Original Research Article Journal of College of Medical Sciences-Nepal, Vol-15, No 2, Apr-Jun 2019

ISSN: 2091-0657 (Print); 2091-0673 (Online) **Open Access**

Knowledge on Genitourinary Fistula among Nurses in a Tertiary Hospital of Eastern Nepal

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ABSTRACT

Background: Genitourinary fistula, occurs most commonly due to preventable obstetric causes in developing countries. Women with obstetric fistula are at risk of infection, neglected from family and bear psychological distress due to stigma and social isolation. They require supportive care through multidisciplinary approach. Nurses occupying the larger workforce among the health-personnel are the frontier to care them throughout their life. Their knowledge on obstetric fistula will help to manage patients effectively. The aim of this research was to assess the knowledge on genitourinary fistula among nurses working in maternity wards of B. P. Koirala Institute of Health Sciences, Nepal. **Methods:** A Hospital based cross-sectional study was conducted from May 2018 to January 2019 using self-administered questionnaire among nurses working in antenatal, intranatal, postnatal and gynecology ward of B. P. Koirala Institute of Health Sciences, Nepal. Forty nurses were enrolled after having informed consent. Collected data were entered in Microsoft excel and analysed using SPSS. **Results:** Only 42.5 % nurses had adequate knowledge on genitourinary fistula. Majority of them (90%) had correct response on definition of genitourinary fistula. Almost 83% correctly responded vesicovaginal fistula is the most common type. About 37.5% stated obstetric causes are main causes of genitourinary fistula in developing countries. Only 20% correctly responded the possible sign and symptoms of genitourinary fistula. Adequate knowledge on prevention of obstetric fistula (35%), surgical repair (20%), pre-operative management (12.5%) and discharge advice (20%) was found. **Conclusions:** This study concludes that majority of nurses working at antenatal, intranatal, postnatal and gynecology wards of B. P. Koirala Institute of Health Sciences, Nepal had moderate knowledge on genitourinary fistula.

Keywords: genitourinary fistula; knowledge; nurses.

INTRODUCTION

Genitourinary fistula, an abnormal communication between the urinary and genital tract may be either acquired or congenital. The most common type is vesicovaginal fistula (VVF). Ninety percent of the fistula are consequences of prolonged and obstructed labor.[1-4] It is still common in low-income countries despite its near eradication in developed countries.[5] Fistula can lead to lifelong ostracism, stigma and shame and is associated with sexual, fertility and future childbearing concerns.[6-9] Rectovaginal fistula (RVF) occur due to breakdown of episiotomy or vaginal tear; or as complication of cesarean section.[10] UNFPA (2012) estimates that 2 to 3.5 million women are currently living with fistula worldwide, with at least 50,000 to 100,000 new cases occurring every year.[1] Approximately one million women with fistula are in sub-Saharan Africa and South Asia. An estimated 200–400 new cases of occur each year in Nepal; affecting reproductive age group women of 15–49 year. There are 4362 obstetrics fistula (OF) cases in Nepal which is only tip of iceberg, as most cases are unreported due to the stigmatization, lack of knowledge and access to treatment.[11,12] Fistula patients require a multidisciplinary approaches for prevention and treatment. The challenges for treatment are poor geographical terrain, poor obstetric services, delaying diagnosis and treatment and few specialized hospital.[13] World Health Organisation (WHO) emphasized to include it in course curricula to strengthen the skills of nurses, midwives and obstetricians. UNFPA has designated B. P. Koirala Institute of Health Sciences (BPKIHS) as obstetric fistula training center.[12] BPKIHS is the referral center for treatment of obstetric fistula and Nepal

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government has allocated funds for the free screening and surgical services of obstetric fistula at BPKIHS, Dharan and Model hospital, Kathmandu.[11] Nurses throughout the world occupying the largest workforce are the frontiers of treatment. Their knowledge affect the quality of fistula services.[14] Moreover there is no available published or unpublished research work that investigates specifically the knowledge of nurses. Therefore, this study aims to assess the knowledge of nurses in maternity wards of BPKIHS.

METHODS

A hospital based cross-sectional study was carried out from May 2018 to January 2019 at BPKIHS. Nurses working at antenatal, intranatal, postnatal and gynecology ward were included (n=40). Informed consent was obtained from ward in charges and participants. Nurses receiving formal training on fistula were excluded. Data was collected using self-administered questionnaire. Forty eight questions were knowledge related. Assuming the same weight for all the questions, the participants answers had been compared with the standard answers and then evaluated. The percentage of correct answers for each study participants was calculated as number of correct answers ÷ total questions×100. It was then categorized into inadequate knowledge (<50 %), moderate knowledge (50 to 75 %) and adequate knowledge (>75%). Collected data were entered in Microsoft excel and analysed using SPSS.

RESULTS

Majority of nurses (72.5%) were PCL nurse and majority (75%) belonged to 20-30 years of age. Most of them (67.5%) had less than 5 years of work experience (Table 1).

Table 1. Socio-demographic characteristics of the participants. (n=40)

Academic standard	Frequency	Percent
ANM	7	17.5
BSc. Nursing	4	10
PCL Nursing	29	72.5
Age in years		
20-30	30	75
31-40	10	25
Years of nursing experiences		
<5	27	67.5
6-10	4	10
>11	9	22.5

Table 2. Knowledge of the participants on genitourinary fistula. (n=40)

Definition of genitourinary fistula	Yes	No
An abnormal communication between two or more epithelial surface. [b]	2(5%)	38(95%)
An abnormal communication between only two epithelial surface. [b]	2(5%)	38(95%)
An abnormal opening between urinary tract and genital tract either acquired or congenital. [a]	36(90%)	4(10%)
Types of genitourinary fistula		
Vesicovaginal fistula (VVF)[a]	33(82.5%)	7(7.5%)
Rectovaginal fistula (RF)[b]	6(15%)	34(85%)
Urethrovaginal fistula[b]	1(2.5%)	39(97.5%)
Major causes of fistula in developing countries		
Obstetrical[a]	15(37.5%)	25(62.5%)
Gynaecological[b]	1(2.5%)	39(97.5%)
Both[b]	24(60%)	16(40%)
Predisposing factors of obstetric fistula		
Prolonged obstructed labour[*a]	38(95%)	2(5%)
Instrumented vaginal delivery[*a]	32(80%)	8(20%)
Repeated abdominal operation[*a]	18(45%)	22(55%)
Episiotomy breakdown[*a]	11(27.5%)	29(12.5%)
Incomplete healing or unrepaired complete perineal tear[*a]	32(80%)	8(20%)
Adequate knowledge on predisposing factors	6(15%)	-
Signs and symptoms of obstetric fistula		
Drippling of urine per vaginum[*a]	35(87.5%)	5(12.5%)
Leakage of urine after delivery or surgery[*a]	37(92.5%)	3(7.5%)
Involuntary escape of flatus /or feces into the vagina[*a]	23(57.5%)	17(42.5%)
Presence of pruritus/excoriation of vulva [*a]	20(50%)	20(50%)
Adequate knowledge on sign and symptoms	8(20%)	-
Diagnosis of obstetric fistula		
Obtaining history [*a]	37(92.5	3(7.5%)
Speculum examination [*a]	35(87.5)	5(12.5%)
Metal catheter passage test [*a]	21(52.5%)	19(47.5%)
Dye test [*a]	27(67.5%)	13(32.5%)
Adequate knowledge on diagnosis	11(27.5%)	-

**Multiple responses a: Correct statement b: Incorrect statement*

In table 2, majority (90 %) correctly responded the definition of genitourinary fistula. Almost 83% stated VVF as the most common type and only 37.5% stated fistula formation in developing countries are obstetric related. Only 15% had adequate knowledge on predisposing factors. Majority of them (95%) responded prolonged labor followed by instrumental vaginal delivery (80%), incomplete healing or unrepaired perineal tear (80%), repeated abdominal operation (45%) and episiotomy breakdown (27.5%). Only 20% correctly responding drippling of urine per vaginum, leakage of urine after delivery or surgery, involuntary escape of flatus /or feces into the vagina and presence of pruritus/excoriation of vulva as sign and symptoms of obstetric fistula. About 28% correctly stated history taking, speculum examination, metal catheter passage test and dye test for diagnosis of obstetric fistula.

In table 3, all participants stated screening high risk cases for prevention followed by continuous bladder drainage in obstructed labor (92.5%), delivery by trained personnel (92.5%), focussed antenatal care (90%), consciousness about possible rectal injury (90%) and plotting partograph (72.5%). Only 35% had adequate knowledge on prevention of obstetric fistula.

Table 3. Knowledge of participants on prevention of obstetric fistula. (n=40)

Variables	Yes	No
Screening high risk cases*a	40 (100%)	0(0%)
Focussed antenatal care*a	36(90%)	4(10%)
Plotting partograph*a	29 (72.5%)	11 (25.5%)
Continuous bladder drainage in obstructed labor* a	37 (92.5%)	3(7.5%)
Attempting normal delivery in case of obstructed labor*b	26(65%)	14(35%)
Delaying repair of complete perineal tear *b	23 (57.5%)	17 (42.5%)
Consciousness about possible rectum injury in gynecologic surgery* a	34(85%)	6(15%)
Timely cesarean section*a	27 (67.5%)	13 (32.5%)
Delivery by trained personnel*a	37 (92.5%)	3(7.5%)
Adequate knowledge on prevention of obstetric fistula	14(35%)	-

*Multiple responses a: Correct statement b: Incorrect statement

Among participants adequate knowledge on surgical repair was found among 20% and preoperative management on 12.5%and none on postoperative management (0%) (Table 4). Only 20% participants had adequate knowledge on discharge advice (Table 5). Only 20% participants gave their opinions on psychological effects of fistula patients.

Table 4. Knowledge of participants on surgical repair, preoperative and postoperative management of fistula. (n=40)*

Surgical repair	Yes	No
Second attempt is contraindicated *b	14 (35%)	26 (65%)
Local repair should again be attempted after 3 months*a	30 (75%)	10 (25%)
Catheterization heals the unrepaired part gradually*a	23 (57.5%)	17 (42.5%)
Nutritious diet is sufficient to heal the remaining portion*a	24 (60%)	16 (40%)
Adequate knowledge on surgical repair	8 (20%)	22 (80%)
Preoperative management		
Continuous catheterization for 4-8 weeks for spontaneous closure*a	32 (80%)	8(20%)
Application of antiseptic solution*b	27 (67.5%)	13 (32.5%)
Postoperative bladder drainage*a	37 (92.5%)	3(7.5)
Antibiotics compulsory for all cases*b	29 (12.5%)	11 (27.5%)
Repair of obstetric fistula 3 months post-delivery*a	27 (67.5%)	13 (32.5)
Adequate knowledge on preoperative management	5 (12.5%)	
Postoperative management		
Observe for catheter block*a	38 (95%)	2(5%)
Encourage fluid intake 2.5-3 liter*a	35 (87.5%)	5 (12.5%)
Advise patient to pass urine frequently (1 hourly) following removal of catheter*a	34 (85%)	6(15%)
NPO till 2nd post-operative day*a	16 (40%)	24 (60%)
Non-residual diet from 3rd day onwards and full diet from 6th day onward*a	16 (40%)	24 (60%)
Bowel should not be moved for about 4-5 days*b	8(20%)	22 (80%)
Lactulose should not be given*b	6(15%)	34 (85%)
Follow infection prevention practices*a	31 (77.5%)	9 (22.5%)
Adequate knowledge on postoperative management	0(0%)	-

*Multiple responses a: Correct statement b: Incorrect statement

Table 5. Knowledge on discharge advice. (n=40)

Discharge advice	Correct response
Abstinence three months from sexual intercourse*a	36(90%)
Delay pregnancy for at least one year after surgery*a	30(75%)
Antenatal care and hospital delivery*a	38(95%)
To pass urine more frequently*a	30(75%)
High protein diet and hygiene maintenance*a	33(82.5%)
Family planning methods for birth spacing*a	35(87.5%)
Elective cesarean section for successful repair*a	25(62.5%)
Constipation avoid*a	39(97.5%)
Adequate knowledge on discharge advice	8(20%)

**Multiple responses* a: Correct statement b: Incorrect statement

Table 6. Participants opinions on psychosocial effect of fistula patients. (n=40) *

Variables	Response
Depression	1(2.5%)
Hesitation in sharing problems	3 (7.5%)
Isolation, decrease social interaction, fear of rejection and unacceptance from family and society	4 (10%)
Low self-esteem, poor hygiene and low confidence	6 (15%)
Non response	27 (67.5%)

The most common response was low self-esteem, poor hygiene and low confidence (15%). In Figure 1 showed only 42.5% nurses had adequate knowledge on genitourinary fistula.

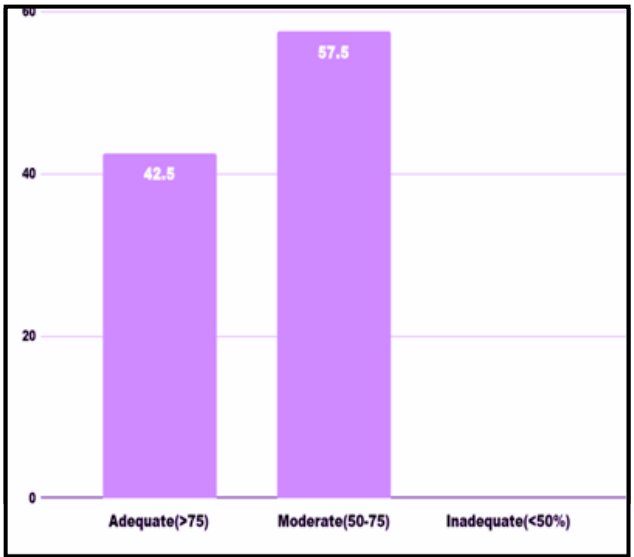

Figure 1. Overall knowledge on genitourinary fistula. (n=40)

DISCUSSION

We found only 42.5 % had adequate knowledge followed by 57.5% moderate knowledge on genitourinary fistula. The results were similar to study from Omdurman Maternity Hospital, Sudan where majority (59.8%) had moderate knowledge.[13] In contrast, community based qualitative study found that most male participants had never heard of obstetric fistula.[15] We found majority (90%) of participants correctly stating genitourinary fistula as an opening between urinary and genital tract either acquired or congenital. Similarly, Bimbola kemiin Odu of Nigeria found that 97.2% responded correctly on definition of obstetric fistula.[16] This finding is better compared with study done in Sudan which stated 60%.[13] We found 4 in 5 participants correctly responding vesicovaginal fistula as the most common types of genitourinary fistula which is comparable with the study from A Mohammed Maiwada (88%).[17] In contrast, research conducted in Sudan had less knowledge on obstetric fistula (38%).[13] In this study, only 15% had adequate knowledge on predisposing factors of obstructed fistula and majority (95%) stated prolonged labour. Similarly, A Mohammed Maiwada reported obstructed labour (61%) and early marriage (87%) as predisposing factors of obstetric fistula.[17] Ampofo et al also found prolonged labor (75.9%) and an incision cut (6.2%).[18] Kasamba N et al reported delay to access medical care, induced abortion, early age conception, delivery by traditional birth attendants and complications during surgical operations for difficult deliveries were the common risk factors for VVF.[15] Bimbola et al stated similar findings along with womens lack of education and autonomy, malnutrition, stunting and short stature for occurrence of VVF.[16] Kasamba N et al stated participants regard OF as a result of misuse of family planning, having sex during the menstruation period, curses by relatives, sexually transmitted infections, rape and violence.[15] Kyei-Nimakoh M et al in their systemic review identified demand and supply side barriers in access to obstetric care. Demand side barriers were limited household resources, low income, lack of transportation, indirect transport costs, lack of information on health care services, no birth-preparedness, social stigma, low self-esteem, cultural beliefs/practices and ignorance. Supply side barriers were cost of services, physical distance between health facilities and service users' residence, long waiting times at health facilities, poor staff knowledge and skills, poor referral practices and poor staff interpersonal

relationships.[19] Findings were comparable with the study of Zo€e Baker et al which identified psychosocial, cultural, financial, political and quality related barriers.[20] Women living with obstetric fistula in rural Tanzania experienced similar barriers in access to quality obstetric care.[21] These findings are relatable in our context as well. Demand and supply side barriers results in delay in reaching, receiving and seeking care. Poor obstetric care leads to increased maternal morbidities and mortalities. Mselle and Kohi recommended empowering women, uplifting social and financial conditions, upgrading primary health care facilities to provide comprehensive emergency obstetric and newborn care (CEONC) and increasing skilled personnel to promote and deliver quality health care services for prevention of obstetric fistula.[21] We found 20% participants having adequate knowledge on sign and symptoms of obstetric fistula where majority (92.5%) said urinary leakage. Half (50%) responded vulval excoriation.

Almost 28% had adequate knowledge on diagnosis of genitourinary fistula and 35% had adequate knowledge on preventive approaches. Continuous bladder drainage (92.5%), screening high risk cases (100%) and delivery by trained personnel (92.5%) were stated as the preventive measures of genitourinary fistula in our study. Study done in Sudan showed timely caesarean section (40%), prolonged catheterization (34%) and trained attendant during delivery (18%) as the preventing measures.[13] Keri L identified mistreatment of pregnant women, verbal and psychological abused by doctors and nurses as a perceived barriers in seeking obstetric care.[22] Women living with obstetric fistula experience physical and psychological tragedies. They need a strong network of compassionate support built on a foundation of skilled knowledge of women's' reproductive health and rights. Khaliah A. Johnson et al stated cultural appropriate counselling improves physical and mental well-being of women undergoing fistula repair.[23] Nurses and midwives serve as a bridge between health centre and communities. They are the advocates, educators and care providers. In community, nurses advocates for use of family planning, birth spacing, preventing early marriage and childbirth and having timely access to service sites. In hospital their role is to provide quality antenatal care and labour management using partograph; and timely referral system.[24] We found two third (65%) of nurses had no knowledge on second attempt of surgical repair. About 13% had adequate knowledge on preoperative management of obstetric fistula. A study from Sudan reported bowel care (76%), hydration maintenance (15%) and antibiotic use (36%) were the common preoperative management.[13] In our study, 9 out of 10 participants stated to observe for postoperative catheter block followed by 2.5 -3 liter fluid intake (87.5%), frequent voiding (85%) and infection prevention (77.5%). Similarly majority had inadequate knowledge on management of rectovaginal fistula. More than half (60%) stated that NPO is not required till 2nd postoperative day and every 4 in 5 wrongly stated bowel movement can be done anytime. Women being treated for obstetric fistula requires supportive and sympathetic care. This begins from their entrance in reception desk to inpatient stay and postoperative discharge. Patients with obstetric fistula have a prolonged hospital stay before surgical repair due to comorbidities like poor nutrition, contractures, nerve paresis, depression etc. and for at least 2 weeks postoperatively. During their hospitalization, nurses mostly interact with these patients. Nurses should have a good communication skills with patients, families and the fistula care team. They must have antenatal and labour management skills to prevent complications of delivery and puerperium; clinical skills to assess and diagnose post-delivery, postoperative complications and perform catheter care. Catheter care is an early intervention measures for obstetric fistula. Infection prevention, nutritional assessment, intake/output, personal hygiene maintenance, patients and family counselling, proper documentation and communication with fistula surgeon and team are essential nursing responsibilities.

Preoperatively, nurses must have knowledge and skills in obtaining history and assisting doctors with dye and metal catheter test; postoperatively for wound site dressing, ambulation, hydration and diet maintenance. Patients with VVF and RF differ in dietary intake postoperatively. Nurses are responsible to differentiate the types and give advice accordingly. RF patients are kept NPO till 2nd postoperative day. Daily assessment on bowel and bladder habit is also a nursing function after which stool softener are prescribed in need.[3,25] Upon discharge, nurses should provide health teaching on infection prevention and preventive measures like maintaining bowel and bladder, abstinence for sexual intercourse for 3 months to promote healing of operative site, protein rich diet intake and delaying pregnancy for at least 1 year

post surgery and scheduled the time for follow up.[3] Regarding discharge advice we found majority (97.5%) stating to avoid constipation, antenatal care and hospital delivery in subsequent pregnancy (95%), abstinence of sexual intercourse for three months (90%), use of family planning methods for birth spacing (87.5%), high protein diet (82.5%) and delaying pregnancy for at least 1 year after surgery (75%). Study from Sudan reported that 30% focussed on 3 months abstinence for sexual intercourse followed by delay pregnancy for at least 1 year after surgery (24%) and antenatal care and hospital delivery for future pregnancies (28%).[13] We asked participants to write their opinion on psychological consequences of patients with obstetric fistula. Only 13 participants responded for the question. They stated low self-esteem and low confidence(15%); isolation, decrease social interaction, fear of rejection, unacceptance from family and society(10%); and hesitation in sharing problems. Muleta M et al stated 69.2% were divorced, 19.2% were not allowed to eat with family members and 44.2% were not members of any community associations.[26] A meta-analysis of the literature published between 1985 and 2005 showed that 36% of women with fistulas were divorced or separated and in 85% of cases with fistula had fetal loss. Low self-esteem, feelings of rejection, depression, stress, anxiety, loss of libido and loss of sexual pleasure were commonly reported by these women. Rate of separation or divorce were appeared to be increased in woman.[27] Muleta et al study in Ethiopia reported 69.2% of fistula patients were divorced, 44.2% ate separately from other family members and only 19.2% were members of a local community association.[26] In prospective observational study of 68 women with fistula, 66 were at risk for mental dysfunction.[28] Similarly, psychological consequences of VVF identified were marital disharmony (37.3%), depression (47.1%), and infertility (23.5%).[29]

CONCLUSIONS

This study concludes that majority of the nurses working at B. P. Koirala Institute of Health Sciences had moderate knowledge on genitourinary fistula. The formal training program for nurses on genitourinary fistula is the need among nurses working at different maternity wards of hospital. We recommend multicentric study for more generalisable information.

Limitation of the study

Limited sample size restricts the generalization of finding. The knowledge on different characteristics on genitourinary fistula and real practice gap can't be sort out.

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Citation: KC H, Pokharel N, Shrestha M, Rai G, Parajuli SB. Knowledge on Genitourinary Fistula among Nurses in a Tertiary Hospital of Eastern Nepal. JCMS Nepal. 2019; 15(2):132-8.