

## PEER REVIEW HISTORY

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### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Factors associated with the awareness of vaginal fistula among women of reproductive age: Findings from the 2018 Nigerian Demographic Health Cross-sectional Survey
<b>AUTHORS</b>	Morhason-Bello, Imran; Kareem, Yusuf; Abdus-Salam, Rukiyat; Bello, Oluwasomidoyin; Lawal, Olatunji; Akinlusi, Fatimat; Abegunde, Linda; Ojengbede, Oladosu

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Temitope O Okunola Ekiti State University, Ado-Ekiti
<b>REVIEW RETURNED</b>	11-Jun-2020

<b>GENERAL COMMENTS</b>	<p>1.Out of the 14 item questions in the fistula section, the first question asked if a woman had ever experienced a constant leakage of urine or stool from vagina during the day or night, which we defined as vaginal fistula- How does this question differentiate fistula from non-fistulous urinary incontinence</p> <p>2.The question on ever heard of leakage of urine or stool per vaginam (vaginal fistula) was used- how does this question differentiate between fistula and non fistulous urinary or feecal incontinence</p> <p>3. Which statistical test was used to obtain the p value in Table 2 How do you intend to transmit the shortfalls of the fistula section of NDHS 2018 to DHS program in order to ensure improvements in subsequent surveys</p>
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<b>REVIEWER</b>	Ileogben Sunday-Adeoye National Obstetric Fistula Centre, Abakaliki, Ebonyi State, Nigeria
<b>REVIEW RETURNED</b>	13-Jun-2020

<b>GENERAL COMMENTS</b>	<p>NOTE</p> <p>Minor corrections suggested for consideration by the authors The sections of the manuscript, pages and line numbers of aspects of sentences in consideration, some suggested areas for corrections are highlighted, and sometimes underlined. In some instances, the actual sentence was included or part of the sentence that would require some editing or revision. The suggested corrections or modifications are highlighted as comments immediately below each observation. The authors may consider the suggestions.</p> <p>Abstract Section 1)Page 3 LINE 1</p>
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	<p>Comment  Involuntary leakage of urine and or stool (vaginal fistula). Definition is incomplete. Authors ought to include the route of leakage of effluent for completeness of sentence ie vaginal. There could also be involuntary leakage of urine through the urethral and such patients are not included in the study population. Authors should be precise in their definition</p> <p>2) Line 4  “To determine the prevalence of awareness of urinary/faecal incontinence”</p> <p>Comment  This sentence is not precise as to the actual prevalence been evaluated, ie all types of incontinence? Is the prevalence of awareness of women with all types of incontinence been evaluated as suggested by the statement or only those with incontinence following vaginal fistula? Thus sentence does not define clearly the objective of the study. Authors may consider revising this sentence and provide more clarity.</p> <p>Results Section  3) Line 29/30  "There were significant differences in sociodemographic, access to information and reproductive or sexual history factors"</p> <p>Comment  Authors consider revising the statement</p> <p>Introduction  Page 4,  4) line 41  “delay in seeking appropriate medical help”</p> <p>Comment  I suggest the authors consider revising sentence to “delay in decision to seek appropriate medical help”  In the literature, the first level delay is in “decision to seek medical help” and this should be clearly reflected.</p> <p>5) Line 46  "Recently, the three delay models were modified and recategorized into four levels".  I suggest the authors consider rephrasing this sentence.  Indeed, Thaddeus and Maine identified recognition of danger signs as the initial step to accessing health care by women with obstetric complication, it was not established as a definite phase in the model for delay in the article cited</p> <p>Page 5  6) Line 26  Evidence abounds</p> <p>Comment  Authors may consider revising to “Evidence abound”</p> <p>Page 9  Results  7) Line 36-44  Only 50 patients were said to have vaginal fistula  Two patients developed fistula following sexual assault</p> <p>Comment  These should bring the total number of patients with vaginal fistula irrespective of the etiology to 52 and not 50 as stated in preceding page 7 line 25-27 and page 9 line 37. Authors should reconcile this inconsistency.</p> <p>8) Line 44 – 46</p>
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	<p>“The reported median duration from the time of injury to leakage of urine or stool was a day with a range of 1.0 to 5.0 days”. Leakage of urine following prolonged obstructed labour usually does not occur within a day of injury. This is usually the pattern associated with fistula arising from iatrogenic or traumatic etiology including sexual assault. Comment Though admittedly, secondary data with its limitation is used for this study, authors should provide some clarification for this.</p> <p>Page 15 9) Line 9 and 10 “the odds of ever heard of fistula by participants was associated with demographic factors” Line 50 "The odds of ever heard of fistula by the participants" Comment Authors to consider revising these sentences. Please make proper grammatical expressions</p> <p>Page 16 10) Line 10 Concerning the reproductive/sexual history factors, women that had a child were associated Comment Authors to consider revising sentence for grammar</p> <p>11) Line 16 “Higher odds of ever heard of fistula was associated being currently pregnant” Comment Sentence isn't correct Authors to consider revising sentence for grammar</p> <p>12) Line 16 -20 “Higher odds of ever heard of fistula was associated being currently pregnant (OR=1.47; 95%CI, 1.33-1.63) and history of ever terminated pregnancy (OR=1.57, 95%CI, 1.42-1.75) relative to those who were not currently pregnant and never terminated pregnancy, respectively” Comment The entire sentence above is confusing. Authors to consider recasting it</p> <p>Page 19 12) Line 1 “whose age at first sex were greater than 25years” Comment Authors to consider recasting the sentence</p> <p>The Result section General Comments about this section 13) This section is rather lengthy Since the tables are evident and detail, the authors should consider reducing the scope of the comments on the results provided, especially on aspects of the results that are already self-explanatory, make it more concise. This would reduce the volume of the article, make readership easier, and more cost effective for the publisher</p>
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	<p>14) Discussion Section  There was a high fistula awareness among young adults  Authors to recast this sentence and make a proper sentence  “The awareness of vaginal fistula was associated with childbirth experience, 20-24 years and above, reported age at first sexual intercourse of up to 17 years, history of ever terminated a pregnancy, use of modern or traditional contraception, place of residence, having at least secondary education, ethnicity, wealth quintile and access to the source of information dissemination (radio, television and newspaper or magazine).”  Comment  Authors to consider recasting sentence for grammar and clarity</p> <p>Page 21  15. Line 22-24  “The association between childbirth and vaginal fistula awareness strengthens the role of antenatal care education”  Comment  This assertion that this association strengthen antenatal care is not borne out of this study neither was it referenced. I suggest the authors consider exclusion of this statement.</p> <p>16) Line 25  “prevention and prompt of obstructed labour and vaginal treatment”  Comment  Sentence is unclear. Authors to consider revision</p> <p>17) line 39  “The observed modest increase”  Comment  An increase from 30.7% to 52% is an appreciable increase. Authors to consider deleting the word modest.</p> <p>18) Line 26  “Expectedly, high awareness”  Comment  I suggest the authors look at the grammar of this sentence. They may consider “Expectedly, the high level of awareness”</p> <p>19) Line 29  “Education status, age older than 20 year”  Comment  Authors may consider revising sentence for grammar. E.g “Educational status” rather than “education status,”</p> <p>20) Line 45-47  “This observation is against the general belief that were often associated with better healthcare awareness among people in the urban setting”  Comment  The sentence is confusing and with errors in grammar. Authors may consider revising</p> <p>21) Line 43  “and fecal incontinence is collected during the 2018 NDHS survey”  Comment  The year stated in this sentence is incorrect. The authors are advocating that more useful information should be collected in the</p>
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	<p>next NDHS report, thus the year 2018 inserted in this sentence is incorrect.          Authors should insert the correct Date for the next NDHS, where more data could be captured.</p> <p>Pages 24,25          22) Line 50 –end          Lines 1-8          Comment          This lines speak to the possible questions that could be included in the next NDHS. The inclusion of these questions in this segment does not appear to add more value to the point already made, which is the need to include more questions that would help evaluate risk factors and preventive measures for obstetric fistula in the next NDHS.          Thus I suggest that the authors consider editing this segment of the discussion and make it more concise and thus reduce the overall length of the discussion.</p> <p>General comments on discussion section          Page 22          23) Line 34 to end          Page 21          Line 3-21</p> <p>Comment          The authors reported the prevalence in the study and subsequently went on to comment on the associated factors before making a comparism with earlier rates reported in previous NDHS and other related studies.          I suggest the authors consider making a comparism of the prevalence rate determined in this study with rates from previous NDHS and prevalence rates from similar studies conducted elsewhere. This probably would be more appropriate at the beginning of the discussion before preceding to discussing the risk factors. This may serve for better flow of thought.</p>
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## VERSION 1 – AUTHOR RESPONSE

### RESPONSE TO THE REVIEWERS

#### Reviewer 1

1. Out of the 14 item questions in the fistula section, the first question asked if a woman had ever experienced a constant leakage of urine or stool from vagina during the day or night, which we defined as vaginal fistula- How does this question differentiates fistula from non-fistulus urinary incontinence

**Response:** Thank you. Although, it might be difficult to ascertain the difference between fistulous and non-fistulous urinary incontinence without conducting a clinical examination. However, the authors are of the opinion that the question asked in the NDHS was within the context of involuntary leakage of urine/stool that is due to fistulous connection between the bladder and vagina, and between rectum and vagina. This is one of the limitations of a secondary data.

2. The question on ever heard of leakage of urine or stool per vaginam (vaginal fistula) was used- how does this question differentiate between fistula and non-fistulous urinary or faecal incontinence

**Response:** Thank you. It is true that it might be difficult to differentiate between fistulous and non-fistulous incontinence, but the question did not aim to seek the difference between these two entities. We are just interested on whether they have heard about the concept of leakage of urine or stool per vaginam.

3. Which statistical test was used to obtain the p value in Table 2

**Response:** Thank you. The statistical test that was used to obtain the p-value in table 2 was chi-squared test of association.

How do you intend to transmit the shortfalls of the fistula section of NDHS 2018 to DHS program in order to ensure improvements in subsequent surveys.

**Response:** The authors decided to analyse this data to highlight the importance of this reproductive health issue in Nigeria and to pinpoint the various gap in knowledge on the data that were collected on vaginal fistula. The publication of this article is the first step to disseminate our observations and circulation of this publication to the Federal Ministry of Health, National Bureau of Statistics and other stakeholders will serve as a wake-up call to improve on future NDHS data collection

## **Reviewer 2**

Minor corrections suggested for consideration by the authors

The sections of the manuscript, pages and line numbers of aspects of sentences in consideration, some suggested areas for corrections are highlighted, and sometimes underlined. In some instances, the actual sentence was included or part of the sentence that would require some editing or revision. The suggested corrections or modifications are highlighted as comments immediately below each observation. The authors may consider the suggestions.

**Response:** We thank the reviewer for the various suggestions. We have attended to all of them and others that we discovered.

### **Minor comments:**

1. Page 3  
LINE 1  
Comment  
Involuntary leakage of urine and or stool (vaginal fistula). Definition is incomplete. Authors ought to include the route of leakage of effluent for completeness of sentence i.e. vaginal. There could also be involuntary leakage of urine through the urethral and such patients are not included in the study population. Authors should be precise in their definition

**Response:** We have revised the definition as suggested by the reviewer in the abstract and body of the manuscript.

2. Line 4  
To determine the prevalence of awareness of urinary/faecal incontinence”  
Comment

This sentence is not precise as to the actual prevalence been evaluated, ie all types of incontinence? Is the prevalence of awareness of women with all types of incontinence been evaluated as suggested by the statement or only those with incontinence following vaginal fistula? Thus, sentence does not define clearly the objective of the study. Authors may consider revising this sentence and provide more clarity. The question on ever heard of leakage of urine or stool per vaginam (vaginal fistula) was used- how does this question differentiate between fistula and non-fistulous urinary or feecal incontinence

**Response:** Thank you. We have revised the objective to “To determine the prevalence of awareness of urinary/faecal incontinence due to vaginal fistula”. We have discussed the limitation of case ascertainment of urinary incontinence in this study in question 1 and 2 of reviewer 1 questions

3. Results Section

Line 29/30

"There were significant differences in sociodemographic, access to information and reproductive or sexual history factors"

**Response:** Thank you. The statement had been revised as follows “There were significant differences in all the selected demographics, access to information and reproductive/sexual history variables between participants with at least one previous childbirth and those with no childbirth experience ( $p < 0.001$ )”

4. Introduction

Page 4,

4) line 41

“delay in seeking appropriate medical help”

Comment

I suggest the authors consider revising sentence to “delay in decision to seek appropriate medical help”

In the literature, the first level delay is in “decision to seek medical help” and this should be clearly reflected.

**Response:** Thank you. We have revised the statement as suggested.

5. Line 46

"Recently, the three delay models were modified and recategorized into four levels".

I suggest the authors consider rephrasing this sentence.

Indeed, Thaddeus and Maine identified recognition of danger signs as the initial step to accessing health care by women with obstetric complication, it was not established as a definite phase in the model for delay in the article cited

**Response:** Thank you. The statement has been revised.

6. Page 5

6) Line 26

Evidence abounds

Comment

Authors may consider revising to “Evidence abound”

**Response:** The typographical error had been corrected.

7. Page 9

Results

Line 36-44

Only 50 patients were said to have vaginal fistula

Two patients developed fistula following sexual assault

Comment

These should bring the total number of patients with vaginal fistula irrespective of the etiology to 52 and not 50 as stated in preceding page 7 line 25-27 and page 9 line 37. Authors should reconcile this inconsistency.

**Response:** We have checked the data again. The total number of women that had experienced vaginal fistula was 50. "Two of these 50 women with history of vaginal fistula reported that their fistula was due to sexual assault"

8. Line 44 – 46

"The reported median duration from the time of injury to leakage of urine or stool was a day with a range of 1.0 to 5.0 days".

Leakage of urine following prolonged obstructed labour usually does not occur within a day of injury. This is usually the pattern associated with fistula arising from iatrogenic or traumatic etiology including sexual assault.

Comment

Though admittedly, secondary data with its limitation is used for this study, authors should provide some clarification for this

**Response:** Thank you for this observation. our thought is that not all women with fistula had vaginal delivery and some may have had caesarean section to deliver their baby. Although the route of childbirth was not captured in the fistula module of the NDHS data set, it is plausible that women that had injury during surgery (iatrogenic) could potentially present with incontinence in day 1 of their delivery. In addition, it may also occur during sexual assault.

9. Page 15

Line 9 and 10

"the odds of ever heard of fistula by participants was associated with demographic factors"

Line 50

"The odds of ever heard of fistula by the participants"

Comment

Authors to consider revising these sentences. Please make proper grammatical expressions

**Response:** Thank you. We have revised accordingly.

10. Page 16

10) Line 10

Concerning the reproductive/sexual history factors, women that had a child were associated

Comment

**Response:** Thank you. We have revised accordingly.

11. Line 16

"Higher odds of ever heard of fistula was associated being currently pregnant"

Comment

Sentence isn't correct. Authors to consider revising sentence for grammar

**Response:** Thank you. We have revised accordingly.

12. Line 16 -20

"Higher odds of ever heard of fistula was associated being currently pregnant (OR=1.47; 95%CI, 1.33-1.63) and history of ever terminated pregnancy (OR=1.57, 95%CI, 1.42-1.75)

relative to those who were not currently pregnant and never terminated pregnancy, respectively”

Comment

The entire sentence above is confusing. Authors to consider recasting it

**Response:** Thank you. We have revised accordingly.

12b. Page 19

Line 1

“whose age at first sex were greater than 25years”

Comment

Authors to consider recasting the sentence

**Response:** Thank you. We have revised accordingly.

13. The Result section

General Comments about this section

This section is rather lengthy

Since the tables are evident and detail, the authors should consider reducing the scope of the comments on the results provided, especially on aspects of the results that are already self-explanatory, make it more concise. This would reduce the volume of the article, make readership easier, and more cost effective for the publisher

**Response:** We have reduced the length of the results section, particularly, in the descriptive section of the manuscript.

14. Discussion Section

There was a high fistula awareness among young adults

Authors to recast this sentence and make a proper sentence

“The awareness of vaginal fistula was associated with childbirth experience, 20-24 years and above, reported age at first sexual intercourse of up to 17 years, history of ever terminated a pregnancy, use of modern or traditional contraception, place of residence, having at least secondary education, ethnicity, wealth quintile and access to the source of information dissemination (radio, television and newspaper or magazine).”

Comment

Authors to consider recasting sentence for grammar and clarity

**Response:** Thank you. We have revised accordingly.

15. Page 21

Line 22-24

“The association between childbirth and vaginal fistula awareness strengthens the role of antenatal care education”

Comment

This assertion that this association strengthen antenatal care is not borne out of this study neither was it referenced. I suggest the authors consider exclusion of this statement.

**Response:** We made statement as a wakeup call and had added a reference to back up our statement.

16. Line 25

“prevention and prompt of obstructed labour and vaginal treatment”

Comment  
Sentence is unclear. Authors to consider revision

**Response:** Thank you. We have revised the statement

17. line 39

“The observed modest increase”

Comment

An increase from 30.7% to 52% is an appreciable increase. Authors to consider deleting the word modest.

**Response:** We have revised as suggested.

18. Line 26

“Expectedly, high awareness”

Comment

I suggest the authors look at the grammar of this sentence. They may consider “Expectedly, the high level of awareness”

**Response:** Thank you. We have revised accordingly.

19. Line 29

“Education status, age older than 20 year”

Comment

Authors may consider revising sentence for grammar. E.g “Educational status” rather than “education status,”

**Response:** Thank you. We have revised accordingly.

20. Line 45-47

“This observation is against the general belief that were often associated with better healthcare awareness among people in the urban setting”

Comment

The sentence is confusing and with errors in grammar. Authors may consider revising

**Response:** Thank you. We have revised accordingly.

21. Line 43

“and fecal incontinence is collected during the 2018 NDHS survey”

Comment

The year stated in this sentence is incorrect. The authors are advocating that more useful information should be collected in the next NDHS report, thus the year 2018 inserted in this sentence is incorrect.

Authors should insert the correct Date for the next NDHS, where more data could be captured.

**Response:** Thank you. We have revised accordingly.

22. Pages 24,25

Line 50 –end

Lines 1-8

Comment

These lines speak to the possible questions that could be included in the next NDHS. The inclusion of these questions in this segment does not appear to add more value to the point already made, which is the need to include more questions that would help evaluate risk factors and preventive measures for obstetric fistula in the next NDHS.

Thus I suggest that the authors consider editing this segment of the discussion and make it more concise and thus reduce the overall length of the discussion.

**Response:** We quite appreciate the reviewer's point but we will like to disagree that we should remove this section because we believe that the real message on the gaps are well explained here.

23. General comments on discussion section

Page 22

23) Line 34 to end

Page 21

Line 3-21

Comment

The authors reported the prevalence in the study and subsequently went on to comment on the associated factors before making a comparison with earlier rates reported in previous NDHS and other related studies.

I suggest the authors consider making a comparison of the prevalence rate determined in this study with rates from previous NDHS and prevalence rates from similar studies conducted elsewhere. This probably would be more appropriate at the beginning of the discussion before preceding to discussing the risk factors. This may serve for better flow of thought.

**Response:** Thank you. We presented the summary of key findings first and thereafter discussed the prevalence and risk factors. We wish to keep the flow of thoughts in the current state.

**VERSION 2 – REVIEW**

<b>REVIEWER</b>	Temitope O Okunola Ekiti State University, Ado-Ekiti, Nigeria.
<b>REVIEW RETURNED</b>	18-Aug-2020
<b>GENERAL COMMENTS</b>	I have no comment.