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WOMEN'S PERCEPTIONS OF POST-OPERATIVE PHYSIOTHERAPY MANAGEMENT AT AN OBSTETRIC FISTULA CENTER IN ELDORET, KENYA

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ABSTRACT

Background: Residual Urinary incontinence persists even after successful closure of obstetric fistula that affects women following prolonged obstructed labour. Their ill health relates to reduced physical and functional activity's to large extend of social exclusion and discrimination. Post-operative physiotherapy plays a vital role in the functional restoration of continence mechanism in order to optimise the outcome of obstetric fistula surgery. If not, this can continue to impair them leading to lower levels of role participation and restriction. Incontinence can, however, be effectively managed if women's perceptions of physiotherapy and role of post-operative physiotherapy managements understood.

Objective: To exploring women perceptions of post-operative physiotherapy management at an obstetric fistula Centre at Eldoret in Kenya.

Design: An exploratory design was used to answer research questions.

Settings: Gynocare Fistula Center and Maternity Home.

Subjects: Thirty-two women agreed to participant in the study. Ten were interviewed and 22 participated in to 3 separate focus group discussions.

Results: Lack of interdisciplinary team and patient awareness and understanding of physiotherapy management of their conditions.

Conclusion: Participants' perceptions were reported to have been interfered with by the failure of initial physiotherapy referral amongst the interdisciplinary team and lack of women understanding of the role of physiotherapy management. There is need for knowledge and awareness of physiotherapy services among patients and healthcare providers.

INTRODUCTION

Obstetric fistula remains a threat to women reproductive health (1), and worse to young women and girls with under developed pelvis (2). Obstetric fistula can be vesicovaginal, rectovaginal, ureterovaginal, or uretovaginal

that occur during prolonged obstructed labour. At the bladder, fistula can be juxta-urethral, midvaginal, juxtacervical, and often involve the continence mechanism. These are identified as simple or complex and single or

multiple (3) that may lead to urinary and/or faecal incontinence or both (4). There is an increase of prevalence of women suffering from residual urinary incontinence (RUI) that presents following fistula surgical repair (5). The incidence is estimated to 20,000 to 33,451 annually in sub Saharan Africa (6).

While in Kenya there are 3000 new cases annually at 1-2 new cases per 1000 live births, with less than 10% having access to obstetric treatment (7). The aetiology of RUI relates to dysfunction of the intrinsic urinary sphincter closure mechanisms, and the extrinsic urethral and vaginal wall support mechanisms are impairment, and with injury to pudendal nerve S2, 3 during vaginal delivery (8,9), and incomplete regeneration of pelvic floor muscles strength, loss of ligamentous and fascia; which support urethra and bladder does not function normally, resulting to urinary incontinence (10). Thus, the anatomic and functional integrity of the urethral sphincter cannot overcome any force linked with an increase in intra-abdominal pressure (11,12).

Despite satisfactorily anatomical closure of obstetric fistula, 33-50% of the women remain incontinent perurethra (13, 14). These women who presents with RUI occur due to detrusor over activity and dysfunctional of bladder compliance requires physiotherapy (13). As this causes structural impairments' and psychological disruptions that have negative social implications for an individual's social identity, personal and social interactions; and societal expectations that interfere with their quality of life (15). Women with obstetric fistula at Gynocare fistula centre were admitted through outreach counsellors while others were referred from various County hospitals from all

over the country. After admission, patients were screened, type of fistula classified and scheduled for theatre.

Physiotherapy management was highly emphasised to each patient before any operations by an inter disciplinary team. RUI can effectively be managed if women perceptions and inter disciplinary team understands the role played by physiotherapists after obstetric fistula repair. Thus, there is an increasing need to understand how physiotherapy management change the effects of incontinence symptoms and functional limitations among women with obstetric fistula and inter disciplinary team for prompt interventions at Gynocare Fistula Centre in Kenya.

MATERIALS AND METHODS

Settings: The study was conducted at Gynocare Fistula Center and Maternity Home in Eldoret town, Uasin Gishu County, Kenya. This one of the largest fistula facility in Kenya which is run by Women and Development Against Stress in Africa in partnership with the United Nations Population Activities. The facility has a bed capacity of 25 beds with 25 health Care providers.

Methods: Women admitted at this facility were referred from around the country with VVF and /or RVF or both. Goh classification was used to describe fistulae which reviewed the sites of urinary and faecal fistulae in relation to the involvement of urethral continence mechanisms, size and amount of scarring (16).

These women were operated and managed upon the staff complement that consists of two part-time physiotherapists. The physiotherapy department is a small unit within the facility and is operational five days a week. The work load involves review and evaluation between 14-20 in-patients daily, in the department, which lack electro therapeutic equipment.

Participants: The study population consists of women with obstetric fistula who were admitted at Gynocare Fistula Centre. The study sample was purposively selected from women with vesico vaginal plasty and colperineorrhaphy, or both. The purpose of the study was to explore women perceptions of post-operative physiotherapy management of RUI after obstetric fistula closure. The sample incorporated women from different parts of the country at different ages that embraced the most characteristic representatives of the population to be studied (17).

Two independent interview guides were used for semi-structured interviews and focus group discussions which were done by the researcher. Twelve semi structured interviews were conducted for women on their perception of post-physiotherapy management as the primary strategy for data collection (18). Three separate focus group discussions consisting of 6-8 participants of 22 women were used to capture group dynamics that were not possible with interviews (19). This was because, saturation of data capture was reached by the 10th interview, and the FGDs were therefore used to validate the interview data.

Interviews were conducted in Kiswahili where the researcher used semi-structured questions and probes. This allowed the researcher to explore the complexity of the issue under investigation while controlling the line of questioning. To participants, it gave them the opportunity to respond in their own words and to express them fully (20). However, the researcher's presence may also have influenced

participant responses so that at times the participants were not equally articulate and perceptive. Interview guide was later translated by independent linguistic specialist into English, and transcribed verbatim by a professional transcriber. Each interview lasted between forty-five minutes and one hour for each participant, and stopped when data saturation was reached.

The discussions took between one hour and one hour, thirty minutes. The interviews and FGDs were audio taped, transcribed and translated from Swahili to English. Note taking were taken by researcher assistant during each strategy of data collection procedure. At the end, the tape recordings were played back to each participant and focus group for clarity and confirmation what was raised truly represented participant's views.

Data analysis: Collected data from semi structured interviews and 3 FGDs were subjected to thematic content analysis which included identifying codes and categorising patterns (21). Following transcriptions each semi-structured interviews and FGDs were read for and consequently reviewed to identify the emergent themes and any contradictions (22). Transcripts were read to acquire an understanding of the entire data and come up with coding system on basis of issue identified. Codes were developed and potential categories established (23, 24).

Discussions with two colleagues and a local supervisor who were also involved in the data analysis process were an agreement that the themes were broad and sufficiently comprehensive. In order to maintain anonymity, participants' names were changed and cited using codes. Senate Research Committee of the University of the Western Cape approved the study and research permissions were granted from the Institutional Research Ethics Committee at Moi Teaching and Referral Hospital and the Gynocare Fistula

Centre and Maternity Home, Kenya. Participants gave written consent and were informed of their right to withdrawal from the study without any consequences.

RESULTS

Social demographic characteristics of participants in the current study are presented in Table 1&2 for those took part in the semi-structured interviews and focus group discussions respectively.

Table 1
Participants characteristics in Semi-structured interviews

Patients Code numbers	Age	Marital status	Residence	Occupation	Type of fistula	Years lived with fistula	Obstetric fistula surgery	Physiotherapy intervention(s)	Knowledge and Awareness of physiotherapy
002	49	Divorced	Rural	Casual labourer	VVF	27	VVF Plasty	PFMT	Not aware
003	49	Married	Rural	House wife	VVF	10	VVF plasty	PFMT	Not aware
010	43	Widowed	Rural	House wife	VVF	28	VVF Plasty	PFMT	Not aware
011	49	Single	Rural	House wife	VVF	32	VVF Plasty	PFMT	Not aware
012	49	Widowed	Rural	House wife	VVF	32	VVF Plasty	PFMT	Not aware
013	45	Separated	Rural	House wife	VVF	10	VVF plasty	PFMT	Not aware
014	18	Single	Rural	Student	VVF	5	VVF Plasty	PFMT	KNH
016	28	Married	Rural	House wife	VVF	3 months	VVF plasty	PFMT	Not aware
020	31	Separated	Rural	House wife	VVF	3	VVF Plasty	PFMT	Not aware

Table 2
Participants characteristics in FGDs

Participants Group	Age	Marital status	Residence	Occupation	Duration of fistula	Type of fistula	of Obstetric fistula surgery	Physiotherapy interventions
GROUP 1								
G1-004	33	Married	Rural	Housewife	6 months	VVF	VVF Plasty	PFMT/E
G-005	28	Married	Rural	Housewife	6 months	RVF +VVF	VVF plasty + colperinearrphy	PFMT/E
G-008	29	Married	Rural	Housewife	4	VVF+RVF	VVF plasty	PFMT/E
G-031	29	Married	Rural	Housewife	7	VVF	VVF Plasty	PFMT/E
G-032	41	Divorced	Rural	Housewife	17	VVF	VVF plasty	PFMT/E

GROUP 2								
G-001	18	Separated	Rural	Housewife	4 months	VVF	VVF Plasty	PFMT/E
G-015	45	Separated	Rural	Housewife	9	VVF	VVF Plasty	PFMT/E
G-017	48	Widow	Rural	Housewife	30	VVF	VVF Plasty	PFMT/E
GROUP 3								
G-009	49	Widow	Rural	Housewife	32	VVF	VVF	PFMT/E
G-023	22	Separated	Rural	Housewife	2	VVF	VVF plasty	PFMT/E
G-025	49	Separated	Rural	Housewife	24	VVF	VVF plasty	PFMT/E
G-026	21	Divorced	Urban	Business woman	1	VVF +RVF	VVF plasty	PFMT/E
G-027	36	Married	Rural	Housewife	5	VVF	VVF Plasty	PFMT/E

Key: VVF-Vesico-vaginal fistula; RVF-Recto-vaginal fistula; KNH-Kenyatta National hospital; MTRH-Moi Teaching & referral hospital; PFMT/E-Pelvic floor muscle training/exercises

Perceptions of physiotherapy and post-operative physiotherapy management

Perceptions of physiotherapy

Participants highlighted how they got to know about physiotherapy management of their condition. Most women indicated that they were not referred for physiotherapy management in their previous referring hospitals as well as report lack of the awareness of physiotherapy within interdisciplinary team.

In addition, patient lacked understanding importance of physiotherapy management of their conditions which affected their perceptions of post-operative physiotherapy management. These perceptions were classified into three categories and were supported by quotes from the participants as follows:

Patient awareness of physiotherapy

Overall, there was a gap in the knowledge and awareness of participants around the fact that there were trained physiotherapists who managed residual urinary incontinence in the health system. The majority of participants were therefore only cognisant of obstetric fistula surgery. They reported that it was their first encounter with physiotherapists in managing their condition, which they had not experienced in other health facilities:

"...it is my first time to know there are doctors trained to treat people with exercises. The hospitals have ever gone I have never come across physiotherapists" (G2-P015).

"... It is only in this place having meet doctors who treat using exercises. I did not know exercises can treat" (SSI-P003).

Twenty-eight participants did not know that physiotherapy existed and that it was an important component of managing residual urinary incontinence, despite public awareness campaigns by Action to End obstetric fistula in Kenya. These participants remained unaware what physiotherapy meant for the management of their

condition. Some understood exercise as a form of fitness but did not link it to restoration of body function.

"... To my understanding physiotherapy is physical exercises done by pupils during schools breaks. But telling me to do exercises for treatment I don't understand how it can treat a health condition! But with the several sessions have realised exercises treats my condition. Let there be awareness of what physiotherapy is" (SSI-P010).

"...it is my first time to know there are doctors (physiotherapists) trained to treat people with exercises. The hospitals have ever gone I have never come across physiotherapists" (SSI-P003).

Interdisciplinary team awareness of physiotherapy

Participants felt that the other healthcare providers did not acknowledge physiotherapy as an important component in the management of VVF and RVF. They felt that their other members of the interdisciplinary team should understand that the physiotherapist plays an important role in restoring pelvic floor muscle function after childbirth injury. Only four participants reported being referred for physiotherapy after their caesarean sections but the rest complained that they had been discharged without referral for physiotherapy management

"No exercise (physiotherapy) was prescribed for me after caesarean section. It is only here (Gynocare) where I think physiotherapy is done for treatment of this condition" (SSI-P010).

"For the three deliveries.I have not been referred to physiotherapy or heard about it from another patient. It is only here (Gynocare) physiotherapy is administered for this condition" (G2-P001).

Understanding physiotherapy management

All participants did not show any understanding of what physiotherapy was what it involved, and why it was necessary for the management of RUI. Twenty-eight of the women had not been treated for their conditions with exercises, despite going to several hospitals seeking treatment for incontinence. These women did not link physiotherapy to restoration of continence following childbirth injury.

"...it is my first time to know there are doctors (physiotherapists) trained to treat people with exercises. The hospitals have ever gone; I have never come across physiotherapists" (SSI-P003).

"... It is only in this place have meet doctors (physiotherapists) who treat using exercises. I did not know exercises can treat" (G2-P015).

Women's perceptions on physiotherapists

Twenty-nine participants felt that the physiotherapists were to be blamed for their poor perceptions and understanding of physiotherapy management. They added that physiotherapists in Kenya had not done enough to create awareness on the ground concerning their role in fistula management.

"I would also blame the physiotherapy fraternity; they have not done enough awareness concerning their involvement in management of fistula" (SSI-P014).

"Physiotherapy is an unknown line of healthcare; I did not know who a physiotherapist is until I came here. They need to make their services known to the Kenyans" (G1-P004).

Other participants blamed the Ministry of Health for not posting physiotherapists to all levels of healthcare

facilities to ensure that the necessary medical services were delivered to relevant patients.

"...not all hospitals have physiotherapists, the government should ensure that all hospital have physiotherapist. Take an example the health centre in the rural areas where a lot of women go for delivery, you will never see a physiotherapist there" (SSI-P011).

"...the government is to blame for some extend. They only post physiotherapist to the big hospital and forget the small hospitals where the large population is...."(GI-P032).

Perceptions of post-operative physiotherapy management

Participants pointed out the need to have prior physical examination to enable them monitor their progress. Learning how to execute groups exercise was embraced as it formed point of reference and identity. Others saw verbal instructions for home programme as easily forgettable information over time and needed a written form of PFMT demonstration to act as point of remained following discharge. Three categories were analysed as follows,

The Pelvic Floor Muscle Training (PFMT) implementation process

Obstetric fistula surgery and pre- and post-operative physiotherapy were reported as being part of the core management of this condition by all participants. They all reported to have been managed with pelvic floor muscle training/exercises

"Only exercises are what we did" (GI-P004). "It was only exercises which, we have been doing" (G1-P005).

The major issue that was dealt with in their programmes was to reduce the intra-abdominal pressure that interferes with the healing process. Therefore, physiotherapy management was often geared towards the avoidance of ADLs. All the participants were in agreement that co-contraction of abdominal muscles were taught as well as the precaution measures to be taken.

"I was taught on how to do at least some activities at home and how to do that without putting pressure in my stomach" (SSI-P020).

"I was told to reduce the heavy work that I used to do to prevent pressure in my abdomen" (G3-P027).

Unfortunately, there was lack of electrotherapeutic modalities for the management of foot drop and lower limb weakness. In Kenya most hospitals lack appropriate physiotherapy equipment in both private and government institutions. Thus, all participants reported that they had been managed with exercise. The following were some of their responses:

"No machines were used to treat us. It was only exercises" (SSI-P003.)

"I did not see anything else, it was exercises" (G3-P025).

Some challenges in the process of implementing physiotherapy treatment were described. Thirty women highlighted the need for an examination prior to initiation of the group sessions. Women believed that this would have ensured that each of them was doing the right PFM contraction.

"I guess examination would be necessary. ...if exercises are form of treatment to my condition then, I need to be assessed if am doing exercise wrongly so I can be corrected. If I am doing well, then I will keep up" (SSI-P016).

"The therapists just gave us instructions but did not confirm whether each of us was doing the right thing!"(G3-P027).

Unfortunately, there was lack of electrotherapeutic modalities for the management of foot drop and lower limb weakness. In Kenya most hospitals lack appropriate physiotherapy equipment in both private and government institutions. Thus, all participants reported that they had been managed with exercise. The following were some of their responses:

If examination (digital palpation) is the procedure, let it be done that way. But if there is no another way each patient can examine themselves, fine" (SSI-P020). "I don't mind though there is no privacy but it is good to know my progress" (GI-P008).

The group physiotherapy exercise class was performed under physiotherapist supervision. The participants pointed out that it was okay for them to be clustered into the group as it gave them a sense of identity and belonging. They pointed this out as a motivational and unifying factor.

"Being in a certain group for exercises gave me a sense of belongingbecause all suffered the same condition" (SSI-P013). "In that group we became like a family" (G3-009).

Other participants reported using group therapy as a point of reference, in case they were not sure on how to execute the PFM exercises.

"It is okay performing exercises as a group. We encourage each other and even if a new patient did not understand on how to carry out the exercises we are all able to direct her" (SSI-P020).

"It was fine (group).we all suffer from same condition" (G3- P009).

All participants were in agreement that verbal instructions were the only way that exercise prescriptions were presented to them.

"The physiotherapist tells us to squeeze and hold muscles within our buttocks and private parts for several counts while counting for us..." (SSI-P003). "The exercises which I was shown were for squeezing the pelvic, abdomen and buttocks" (G3-P027).

In addition, the PFMT/E dose and starting position were verbally described to participants. Each participant was required to demonstrate how PFMT was carried out during the course of treatment regime. The number of sets and repetitions of exercises were reported to be the same as it was advised for self-management:

"Exercises were carried out three (3) times a day. These sessions were in the morning, at lunch hour and before going to the bed. There are 3 positions; lying on bed, sitting and standing up in which we performed several exercises. Each set of exercise hold was followed with a count of 6 seconds, then a release each, 10 repetitions. Then to the next until all was over. This was repeated individually in the morning and evening" (SSI-P010). "We were either lying on bed, standing or sitting on bed edge. Then squeezed our buttocks pulling inwards, held the squeeze for 5-6 seconds count, repeated for 10 each exercise, up to 6 different types in the morning, lunch hour when the therapist used to come then in the evening" (G1-P031).

Home exercise programme

The home exercise programme was also reported by the majority of participants as the only way PFMT/E was progressed after discharge for self-management of their residual urinary incontinence back at home. Participants were aware they had to carry on with PFMT at home for a period of 6 months following discharge.

"...I will continue with exercise for the next 6 months or more that is what the physiotherapist said" (SSI-

P014). " ... I just go home and carry on with the prescribed exercises" (G3-P009).

All women appreciated the verbal instructions from the physiotherapist, as it guided and encouraged them to perform these exercises during various activities of daily living. However, there was a lack of PFM progression protocols to ensure compliance of PFM rationale:

"I was advised to continue with the same exercises. After three month I did not know what else to do because I had improved" (SSI-P013).

"She (therapists) only advice on what to do when she goes home, but not for the entire period. I think it's important to have the step by step ways on how to move from one type of exercises to another ..." (G1-P031).

Verbal instructions by the physiotherapists remained a challenge following discharge from the hospital. Some expressed a need to be provided with well-illustrated diagrams or brochures for further reference. Compliance to self and home exercise programmes was agreed upon but there were no established strategies for reinforcement or progression over time. For example, measurements such as daily dairies and mobile clinics were not provided. However, the majority of participants revealed their willingness to comply with the physiotherapists' advice. Some pointed out a variety of challenges that seemed to interfere with the home programme approach, which could have been mitigated by the use of PFM brochures. Some participants reported a need for more PFM instructions apart from the verbal instructions that had been given to them at discharge.

"Exercises are not easy. If possible let there be drawn diagrams that can reminder us of the exercises shown here in case one forgets. Sister I told you it not possible to have physiotherapist at rural hospital that can make follow-ups with these exercises" (SSI-P002).

"...But let there be physiotherapy pamphlets issued before discharge containing these exercises. In case one forgets you have a point of reference" (G2-P017).

Compliance with home exercise programmes were cited as a challenge, possibly because they lacked outcome measures. Participants reported that the physical examination for PFM was dependent on patient-reported symptoms that were not quantified. All women were in agreement that there was an absence of objective assessment tools prior to and after PFMT/E. Some reported joining the group exercise sessions without any form of examination. This lack of baseline assessment might mean incorrect treatment, progression and prognosis. The following quotes highlight the concerns of some participants:

"No examination was done. Therapist would come in and each would lie to their beds or stand then we would just start without any examination" (SSI-P016).

"I was not examined I just joined the rest of the women and continued with the exercises" (G3-026).

All women vowed to comply with home exercise programmes back at home after they found positive results. But their PFM frequency and rate of recovery would not be significantly monitored nor guaranteed as there were not proper follow-up arrangements. Six women pointed out that their domestic duties would disrupt their home exercise programme but that nothing was done about it.

It is at this point that a schedule of intensive supervised physiotherapy would be needed, in order for pelvic floor muscle training to be effective. Some participants revealed a tendency to not comply with ward and even home programmes due to several challenges. Their family roles were viewed as some of the challenges that they thought would interfere with exercise adherence.

"... I will try and carry on with them although home chores might make me forget. But I will try not to" (SSI-P003).

"A lot of family duties may interfere with the exercise plan (program). This may make me forget to carry on with my home programme" (G3-P023).

DISCUSSION

Thirty-two participants reported starting PFMT without any form of physical examination or assessment. Two of the participants remained sceptical of vaginal digital examination, although the others were positive about this. There was a need for participants to understand the physiotherapy assessment and management before commencement of pelvic floor muscles training.

Literature reveals the importance of routine digital vaginal examination (25). This determines a woman's ability to initiate PFM contraction, its strength, endurance and coordination prior to and after individual and group exercise sessions. The results of this study are in contrast to (26), who suggest preoperative physiotherapy examination and treatment to determine the mobility of abdominal and perineal tissue, and the strength and endurance of pelvic floor muscles (27).

Participants reported not understanding the role of physiotherapy. The majority of participants had misconceptions about exercise as a form of treatment. They believed that exercises were for school going pupils as part of physical education but were not appropriate as a form of treatment. Only four participants had prior knowledge and awareness of physiotherapy services.

The results show that in these participants, there was a lack of awareness with respect to the role that physiotherapists play in the prevention, promotion and rehabilitation services (28), particularly in patients with obstetric fistula (29). Most County and Sub-County hospitals that offer physiotherapy services were reported by the participants to have poor referrals for patients with obstetric fistula. This may have contributed to the poor perceptions of the role of the physiotherapist

in managing incontinence. There is therefore a need to improve awareness among health care providers with respect to the role of physiotherapists in the management of residual urinary incontinence following fistula repair. Literature on the training of health personnel to handle the high prevalence of obstetric fistula by UNFPA and MOH (30) doesn't clearly describe the special skills required by a physiotherapist to handle women's' health issues, especially the RUI experienced after fistula repair.

For example, the Action Campaign to End fistula in Africa, emphasises special training for fistula surgeons in selected fistula facilities (31), and nothing is suggested with respect to physiotherapy training (32). These findings are in contrast to Miller et al. (33) who suggested manual guidelines for fistula training of surgeons and psychological counsellors, leaving out physiotherapy training in the pre- and post-operative management of residual urinary incontinence associated with obstetric fistula.

The findings would be of use if the MOH in Kenya, in partnership with UNFPA, made recommendations for physiotherapists to specialise in women's' health in order to improve service delivery. Furthermore, participants in this study felt that physiotherapists were absent in many health care facilities.

As a result of this, participants were unaware of the role played by physiotherapists in the management of their conditions. Participants suggested that physiotherapists should be posted to all health facilities and they should be in the forefront of service delivery. Likewise, capacity building and special training for the few physiotherapists working with these women was recommended for effective handling of patients with obstetrics and gynaecological conditions.

LIMITATIONS

There were no previous studies in Kenya that focused on women's' perceptions and experiences

of post-operative physiotherapy management to form part of the literature review. However, the perception of interdisciplinary team of awareness and understanding of physiotherapy interfere with patient's' perceptions.

CONCLUSION

Post-operative physiotherapy management should involve health education to create awareness, knowledge and understanding among patients and health professionals, thus changing patients' perceptions and compliance; and improving interdisciplinary referrals.

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Declaration of conflicting interests

None declared.

REFERENCES

1. Nystedt, A., Högberg, U., &Lundman, B. (2005). The negative birth experience of prolonged labour: a case-referent study. *Journal of Clinical Nursing*, 14(5), 579-586.
2. Muleta, M, Fantahun, M., Tafesse, B., Hamlin, E. C., & Kennedy, R. C. (2007). Obstetric fistula in rural Ethiopia. *East African Medical Journal*,84(11), 525.
3. Tebeu, P. M., Fomulu, J. N., Khaddaj, S., de Bernis, L., Delvaux, T., &Rochat, C. H. (2012). Risk factors for obstetric fistula: a clinical review. *International Urogynecology Journal*, 23(4), Cameroon. *International Journal of Gynecology& Obstetrics*, 118(3), 256-258.

4. Wall, L. L. (2012). A Framework for Analyzing the Determinants of Obstetric Fistula Formation. *Studies in Family Planning*, 43(4), 255-272.
5. Kayondo, M., Wasswa, S., Kabakyenga, J., Mukiibi, N., Senkungu, J., Stenson, A., & Mukasa, P. (2011). Predictors and outcome of surgical repair of obstetric fistula at a regional referral hospital, Mbarara, Western Uganda. *BMC Urology*, 11(1), 23.
6. Stanton, C., Holtz, S. A., & Ahmed, S. (2007). Challenges in measuring obstetric fistula. *International Journal of Gynecology & Obstetrics*, 99, S4-S9.
7. Odhiambo, A. (2010). "I Am Not Dead, But I Am Not Living": Barriers to Fistula Prevention and Treatment in Kenya. Human Rights Watch.
8. Ashton-Miller, J. A., & Delancey J. (2007). Functional anatomy of the female pelvic floor. *Annals of the New York Academy of Sciences*, 1101(1), 266-296.
9. Clark, M. H., Scott, M., Vogt, V., & Benson, J. T. (2001). Monitoring pudendal nerve function during labor. *Obstetrics & Gynecology*, 97(4), 637-639. *Cochrane Database Syst Rev*, 1(1).
10. DeLancey, J. O. (1994). Structural support of the urethra as it relates to stress urinary incontinence: the hammock hypothesis. *American journal of obstetrics and gynecology*, 170(6), 1713-1723.
11. Bø, K. (1995). Pelvic floor muscle exercise for the treatment of stress urinary incontinence: an exercise physiology perspective. *International Urogynecology Journal and Pelvic Floor Dysfunction*, 6, 282-291.
12. DeLancey, J. O. (1988). Structural aspects of urethrovesical function in the female. *Neurourology and Urodynamics*, 7(6), 509-519.
13. Browning, A., & Menber, B. (2008). Women with obstetric fistula in Ethiopia: a 6-month follow up after surgical treatment. *BJOG: An International Journal of Obstetrics & Gynaecology*, 115(12), 1564-1569.
14. Sjøveian, S., Vangen, S., Mukwege, D., & Onsrud, M. (2011). Surgical outcome of obstetric fistula: a retrospective analysis of 595 patients. *Acta obstetrica et gynecologica Scandinavica*, 90(7), 753-760.
15. Mselle, L. T., Moland, K. M., Evjen-Olsen, B., Mvungi, A., & Kohi, T. W. (2011). "I am nothing": experiences of loss among women suffering from severe birth injuries in Tanzania. *BMC Womens Health*, 11, 49.
16. Arrowsmith, S. D. (2007). The classification of obstetric vesico-vaginal fistulas. *International Journal of Gynecology & Obstetrics*, 99(S1).
17. Marshal, M. (1996). Sampling for qualitative research. *Family Practice*, 13, 522-525.
18. Bogdan, R. C., & Biklen, S. K. (1982). *Qualitative research for education: An introduction to theory and methods*. Boston: Allyn and Bacon, Inc.
19. Kitzinger, J. (1995). Qualitative research. Introducing focus groups. *BMJ: British medical journal*, 311(7000), 299.
20. Pelto, P. J., & Pelto, G. H. (1997). Studying knowledge, culture, and behavior in applied medical anthropology. *Medical Anthropology Quarterly*, 11(2), 147-163.

21. Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into Practice*, 39(3), 124-130.
22. Ritchie, J., & Spencer, L. (1993). Qualitative data analysis for applied policy research. *Analysing qualitative data*, 173-194.
23. Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*, 24(2), 105-112.
24. Braun, V., & Clarke, V. (2014). What can "thematic analysis" offer health and wellbeing researchers?. *International journal of qualitative studies on health and well-being*, 9.
25. Hung, H. C., Hsiao, S. M., Chih, S. Y., Lin, H. H., & Tsauo, J. Y. (2010). An alternative intervention for urinary incontinence: retraining diaphragmatic, deep abdominal and pelvic floor muscle coordinated function. *Manual Therapy*, 15(3), 273-279.
26. Laycock, J., & Jerwood, D. (2001). Pelvic floor muscle assessment: the PERFECT scheme. *Physiotherapy*, 87(12), 631-642.
27. World Confederation of Physical Therapy (2008). n.d. . Available at: <http://www.wcpt.org>. Accessed April 4, 2016.
28. National Institute for Health and Clinical Excellence (NICE) (2013) Urinary Incontinence: The Management of Urinary Incontinence in Women. NICE Clinical Guideline 40. National Institute for Health and Clinical Excellence, London.
29. United Nations Population Fund (UNFPA) (2012). Kenya [WWW document.] URL (accessed 30/10/2016).
30. UNFPA, E. (2003). Obstetric fistula needs assessment report: Findings from nine African countries. New York: UNFPA EngenderHealth.
31. Serour, G. I. (2012). Global Work of the International Federation of Gynecology and Obstetrics (FIGO). *Facts, Views & Vision in ObGyn*, 4(1), 3.
32. Lewis, G., & De Bernis, L. (2006). *Obstetric Fistula: Guiding Principles for Clinical Management and Programme Development*. World Health Organization.
33. Miller, S., Lester, F., Webster, M., & Cowan, B. (2005). Obstetric fistula: a preventable tragedy. *Journal of Midwifery & Women's Health*, 50(4), 286-294.

