Worthlessness
7. Femininity

Social effects investigated included:

1. Isolation
2. Societal Rejection
3. Familial Rejection
4. Partner Rejection
5. Social Support

The data was extracted from the questionnaires completed by the study's cohort. This information was collected and qualitatively analyzed by the study's researchers, looking at the most prevalent pre-operative biopsychosocial implications, which affected these women and subsequently identifying whether there was an improvement, a deterioration in their condition or if their presentation remained static.

Results

A total of 43 women were recruited in Kitovu Hospital VVF Outpatient Clinic. All of these women had undergone a fistula repair in Kitovu Hospital. All 43 women gave informed consent and kindly agreed to contribute to this qualitative study. Table 1 identifies the participants' demographic characteristics as well as their compliance with immediate post-operative recommendations and Outpatient Clinic attendance. The majority of women (47%) interviewed encompassed the 25-34 years age bracket.

Obstetric History

All (100%) of our cohort attended antenatal care pre and post-operatively. Pre-operatively, the majority of our participants (70%) exhibited multi-parity, where the maximum parity was 17 and the mean was 2 pregnancies. 23% of these women have had no further pregnancies post repair. The majority (84%) gave birth via Caesarean and 16% via vaginal delivery pre-operatively. All (100%) underwent Caesarean post-operatively. A total of 35% of these women had no live children pre or post VVF repair. Eight of the 10 women who became pregnant post-operatively have given birth to live infants.

Table 2 details the rate of fistula reoccurrence in our cohort. Fistula re-occurred in 23% of our cohort and thereby needed further repair and intervention.

Physical Impact

Urinary Incontinence was present in 98% of the cohort pre-operatively and improved in 97% post repair. Pre-operative faecal incontinence had a lower prevalence of 12%, and repair resulted in 100% success in eliminating this distressing symptom. Foot Drop affected 23% of the cohort pre-operatively with surgical intervention producing a 100% improvement. 19% of the participants suffered with pre-repair pain and all the affected individuals identified a significant reduction in their pain post-operatively. Excoriations and dermatitis afflicted 9 of the 43 women, with 8 of these reporting a post-operative improvement.

Psychological Impact

Depression and feelings of shame were present pre-operatively in 98% of our cohort and these afflictions improved in 97%, with only 1 woman still presently suffering with both. 95% experienced loneliness, with a post repair improvement of 91% identified. 66% of the participants never had suicidal ideation. Of the 33% who did suffer with suicidal thoughts, all women experienced a post-operative improvement. Among the cohort, 93% battled with anxiety before their fistula repair, but only 5 women still experienced anxiety post-operatively. Pre-operative feelings of worthlessness were prevalent among 79% of the participants interviewed. The 34 women affected no longer felt worthless post-operatively, resulting in a 100% success rate in the elimination of this malady. Among this study population, only 28% of the women felt feminine pre-operatively. This dropped to 26% post VVF repair.

Social Impact

Pre-operative isolation, societal rejection and familial rejection affected 98%, 42% and 16% of our participants respectively. All women who experienced these consequences of VVF identified an improvement post-operatively. 33% were rejected by their partner once the diagnosis of fistula was recognized. 84% of these women felt this rejection improved post-operatively. 21% of these women admitted to having no social support pre-operatively. 66% experienced a post-operative improvement in the amount of support they found available to them.

Discussion

Our questionnaire identified an overall multi-dimensional improvement in the various consequences of VVF, from both a physical, psychological and social perspective as well as highlighting various trends in the evolving obstetric practice in Uganda, a developing country.

Urinary and faecal incontinence, foot drop, pain and excoriations were all improved by fistula repair as well as psychological symptoms such as shame and depression with a minimum 90% improvement identified. Isolation, social rejection and familial rejection all improved post-operatively in our participants. Analysis of participant demographics identified that 86 % of the women attended their mandatory 3-month check-up, and all refrained from sexual activity as counseled. All 43 women attended antenatal care pre and post VVF repair.

This is a cross-sectional study with prospectively collected and analyzed data, which assesses the holistic impact of VVF repair. This research encompasses a specially designed questionnaire, which looks specifically at physical, psychological and social complications associated with fistula and the effect that repair has on these women's quality of life. Although quality of life post repair has been assessed previously, this research evaluates how VVF repair impacts on the most prevalent ailments, which affect these women.

This study's questionnaire is not internationally validated or standardized. A sample size of 43 women is not extremely large, however it is a sufficient group in which we can identify veritable effect, which VVF repair has on the participants' lives.

Interpretation

The rate of VVF is highest in resource-limited countries most prevalent in Sub-Saharan Africa, but it is also a persistent crisis, which affects multiple different countries including India, Bangladesh, Pakistan and Afghanistan². Fistula has a direct correlation with inadequate

emergency obstetric services. VVF is one of the most devastating maternal morbidities, affecting those in the lowest socioeconomic bracket^{12, 13}. VVF is an affliction of the poor.

Although this condition remains under-estimated, inadequately managed and persistently prevalent, this study does produce positive results. This strong outpatient attendance shows a keen understanding as to the necessity of follow-up post fistula repair, especially taking into account that this clinic encompasses an average 200 + mile radius. 96% of these women were of the opinion that they developed a fistula due to obstetric causes. Here we can see an improvement in patient knowledge and perception as opposed to in previous years where fistula was seen to be a curse, or witchcraft of some form⁹.

Diligent attendance at antenatal care appointments counterpoints a prior aversion that this specific population had towards 'westernized' healthcare^{14, 15}, again demonstrating an increased knowledge and awareness among these women. The majority (84%) of these women initially gave birth via caesarean section, presumably due to obstructed and prolonged labour. All of the women who gave birth post-operatively delivered via Caesarean section. Kitovu Hospital VVF protocol dictates that any women treated for fistula in the hospital are entitled to full antenatal, maternity and postnatal care free of charge. This offers these women a secure haven in a medical setting, which is fully aware of their complex obstetric and gynecological history. This standard ensures that the baby is delivered with a strategy, which is the safest for both the mother and child's mutual health.

VVF is synonymous with distressing psychological repercussions. The impact of repair on these ailments was equally satisfactory, but slightly more complex. The presence of depression and feelings of shame, loneliness and worthlessness decreased significantly. A worrisome 33% of the cohort experienced suicidal ideation at some point, or persistently pre-operatively. This is contrary to previous evidence suggesting the presence of suicidal thoughts in 17.1% of affected women⁸. All 15 individuals who admitted to suicidal ideation expressed an undeniable improvement in these feelings post fistula repair. This result reaffirms the necessity for awareness, early intervention and disarming of the prejudicial stigma associated with VVF, which is still present in the community. The cohort's personal perception of femininity was startling. Predictably, only 28% of our participants felt feminine pre-operatively.

Our questionnaire revealed that these women's personal feelings of femininity did not increase post fistula repair. Instead, the positive percentage dropped to 26%. This was an unexpected result. We must question the impact VVF and its repair has on these women's feeling of femininity. Although surgical intervention brings irrefutable benefit to affected women's lives, this outcome would suggest a still prevalent aversion towards repair; as though obstetric or gynecological intervention would further disfigure these women and assault their femininity, a personal characteristic that in these communities especially should remain untouched, with no external intervention. Unfortunately this attitude highlights a persistent primeval, uniformed attitude, which still pervades among these women and the surrounding communities.

Evaluation of social implications produced constructive results both pre and post-operatively. Isolation, societal, familial and partner rejection all decreased considerably post VVF repair. This statistic is also authenticated by the fact that 67% of these women remained married to their spouse. This loyalty and fidelity was not so frequent in the past. It was not unusual to see these women deserted by their husband, family and friends, becoming an outcast banished from the community^{14, 15}. Here we see the product of the great work being done by VVF activists and the medical community to break down the negativity associated with fistula. These results show a new understanding and knowledge of the condition's etiology, management and prognosis

among the community and family of affected individuals. Although still too high, only 21% of these women felt they were abandoned and left to suffer alone without any social support pre-operatively.

Two-thirds (66%) of these affected women experienced a post repair increase in support, most likely due to the regular follow-up and assistance provided by Kitovu Hospital VVF Clinic and its staff. Again these figures are lower than those previously outlined in the literature. This suggests that there is an increase in local, regional and international awareness, propagation and education, causing a noteworthy dilution of the inexcusable prejudice and stigma previously associated with VVF.

Conclusion

- This study has highlighted the value and necessity for early intervention and continuous obstetric and gynecological review among these women. Prevention and early intervention are key factors in minimizing the condition's effects.
- It is evident that the repair produces a substantial improvement in these patients' lives and that this service should be available in multiple regional and rural centres, to further eradicate the harrowing effects of fistula, as well as continuing education in women of child-bearing age in a public health setting.
- Continuous efforts are being made by both the medical and lay community to increase public awareness of VVF. These efforts aim to eliminate the infamy associated with this condition and encourage women with a fistula to come forward and undergo repair, which will holistically improve their quality of life significantly. The necessity for education and early intervention is crucial to overcoming this global crisis.

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