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Obstetric Fistula Community Based Assessment Tool (OF-COMBAT)

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Abstract: **Obstetric fistula is a childbirth injury associated with prolonged obstructed labour and is characterized by continuous leakage of urine and/or stool through the birth canal. Women living with fistula are often neglected by their spouse and family and many are ostracized by their community because of the smell and the myths associated with the condition. Women living with fistula often live in remote areas with weak health systems, making physical screening of all potential cases costly and logistically challenging. OF-COMBAT is an enhanced verbal screening tool that was developed to overcome this limitation. The tool was designed to minimize the number of clients referred to treatment centres with conditions other than obstetric fistula. OF-COMBAT helps health facilities to minimize the screening resources required and improves efficiency and cost-effectiveness of fistula programs by limiting transport and logistics costs for ineligible clients. Importantly, the tool enables the woman to receive a tentative diagnosis within the comfort of her home or community before she travels a very long distance, only to at times be turned back because her condition may not be covered through charitable fistula programs. OF-COMBAT is best used by a community outreach worker who has received basic training on verbal screening for fistula. The outreach worker is encouraged to listen to the client's story before he/she takes the client through the set of up to 27 questions, depending on the type of injury described by the client. The responses are then tallied and rated on the given scale to provide a tentative diagnosis. The OF-COMBAT is unique in that in utilizes a set of confirmatory questions in order to improve the rates of correctly diagnosing a fistula case. The tool is currently being piloted in Kenya with five outreach organizations implementing the Action On Fistula Project In about 23 counties.**

Keywords: **Community based assessment, community screening, verbal screening, OF-COMBAT, fistula causes and effects, fistula clinical presentation, fistula screening framework, obstetric fistula.**

1. INTRODUCTION

A fistula is an abnormal opening connecting two body organs. Obstetric fistula is a childbirth injury associated with prolonged obstructed labour and is characterized by continuous leakage of urine and/or faeces through the vagina. Women who live with fistula are often neglected by their spouse and family and ostracized by their community. Women living fistula can find it challenging to open up about their situation that makes it more difficult for them to access care and treatment.

It's estimated that 2 million women are living with fistula around the world, with Only 10,000 being able to access and receive treatment. (UNFPA 2010). Majority of fistula cases are from sub Saharan Africa and Asia. With 100,000 new cases of fistula emerging every year, the number of treated cases is equivalent to a tenth of the new fistula cases that occur annually (UNFPA, 2010).

Kenya is estimated to have 3,000 new fistula cases every year with a national treatment capacity of 1000 clients per year (UNFPA 2014). This number has since slightly increased with the presence of new fistula partners in the country. Though the gap in this treatment capacity may be a major contributor to the back log of fistula clients, we cannot underestimate the challenge of having effective outreaches that can support the identification of this women from the community.

Despite the efforts from various organizations to support and treat fistula clients, client identification from the community remains a challenge. The stigma associated with fistula, lack of awareness, and other health conditions that present with similar symptoms, all contribute to low numbers of women coming out to ask for support. The obstetric fistula community based assessment tool (OF-COMBAT) was developed to improve the quality of community initiatives by increasing the number of clients being identified and referred for treatment as well as reduce the number of those being referred to fistula treatment networks with other medical conditions. Physical screening for all clients at the community level is logistically challenging, costly, and not practical. In some cases is also not accurate given the low awareness and training on fistula even among qualified health service providers.

The development of OF-COMBAT included determining the purpose of assessment, reviewing literature related to the causes and symptoms of fistula, developing the framework of assessment, and setting the test item. The validity and reliability of the test items was tested by through both test retest and split half and a correlation coefficience of .7 was considered as being reliable. A blueprint of the tool was developed and a clinical trial involving 153 potential fistula clients was carried out in western Kenya. All of the 153 clients were identified through community outreach organizations implementing fistula programs in the region, and were informed on the need to undergo the screening before being referred to fistula treatment centres for further management. All of them signed an informed consent form prior to the exercise. The 153 potential fistula clients were assessed using the OF-COMBAT tool. Immediately following the verbal screening the clients were screened physically for fistula by a qualified health provider with three years of experience in fistula screening.

The results from the screening of 153 women included eight false positives and two false negatives, indicating that the tool is more fistula sensitive than it is specific. OF-COMBAT therefore attempts to capture as many indications of fistula as possible and is unlikely to wrongly leave out fistula clients if well used. It is preferable for a community assessment tool to be more sensitive than specific. 'I will be more worried if the community screening becomes 100% positive as chances will be that some clients are being left out and thus missing the opportunity to access treatment' (Arrowsmith ,2015)

2. OVERVIEW OF OF-COMBAT

OF-COMBAT is an enhanced verbal screening tool, made up of 27 questions, grouped into four categories with six sections, based on the screening framework: Part IA/B clinical presentation of Vesico-vaginal Fistula (VVF), Part IIA/B clinical presentation of Recto-vaginal Fistula (RVF) and fourth degree tears, Part III the causes of obstetric fistula and Part IV the interval between the cause and the effect.

The tool is to be administered by a community outreach worker with basic training on verbal screening. The outreach worker is expected to listen to the client's story prior to administering the test. He or she should be in position to gauge whether to focus the screening on VVF, RVF or both depending on the client's story. The screening for VVF and RVF should be completed and scored separately. Part I, III and IV will be administered to potential VVF clients whereas Part II III and IV will be administered to those suspected to have RVF. Clients who are suspected to have both VVF and RVF will be screened for both conditions administering the VVF test followed by the RVF test, scoring each test separately.

The screening process entails asking the client specific questions and giving them an option of agreeing or disagreeing with it. The OF-COMBAT is unique in that in utilizes a set of confirmatory questions in order to improve the rates of correctly diagnosing a fistula case. A set of questions in Part IB and IIB have been included to validate the presenting signs and symptoms as explained by the client in Part IA and IIA. Any yes response in Part B counters the yes in Part A, making it invalid. All the invalid responses should be rephrased for the client or subtracted from the final score that will be used to give the tentative diagnosis. Further instructions for administering the screening and the scoring of the responses is provided in detail on the tool itself.

It is important to note that the diagnosis obtained from the screening tool is tentative and can only be confirmed through a dye test or any other facility based diagnosis. It's important to let the client know that a positive verbal screening does not always guarantee the presence of obstetric fistula and in turn treatment. If there are more than four invalid responses during the screening the community outreach worker is advised to repeat the process.

The Purpose of OF-COMBAT:

OF-COMBAT is aimed at identifying potential fistula clients at the community level. This will help increase access to care and treatment for the fistula clients, enhance program effectiveness though reduced physical screening resources and client's transport costs, and will help managing client's expectations.

Clinical utility

The primary role for OF-COMBAT is to tentatively diagnose obstetric fistula at the community level. The tool is however able to give an indication of the presence of other forms of incontinence that require further investigation and appropriate referrals.

3. THE FRAMEWORK OF OBSTETRIC FISTULA VERBAL SCREENING

The framework of obstetric fistula verbal screening is based on the signs and symptoms of the condition, the causes, and the interval between the cause and effect, as follows:

i. Part IA/B: Clinical presentation of Vesico-vaginal Fistula (VVF)

Continuous leakage of urine day and night is the primary symptom of VVF however comes with other forms of comorbidities (Arrowsmith,1996). OF-COMBAT recognises the presence of this comorbidities and uses the as cue, however it focuses on the continuous leakage of Urine to Narrow down to the VVF.

ii. **Part IIA/B Clinical presentation of Recto-vaginal Fistula (RVF) and fourth degree tears**

Complains associated to RVF range from the occasional passage of vaginal flatus to the discharge of faeces through the vagina (Meeks G *Gafar M. Glob. Libr. Women's med.*, 2012) in this case we are looking at any indication of passage of stool /faeces via the birth canal and passage of gas via the birth canal accompanied by particles of stool.

iii. Part III: Causes of obstetric fistula

Obstetric fistula is usually caused by childbirth as a result of pronged obstruction of labour when the pressure from the emerging foetus presses on the pelvic walls cutting the blood flow in the region (Mohamed $Boctor 2008). VVF can also result from violent rape and other forms of trauma hence causing the traumatic fistula. (Yeakey *et al*, 2009). 97% of fistula in developing countries is caused by prolonged obstruction of labour (Wall and Lancet 2006, UNFPA 2007)

iv. Part IV: The interval between the cause and the effect:

Maternal mortality is the number woman who due from pregnancy related complication while pregnant or within 42 days of termination of the pregnancy irrespective of the duration or cause. (WHO 2015)Obstetric fistula is a child birth injury hence one of the maternal complications that often occurs within six weeks of delivery with the majority of signs and symptoms happening within the first three days and very few after two months.

4. CONCLUSION

Identification of obstetric fistula clients at the community level has remained one of the greatest challenges for fistula program implementation**.** OF-COMBAT aims at facilitating this process in a cost-effective way by reducing the cost of physical screening for clients who are not likely to have fistula as well as saving the cost of transport for referring non fistula clients to the health facilities. From a programmatic perspective it is discouraging for the clients if they get to the facility and are sent back home if they have other conditions that are not fistula related. The women can lose confidence in the project and may discourage other fistula clients from seeking treatment.

OF-COMBAT focuses on three critical areas to help determine whether the client is likely or unlikely to have obstetric fistula. Namely, the clinical presentation of the client's conditions, the causes of the clinical presentation, and the interval between the cause and the effect.

The effectiveness of OF-COMBAT is influenced by the ability of the person administering the tool to accurately translate and frame the questions in an understandable, culturally acceptable manner and their ability to identify inconsistencies in the client's story and ask more direct questions. The level of rapport formed between the client and the screening person determines the ability of the client to overcome their fears and anxiety, trust and open up to with honesty. This is critical

in getting the right responses during the assessment. The tentative diagnosis given from this tool should not be taken as actual diagnosis for fistula until a confirmatory physical screening by a competent clinician has been done. Rather, it is tool that is designed to the number of client being referred to fistula treatment centres with other medical condition hence increasing the cost of the project as well as demoralizing the clients.

5. DISCLAIMER

Please note: OF-COMBAT is only for tentative diagnosis of obstetric fistula. By accepting to use OF-COMBAT for verbal screening you acknowledge that this is a screening tool and is not a diagnostic instrument. It should only be used if you have a clear understanding of obstetric fistula, the community you are screening and can translate and rephrase the questions in a culturally acceptable way. You are encouraged to refer the positive client for a confirmatory physical screening before ascertaining the diagnosis.

ACKNOWLEDGEMENT

This document is a product of many years of practical experience working with different communities to identify fistula clients in East Africa. We must appreciate several champions in the fight against fistula and advocates in Kenya and other parts of the world. Most of them have been a great resource and have played a major role in the developing this tool by sharing their community experiences with fistula clients. In particular we acknowledge the WADADIA staff and volunteers for their dedication and commitment in supporting the fistula clients and for documenting their experiences with each client. Dr. Hillary Mabeya for being there to give insight into challenges with clinical presentation for the different clients, Dr. John Samson Oteyo for his support with statistical analysis of the reliability and development of the scoring scales, Edward Munyendo for helping with the graphs and edits of the tool, and Dr. Steve Arrowsmith for reviewing this document and contributing knowledge from his many years of clinical experience working with fistula clients.

We also have many thanks for One By One's Lets End Fistula Project for sponsoring a physical screening exercise during which the tool was piloted and tested, The Fistula Foundation for supporting WADADIA staff and volunteers in the community outreach aimed at identifying the fistula clients, and Astellas Pharma EMEA for funding the Action On Fistula project in Kenya which is a vital project in the implementation of this tool.

This will not be complete without the continued support from our family and friends who have always been there to give us the emotional support we needed in the process of this work.

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APPENDICES

Appendix 1: OF-COMBAT Questionnaire and Scoring

OF-COMBAT Questionnaire and Scoring

Reliability

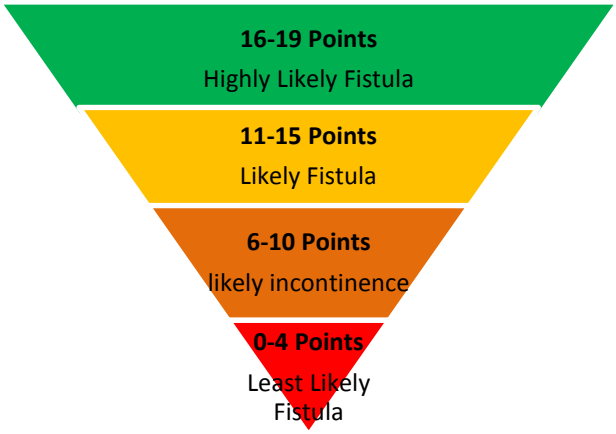
Split half reliability: *.72 to .86* Test retest reliability: *.79 to .93*

Test Scoring

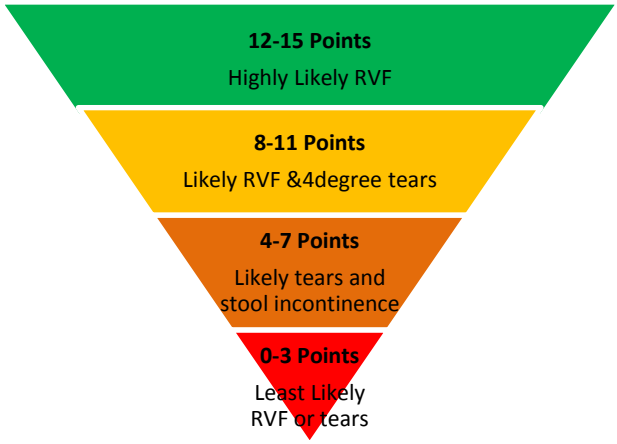
Part I: Use this Section for Suspected VVF Cases

→ SKIP THIS SECTION if client does not describe leakage of urine and proceed to PART II.

VVF scores



RVF scores



Part IA: Signs and symptoms (VVF). Instructions: For each question answered "Yes" score one (1) point. For each question answered "No" score zero (0) points.

	Yes (1)	No (0)
1. Do you continuously leak urine via your birth canal?		
2. Does the urine leak without you feeling it?		
3. Do you often find yourself wet with urine most if not all the time irrespective of where you are and what you are doing?		
4. Does the urine pass /leak on your bed while you are asleep most nights?		
5. Does the urine pass even when it's not provoked by anything?		
6. Do you need to use diapers and/or protective clothes to prevent being wet with the leakage?		
Total Points Section IA:		

Part IB: Validation Questions: (VVF). Instructions: For each question answered "Yes" score zero (0) points. For each question answered "No" score one (1) points.*

	Yes (0)	No (1)
1. Are there days or times that you are dry and not wet with urine?		
2. Do you ever have the urge to pass urine?		
3. Do you ever go to the bathroom/ washroom to pass urine?		
4. Do you wake up to pass urine at night/Are you able to get out of your bed to pass urine at night?		
5. Does urine leak when you cough or lift something?		

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6. Can you go on with your work or leave the house without any diapers and/or protective clothing but still don't wet yourself?		
Total Points Section IIB:		

**Scoring note: When the respondent answers the same numeric question in Part A and B with identical response, the question becomes void and should be eliminated from the scoring. E.g., if the respondent answers 'yes' to question 1 in Part IA and 'yes' to question 1 in Part IB you should eliminate this question from the scoring for Section 1A.*

PART II: Use this section for Suspected RVF or perineal tear

→ SKIP THIS SECTION if client does not report leakage of stool and proceed to SECTION III.

Part IIA: Signs and Symptoms (RVF or perennial tear)

Instructions: For each question answered "Yes" score one (1) point. For each question answered "No" score zero (0) points.

	Yes (1)	No (0)
1. Do you pass stool via your birth canal?		
2. Do you pass gas with particles of stool via your birth canal?		
3. Do you have a visible tear between your vagina and your anal opening or connecting the two openings?		
4. Do you have stool incontinence that more often soils your birth canal?		
Total Points Section IIA:		

Part IIB: Validation Questions: (RVF or perineal tear)

Instructions: For each question answered "Yes" score zero (0) points. For each question answered "No" score one (1) points.

	Yes (0)	No (1)
1. Do you pass stool in the normal way without any problems?		
2. Do you pass gas well via your anal opening and your under pants always clean with no stool?		
3. Did you heal well after delivery and have discomfort, tears or injury around your birth canal or anal opening?		
4. When you having loss stool, Are you able get to the toilet and the stool comes out of your anal opening with not problem?		
Total Points Section IIB:		

**Scoring note: When the respondent answers the same numeric question in Part A and B with identical response, the question becomes void and should be eliminated from the scoring. E.g. if the respondent answers 'yes' to question 1 in Part IIA and 'yes' to question 1 in Part IIB you should subtract this question from the scoring for Section IIA.*

PART III and PART IV: Use for BOTH Suspected VVF and RVF Cases

Part III: Causes of the obstetric fistula. Instructions: For each question answered "Yes" score one (1) point. For each question answered "No" score zero (0) points.

	Yes (1)	No (0)
1. Did you start leaking urine after delivery or Caesarean Section?		
2. Were you in labour for more than 48 hours?		
3. Did you deliver at home?		
4. Did you go to the health facility after more than 24 hours in labour?		
Total Points Section III:		

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Part IV: The interval between the cause and effect

	Yes (1)	No (0)
1. Did the leaking start immediately after delivery?		
2. Did the leaking start within six weeks of delivery?		
3. Did the leaking start immediately after the catheter removal?		
Total Points Section IV:		

Final Scoring

Scoring VVF (Part I, III, IV)	
Section IA + IB (Max 12 points)	
Section III (Max 4 points)	
Section IV (Max 3 points)	
Total VVF Score (Max 19 points)	

Scoring RVF (Part II, III, IV)	
Section IIA + IIB (Max 8 points)	
Section III (Max 4 points)	
Section IV (Max 3 points)	
Total RVF Score (Max 15 points)	