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Impacts of Interventional Education on the Knowledge of Obstetric Fistula Prevention among Female Secondary School Students in a Low-Resource Setting

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Abstract

In Nigeria, the incidence of vesicovaginal fistula (VVF) has increased recently. It now poses a threat to expectant mothers. In Nigeria, women's health has emerged as a significant health concern. The most prevalent type of acquired urinary tract fistula is VVF, which continues to be a serious problem in many developing nations. Due to their physical underdevelopment and lack of obstetric care during pregnancy and labor, young girls between the ages of 10 and 19 who become pregnant are more susceptible to vesico-vaginal fistula. Therefore, this study was an intervention study on secondary school girls' awareness of vesicovaginal fistula prevention in Ilesa-East LGA, Osun State. A multistage sampling technique was used to obtain a sample of 240 respondents for the pre-test and post-test two-group quasi-experimental research design. Data were gathered using a self-designed questionnaire that was pre-tested and had a reliability of 0.707 according to the Cronbach's alpha coefficient. Four hypotheses and four research questions were developed and put to the test. Descriptive statistics and t-test analysis, fixed at the 0.05 level of significance, were used to analyze the data. The results showed that the respondents were between 12 and 19 years old, with a mean age of 14.8 and a standard deviation of 3.36. Pre-inter-

vention general knowledge mean scores for vesico-vaginal fistula were 5.23 ± 1.97 (34.9%) in the control group and 5.07 ± 2.01 (33.8%) in the experimental group, with a mean difference of 0.16. Pre-intervention mean scores for vesico-vaginal fistula prevention were 2.33 ± 0.76 (38.8%) in the control group and 2.31 ± 0.81 (38.5%) in the experimental group, with a mean difference of 0.02. The control group's post-intervention mean score on vesico-vaginal fistula was 5.91 ± 2.06 (39.4%) and the experimental group was 12.88 ± 3.32 (85.9%), with a mean difference of 6.97; the control group's post-intervention mean score on vesico-vaginal fistula prevention was 2.57 ± 0.93 (42.8%) and the experimental group's was 4.93 ± 1.01 (82.2%), with a mean difference of 2.36. Additionally, there was no statistically significant difference between the control and experimental groups' pre-intervention general knowledge (mean difference = 0.16, $t(174) = 1.27$, $p = 0.271$) and knowledge of prevention (mean difference = 0.02, $t(174) = 1.50$, $p = 0.154$). group. However, there is a statistically significant difference in the pre-intervention general knowledge (mean difference = 6.97, $t(174) = 5.09$, $p = 0.000$) and knowledge of prevention (mean difference = 2.36, $t(174) = 4.57$, $p = 0.000$) mean scores of participants on vesico-vaginal fistula in the control and experimental groups. In conclusion, the intervention was successful in increasing the respondents' understanding of vesicovaginal fistula prevention. Consequently, it is advised that schools employ health education on the repercussions of early pregnancy (vesico-vaginal fistula) as a crucial tactic to improve young people's understanding of sexual health.

Keywords

Knowledge, Prevention, Secondary School Girls, Vesicovaginal Fistula

1. Introduction

Women are frequently viewed as a vulnerable gender in the majority of poor nations for a variety of reasons, and issues like vesicovaginal fistula (VVF) after pregnancy, childbirth, and puerperium further increase their vulnerability. Even though their sexual freedom has already been restricted, these women frequently perceive themselves as being different from other women in a number of ways. They find it difficult to enjoy their sexuality; they may also develop other infectious diseases; and they age more quickly and easily than their peers who have not had their womanhood restricted. Thus, the victims' health and well-being are destroyed by this depressing condition. They frequently have a wretched existence for the duration of her life when she loses faith in living a fulfilling life [1].

In the medical field, "vesico" refers to the bladder [2]. The improper connection between the urinary tract and the vagina that causes an uncontrollable leak of urine into the vaginal tract is known as a vesicovaginal fistula (VVF). VVF is defined by WHO (2018) as an improper communication between the vagina and the bladder that causes urine to continuously and involuntarily flow into the vaginal vault. VVF happens when the pelvis contracts, labor is prolonged and blocked

(typically because the pelvis is too narrow for the baby to pass through), and the tissues between the bladder and vagina become ischaemic [3]. A few weeks later, the woman develops a fistula and tissue sloughing. Vaginal or urinary tract infections, poor hygiene, gas or stool leaking through the vagina, irritated or inflamed skin surrounding the vagina, an abscess (a swollen, potentially fatal clump of infected tissue with pus), and the possibility of fistula formation are just a few of the complications that could result from this. Uncontrolled urine flow into the vagina is the primary sign of VVF [4].

VVF is quickly becoming one of the most crippling health issues in Osun State, Nigeria. This happens to young married women who are underage. Due to a lack of understanding and the inability to pay for qualified healthcare providers during pregnancy, the majority of these married women are either underage or have a carefree attitude. Instead of contacting medical facility providers, they turn to older female family members, neighbors, and friends who have been pregnant for advice on their current pregnancy and its complications. This puts them at risk for obstructed and prolonged labor, which can result in VVF.

It has been noted that teenage girls have little knowledge of VVF. In their study, Raji *et al.* discovered that two-thirds of respondents ascribed VVF to divine punishment and over half thought it was caused by an evil spirit [5]. In contrast to the 2008 NDHS figure of 30.7%, the Morhason-Bello *et al.* study revealed a 52% rise in awareness regarding vaginal fistulas [1] [5]. In comparison to older persons in Nigeria, it is still a cause for concern, especially among the younger generation. The Nigerian government's and development partners' increasing focus on obstetric fistula prevention and treatment over the past ten years may be the reason for the observed decline in the prevalence of vaginal fistula awareness in the 2018 NDHS [6]. Young people, who are typically at risk of obstructed labor due to an insufficient pelvis, are more likely to have VVF.

The degree of VVF awareness may not always correspond to sufficient information that can assist women in making the right choices about prevention and care access. Even among people who claimed to be aware of fistula, some studies have found a sizable percentage of misconceptions regarding the etiology or risk factors for VVF [7]-[9]. VVF can have devastating implications. Early adolescence is a time when having sufficient awareness about VVF may help prevent it.

Research on VVF prevention is currently lacking, according to studies [5]. Additionally, Lawal *et al.* showed that both male and female teenagers had little knowledge of VVF [2]. However, if childbearing is postponed until young women reach physical and sexual maturity, all deliveries are handled by trained birth attendants, and women experiencing obstructed labor have access to prompt Cesarean sections, the likelihood of fistulae developing can be decreased. One could argue that a lack of awareness about VVF prevention accounts for the majority of VVF instances. In order to ascertain secondary school girls' pre- and post-intervention knowledge of vesico-vaginal fistula prevention in Ilesa-East LGA, Osun

State, this study is being conducted as an intervention.

2. Methods

2.1. Study Design and Setting

The study employed a community-based quasi-experimental design. It was conducted between January 2023 and July 2024 among female in-school adolescents (10 - 19 years) in two secondary schools in Ilesha East Local Government in Osun East Senatorial District, Osun State, South-West Nigeria.

2.2. Sample Size and Sampling Technique

Using Leslie Kish's formula [10]:

$$n = Z^2 Pq/e^2$$

where e = level of precision at 0.05; Z = 1.96; Q = 1−p, p is the level of prevalence. p = 0.23 and an attrition rate of 10%, a total of 240 participants were enrolled for the study. A multi-stage sampling technique was used in the study. During stage one, Ilesha East local government was selected using simple random sampling by balloting among the five LGAs in the Ilesha metropolis. In stage two, the secondary schools in the selected LGA were made the sampling unit, and two secondary schools were selected using simple random sampling by balloting. At stage three, one of the two selected schools was chosen at random as the experimental group, while the other was designated the control. At stage four, female students aged 10 to 19 years were enumerated, and the total number was used as the sampling frame. A systematic sampling technique was used to select one out of every five eligible female students until a sample size of 120 female students was achieved in each group.

2.3. Instrument for Data Collection

The study made use of two research instruments, namely, a self-report questionnaire (SRQ) and a Test Paper on the knowledge of prevention of VVF.

The two instruments used to collect data are:

1) **Self-Report Questionnaire (SRQ):** This section of the instrument elicited responses on demographic variables of participants like age, marital status, educational status, ethnicity, Religion, and parity.

2) **Test Paper on Knowledge of Prevention of VVF:** The instrument was used to measure the cognitive domain in order to determine female students' knowledge of the prevention of VVF. It consists of a total of 12 questions. The maximum score for correct responses for knowledge is one mark, making a total maximum score of 12.

2.4. Validity and Reliability

A self-constructed structured questionnaire was presented to the supervisor, who made necessary modifications to give face and content validity, and the same was

given to other experts in and outside the school of nursing science to make their inputs. Comments, suggestions, and modifications on the instruments were used to improve the quality of the instrument to make sure that it is related to the aim, specific objectives, and the hypotheses of the study.

Reliability

A pre-test of the questionnaire was conducted with 10% of the respondents, who were 24, from a community secondary school that did not participate in the study and was not near the study sites. Questionnaires were given to the respondents. The data collected were used to determine the instrument's reliability using Cronbach's Alpha (α) to assess internal consistency and construct validity. The reliability index was found to be 0.707.

2.5. Method of Data Collection

A questionnaire was used to collect data in two stages: a pre-test phase before the intervention program and a post-test phase afterward. To obtain the necessary information from the respondents, the questionnaire has been designed. During the time allotted by the principal, the pupils were approached. The goal of the study was explained to the students. The pupils were given the questionnaire, and once they had properly answered it, it was gathered back for compilation and analysis.

There were three main stages to the data collection process, which included:

1) A pre-intervention meeting
2) The intervention meeting
3) The post-intervention meeting

2.5.1. Pre-Intervention Meeting

The Dean of Babcock University's School of Nursing Sciences in Ilisan-Remo, Ogun State, sent a letter of introduction to the Ministry of Education's Zonal Headquarters School Board in Ilesa, requesting permission to carry out the study. The researcher asked the heads of the schools for permission to conduct the study and explained its goal to them during the pre-intervention period. In order to build rapport and get to know the participants in both schools—the experimental group and the control group—the researcher met with them. They were informed of the study's goals and the subjects that would be covered in the training. Additionally, they were told that the training would consist of three sessions, each lasting thirty minutes. They received assurances that all information collected would be kept private and used only for academic purposes. Additionally, they were told that they may decide to stop participating at any point during the trial without facing any consequences. They were also informed of the program's location.

2.5.2. The Intervention Meeting

Prior to the start of the intervention, a pre-test was given to the experimental and control groups to determine their homogeneity.

Three sessions were given to the experimental group. With approval from the

principal of the school, each module took place once a week for three consecutive weeks.

Only after the entire program did the control group get health information on VVF prevention.

Session one: This was the first week of the training. The researcher welcomed the participants. The purpose of this session was to reorient the participants to the objectives of the study and obtain informed written consent. The session also included activities from the training package on the anatomy of the female reproductive system, the organs affected, and their relationships. Time was given for questions and answers. The objectives of the training session included:

At the end of the teaching session, the participant will be able to:

1) Describe the female reproductive system.

2) Identify organs affected and their relations.

Session two: This was the second week of the training program. The researcher welcomed the participants and briefly recapped the previous session. The training was centered on the definition of Vesico-vaginal fistula, Causes of VVF, and Signs and Symptoms of VVF, and time was given for questions and answers. The objectives of the teaching session were:

At the end of the teaching session, participants will be able to:

1) Define vesico-vaginal fistula.

2) State the causes of vesico-vaginal fistula.

3) Identify signs and symptoms of VVF.

Session three: This is the third week of the training program. The researcher welcomed the participants and briefly recapped the teaching from the previous session. Training was focused on the knowledge of the prevention of vesico-vaginal fistula. The objective of the session was:

At the end of the teaching session, participants will be able to: List or mention the prevention of vesico-vaginal fistula.

2.5.3. The Post-Intervention Meeting

Due to the school calendar and their planned activities for the semester, this was completed one week following the intervention program. Every participant in the experimental and control groups was given a post-test questionnaire to answer regarding their knowledge of VVF prevention, and the results were collected right away. This session's goal is to assess the intervention program's impact on the experimental group and contrast it with the control group. The study's participants were thanked for participating.

2.6. Data Analysis

The Statistical Package for Social Science (SPSS) Version 23 was used to analyze the data. Data analysis was done using both descriptive and inferential statistics. For the research questions, descriptive statistics include frequency tables, percentages, means, and standard deviations; for evaluating the hypotheses, inferential statistics such as the T-test were employed.

2.7. Ethical Consideration

The Babcock University Health Research Ethics Committee (BUHREC) granted ethical permission for the study. The dean of Babcock University's School of Nursing Science in Ilishan Remo, Ogun State, provided an introductory letter. Additionally, the Ministry of Education, the Schools Board, the Zonal local authority, Ilesa, Osun State, granted permission. To ensure respondents could participate and provide consent, they were informed of the study's purpose. Informed consent was obtained from participants aged 18 years and above, while assent was obtained from those below 18 years of age, with informed consent from their guardians. Throughout the study, privacy was ensured. Respondents were informed that the exercise was for academic purposes and gave their informed consent. The respondents were informed that they would not be harmed in any way by the study and that they could withdraw from it at any time without facing any consequences.

3. Results

The majority of participants in both the experimental (67; 55.8%) and control (69; 57.5%) groups were between the ages of 12 and 14, according to Table 1. According to the demographic data on the female students' living arrangements, 60 (50.0%) of the participants in the control group and 65 (54.2%) of the participants in the experimental group lived with their parents. According to participant religion, 77 (64.2%) in the control group and 71 (59.1%) in the experimental group were Christians.

Table 1. Socio-demographic characteristics of the participants.

	Variables	Experimental (120)		Control (56)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
Age	9 - 11 Years	10	8.3	9	7.5
	12 - 14 Years	67	55.8	69	57.5
	15 - 17 Years	30	25.0	28	23.3
	18 Years Above	13	10.8	14	11.7
	Total	**120**	**100.0**	**120**	**100.0**
Class	JS1	-	-	5	4.2
	JS2	15	12.5	10	8.3
	JS3	15	12.5	10	8.3
	SS1	30	25.0	35	29.2
	SS2	30	25.0	29	24.2
	SS3	30	25.0	31	25.8
	Total	**120**	**100.0**	**120**	**100.0**

Continued

Living with Who	Both Parents	65	54.2	60	50.0
	Mother Only	28	23.3	33	27.5
	Father Only	10	8.3	6	5.0
	Family Members	17	14,2	21	17.5
	Others	-	-	-	-
	Total	**120**	**100.0**	**120**	**100.0**
Religion	Christianity	71	59.2	77	64.2
	Islam	49	40.8	43	35.8
	Traditionalist	-	-	-	-
	Total	**120**	**100.0**	**120**	**100.0**

The pre-intervention mean scores of participants in the control and experimental groups for vesico-vaginal fistula are shown in Table 2. In the control group, 77 individuals (64.3%) scored below average, while 23 (19.6%) and 20 (16.1%) received average and above-average knowledge mean scores on vesico-vaginal fistula, respectively. In the experimental group, 22 (18.4%) had average knowledge scores, 19 (15.8%) had above-average scores, and 79 (65.8%) had below-average scores. Vesico-vaginal fistula patients' pre-intervention general knowledge mean scores were 5.23 ± 1.97 (34.9%) in the control group and 5.07 ± 2.01 (33.8%) in the experimental group, with a mean difference of 0.16.

Table 2. Pre-intervention knowledge mean score of participants on the vesico-vaginal fistula in the control and experimental group.

Knowledge of Vesico-Vaginal Fistula	Category of Scores	Control		Experimental	
		Freq.	%	Freq.	%
Below Average	1 - 5	77	64.3	79	65.8
Average	6 - 8	23	19.6	22	18.4
Above Average	11 - 12	20	16.1	19	15.8
Total		**120**	**100.0**	**120**	**100.0**
Mean ± SD (%)		5.23 ± 1.97 (34.9%)		5.07 ± 2.01 (33.8%)	
Mean Difference		0.16			
Maximum Score		11.0		12.0	
Minimum Score		3.2		3.0	

The pre-intervention mean score for vesico-vaginal fistula prevention in the control and experimental groups is displayed in Table 3. Regarding the prevention of vesico-vaginal fistula, 88 (73.2%) participants in the control group scored below average, whereas 32 (26.8%) had mean scores in the average range. In the experimental group, 31 (25.8%) had average knowledge of vesico-vaginal fistula prophylaxis, while 89 (74.2%) had below-average scores. Pre-intervention mean scores for vesico-vaginal fistula prevention were 2.33 ± 0.76 (38.8%) in the control group and 2.31 ± 0.81 (38.5%) in the experimental group, with a mean difference of 0.02.

Table 3. Pre-intervention knowledge on prevention: mean score of participants on the vesico-vaginal fistula among female participants in the control and experimental group.

Knowledge of Prevention VVF	Category of Scores	Control		Experimental	
		Freq.	%	Freq.	%
Below Average	1 - 2	88	73.2	89	74.2
Average	3 - 4	32	26.8	31	25.8
Above Average	5 - 6	-	-	-	-
Total		120	100.0	120	100.0
Mean ± SD (%)		2.33 ± 0.76 (38.8%)		2.31 ± 0.81 (38.5%)	
Mean Difference		0.02			
Maximum Score		4.0		4.0	
Minimum Score		1.0		1.0	

The control and experimental groups' post-intervention knowledge mean score on vesico-vaginal fistula is displayed in Table 4. In the control group, 69 individuals (57.1%) scored below average, while 32 individuals (26.8%) and 19 individuals (11.1%) received average and above average knowledge mean scores on vesico-vaginal fistula, respectively. In the experimental group, 81 (67.5%) had knowledge scores above average on vesico-vaginal fistulas, while 39 (32.5%) received ordinary scores. Participants' post-intervention knowledge scores on vesico-vaginal fistula were 5.91 ± 2.06 (39.4%) in the control group and 12.88 ± 3.32 (85.9%) in the experimental group, with a mean difference of 6.97.

The control and experimental groups' post-intervention mean scores for participants' knowledge of vesico-vaginal fistula prevention are displayed in Table 5. In the control group, 34 participants (25.6%) scored at average on the knowledge of vesico-vaginal fistula prevention, while 86 participants (71.1%) scored below average. Regarding knowledge of vesico-vaginal fistula prevention, 42 (35.0%) of the experimental group scored average, while 78 (65.0%) scored above average. Participants' post-intervention skill mean score on vesico-vaginal fistula prevention was 2.57 ± 0.93 (42.8%) in the control group and 4.93 ± 1.01 (82.2%) in the experimental group, with a mean difference of 2.36.

Table 4. Post-intervention knowledge mean score of participants on vesico-vaginal fistula in the control and experimental group.

Knowledge of Vesico-Vaginal Fistula	Category of Scores	Control		Experimental	
		Freq.	%	Freq.	%
Below Average	1 - 5	69	57.1	-	-
Average	6 - 10	32	26.8	39	32.5
Above Average	11 - 15	19	16.1	81	67.5
Total		**120**	**100.0**	**120**	**100.0**
Mean ± SD (%)		5.91 ± 2.06 (39.4%)		12.88 ± 3.32 (85.9%)	
Mean Difference		6.97			
Maximum Score		9.0		12.0	
Minimum Score		5.0		9.0	

Table 5. Post-intervention knowledge on prevention: mean score of participants on the vesico-vaginal fistula among female participants in the control and experimental group.

Knowledge of Prevention VVF	Category of Scores	Control		Experimental	
		Freq.	%	Freq.	%
Below Average	1 - 2	86	71.4	-	-
Average	3 - 4	34	28.6	42	35.0
Above Average	5 - 6	-	-	78	65.0
Total		120	100.0	120	100.0
Mean ± SD (%)		2.57 ± 0.93 (42.8%)		4.93 ± 1.01 (82.2%)	
Mean Difference		2.36			
Maximum Score		4.0		6.0	
Minimum Score		1.0		3.0	

The pre-intervention mean scores of vesico-vaginal fistula participants in the control and experimental groups did not differ significantly, according to Table 6 (mean difference = 0.16, $t(174) = 1.27$, $p = 0.271$). As a result, there is no discernible difference between the control and experimental groups' pre-intervention mean scores for vesico-vaginal fistula.

The results presented in Table 7 indicated no significant difference in the pre-intervention knowledge mean score of participants on the prevention of vesico-vaginal fistula between the control and experimental groups (Mean difference = 0.02, $t(174) = 1.50$, $p = 0.154$). Therefore, there is no statistically significant difference in the pre-intervention knowledge mean score of participants on the prevention of vesico-vaginal fistula between the control and experimental groups.

Results in Table 8 indicated that there is statistically significant difference in the post-intervention knowledge mean score of participants on vesico-vaginal fistula in the control and experimental group (mean difference = 6.97, t(174) = 5.09, p = 0.000).

Table 6. An independent t-test showing the difference between pre-intervention mean scores on the knowledge of vesico-vaginal fistula among female participants.

	N	Mean	Std. Deviation	Df	T	Mean Diff	p Value
Control	56	5.23	1.97				
Experimental	120	5.07	2.01	174	1.27	0.16	0.271

Table 7. An independent t-test to show the difference in pre-intervention mean scores for knowledge of the prevention of vesico-vaginal fistula between the control and experimental groups.

	N	Mean	Std. Deviation	Df	T	Mean Diff	p Value
Control	56	2.33	0.76				
Experimental	120	2.37	0.81	174	1.50	0.02	0.154

Table 8. An independent t-test showing the difference in post-intervention mean knowledge scores on vesico-vaginal fistula among female participants.

	N	Mean	Std. Deviation	Df	T	Mean Diff	p Value
Control	56	5.91	2.06				
Experimental	120	12.88	3.32	174	5.09	6.97	0.000

4. Discussion

An improper connection between the vagina, rectum, and/or bladder that may develop after prolonged and obstructed labor is known as an obstetric vesico-vaginal fistula, according to the World Health Organization [2]. This ultimately results in ongoing fecal or urinary incontinence. Vesicovaginal fistulas are holes between the bladder and the vagina, while rectovaginal fistulas are holes between the rectum and the vagina [2].

Worldwide, there have been differing degrees of community knowledge of vesico-vaginal fistulas. Through public health initiatives, VVF campaigns have raised community awareness and increased community involvement. The pre-intervention knowledge of both the control and experimental groups on the prevention of vesicovaginal fistula in our study was generally low. This finding corroborated that of the 2024 National Demographic Health Survey, which showed a sub-optimal increase in the level of awareness of obstetric fistula (OF). The percentage of women who have ever heard of OF was 48% compared to33% in 2008 [11]. Also, this finding was similar to the report from a research conducted among a few medical facilities in the Zamfara region of northwest Nigeria, where 97.6% of par-

ticipants had never heard of VVF [12]. It also corroborated the report of the survey by Kamel *et al.*, where only 23.3% of Ethiopian women of reproductive age who participated in the survey reported having heard about obstetric fistulas [13].

This result also reflects the research conducted by Raji *et al.*, who discovered that two-thirds of their respondents linked VVF to divine retribution, and more than half thought it was caused by malevolent spirits. Also, a sizable percentage of people who claimed to be aware of fistulas had misconceptions about the reasons or risk factors for VVF [13].

Programs for community-based education have become a crucial tactic in the fight against obstetric fistula and its recurrence. By educating women and their communities on reproductive health, birth readiness, and the value of professional obstetric care, these programs seek to empower women and their communities.

According to Ihudiebube-Splendor *et al.* (2014), community screening and awareness initiatives in Nigeria greatly enhanced the early detection of women who were at risk and raised the number of referrals for prompt obstetric interventions [14].

Preventive education aimed at women of reproductive age and healthcare stakeholders also increased awareness and implementation of preventive actions, according to Uyanwune *et al.* (2024). However, regular implementation, community involvement, and integration into current healthcare frameworks are necessary for such programs to be sustainable and effective [15].

There was a statistically significant improvement in the experimental group in our study compared with the control. This corroborated the importance of educational intervention in shaping the knowledge of female adolescents with regard to the prevention of vesicovaginal fistula.

In a fistula hospital in Northern Nigeria, a pilot research examining the usefulness and viability of using a vesicovaginal fistula (VVF) patient education leaflet was conducted among fistula patients. A six-paneled instructional pamphlet explaining the causes, treatment options, and preventative strategies of VVF was studied by women who were either awaiting or had previously undergone VVF surgery. Participants provided thorough answers to a questionnaire that addressed the brochure material in addition to answering demographic information. Fifty patients, with a mean age of 26.1 years, were included in the convenience sample. All of these women thought the information in the pamphlet was helpful. Participants recommended working in a hospital (80%), teaching other women (30%), and preventing early marriage (8%) as ways to reduce VVF. Financial constraints (84%) and transportation issues (30%) were the main obstacles to prevention and treatment. The study found that women can learn about the causes, treatment, and prevention of VVF by using a straightforward, inexpensive educational pamphlet [16].

Similar community-based strategies have shown promise in addressing other maternal morbidities in sub-Saharan Africa [17] [18]. Demonstrated that community screening and education programs in Nigeria improved the early identifi-

cation and referral of obstetric fistula cases, thereby preventing more severe outcomes. The present study builds upon this foundation by focusing on female adolescents who will soon embark on childbearing.

Lastly, the community as a whole benefits from this intervention in addition to individual participation. Cultural norms around early marriage, hazardous childbirth, and gendered access to healthcare—all known causes of obstetric fistula—can be gradually changed by educational initiatives.

The findings from this study should be interpreted in light of the following limitations: first, the non-randomized, school-based design may limit the generalizability of the findings. Also, the short post-intervention follow-up might have only tested recall and not necessarily the impacts on the knowledge of the participants. Finally, the limited generalizability beyond the selected schools should also be considered.

5. Conclusion

In summary, the current study showed that community-based educational initiatives can considerably improve knowledge of female adolescents on Vesicovaginal fistula and its prevention. To accomplish the worldwide objective of eradicating obstetric fistula, future initiatives should take a comprehensive strategy, integrating education into existing programs, thereby making a significant contribution to the expanding body of research supporting community-driven, education-centered approaches in the battle against one of the most avoidable yet devastating maternal morbidities.

Author Contributions

Abigail Adebisi Abioye, Gladys Obiageli Oluwasanmi, Busayo Temilola Akinbowale, and Victoria Adenike Adeniyi contributed to conceptualization, initial write up and final reading of the manuscript. Roseline O. Folami, Oladayo Damilola Akinwale, Akinyele Akin Akinbowale, Musiliat Olufunke Akinbade, Olajide Emmanuel Babalola, and Akintunde Olusegun Fehintola were involved in data collection, data analysis, revision of the manuscript, and proofreading. All the authors were involved in the final reading and submission of the manuscript.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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