

Nigeria Federal Ministry of Health



Federal Ministry of Health

GUIDELINES ON URETHRAL CATHETERIZATION FOR PREVENTION AND MANAGEMENT OF OBSTETRIC FISTULA IN NIGERIA

FEDERAL MINISTRY OF HEALTH
ABUJA, NIGERIA

MARCH 2016



FOREWORD

Nigeria bears the highest burden of obstetric fistula in the world. The degree of suffering of women living with obstetric fistula and their loss of quality of life is enormous. Separation, divorce and social isolation often lead to depression, attempted suicide and successful suicide among victims of fistula. This situation is unacceptable, especially when obstetric fistula has been eradicated in most other countries of the world.

The government of Nigeria has identified obstetric fistula as an important public health problem and has responded to the scourge of fistula with specific interventions and programmes in recent times. The national strategy for the elimination of fistula has been put in place and is being implemented. Three national obstetric fistula centres have been set in place to respond to fistula at the regional levels, as well as to conduct research and training to position the country to fully address the problem of obstetric fistula. Thousands of women with obstetric fistula have been surgically repaired, rehabilitated and reintegrated back to their communities through these efforts.

Surgical treatment for women with obstetric fistula, however, is often cumbersome, complicated and cost-intensive. Human, infrastructural and financial resources for surgical repair of obstetric fistula lag behind the incidence and prevalence, thus limiting the gains made in treating the backlog of fistula cases awaiting surgery. Consequently, the Federal Ministry of Health is also focusing on non-surgical but effective means of preventing and treating obstetric fistula, to maximize use of available resources for the rapid control of obstetric fistula in Nigeria.

Prevention and conservative treatment of obstetric fistula at all levels will take the fistula prevention crusade down to communities to lessen the unacceptably high burden and suffering of women with obstetric fistula in Nigeria. The use of the urethral catheter for this purpose is a cost-effective and efficient intervention that will widen the scope of care to primary and secondary health care levels, so that every community is brought onboard to prevent obstetric fistula—especially in the rural areas, where the need is highest.

I commend our development partners, the USAID-supported Fistula Care *Plus* Project at EngenderHealth, UNFPA, and MSF for their support from conception to finalization of this laudable intervention.

I therefore welcome health care workers and stakeholders at all levels to embrace these guidelines and invest in these effective, efficient and cost-effective interventions as we forge on to eliminate obstetric fistula in Nigeria.

Professor Isaac F. Adewole, FAS, FSPAP, DSc. (Hons)

Honourable Minister of Health

ACKNOWLEDGEMENT

I acknowledge and appreciate the technical contributions of our development partners: the USAID-supported Fistula Care *Plus* Project, UNFPA and MSF. I specially appreciate the Fistula Care *Plus* for providing both technical and financial support for the development of these guidelines.

I equally appreciate the National Obstetric Fistula Technical Working Group and national stakeholders on obstetric fistula who actively participated in developing, revising and refining this document. I thank representatives of the State Ministries of Health, researchers, academia and the National Association of Nigeria Nurses and Midwives (NANNM) for their robust participation in validating this document. Every individual who contributed at any level to developing this document is also well appreciated. Without you, this work would not have been completed.

Finally, I acknowledge all the officers of the Reproductive Health Division of Family Health Department under the leadership of Dr. Kayode Afolabi, the Head of RHD, for their consistency and commitment to ensuring the finalization of this document.

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ACRONYMS

BEmONC	basic emergency obstetric and newborn care
CEmONC	comprehensive emergency obstetric and newborn care
CHEW	community health extension worker
IMPAC	integrated management of pregnancy and childbirth
L	litre
ml	millilitre
MSF	Medecines Sans Frontieres [Doctors without Borders]
NANNM	National Association of Nigerian Nurses and Midwives
NDHS	Nigeria Demographic and Health Survey
OF	obstetric fistula
RVF	recto-vaginal fistula
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
VVF	vesico-vaginal fistula
WHO	World Health Organization

EXECUTIVE SUMMARY

Obstetric fistula has persisted in Nigeria, and it is estimated that Nigeria bears the highest global burden. The scourge of obstetric fistula is marked by extreme suffering and complications. Urethral catheterization for prevention and conservative treatment of obstetric fistula is a gateway to mitigating the scourge of obstetric fistula. It is an efficient and cost-effective strategy that facilitates the extension of fistula care services to all levels of health care delivery and communities.

The effort of the Federal Government of Nigeria and its development partners is geared towards the elimination of obstetric fistula in Nigeria. The Government has expanded surgical treatment services by opening new treatment centres and by supporting existing services to maximise the number of surgical repairs.

This national guideline offers simple and clear guidance for service providers at every service delivery level to actively participate in the prevention and conservative treatment of obstetric fistula in Nigeria. The importance of this document cannot therefore be overemphasized.

The guideline is the first to be developed globally and was therefore fraught with the main challenge of limited published peer-reviewed articles. Despite the paucity of published peer-reviewed articles, the document is a product of rigorous scientific review of available research, some of which was conducted in Nigeria. National and international obstetric fistula experts participated in the development of the guideline, to ensure that recommendations necessary for high-quality and cost-effective prevention and conservative treatment services are provided.

The National Guideline on urethral catheterization for the prevention and conservative treatment of obstetric fistula is based on available research, which informed the development of simplified guidelines using flowcharts, to enable implementation of the strategy at primary, secondary and tertiary health care levels in Nigeria. The guidelines will be disseminated, implemented and monitored for the elimination of obstetric fistula in Nigeria.

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1.0 INTRODUCTION

In Nigeria today, many more mothers survive childbirth than did so 20 years ago. Since 1990, the maternal mortality ratio has decreased by 41%, from 1100 deaths per 100,000 live births to 630 in 2010 and 574 per 100,000 live births (NDHS, 2013).¹ Despite this impressive achievement, Nigeria is estimated to have the heaviest global burden of obstetric fistula, with an estimated 150,000 existing cases and 12,000² new cases occurring annually.

Obstetric fistula (both vesico-vaginal and recto-vaginal) is a serious reproductive health challenge for women in Nigeria. It results from prolonged obstructed labour during childbirth, which causes sustained pressure between the presenting part of the baby and the maternal pelvis, resulting in damage to surrounding tissues, vaginal walls, bladder wall, rectal wall, nerves and blood supply, leading to fistula formation, disability and in many cases, death. The fistula that results presents with continuous dribbling of urine and sometimes faeces (urinary and/or faecal incontinence).

Eradication of obstetric fistula in Nigeria presents an enormous challenge, partly because of the financial resources required, but also because of shortages of appropriately trained personnel, insufficient equipment and the uneven distribution of Nigeria's skilled health workforce. Recent accelerated fistula repair through pooled efforts fistula repair campaigns and outreach services by the Federal Ministry of Health, development partners and nongovernmental actors has raised treatment to approximately 6,000 repairs annually in Nigeria. At this rate, it will take many years and huge investments to clear the current backlog of women suffering from this devastating condition. This challenge also underscores the importance of preventing fistula from occurring in the first place.

The pioneering work of Kees Waaldijk over the last two decades suggests that some cases of obstetric fistula presenting soon after the injury may heal without the need for surgery if the bladder is continuously drained with a urethral catheter.³ It is estimated that early management with a catheter could lead to closure of the fistula in 25% of suitable cases.³

Treating fistula conservatively or preventing its formation by catheterization of women with prolonged obstructed labour offers a promising alternative to surgical repair, potentially spares women additional surgical trauma and allows efficient use of scarce resources.

In March 2013, the USAID-supported Fistula Care Project (predecessor to the current Fistula Care *Plus* Project) convened a consultative meeting in Abuja, Nigeria, to review current guidelines and practices, to discuss knowledge gaps, and to develop recommendations for standardized approaches to urinary catheterization for prevention and conservative treatment of fistula. The meeting brought together a group of expert Nigerian and international fistula surgeons with experience of catheterization practices, representatives of national and international professional nursing and midwifery associations, and officials from Nigeria's Federal Ministry of Health, as well as national and international staff from Fistula Care. In preparation, Fistula Care conducted a pre-meeting review of pertinent literature. Meeting discussions were also informed by the results of an informal survey carried out in advance of the consultative meeting, of current catheterization practices among fistula service providers at both Fistula Care-supported and non-supported sites in Nigeria. Through meeting discussion, participants made recommendations for provider training as well as research to address information gaps. Meeting participants also developed consensus algorithms for simplified, standardized approaches to conservative treatment of fistula by catheterization as well as catheterization during and immediately after prolonged or obstructed labor to prevent fistula. Meeting proceedings were presented in a report disseminated within Nigeria and online. This

meeting was a first step to assist the Nigerian Ministry of Health in its process of developing finalized national guidelines for urinary catheterization for fistula prevention and treatment. The literature review and recommendations from the meeting have informed the guideline presented here.⁴

1.1 Literature Review

This section presents a review of relevant available published scientific evidence, peer-reviewed articles and some grey literature on urethral catheterization for prevention and conservative treatment of vesico-vaginal fistula.

1.1.1 Intrapartum and Postpartum Bladder Care

All guidelines found stressed the importance of bladder care as an integral part of care in labour, the need for women to void every two to four hours during labour,^{5,6} and the need for providers to document frequency of voiding on the partograph.

Velinor⁷ provided a brief overview on the use of urethral catheters in the intrapartum period, including indications for this use and possible complications that may occur. The recent paper on urethral catheterization elaborated on the need to avoid urethral catheterization in labour if possible, because of the added risks of urinary tract infection and urethral trauma.⁷ To minimize these complications, the author stressed the requirement for a clear rationale for undertaking the procedure, good working knowledge of the female genital anatomy and skilled aseptic technique. The paper discussed the benefit of intermittent catheterization in reducing the risk of urinary tract infection.

The Canterbury district health guide on intrapartum and postnatal bladder care recommends that if a labouring woman has difficulty passing urine after four hours, an in/out urethral catheter should be considered.⁵

None of the guidelines found refer to catheterization during labour except in relation to preparation for assisted vaginal delivery or caesarean section.^{5,6}

The Royal College of Obstetricians and Gynaecologists⁶ recommends that the maternal bladder should be emptied and an indwelling catheter should be removed or balloon deflated prior to operative delivery.

World Health Organization (WHO) recommends urinary (urethral) catheterization “if necessary” before assisted delivery and caesarean section and recommends documentation of urinary output (section C48).⁸ The text includes a section on bladder care (C 55-56) stating that while urinary catheterization may be required for some procedures (including caesarean section and laparotomy), early catheter removal reduces the risk of infection and encourages the catheterized woman to walk. The guide recommends retaining an indwelling catheter for a minimum of eight hours postoperatively, waiting for 48 hours in cases of uterine rupture or prolonged obstructed labour and leaving the catheter in place for a minimum of seven days and until urine is clear, if the bladder was injured (either from uterine rupture or during caesarean section or laparotomy).

The comprehensive educational nursing and midwifery curricula and module covers preoperative and postoperative care and skills training modules for urethral catheterization.⁹ The midwifery education module¹⁰ offers significant guidance on catheterization after delivery.

1.1.2 Urethral Catheterization for Prevention of Fistula

Research studies on urethral catheterization to prevent obstetric fistula were not found. However, clinical guidelines and midwifery curricula training modules on management of prolonged obstructed labour recommend immediate urethral catheterization for women who have recently experienced prolonged obstructed labour.⁹⁻¹¹

The midwifery education module¹⁰ begins with a review of the anatomy and physiology relevant to the management of prolonged and obstructed labour. On the basis of this review, the module explains what makes obstructed labour more likely to occur, what happens in obstructed labour and how signs of obstructed labour can be identified, and it lists steps to be taken for effective management. Special emphasis is placed on the use of the partograph in monitoring labour.

One key text on this subject is WHO's *Obstetric Fistula: Guiding Principles for Clinical Management and Programme Development*.¹¹ This guide recommends that, to prevent fistula formation or to encourage very small fistulas to close spontaneously, all women who have survived prolonged or obstructed labour, with or without a caesarean section, should be treated by routine urethral catheterization for around 14 days, with a high-fluid-intake regime immediately after delivery or as soon as they present at a health care facility. The guide also recommends that all maternity units should draw up a protocol based on these principles for the management of women who have survived prolonged labour.

Hancock and Browning¹² described early treatment by catheterization after prolonged or obstructed labour following vaginal delivery or caesarean section and advocated catheterization for at least 10 days. They reported that up to 20–40% of small defects (smaller than 2 cm) may heal with bladder drainage and that fistulae which have not healed spontaneously within four weeks of drainage are unlikely to do so.

Wall et al¹³ also opined that some fistulas might be prevented by promptly treating women who arrive at a health care facility immediately after obstructed labour and that some fistulas might close spontaneously if the bladder is drained for a prolonged period of time.

1.1.3 Urethral catheterization for conservative treatment of obstetric fistula

The main body of literature on this subject comes from the work of Dr. Kees Waaldijk in Nigeria.^{3,14} These studies report the outcomes of early management of fistula with urethral catheterization and/or early surgical closure for a large volume of clients.

The other main resource found is Bazi's review, which includes 30 studies undertaken between 1966 and 2007.¹⁵ However, only five of these address urethral catheterization alone for bladder drainage as a therapeutic option. The majority of the studies combined catheterization with surgical treatment. In the five studies in which bladder drainage alone was used, the incidence of spontaneous closure of fistula ranged from 0% to 100%. However, Bazi's studies had the following limitations: The majority were retrospective, the fistulae treated lacked a detailed classification system and the duration of catheterization treatment varied widely.

According to literature reviewed, the success or failure rates of urethral catheterization as a form of treatment for fistula were influenced by the following factors:

- A long interval between causative injury and initiation of urinary catheterization treatment is associated with much lower chance of closure, probably due to epithelization of the fistula tract.
- The size of the fistula affects the chance of spontaneous closure: Fistulas of less than 1 cm diameter had the most favourable outcomes.

- The cause of vesico-vaginal fistula—obstetric or surgical—affects the outcome.
- Duration of catheterization is an important factor.
- In evaluating any study, it is important to know how success or failure of treatment is defined. For example, does residual incontinence automatically indicate failure of treatment?
- Likewise, the length of the follow-up period is important, including the point at which success or failure is determined.

According to Bazi, the interval between injury and initiation of catheterization is the factor most closely correlated with success: the shorter, the better. However, on the basis of this review, Bazi concluded that no solid conclusions regarding recommendations for management of fistula could be drawn.

A spontaneous healing of a left uretero-vaginal and vesico-vaginal fistula was recorded as far back as 1985,¹⁶ which suggests extension of spontaneous healing beyond vesico-vaginal fistula. This was followed by a description of four cases of conservative management of vesico-vaginal fistula occurring as a complication of abdominal and vaginal hysterectomy in the Netherlands.¹⁷ In all cases, treatment involved simple bladder drainage for periods ranging from 19 to 54 days. At follow-up, all clients remained dry.

Based on clinical experience, Harrow¹⁸ proposed that many vesico-vaginal fistulae resulting from gynaecological operations (iatrogenic fistula) could be cured by urinary catheterization alone. Nine of 21 clients studied healed spontaneously. The main principle of the treatment is to prevent any bladder distension until firm healing of the fistula edges takes place. A case of vesico-vaginal fistula following masturbation managed conservatively by 14 days urethral catheterization¹⁹ was described in 1998.

1.2 Rationale

Nigeria bears the heaviest burden of obstetric fistula, with an estimated prevalence of 150,000 and an annual incidence of 12,000. Despite all efforts at accelerating fistula repair in Nigeria, only an estimated 6,000 cases are repaired yearly, mostly at designated fistula centres. This underscores the need to explore the published evidence on prevention and treatment of fresh obstetric fistula with use of the indwelling urethral catheter. About 25% of properly selected and managed fistula cases close with catheter drainage alone if this therapy is instituted early enough. The prospect of treating fistula conservatively and perhaps even preventing it by catheterization during or immediately after prolonged obstructed labour offers a promising alternative to surgical repair. This approach has the added advantage of sparing women the additional trauma of surgery, making the best use of scarce resources and making fistula care available at all levels of health care delivery in Nigeria.

1.2.1 Goal

Goal

The goal of this publication is to document national guidelines on the use of urethral catheterization for prevention and conservative management of vesico-vaginal fistula for primary, secondary and tertiary health care facilities in Nigeria.

1.2.2 Specific Objectives

Specific Objectives

- i. To document the science behind urethral catheterization for prevention and conservative management of vesico-vaginal fistula in Nigeria
- ii. To provide national guidelines for all health care professionals at primary, secondary and tertiary levels of care on urethral catheterization for prevention of vesico-vaginal fistula in Nigeria
- iii. To provide national guidelines for all health care professionals at primary, secondary and tertiary levels of care on urethral catheterization for the conservative treatment of vesico-vaginal fistula in Nigeria.
- iv. To provide guidelines for referral (for further interventions) after catheterization for prevention and conservative treatment of vesico-vaginal fistula in Nigeria.

1.3 Conceptual Definition and Explanation of Terminologies

Obstructed labour:

“Mechanical impediment to the progress of labour, in spite of adequate uterine contractions—mismatch between fetal size, or more accurately, the size of the presenting part of the fetus and the mother’s pelvis, although some malpresentations, notably a brow presentation or shoulder presentation, will also cause obstruction.”¹⁰

Prolonged labour:

This is defined as labour lasting longer than 18 hours¹⁰ or active phase labour lasting longer than 12 hours. In terms of clinical management, it is useful to differentiate between prolonged latent-phase labour (that is, regular, painful contractions with cervical effacement and dilation up to 4 cm lasting longer than eight hours) and prolonged active-phase labour (regular painful contractions and progressive cervical dilation from 4 cm lasting more than 12 hours). (Adapted from WHO's *Managing Complications in Pregnancy and Childbirth* and from WHO's midwifery education module 3: Managing prolonged and obstructed labour.¹⁰

Prolonged obstructed labour

Typical symptoms and signs are weakness, dehydration, fever, high presenting part, oedematous vulva, poor descent and gross caput succedaneum.

Urethral catheterization for fistula prevention:

Catheterization performed during or immediately after prolonged obstructed labour (whether vaginal or caesarean delivery)

Fresh or new fistula

“Fresh” or “new” fistula refers to a fistula that is not more than four weeks old from the date of original injury. After this window of time, the hope of successful conservative treatment falls progressively, because of epithelization of the fistula tract.

2.0 GUIDELINES ON URETHRAL CATHETERIZATION TO PREVENT OBSTETRIC FISTULA

Based on the level of evidence available, women in labour should be encouraged to spontaneously void at regular intervals (every two to four hours) without routine catheterization, unless difficulties arise.

Women should be catheterized if the partograph “action Line” is crossed or when the duration of labour exceeds 18 hours.

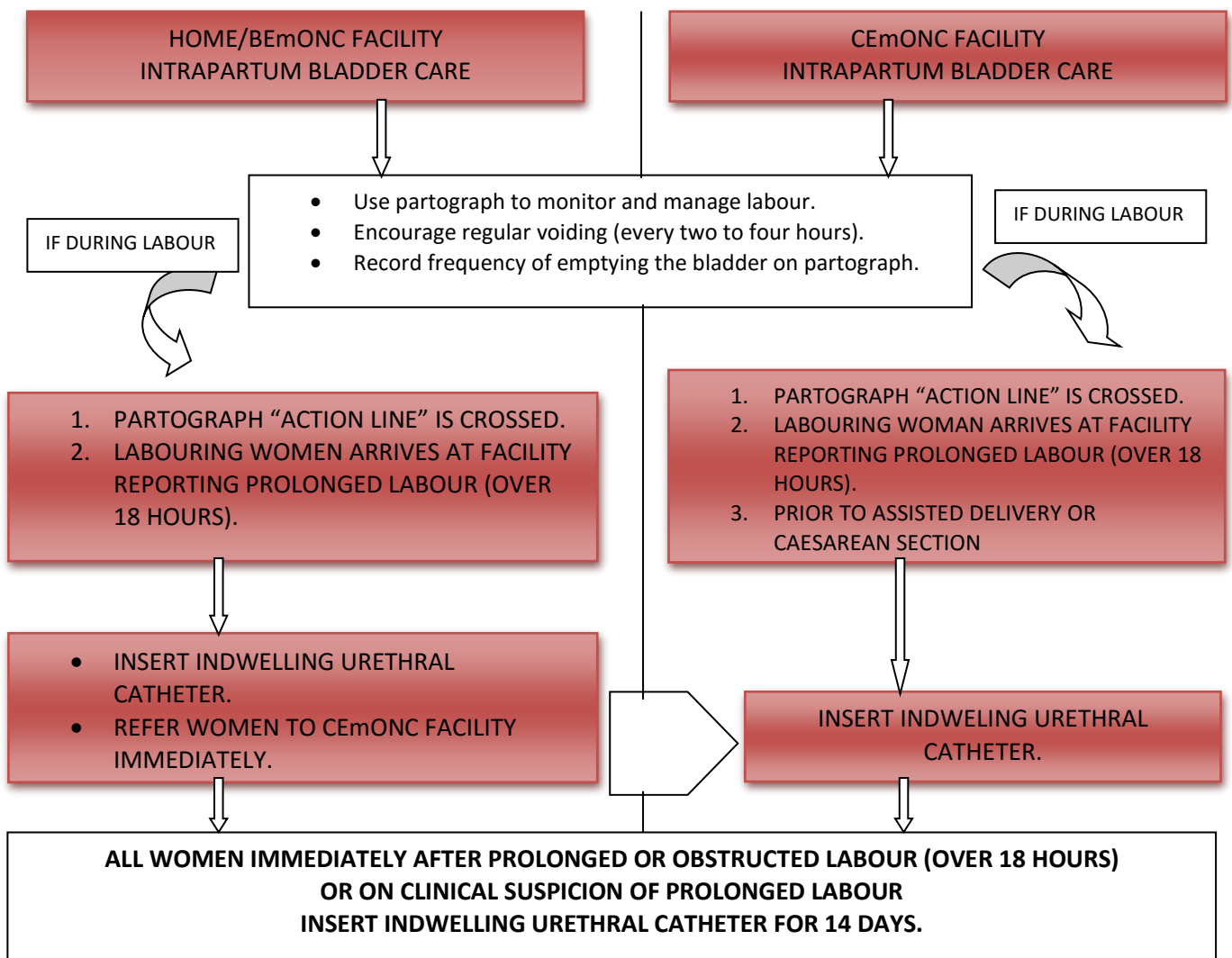
All women diagnosed with prolonged or obstructed labour should be catheterized prior to assisted vaginal delivery or caesarean section for a period of 14 days, plus put on a high-fluid-intake regime to prevent fistula formation.

All women who survived prolonged obstructed labour should immediately on presentation be managed with a regime of urethral catheterization for about 14 days plus a high-fluid-intake regime, to prevent fistula formation or to encourage spontaneous closure of very small fistulae. During this time, the patient could be managed as either inpatient or outpatient with the catheter in situ, depending on the trained health care provider’s assessment.

Urinary catheterization during or immediately after prolonged or obstructed labour could be performed at basic emergency obstetric and newborn care (BEmONC) facilities, as well as at all tertiary facilities by any trained health care provider who has midwifery competencies and is skilled and authorized to insert and manage a urinary catheter.

Figure 1 (next page) illustrates the flowchart for urinary catheterization during or immediately following prolonged or obstructed labour, including routine bladder care during labour.

Figure 1. Urethral Catheterization to Prevent Obstetric Fistula



3.0 GUIDELINES ON CONSERVATIVE MANAGEMENT OF OBSTETRIC FISTULA

Waalwijk's work in Nigeria showed that some cases of obstetric fistulae that present soon after injury may heal without the need for surgery if the bladder is drained continuously with urethral catheter.^{5,6} This important finding has the potential to allow some women to avoid the need for surgical repair of their fistula.

The concept of conservative treatment of fistula with a catheter alone opens up a range of possibilities for assisting women living with obstetric fistula in low-resource environments. With appropriate management, early catheterization could be offered by physicians without expertise in fistula repair, midwives, nurses and community health extension workers (CHEWs). The need for a standardized approach in offering this intervention is critical and was taken into consideration in the development of the guidelines by national and international stakeholders of great repute. Therefore, women can access treatment far more easily, since it could be available even at the nearest community health centre.

For cases of fistula in which conservative management is unsuitable or has failed, Waalwijk's work has also challenged the long-held notion that surgical intervention for fistula should be delayed until three months after delivery. Women may benefit from fistula repair far earlier than has been believed in the past, reducing the time that they must suffer the pain and ostracization associated with continuous leakage of urine. Since the need for social reintegration and rehabilitation is related to how long a woman suffers with fistula,⁷ this approach of early intervention may reduce social and emotional morbidity.

3.1 Treatment Pathway: Conservative Treatment of Urinary Fistula in Settings with and without Specialized Fistula Care Services

A treatment pathway for the conservative treatment of urinary fistula was developed to aid consistent implementation, especially in facilities where specialized fistula care services may not be available (Figure 2). It is an algorithm designed for use by doctors, nurses, midwives or CHEWs at facilities ranging from a primary health centre to a specialist hospital. It is required that the health care provider be trained and competent according to standards of practice in safe urethral catheterization for bladder drainage.

Conservative management at facilities with or without fistula surgical capabilities would essentially be the same. The significant differences in clinical management are in the following areas:

- **Initial assessment:** It is assumed that providers at a specialized fistula facility will provide a comprehensive diagnosis and description of the full range of pelvic injuries related to prolonged obstructed labour, in order to exclude clients with injuries unsuitable for conservative treatment, such as ureteric fistula. In addition, although catheter management could be attempted for fistulas of any size, it is unlikely that clients with complete loss of urethra would benefit from catheter treatment alone and should probably proceed directly for surgical repair. It is further assumed that providers at specialized fistula facilities will be competent and knowledgeable to:
 - Completely and safely debride necrotic tissue
 - Detect signs of local sepsis
 - Assess a client's fitness for surgery when fistula repair is indicated
 - Assess a client's need for preoperative nutritional supplementation and other needs to improve wound healing.

- **Post-catheterization management:** Clients are managed conservatively in a centre without fistula repair capability, with indwelling urethral catheter for four weeks; the treatment is deemed successful if the client becomes continent after catheter removal and can be discharged from care. On the other hand, the treatment is considered to have failed if the catheter is observed to be in the vagina or is not draining urine or the client continues to leak urine after catheter removal at four weeks. At this point, the client is referred for further assessment at a specialized repair facility. In contrast, at a specialized fistula repair facility, when conservative treatment fails, the client proceeds directly for surgical repair.

3.2 Entry Criteria

The treatment pathway described assumes that the provider is skilled in the safe insertion of an indwelling urethral catheter and that the client is presenting within four weeks of the index labour or four weeks of injury for traumatic fistula. The approach should be explained to the client and her consent should be obtained for treatment. The client should also be evaluated for other conditions requiring medical or surgical care.

The pathway does not distinguish between urinary fistula of different sizes or locations; all bladder fistulae are treated the same way in this protocol.

The treatment pathway is not for treatment of other forms of incontinence, such as fistula resulting from pelvic malignancy, radiation therapy, or infection (such as lymphogranuloma venereum). This pathway is not for women suffering from incontinence after a failed attempt at fistula repair or fistula between the ureter and vagina. Misdiagnosis could lead to a dangerous delay in treatment.

This pathway is not intended to treat recto-vaginal fistula, which must be considered a separate clinical entity. Women with both recto-vaginal and vesico-vaginal fistulas could be treated according to the urinary fistula pathway while being referred for definitive care for the rectal injury.

The diagnostic criteria for urinary fistula at facilities without specialized fistula services¹⁹ include the following:

3.2.1 History of:

- a. Continuous leakage of urine, 24 hours per day, no matter what activity she might be engaged in
- b. Onset of urinary incontinence occurring following a history of prolonged labour and delivery or immediately after pelvic trauma (for example, pelvic surgery)

3.2.2 Physical Examination:

- a. Direct observation of urine draining through the vagina or cervix
- b. Optional findings of a defect in the anterior vaginal wall leading to the bladder by observation or palpation

While the protocol specifies that the client should begin treatment within four weeks of her labour, it should be emphasized that treatment should begin as soon as possible. If a woman is seen with a provisional diagnosis of vesico-vaginal fistula even within a day or two of labour, treatment according to the pathway should begin immediately.

For the purposes of this pathway, no other tests or treatments are required. No routine laboratory studies or any other clinical tests, including a dye test or routine medical treatments, are necessary prior to commencing treatment. Antibiotics should only be used for other concomitant medical indications. Perineal baths may be helpful but are not required. Debridement of slough should be performed only at a facility with fistula surgical treatment capability.

Once a woman has been diagnosed with fistula and if she does not have any of the conditions that would exclude her treatment, a catheter should be inserted using sterile technique and according to the standard guidelines for catheter insertion (Figure 2). The catheter should be a standard Foley-type, with a balloon for retention of the device in the bladder. We recommend that the balloon be inflated with 10 millilitre of sterile water. Generally, a catheter size of 16 or 18 French is ideal, but other sizes, larger or smaller, could be used if 16 or 18 French catheters are not available.

Once the catheter is inserted, a quick check should be performed to confirm that the catheter balloon is within the bladder and not inside the vagina. If the catheter balloon passes directly out of the bladder via the fistula and into the vagina, the client should be excluded from the pathway, the catheter removed, and the client referred for definitive therapy at a facility with the capability to treat fistula.

Once in place, the catheter should be managed with an “open drainage” system—that is, with an open-ended tube leading from the catheter to a small pot or other receptacle, which should be washed daily.

Two important ancillary measures should be commenced after catheter insertion: mobilization of the client and high fluid intake. She should be actively encouraged to walk around and engage in as many activities of normal daily living as possible while the treatment is in effect. Inactivity leads to increased risk of pulmonary complication, metabolic compromise, orthopaedic contractures, pressure sores and many other potential problems. The client should be encouraged to drink about 5 litres of water per day (but not more than 5 litres). Locally, this is described as 10 pieces of sachet “pure” water per day.

Figure 2. Treatment Pathway: Conservative Treatment of Vesico-Vaginal Fistula (VVF) By Urethral Catheterization

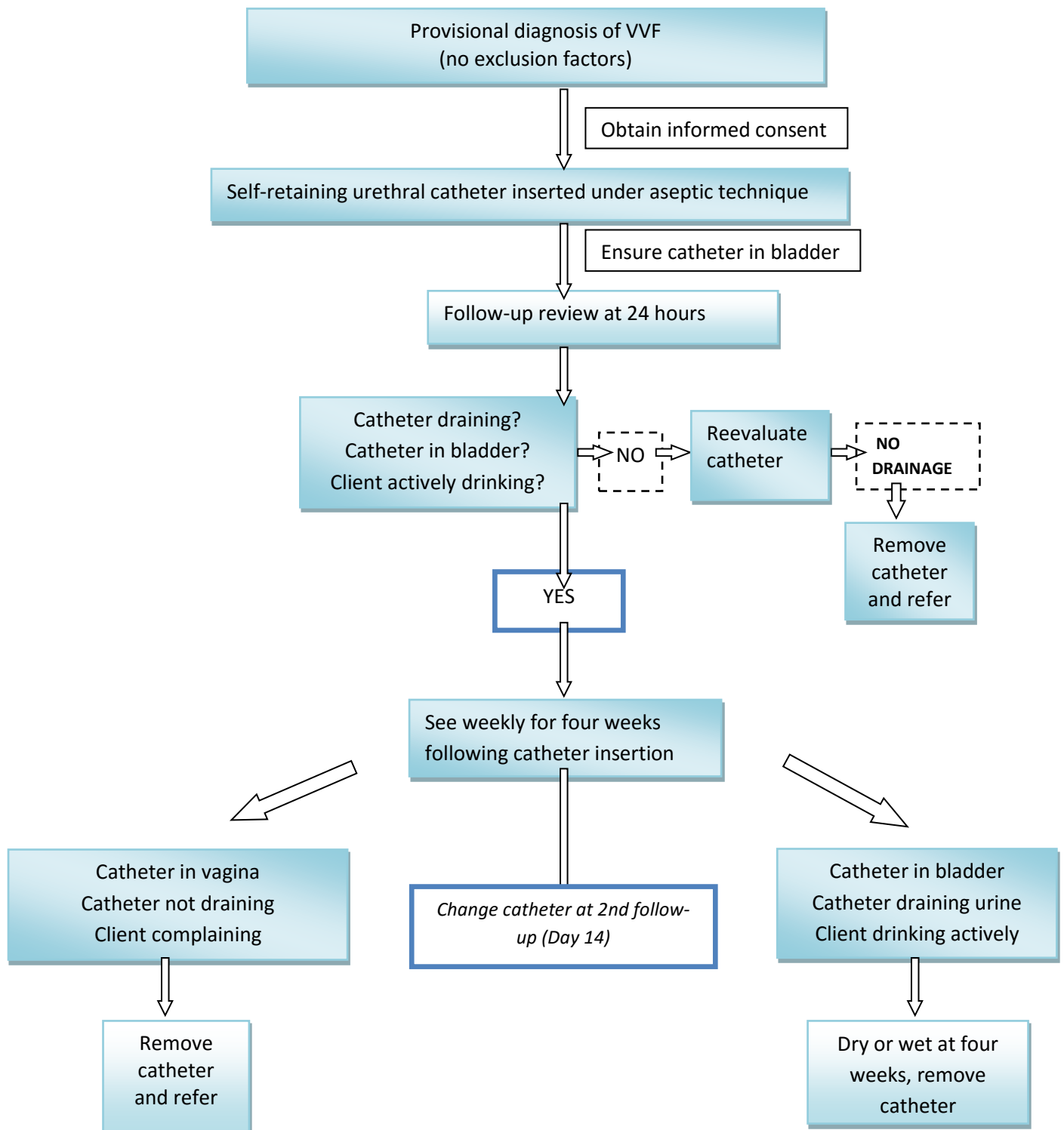
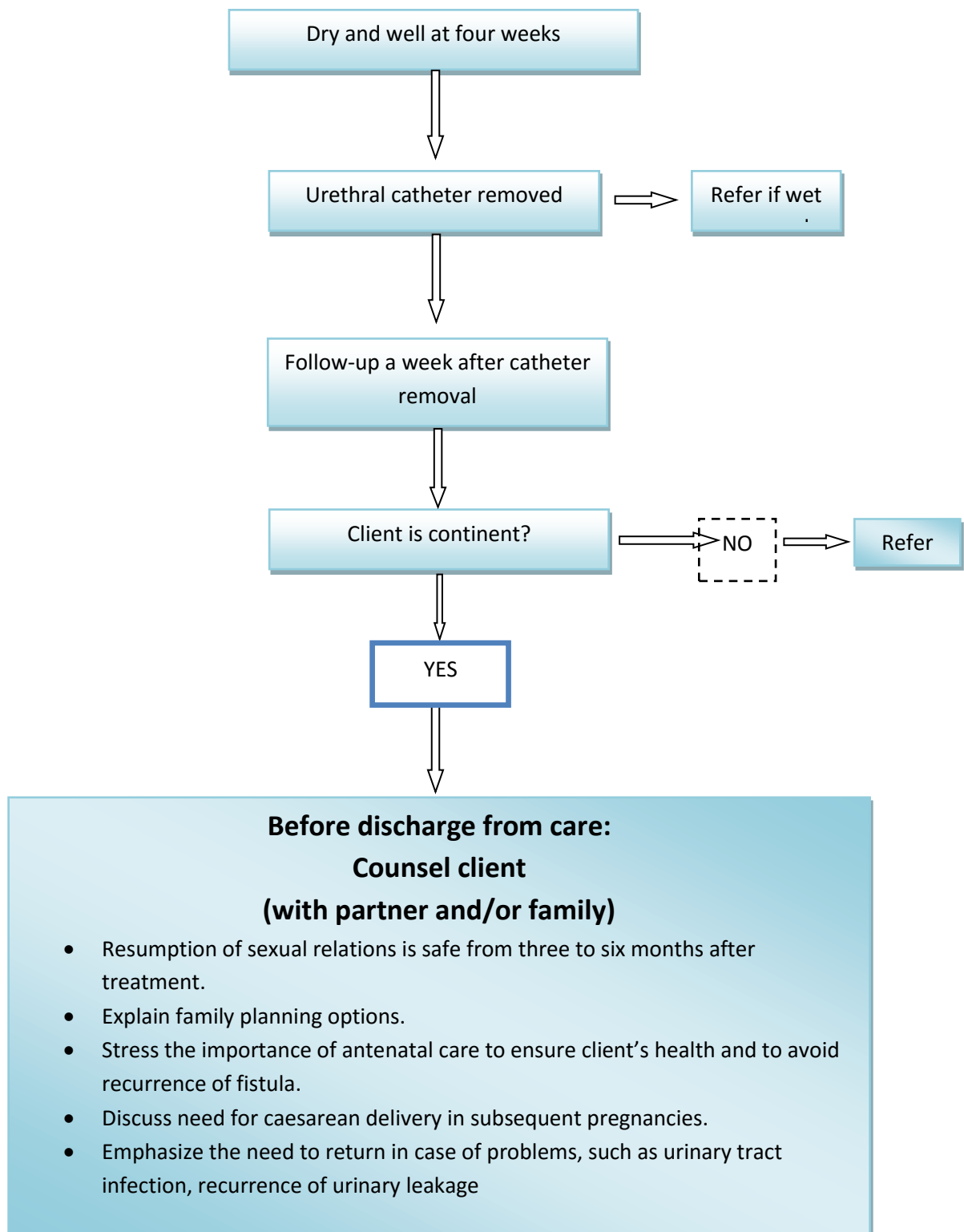


Figure 3: Follow-up of clients after conservative treatment with urinary catheterization



3.2.3 Review of First Steps in Treatment Pathway

The initial steps in the pathway for conservative treatment of fistula are as follows:

- A provisional diagnosis of vesico-vaginal fistula of under four weeks' duration is made.
- The client is checked for exclusionary conditions (fistula from infection, radiation, malignancy; persistent fistula despite previous attempt at repair; ureteric fistula).
- An appropriate-sized Foley catheter is inserted.
- A quick check is made to confirm the position of the catheter within the bladder.
- A system of open catheter drainage is instituted.
- The client is carefully instructed to drink 5 litres of water (and not more) per day and to remain physically active.

Twenty-four hours after the catheter is first inserted, a quick check is carried out to confirm the following:

1. The catheter balloon is lying in the bladder, not the vagina.
2. Urine is draining via the catheter.
3. The client understands and is complying with instructions to drink 5 litres of fluid per day and remain physically active.

From this point, the client is seen at weekly intervals, and at each of these follow-up visits (as an inpatient or outpatient), a quick check is carried out to ensure the following:

1. The catheter balloon is lying in the bladder, not the vagina.
2. Urine is draining via the catheter.
3. The urethral catheter is changed at two weeks to reduce the risk of infection.
4. The client understands and is complying with instructions to drink 5 litres of fluid per day and is physically active.

These evaluations do not require repeated vaginal examinations, other than to check the position of the catheter when it is not draining.

Conservative management is considered to have failed at any point during the treatment period if the catheter will not reside in the bladder and is found in the vagina, if no urine drains from the catheter, or if the client is not complying with instructions to remain physically active and drinking 5 litres of fluid per day. In any of these findings, the catheter should be removed and the client referred to a centre with fistula treatment capability.

At the fourth follow-up visit, the catheter is removed (whether the client is wet or dry). If the client is still leaking urine at presentation, four weeks after insertion of the indwelling urethral Foley catheter, the catheter is removed and the client is referred to a centre with fistula surgical capability. If she is dry with the catheter at the fourth-week visit, the catheter is removed.

A final follow-up visit takes place one week after the catheter is removed. If the woman is incontinent at this visit, she is referred to a facility with fistula repair capability for further management. If she is dry and continent at this visit one week after catheter removal, the fistula is considered to be successfully closed. Once again, the evidence so far is that the likelihood of the woman who is appropriately managed reaching this endpoint is about 25%.

It is critical that this last follow-up visit be used as an opportunity to educate the client. She should be advised that early resumption of sexual activity may be harmful to the healing area of the bladder and vagina and that sexual activity should be deferred for three to six months after successful treatment of her fistula. The woman and her partner should be counselled on available options for family planning and child spacing, at three months after discharge to enable her recover properly, and should be advised to wait for at least one year before attempting another pregnancy. Just like clients who undergo successful fistula surgery, women whose fistulas are healed via catheterization should be instructed that any subsequent delivery must be by elective caesarean section. Counselling for the client and her family should stress the importance of antenatal care to ensure her health and should explain the need for elective caesarean section in any subsequent pregnancy. To create opportunities for learning, all facilities using this protocol should keep a record of the following:

1. The number of women with fistula treated with this protocol
2. The number of women treated with this protocol who became dry at the final follow-up (five weeks after the beginning of treatment)
3. The number of women who exited the protocol and were successfully referred to a facility with fistula surgical capability

The same conservative treatment pathway extends to settings with specialized fistula services. This could take place at a freestanding fistula centre, a small district-level facility, a fistula unit within a larger general hospital or the national fistula centres. The main criteria for a facility offering specialized fistula care services include:

1. A trained fistula surgeon
2. Nurses with specific training and experience in preoperative and postoperative care of fistula clients
3. Basic consumables for fistula care
4. Options for safe anaesthesia

3.3 Summary

This pathway is proposed to help standardize an approach for the conservative treatment of fistula. If providers everywhere were to adopt these recommendations, it would ensure uniformity across sites, so that the true efficacy and reproducibility of these practices can be assessed. In this way, more evidence on best-practice guidelines in the care of fistula clients will be harnessed. The guidelines proposed here do not exclude other methods of managing “fresh fistula”. Rather, the expectation is that the fistula community at large will adopt this consensus view for the sake of consistency, simplicity, wider reach and comparability of data.

4.0 BARRIERS TO IMPLEMENTATION

In addition to the paucity of evidence, participants in the 2013 Fistula Care meeting also identified a number of major barriers to implementing these recommendations in Nigeria and other low-resource settings:

4.1 Household / community impediments

- 4.1.1 Poor health-seeking behaviour
- 4.1.2 Clients' lack of awareness about labour complications
- 4.1.3 Lack of girl child education
- 4.1.4 Cultural and socioeconomic barriers

4.2 Poor access to health care services

- 4.2.1 Inefficient emergency referral systems
- 4.2.2 Transportation difficulties
- 4.2.3 Difficult geographical terrain
- 4.2.4 Limited availability of 24-hour EmONC services
- 4.2.5 Limited use of the partograph to identify prolonged labour
- 4.2.6 High cost of services to clients
- 4.2.7 Limited supplies for urethral catheterization
- 4.2.8 Insecurity

4.3 Nonacceptability of prolonged use of catheter

- 4.3.1 By the client
- 4.3.2 By the husband
- 4.3.3 By the community

4.4 Human resources for health

- 4.4.1 Resistance to change by health care providers
- 4.4.2 Inadequate numbers of health care providers
- 4.4.3 Limited skill for catheterization
- 4.4.4 Recurrent industrial strikes by health care workers

4.5 Governance and leadership

- 4.4.5 Inadequate funding of facilities
- 4.4.6 Poor incentives for workers in rural areas
- 4.4.7 Inadequate policies

5.0 RECOMMENDATIONS

5.1 Address household and community barriers

- 5.1.1 Community sensitization and awareness creation
- 5.1.2 Engagement of community gatekeepers such as religious, traditional and women leaders
- 5.1.3 Male involvement
- 5.1.4 Women's education and empowerment
- 5.1.5 Gender equity

5.2 Improve access to health care services

- 5.2.1 Improvement of referral mechanisms
- 5.2.2 Provision of functional ambulance services
- 5.2.3 Strengthening of health facilities to provide CEmONC
- 5.2.4 Regular supply of consumables, including partographs
- 5.2.5 Health insurance and safety nets for the less privileged
- 5.2.6 Improvement of security in the country

5.3 Human resources for health

- 5.3.1 Training/retraining and supportive supervision on use of the partograph
- 5.3.2 Preservice and in-service training of health care workers on use of the catheter
- 5.3.3 Preservice and in-service training of health care workers on EmONC
- 5.3.4 Provision of incentives and other motivators for health care providers working in rural areas
- 5.3.5 Improvement of health care worker recruitment and retention

5.4 Governance and leadership

- 5.4.1 Improved funding for health facilities
- 5.4.2 Continuous advocacy to government at all levels
- 5.4.3 Review and implementation of relevant policies
- 5.4.4 Incorporation of the guideline on the use of catheter into the curriculum of training institutions
- 5.4.5 Recommendation that this guideline be implemented at all levels of health care, especially primary health care

6.0 CONCLUSION

The concept of urethral catheterization for prevention and conservative treatment of vesico-vaginal fistula arising from obstetric causes is based on evidence and experience of national and international experts and development partners. This concept has a strong potential for taking Nigeria's fistula control effort to the next level. There should be adequate awareness on the use of catheter for the prevention and treatment of fresh fistula cases. There is a need for an urgent dissemination and implementation of this guideline, to reduce the prevalence of obstetric fistula in Nigeria. Documentation on use of the catheter is also encouraged, so as to monitor progress made and build evidence to strengthen the services.

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8.0 APPENDIX

Guidelines on Urinary Catheterization to Prevent Obstetric Fistula

Inclusion criteria	<ul style="list-style-type: none"> History of prolonged labour over 18 hours or crossing of the partograph “action line” History of obstructed labour History of assisted vaginal delivery or caesarean section 	
Exclusion criteria	<ul style="list-style-type: none"> Client refusal of treatment after appropriate counselling Fistula from other causes such as pelvic malignancy, radiation therapy, infection, etc. 	
Responsibility for catheter insertion and management	Insertion, management, assessment of progress and removal may be performed in the community (including at home), at BEmONC or CEmONC facility by a trained provider, clinically competent and authorized to insert and manage urethral catheter.	
	HOME/BEmONC FACILITY	CEmONC FACILITY
Management protocol	<ul style="list-style-type: none"> Use partograph to monitor labour Encourage regular voiding (every two hours) Record on partograph frequency of emptying the bladder Detect prolonged or obstructed labour early Insert Foley catheter (size 16-18) at home/primary health care facility by a competent provider prior to referral Refer to CEmONC facility 	<ul style="list-style-type: none"> Use partograph to monitor labour Encourage regular voiding (every two hours) Record on partograph frequency of emptying the bladder. Insert Foley catheter prior to assisted delivery or caesarean section Follow protocol immediately after delivery for all women with history of prolonged or obstructed labour
Observations while catheter is in situ	<p>The following observations should be made every four hours for 24 hours postnatally and then daily for 14 days:</p> <ul style="list-style-type: none"> Haematuria Cloudy or purulent urine Urine output 	
Ancillary treatment	<ul style="list-style-type: none"> Antibiotics only if clinically indicated for infection High fluid intake regime: No more than 5L per day 	

Prior to catheter removal	<ul style="list-style-type: none"> • Perform pelvic examination. • Retain catheter if there is clinical suspicion of fistula and refer to facility with fistula expertise.
Pre-discharge counselling	<ul style="list-style-type: none"> • Counsel client to return immediately to the facility in case of urine leakage. • Provide family planning counselling for contraception and birth spacing.
Follow-up	Fit into postnatal visit schedule, based on national policy.
Recommended programme indicators	<ul style="list-style-type: none"> • Availability of protocol at all facilities • Number of providers trained and competent in partograph use and in catheter insertion and management • Number of women in prolonged or obstructed labour who were catheterized according to protocol, compared with number of women admitted with prolonged or obstructed labour who were also catheterized according to protocol • Establishment of routine clinical audit process at all facilities for women who have experienced prolonged or obstructed labour, and frequency of clinical audit
Implementation challenges	<ul style="list-style-type: none"> • Many women present late in labour, limiting effectiveness of facility-based labour monitoring and decision making. • Major system challenges to implementation include insufficient skilled staff, resources, logistics, bed space, and supplies.