KNOWLEDGE, ATTITUDE, AND PRACTICE OF FIRST AID MANAGEMENT OF AVULSED TEETH AMONG PRIMARY SCHOOL TEACHERS IN IBADAN, NIGERIA

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ABSTRACT

Background: **Teachers' prompt and proper first aid management of avulsed teeth in schools is crucial for a favorable prognosis.**

Objective: **This study assessed the knowledge, attitudes, and practices (KAP) of primary school teachers in Ibadan, Nigeria, regarding the first aid management of avulsed teeth and their relationship with the participants' sociodemographic factors.**

Method: **A cross-sectional study was conducted among primary school teachers from randomly selected local government areas in Ibadan, Nigeria, from October to December 2023. Data collection was done using a pre-tested self-administered questionnaire. The sociodemographic characteristics and KAP scores were summarized using descriptive statistics. Chi-square tests and binary logistic regression were used to identify the association between sociodemographic factors and KAP scores.**

Result: **A total of 251 teachers participated in the study, with median (Interquartile Range (IQR)) age and teaching experience of 47 years (37-54) and 19 years (10-24), respectively. About twenty-four percent of them had adequate knowledge, and 37.4% demonstrated a positive attitude toward the emergency management of avulsed teeth. One hundred and seventeen teachers had witnessed avulsion injuries before, and out of them, 49 (41.8%) did nothing. Teachers with prior information were more likely to have adequate knowledge. [aOR = 2.66, 95% CI (1.28; 5.52), p = 0.008]**

Conclusion: **This study revealed that a high proportion of primary school teachers had inadequate knowledge, poor attitude, and sub-optimal practices of first aid management of dental avulsion. This highlights a critical need for targeted educational interventions among teachers to increase the prognosis of dental avulsion in school children.**

Keywords: Awareness, Practices, Dental avulsion, Emergency, Teachers

INTRODUCTION

Dental avulsion is the complete dislocation of a tooth from its alveolar socket following trauma, and it results in injuries to two vital parts of a tooth - the pulp and the periodontal ligament fibres.[1] It is one of the few emergencies in dentistry, and the prognosis of the affected tooth is highly dependent on its first aid management.[2] Dental avulsion, just like any other type of traumatic dental injury, can occur at any age, but is most common among children aged 6-15 years due to their increased physical activities.[3–5]

Its prevalence varies globally with location and age, ranging between 0.5% and 20%.[6–9] The documented prevalence rates in different cities in Nigeria also fall within this range.[4,8,10,11] Most of these injuries occur in homes, schools, and playgrounds, with schools

frequently identified as a common site.[4] In such instances, teachers are often the first hand witnesses of these incidents, and are in a vantage position to offer first-aid management.

The first aid management of an avulsed permanent tooth entails either its immediate replantation or placement in an appropriate storage medium that preserves the viability of the periodontal ligament cells until replantation is possible.[2] However, studies have revealed that delayed replantation and dry storage of avulsed teeth are most commonly practised.[3,5] This has been largely attributed to the limited knowledge of first aid management of avulsed teeth among individuals who witnessed traumatic dental injuries.[3,5] These witnesses could be parents when it occurs at home or teachers when it occurs in schools. This observation has been substantiated by several studies, both within and outside Nigeria, which consistently report that teachers and parents lack adequate knowledge of appropriate first aid management for avulsed teeth.[12–16]

While a few studies have assessed the knowledge of first aid management of avulsed teeth among teachers in Nigeria, most are not recent or focused solely on knowledge without assessing the teachers' attitudes and actual practices, both of which are critical for effective emergency response.[14–17] Furthermore, no recent study has comprehensively evaluated the knowledge, attitude, and practice (KAP) of primary school teachers in Ibadan, a densely populated urban city with a high concentration of schools. Therefore, this study was conducted to assess the knowledge, attitude, and practice of first aid management of avulsed teeth among primary school teachers in Ibadan Metropolis and its association with sociodemographic factors.

Materials and methods

Ethical approval was obtained from the University of Ibadan/University College Hospital ethical review committee (UI/EC/23/0317). Additionally, permission to conduct the study was granted by the school authorities, and informed consent was obtained from each participant.

Study design, location, and population

This was a cross-sectional study conducted among public and private primary school teachers in Ibadan metropolis, Southwestern Nigeria, from October to December 2023. Ibadan is the capital city of Oyo State in Nigeria and has a large metropolitan area made up of five local government areas (LGAs), with diverse populations and a mix of public and private schools. Teachers from the selected public and private primary schools were eligible for inclusion, whereas those who declined to provide consent were excluded.

Sample size and sampling

The required sample size was calculated using a prevalence estimate of 39% for teachers with good knowledge of tooth avulsion management, based on findings from a previous study.[16] The calculation was done using the Leslie Kish formula.[18]

$$N = \frac{Z^2 (p)(1-p)}{\delta^2}$$

adopting a significance level of 5%, statistical power of 80%, and a precision of 10%. Since data collection was conducted at the school level, each selected school was treated as a cluster. Based on a preliminary assessment conducted through enquiries from a few schools, an average cluster size of 20 teachers per school was assumed. Since cluster sampling was used, the sample size was adjusted for the design effect, which accounts for the potential similarity of responses within clusters (intra-class correlation). It was then increased by 10% to allow for possible non-response. The final minimum sample size determined was 248 participants. A multistage sampling technique was adopted for this study, involving three stages. In the first stage, two LGAs were selected from the five LGAs within the Ibadan metropolis using the simple random sampling technique (balloting). In the second stage, six schools were selected from each of the selected LGAs using a stratified sampling technique, with school type (public vs. private) as the stratification variable. However, due to a lower-than-expected number of eligible teachers in some selected schools, 5 additional schools were selected by balloting from each of the selected LGA to ensure the target sample size of 124 teachers per LGA was met.

In the third and final stage, the cluster sampling technique was utilised as all teachers in the selected schools who met the selection criteria were recruited for the study.

Pretest and data collection

Data was collected using a semi-structured, self-administered questionnaire adapted from previous studies.[14,17] The questionnaire was used to obtain information on socio-demographic variables (age, gender, educational qualification), area of speciality/course studied, and years of teaching experience. Information was equally obtained on their knowledge, attitude, and practices regarding the management of avulsed teeth.

The questionnaire was reviewed by two consultant paediatric dentists and a community dentist to ensure face and content validity. A pretest was carried out

among 25 teachers who were not included in the final study. Cronbach's alpha was calculated to ascertain the internal consistency of the items used to determine the knowledge and attitude of the participants.

Study measures

Knowledge: The pretest knowledge tool was a 19-item scale. The Cronbach's alpha scores were calculated and in a stepwise manner, the redundant items were removed till the highest Cronbach's alpha score with no redundant item was achieved. Finally, the items were reduced to four (4) with a Cronbach's alpha score of 0.81. Subsequently, a score of one (1) was awarded for each correct response, and the total score was summed for each participant, with a maximum possible score of four (4). To be considered as having adequate knowledge, participants must have a minimum score of two (2).

Attitude: The pretest attitude tool was a 6-item scale. The Cronbach's alpha scores were calculated and in a stepwise manner, each redundant items were removed till we got the highest Cronbach's alpha score with no redundant item. Subsequently, the items were reduced to three (3) with a Cronbach's alpha score of 0.72. Two of the questions were positively worded, and one was negatively worded. The scores were given as follows for the positively worded questions: '5' for Strongly Agree, '4' for Agree, '3' for Undecided, '2' for Disagree, and '1' for Strongly Disagree, while this order was reversed for the negatively worded question. The total score was summed for each participant with a maximum possible score of 15, and the higher score suggests a more positive attitude. To be considered as having an overall positive attitude, participants must have a minimum score of 10.

Practice: Their experience of avulsed teeth was assessed using both closed and open-ended questions: 'Have you seen any child whose tooth was accidentally knocked out before?' 'If yes, what did you do? There were four questions assessing their practices, and they were analyzed individually.

Data analysis

The collected data were entered into an Excel spreadsheet and analysed using R version 4.2.1. Descriptive statistics, including frequencies, percentages, median and interquartile range (IQR), were used to summarize the demographic characteristics and knowledge, attitude, and practice scores of the respondents. Inferential statistics (Mann-Whitney U and chi-square tests) were employed to explore associations between demographic variables and knowledge, attitude, and practice scores. Multivariate analysis was done with binary logistic regression to identify the variables that were significantly associated with the knowledge and attitude of teachers towards avulsion management in the presence of other "confounding" variables. A p-value of <0.05 was considered statistically significant.

RESULT

Socio-demographics characteristics

A total of 251 teachers were recruited into the study, with 115 (45.8%) teaching in public schools. Two hundred and eleven (211) were females, the median age (IQR) was 47(37-54) years, and the median (IQR) years of teaching experience was 19 (10-24) years. Only 38 (15.3%)studied a science-related discipline. Table 1

Table 1: Sociodemographic characteristics of primary school teachers by school type

Variable	Private (n = 136)	Public (n = 115)	Total (n = 251)	Test Statistic	p-value
Age, Median (IQR)	37.5 (32–45)	53 (49–57)	47 (37–54)	U = -12.5	< 0.001**
Years of Teaching Experience, Median (IQR)	12 (6–17)	24 (21–31)	19 (10–24)	U = -13.1	< 0.001**
Gender, n = 249				χ^2 = 6.847	0.009
Female	107 (79.3)	104 (91.2)	211 (84.7)		
Male	28 (20.7)	10 (8.8)	38 (15.3)		
Qualification, n = 248				χ^2 = 1.227	0.268
Diploma (ND, NCE, WASSCE)	73 (54.1)	69 (61.1)	142 (57.3)		
Graduate (BSc/HND/Postgraduate)	62 (45.9)	44 (38.9)	106 (42.7)		
Discipline, n = 248				χ^2 = 18.892	< 0.001**
Education	65 (48.1)	82 (72.6)	147 (59.3)		
Sciences	31 (23.0)	7 (6.2)	38 (15.3)		
Others*	39 (28.9)	24 (21.2)	63 (25.4)		

Mann–Whitney U test for continuous variables; Chi-square test for categorical variables

** Others include Arts and Commercial disciplines*

*** Statistically significant (p < 0.05)"*

Table 2: Association between socio-demographic characteristics and level of knowledge of first aid management of avulsed teeth among primary school teachers

	Adequate knowledge (n = 60)	Inadequate knowledge (n = 191)	Total (n = 251)	Test statistic	p-value
Age, Median (IQR)	43 (36 - 53)	48 (37 -54)	47 (37 – 54)	U = -1.07	0.286
Teaching years, Median (IQR)	18 (8 – 22)	19 (12 - 25)	19 (10 – 24)	U = -1.42	0.157
Gender (n = 249)				χ^2 = 1.542	0.214
Female	47 (79.7)	164 (86.3)	211 (84.7)		
Male a	12 (20.3)	26 (13.7)	38 (15.3)		
Qualification (n = 248)				χ^2 = 5.581	0.018**
Diploma	41 (70.7)	101 (53.2)	142 (57.3)		
Bachelors	17 (29.3)	89 (46.8)	106 (42.7)		
Specialty (n = 248)				χ^2 = 0.235	0.889
Education	34 (58.6)	113 (59.5)	147 (59.3)		
Sciences	10 (17.2)	28 (14.7)	38 (15.3)		
Others	14 (24.1)	49 (25.8)	63 (25.4)		
School type (n = 251)				χ^2 = 0.023	0.880
Private	32 (53.3)	104 (54.5)	136 (54.2)		
Public	28 (46.7)	87 (45.5)	115 (45.8)		
Prior first aid training (n = 251)				χ^2 = 1.192	0.275
No	25 (41.7)	95 (49.7)	120 (47.8)		
Yes	35 (58.3)	96 (50.3)	131 (52.2)		
Sufficient knowledge (n = 251) *				χ^2 = 3.954	0.047**
No	50 (83.3)	176 (92.1)	226 (90.0)		
Yes	10 (16.7)	15 (7.9)	25 (10.0)		
Avulsion information (n = 251) ^				χ^2 = 6.523	0.011**
No	40 (66.7)	157 (82.2)	197 (78.5)		
Yes	20 (33.3)	34 (17.8)	54 (21.5)		

Mann–Whitney U (U) test for continuous variables; Chi-square (χ^2) test for categorical variables.
**Do you think you have sufficient knowledge on emergency management of dental trauma.*
^Previously received information on the management of avulsed tooth in children.
***statistically significant (p < 0.05)*

Knowledge of emergency management of avulsed teeth

Among all the participants, thirty-nine (15.5%) knew that a knocked-out tooth could be reimplanted, and seventy-four (29.5%) knew it could be kept and taken to the dentist. However, only 20 (8%) chose milk as a transport medium for avulsed teeth. Overall, 60 (23.9%) had adequate knowledge of emergency management of avulsed teeth. Fifty-four (21.5%) teachers had previously received information on what to do when a child's tooth is accidentally knocked out. None of these had received the information from the internet and only 15 (6.0%) had received this information from the dentist. Amongst teachers with adequate knowledge, one-third (33.3%) said they had received prior information on management of avulsed teeth compared with 17.8% who had received prior information amongst teachers with inadequate knowledge (33.3% vs 17.8%, p = 0.011). Table 2

Attitude towards emergency management of avulsed teeth

Among the teachers, 92 (37.4%) were found to have positive attitude towards emergency management of avulsed teeth. The majority (86.4%) of the participants agreed on the need to have more training on the emergency management of dental trauma. Amongst participants with positive attitude, the proportion of those with a bachelor's degree was lower than those without. (36.3% vs 63.7%, p = 0.091). Table 3

Factors associated with knowledge and Attitude

After adjusting for several variables using a regression model as shown in Table 4, participants who had received prior information on management of avulsed teeth were about three times more likely to have adequate knowledge of avulsion management compared to those who had not received prior information [aOR = 2.66, 95% CI (1.28; 5.52), p = 0.008]. Also, participants with at least a bachelor's degree were two times less likely to have adequate knowledge than those with a diploma [aOR = 0.48, 95% CI (0.25; 0.95), p = 0.035].

Practice

Amongst the participants, 153 (61%) had seen a child or know of any child that has had any form of injury to the tooth before, 117 (46.8%) had witnessed avulsion injury before, and out of them, 49 (41.8%) did nothing. Only 3 (1.2%) of the respondents will

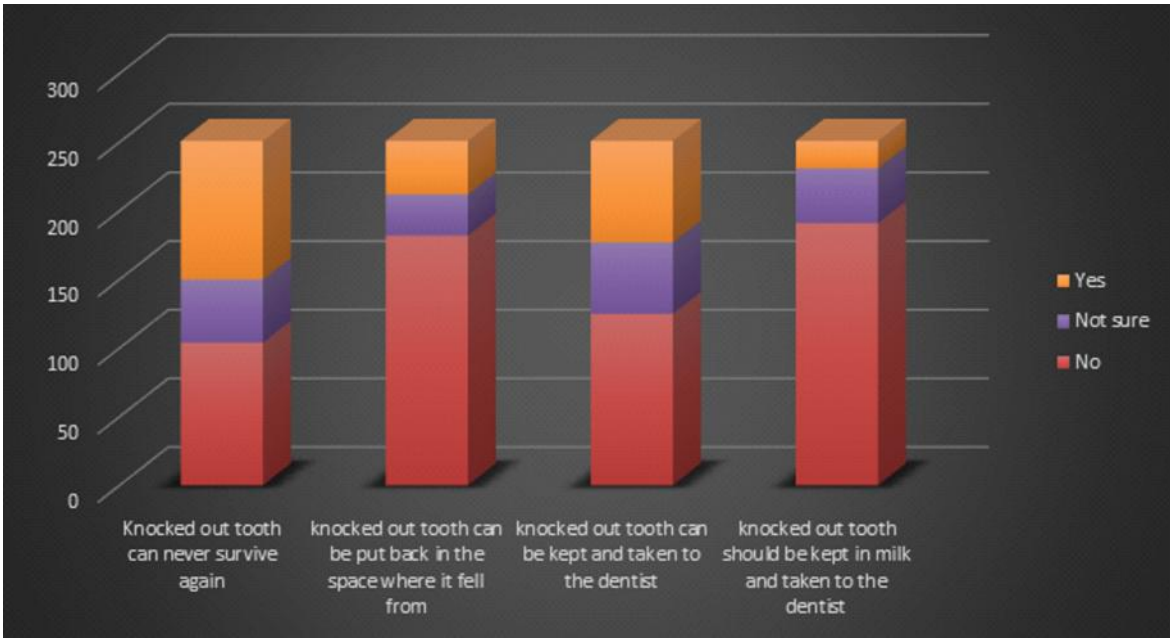

Figure 1: Participants' responses to knowledge questions on tooth avulsion

Table 3: Socio-demography and attitude of teachers to emergency management of avulsed teeth

	Positive Attitude (n = 92)	Negative Attitude (n = 154)	Total (n = 246)	Test statistic	p-value
Age, Median (IQR)	47.5 (37 – 55)	47 (37 -53)	47 (37 – 54)	U = 0.342	0.732
Teaching years, Median (IQR)	20 (10 – 25.8)	18 (12 - 24)	19 (10 – 24)	U = 0.873	0.384
Gender (n = 244)				χ^2 = 0.948	0.330
Female	75 (81.5)	131 (86.2)	206 (84.4)		
Male	17 (18.5)	21 (13.8)	38 (15.6)		
Qualification (n = 243)				χ^2 = 2.860	0.091
Diploma	58 (63.7)	80 (52.6)	138 (56.8)		
Bachelors	33 (36.3)	72 (47.4)	105 (43.2)		
Discipline (n = 243)				χ^2 = 5.529	0.063
Education	46 (50.5)	100 (65.8)	146 (60.1)		
Sciences	17 (18.7)	19 (12.5)	36 (14.8)		
Others	28 (30.8)	41 (21.7)	61 (25.1)		
School type (n = 246)				χ^2 = 0.212	0.645
Private	48 (52.2)	85 (55.2)	133 (54.1)		
Public	44 (47.8)	69 (44.8)	113 (45.9)		
Prior first aid training (n = 246)				χ^2 = 1.914	0.166
No	49 (53.3)	68 (44.2)	117 (47.6)		
Yes	43 (46.7)	86 (55.8)	129 (52.4)		
Sufficient knowledge (n = 246) *				χ^2 = 0.518	0.472
No	81 (88.0)	140 (90.9)	221 (89.8)		
Yes	11 (12.0)	14 (9.1)	25 (10.2)		
Previous information (n = 246) ^				χ^2 = 0.624	0.429
No	75 (81.5)	119 (77.3)	194 (78.9)		
Yes	17 (18.5)	35 (22.7)	52 (21.1)		

**do you think you have sufficient knowledge on emergency management of dental trauma*

^previously received information on the management of avulsed tooth in children

attempt to put a knocked-out tooth back if it happens in their presence while 75(30%) of them would throw the avulsed tooth away. Just 4 (1.6%) respondents said they would rinse dirty knocked-out teeth with milk. Fifty-five participants (22.3%) think the best time to put a knocked-out tooth back into the socket is immediately. Lastly, only 42 (16.9%) participants chose the crown as the best place to hold a knocked-out tooth during replantation.

Table 4: Logistic regression model on knowledge and attitude of primary school teachers to emergency management of dental avulsion

	Adequate Knowledge			Positive Attitude		
Variables	**Crude OR (95% CI)**	**Adjusted OR (95% CI)**	**p-value**	**Crude OR (95% CI)**	**Adjusted OR (95% CI)**	**p-value**
Age	0.98 (0.95; 1.01)	0.98 (0.93; 1.03)	0.563	1.00 (0.97; 1.03)	0.97 (0.93; 1.02)	0.288
Teaching years	0.98 (0.95; 1.01)	0.98 (0.93; 1.04)	0.583	1.01 (0.99; 1.04)	1.05 (1.00; 1.10)	0.071
Gender						
(Male)	1.76 (0.82; 3.77)	2.14 (0.94; 4.86)	0.069	1.48 (0.73; 3.00)	1.64 (0.77; 3.46)	0.197
Female (Ref)						
School type						
Public	0.94 (0.51; 1.71)	1.74 (0.73; 4.17)	0.212	1.04 (0.62; 1.77)	0.87 (0.40; 1.88)	0.719
Private (Ref)						
Qualification						
Bachelors	0.49 (0.26; 0.92)	0.48 (0.25; 0.95)	0.035**	0.62 (0.36; 1.06)	0.57 (0.32; 1.00)	0.051
Diploma (Ref)						
Discipline						
Sciences	1.34 (0.6; 2.98)	1.62 (0.65; 4.03)	0.301	1.78 (0.86; 3.70)	2.12 (0.94; 4.74)	0.069
Others (Ref)						
Prior first aid training						
Yes	1.24 (0.68; 2.26)	1.27 (0.66; 2.45)	0.472	0.68 (0.40; 1.15)	0.62 (0.36; 1.09)	0.098
No (Ref)						
Sufficient Knowledge *						
Yes	2.67 (1.11; 6.40)	2.51 (0.97; 6.48)	0.058	1.44 (0.61; 3.36)	1.84 (0.74; 4.56)	0.189
No (Ref)						
Avulsion information ^						
Yes	2.78 (1.42; 5.42)	2.66 (1.28; 5.52)	0.008***	0.84 (0.43; 1.61)	0.87 (0.43; 1.77)	0.697
No (Ref)						

**do you think you have sufficient knowledge on emergency management of dental trauma*
^previously received information on the management of avulsed tooth in children
***statistically significant (p < 0.05)*
****statistically significant (p < 0.01)*
Ref = reference category

Discussion

This study found the proportion of teachers with good knowledge and positive attitude towards emergency management of avulsion to be low, with the majority of them engaging in poor practices of managing dental avulsion. The study, which adopted a cluster sampling technique, is the first report of such on the knowledge and attitude of emergency management of avulsed teeth among primary school teachers in Ibadan, which is the largest city in West Africa. It is also the most recent in southwestern Nigeria, as previous studies from this region were conducted over 10 years ago [14,19] and may not accurately reflect the current picture, given the recent upsurge in the use of social media and other internet services, which makes information more readily available. In addition, the emergency management of avulsed teeth has evolved with changes in guidelines by the International Association of Dental Traumatology(IADT).[2,20,21] The changes were based on newer research findings and consensus, which further confirms the need to regularly determine the knowledge and practices of individuals who are the most likely witnesses of such emergencies to propose appropriate educational interventions.

The main strength of this study lies in the adequate representation of teachers from both public and private primary schools, with the sample size appropriately adjusted for the design effect associated with cluster sampling. In addition, the study provides recent baseline information essential for organizing capacity buiding programs to equip teachers with the skills to provide first aid care for avulsed teeth, in line with the implementation strategies of the National Oral Health policy (2024-2029).[22]

In this study, the majority of the teachers were females, and this is similar to the findings of previous studies within and outside the country[12,14,15,17,23] but contradicts UNESCO's 2018 report that there are fewer females in the teaching profession in sub-Saharan Africa.[24] The median age and years of teaching experience of

teachers in this study are higher than those reported in a previous study.[14] In terms of the level of education, less than half of them had at least a University education (or its equivalent), while studies from other parts of Nigeria and in Mongolia reported a higher proportion of teachers with university education.[15–17,23] This observation may be due to variations in the basic requirements for employment for teachers in private schools in different states and countries.

In this study, at least seven out of ten teachers had never received information on the management of avulsed teeth which is similar to previous reports. [12,14] In addition, none of the few who have received information got it from the internet. This reveals that despite the upsurge in the use of the internet, it is still not maximised as a source of oral health education for teachers on the first aid management of dental trauma.

The IADT [2] recommends that an avulsed permanent tooth should be reimplanted, while an avulsed primary tooth should be discarded; the latter is to reduce the risk of damage or infection to the tooth bud of the succedaneous tooth. When immediate reimplantation of the avulsed permanent tooth is not possible, the tooth should be kept in milk and taken to the Dentist immediately for re-implantation.[2] This study, however, found that less than a fifth of the teachers knew that an avulsed tooth should be reimplanted and only a third of them knew that an avulsed tooth could be kept and taken to the Dentist. Concerning the choice of storage medium, Hanks Balanced Salt Solution (HBSS) was the most preferred based on previous IADT guidelines,[20] but this is not readily available in most developing countries including Nigeria. Recent IADT guideline[2], however, states milk as the most preferred due to its availability. In this study, less than a tenth of the teachers would keep an avulsed permanent tooth in milk which is similar to the findings from previous African studies[14,25] but lower than the findings from other continents.[12,26,27] This reveals that teachers in Africa still have less dental awareness than their counterparts in other countries, this observation could be due to differences in the curricula used in teacher education across countries. Therefore, there is a need to include the first aid management of dental trauma in the curricula for training teachers in Nigeria and Africa at large.

Overall, only a quarter of the teachers had a good knowledge of the first aid management of avulsed teeth, and this is slightly higher than previous reports.[14,15] Although, this may indicate an increase in the proportion of teachers with adequate knowledge, however, it should be noted that the assessment of knowledge across studies was based on different sets of questions.

Concerning their attitude to the first aid management of avulsed teeth, the majority of the participants desired to be trained on the subject matter, which is similar to previous findings.[12,14,17]This shows their willingness to welcome interventions aimed at improving their knowledge of first aid management of dental avulsion. However, only a few teachers in this study had a good attitude toward the first aid management of avulsed teeth. Comparison with other studies was difficult due to differences in the questions used to assess attitude, as noted by Tewari *et al.*[13]

In terms of their practice of first aid management of avulsed teeth, about half of the participants had witnessed an avulsion and this further reveals that teachers are likely first-hand witnesses of such incidents and can help render first aid care. However, during these incidents, many of the teachers in this study administered nothing. When asked what they would do if they witnessed an avulsion injury majority of the participants would either do nothing or throw the tooth away. The proportion of teachers willing to replant in the present study is much lower than in previous reports from other regions within Nigeria.[14,15,17] This finding may be attributed not only to inadequate knowledge of first aid management of avulsed teeth, but also to other factors such as prevailing cultural belief, fear of causing further harm and lack of confidence in performing the procedure correctly. In addition, many of the teachers may have perceived that the management of tooth avulsion as the sole responsibility of health professionals. Collectively, these factors highlight the urgent need for structured first aid training programs to equip teachers in Ibadan with the knowledge and skills required to appropriately manage avulsed teeth.

In addition, the recent IADT guideline[2] recommends that avulsed teeth with specks of dirt should be rinsed with milk, saline, or patients' saliva before reimplantation, in this present study, less than ten participants would rinse the tooth in milk while a majority would either throw it away or rinse in an antiseptic solution and this agrees with the findings of Naratsetseng *et al.*[23]

Concerning the timing of reimplantation, less than a third would do so immediately, and the majority would hold the wrong location if they wanted to attempt to reimplant a tooth. This is contrary to the findings of previous studies from other regions in Nigeria, in which more than half of the teachers would hold the crown.[14,15,17] This further buttresses the need for urgent

educational interventions to address the inadequate level of knowledge of primary school teachers on the first aid management of avulsed teeth.

The logistic prediction model in this study reveals that previous exposure to information on the first aid management of avulsed teeth was significantly associated with the teachers' knowledge, which is similar to the findings of Olatosi *et al.*[14] This may not be so surprising, as such participants would have been taught the first aid management of avulsed teeth at the previous exposure. The participants' academic qualifications were also found to be significantly associated with the teachers' level of knowledge, as those with a diploma were more likely to have adequate knowledge compared with those with a Bachelor's degree. This may be attributed to the difference in the curriculum of these programs. It therefore calls for the inclusion of the first aid management of avulsed teeth in all teachers' education programs at all levels.

The result of this study can be generalised to urban settings within Ibadan and similar settings within Nigeria.

The primary limitation of this study is its questionnaire-based, cross-sectional design, which makes it subject to potential biases. These include recall bias, as participants may not accurately remember or report past events or practices, and social desirability bias, where respondents might provide answers they believe are more acceptable or favorable rather than disclosing their personal views. To mitigate these, participants were assured of anonymity and informed that their responses would not be traceable to them.

CONCLUSION

This study found that the majority of primary school teachers in Ibadan metropolis possess inadequate knowledge, negative attitudes, and sub-optimal practices regarding the first-aid management of avulsed teeth. This may limit their ability to respond appropriately when such dental emergencies occur, potentially compromising the prognosis of affected children. These findings underscore the urgent need for targeted educational interventions to improve teachers' capacity to provide appropriate first-aid care for dental avulsion.

In addition, teachers with a diploma were more likely to have adequate knowledge compared with those with a Bachelor's degree, signifying a need to include the first aid management of avulsed teeth in the educational curriculum of teachers at all levels.

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Declaration

All authors declare no conflict of interest.

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INTIMATE PARTNER VIOLENCE AMONG WOMEN WITH GYNAECOLOGIC HEALTH CHALLENGES AT THE UNIVERSITY COLLEGE HOSPITAL, IBADAN, NIGERIA: A CROSS-SECTIONAL STUDY

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ABSTRACT:

Background: **Intimate Partner Violence (IPV) are sexual, psychological, financial and physically coercive acts used against individuals who are at increased risk and constitute a vulnerable group. Women with gynaecologic health challenges may be at increased risk.**

Objective: **To assess the prevalence of IPV, its pattern, predisposing factors and its impact on the health seeking behaviour among women with gynaecological diseases attending the gynaecologic clinic of the University College Hospital, Ibadan**

Method: A descriptive cross-sectional study was conducted among women with intimate partners who attended the gynaecologic clinic at the University College Hospital, Ibadan. A pretested semi-structured interviewer-administered questionnaire was used for data collection. Information obtained included sociodemographic characteristics, gynaecologic diagnosis and structured questions to assess their exposure to the different forms of IPV- psychological, physical, sexual, verbal and financial abuse from their intimate partners. Data was analysed using IBM SPSS version 25. Chi square test and multiple logistic regression were used to assess the association between sociodemographic characteristics of the women and their partners and the occurrence of IPV. The level of significance was set at $p < 0.05$.

Results: **A total of 231 respondents participated in the study. Among the respondents, 141 (61%) had experienced at least a form of IPV. About a half (49.8%) of the women suffered psychological abuse. About two-thirds (60.3%) of the victims reported the abuse to their relatives and/or friends, while none reported to a formal authority. About a quarter of IPV victims (26.8%) were less than 5 years in their relationship, and IPV decreased with increased duration of the union. Identified predisposing factors of statistical significance were low socio-economic status ($p=0.019$), polygamous family setting ($p=0.019$), being divorced/separated ($p=0.001$) and partner's alcohol/cigarette use ($p=0.031$).**

Conclusion: **Women attending gynaecologic clinic suffer various forms of IPV. Healthcare providers should actively screen women during medical evaluation in the clinics. Concerted efforts must be made to prevent it, encourage prompt reporting through formal channels when it occurs and decisively address it.**

Keywords: Intimate partner violence, Gender-based violence, Gynaecology patients

INTRODUCTION

Intimate partner violence (IPV) is an important global public health concern and one of the most important reproductive health rights and gender-based issue.[1] According to the World Health Organization (WHO), IPV refers to any behavior within an intimate relationship that causes physical, sexual or psychologic harm to those in the relationship.[2] While both men and women can experience IPV, the rates are higher among women[3]. The physical and emotional symptoms that women experience as a result of violence and their effects often lasts throughout their lives.[4] IPV is a pattern of behavior in any relationship used by one partner to gain or maintain power and control over an intimate partner.[2,5] Alternative terms are domestic abuse, spousal abuse, family violence and domestic violence.[5]

Intimate partner violence is common, but grossly underreported.[6,7] A WHO multi-country study on women's health showed that 13-61% of women reported being physically assaulted by an intimate male

partner at some point in their lives.[5] In Nigeria, there is a wide prevalence range from between 11-79%.[7–9]

Violence against women occurs in different forms including physical acts, such as hitting and beating, sexual coercion, psychological acts and use of power to limit actions. Others are sexual, emotional or psychological, verbal abuse, controlling behaviours e.g., social, economic, and restriction to benefits[6,8,10]. The individual, relational, community, and societal factors determine the risk of being a victim of IPV. Individual risk factors include prior history of being physically or psychologically abused, substance abuse, and young age. Relational factors include marital conflicts and instability, economic stress, disharmony and unhealthy family relationships. Poverty and weak community sanctions against abusers are community factors.[2] The traditional gender norms regarding the role of the women in society increase the risk for IPV.[2]

Chronic ill-health is associated with stress on individuals and families. Various gynaecologic conditions are associated with challenges for both women and their relatives; and the ability to handle these challenges differs.[11,12] While some develop coping mechanisms; others become frustrated and vent the anger on the sick. Infertility is a common gynaecological problem that is associated with social stigma, neglect, economic deprivation, emotional stress, unhappiness and marital instability.[13] Among women with genital fistula, 56% and 27% respectively reported physical and sexual violence.[14] Similarly, those with gynaecologic malignancies have increased risks of abuse by partners and it negatively impacts their health-seeking behaviour.[12,15] The combined experience of cancer and abuse has a profound effect on health and treatment outcomes for cancer survivors.[11]

The consequences of IPV on the victims are enormous. There is a correlation between the experience of abuse and neglect in childhood and perpetrating abuse in adulthood[16]. A female partner who is abused in front of a child can cause a ripple effect, affecting two victims simultaneously. Such children who witness mothers' assaults are more likely to exhibit symptoms of post-traumatic stress disorder (PTSD) and other social problems.[17] Other effects of physical IPV include bruises, fractures, head injuries, lacerations, and internal bleeding. IPV commonly cause psychological harm, with victims frequently experiencing mental health issues such as fear, anxiety and depression. Many may experience depression during or after termination of the relationship, or may have risk of suicide or suffer PSTD characterized by flashbacks, intrusive images, exaggerated startle response, nightmares, and avoidance of triggers that are associated with the abuse.[6,18] Due to economic abuse, neglect and isolation, the victims have little money of their own and few people on whom they can rely on when seeking help. This prevents the deprived victims from leaving their abusive relationships.[10,15,19]

Women with gynaecologic conditions may suffer IPV in addition to underlying ill-health. Health challenges such as infertility, malignancies, fistulae are psychological and financial stressors for couples and could trigger aggression. It is imperative to explore the existence of IPV among women to offer holistic care. This study evaluated the prevalence of IPV, its pattern, predisposing factors and its impact on the health seeking behaviour among women with gynaecological diseases attending the gynaecologic clinic of the University College Hospital, Ibadan.

MATERIALS AND METHODS

Study design: This was a descriptive cross-sectional study.

Study Setting: The study was conducted at the Gynaecology Clinic of the University College Hospital, Ibadan, Nigeria.

Study Population: These were women attending the clinic for various gynaecologic conditions. Consenting women e"18years who had had an intimate partner were included in the study. Women who were critically ill and those who had never been in any intimate partner relationship were excluded.

Sample Size Determination: The sample size was calculated using the Fisher's formula, $Z^2 p (1 - p)/ d^2$. Using a prevalence of IPV of 15.3% reported by Oyediran and Feyisetan in 2013[4], Z (confidence interval) = 1.96, and d (precision) = 5% or 0.05; a minimum sample size of 200 was obtained. Adjusting for 10% attrition rate the sample size of 220 was calculated. A total of 231 were enrolled.

Sampling Technique: Respondents were recruited using simple random sampling technique.

Ethical Consideration: Ethical approval was obtained from the University of Ibadan/University College Hospital, Ibadan Ethics Review Committee. Ethical approval number-UI/EC/20/0426. Voluntary and informed consent from the participants was obtained.

Data Collection: Data was collected using a pretested semi-structured interviewer-administered questionnaire. Information obtained included socio-demographic characteristics of respondents and their

partners, the clinical details and gynaecologic diagnosis of the respondents. Questions that were asked included the respondents' exposure to the various forms of IPV: physical abuse (slapping, flogging, hitting, biting, object throwing, choking by the partner); sexual abuse (forceful sexual intercourse by partner against the respondent's will or deliberate sexual deprivation); verbal abuse (partner insulted, threatened, cursed or swore against the respondent); psychological abuse (deliberate deprivation of food, clothing, shelter, medical care or sense of being valued); financial abuse (intentionally withholding financial support). Victims were asked if the IPV experienced had effects on their health-seeking behaviour. The gynaecologic conditions were classified into major and minor. Minor category included genital tract infections, menstrual disorders, menopausal symptoms; while major conditions were uterine fibroids, infertility, pelvic organ prolapse, genital tract fistulae, and gynaecologic malignancies.

Data Analysis: The data was entered analysed using IBM Statistical Package for Social Sciences version 23. The quantitative variables were summarized using frequencies, proportions, means and standard deviation and presented in tables and charts. Chi-square test and multiple logistic regression were used to assess the association between the occurrence of IPV and the sociodemographic characteristics of the women and their partners. The level of significance was set at $p < 0.05$.

RESULTS

A total of 231 questionnaires were completed and included in the analysis. Table 1- shows the socio-demographic characteristics of the respondents. The mean age was 36.2 years (SD ± 9.4), the modal age-group was 30-39 years (45%). Majority were married 199 (86.1%), in monogamous family settings 185 (80.1%) and had been married for less than 5 years group 106 (45.9%). Majority of the respondents had post-secondary education 150 (65%), %), were skilled workers 89 (38.7%) but of low socio-economic status 193 (83.6%). Also, 95 (41.1%) were nulliparous.

Respondents who presented to the clinic with minor gynaecologic conditions such as genital tract infections, peri-menopausal symptoms, and miscarriages were 19 (8.2%), while 212 (91.8%) had major gynaecologic conditions such as uterine fibroids, malignancies, infertility, fistulae among others. The most prevalent gynaecological condition encountered was infertility. Approximately 24 (10.4%) of women had ever taken alcohol or smoked cigarette.

A higher proportion of the participant's partners 160 (69.3%) had completed post-secondary education, and 109 (47.2%) were professionals. However, a significant proportion [152 (65.8%)] were also of low socio-economic class. About a quarter [59 (25.5%)] of the men smoked cigarette and/or drank alcohol (Table 2).

Table 1: Sociodemographic and gynaecologic characteristics of respondents

Women Characteristics	Frequency n = 231	Percentage (%)
Age (years)		
20-29	57	24.7
30-39	104	45.0
40-49	46	19.9
50+	24	10.4
Marital status		
Married	199	86.1
Single/Divorced/Separated	32	13.9
Duration of marriage (years)		
< 5	106	45.9
5-9	49	21.2
9-19	41	17.7
20+	35	15.2
Place of residence		
Rural	44	19.1
Urban	187	80.9
Religion		
Christianity	148	64.1
Islam/others	83	35.9
Occupation		
None/unskilled	73	31.7
Skilled	89	38.7
Professional	68	29.6
Tribe		
Yoruba	197	85.3
Igbo	20	8.7
Hausa/others	14	6.1
Family Type		
Monogamous	185	80.1
Polygamous	46	19.9
Substance Use		
None	207	89.6
Alcohol/Cigarette	24	10.4
Woman's Income*		
Low	193	83.6
Middle	25	10.8
High	13	5.6
Gynaecologic Condition		
Minor **	19	8.2
Major***	212	91.8

**Income – Low= <50,000/month, medium =50,000 – 150,000/month, high=>150,000/month;*

*** Minor - genital tract infections, menstrual disorders, menopausal symptoms; ***Major - Fibroids, infertility, genital organ prolapse, fistulae, gynaecologic malignancies*

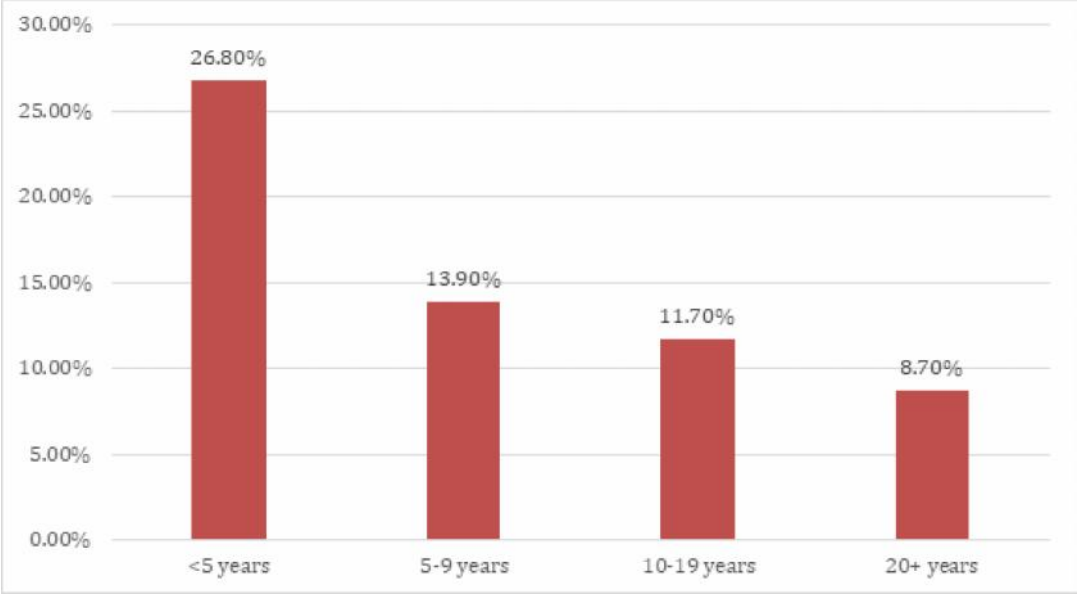

Figure 1: Proportion of intimate partner violence contribution by duration of marriage

In Figure 1, the overall prevalence of IPV was 61%. A higher rate of IPV was observed among women whose marriages were less than 5years (26.8%) compared to women more than 20 years in their relationships (8.7%).

Table 3 shows different forms of IPV among the women. The commonest type of abuse in the study was psychological abuse (49.8%). Other forms of abuse are as shown in the table.

Table 2: Respondents' partner's characteristics

Partner Characteristic	Frequency n = 231	Percentage (%)
Spousal age difference (years)		
0-4	112	48.5
5-9	86	37.2
10-14	24	10.4
15+	9	3.9
Educational level		
Primary/Quranic	16	6.9
Secondary	55	23.8
Postsecondary	160	69.3
Occupation		
Unskilled	37	16.0
Skilled	8	36.8
Professional	109	47.2
Substance use		
None	172	74.5
Alcohol/Cigarette	59	25.5
Other Health challenges		
No	205	88.7
Yes	26	11.3
Partner's Income		
Low	152	65.8
Medium	49	21.2
High	30	13.0

In Table 4, about 85 (60.3%) of women who suffered IPV made a report, 63 (74.1%) of whom reported to family members while 22 (25.9%) reported to friends. Also, about 77.3% of the victims felt the abuse had negatively affected their health-seeking attitude and prevented them from promptly seeking appropriate health intervention for their clinical conditions.

Table 3: Proportion of the types of abuse experienced by the women

Type of Abuse*	N = 231	
	YES n (%)	NO n (%)
Physical	27 (11.7)	204 (88.3)
Sexual	40 (14.7)	191 (85.3)
Verbal	107 (46.3)	124 (53.7)
Financial	56 (24.2)	175 (75.8)
Psychological	115 (49.8)	116 (50.2)

**There were participants who experienced multiple IPVs.*

Table 5 shows the association between IPV and women/partners' characteristics. Marital status (p= 0.001), Partners' income (p= 0.001), partners' level of education (p= 0.007), Partners' occupation (p= 0.007), and partners' substance use (p= 0.031) were associated with IPV ($p<0.05$). IPV was also significantly associated with family type (p= 0.019), women's income (p= 0.019), gynaecologic condition (p= 0.024).

Multivariate analysis of factors associated with IPV is depicted in table 6. The odds were 3.6 times higher for single or divorced women to have experienced IPV than married women (AOR=3.63, 95%CI=1.08–12.16). Family type was a predictor of IPV; women

Table 4 Help and health-seeking attitude of women with intimate partner violence

Variable	Intimate Partner Violence (N=141) Frequency (n)	Percentage (%)
Health Seeking Attitude affected		
Yes	109	77.3
No	32	22.7
Abuse Reported		
No	56	39.7
Yes	85	60.3
Abuse Reported to		
No one	56	39.7
Family	63	43.7
Friends	22	15.6
Security agencies	0	0
Women Report of Abuse (N=85)		
Family	63	74.1
Friends	22	25.9
Security agencies	0	0
Religious leaders	**0**	0

Table 5: Chi square analysis of the association between IPV and women/partners' characteristics

Women/Partner characteristics	Intimate partner No n (%)	Violence (N=231) Yes n (%)	X^2	P value
Age of respondents			3.40	0.344
20-29	28 (49.1)	29 (50.9)		
30-39	36 (34.6)	68 (65.4)		
40-49	17 (37.0)	29 (63.0)		
50+	9 (37.5)	15 (62.5)		
Religion of respondents			2.25	0.133
Christianity	63 (42.6)	85 (57.4)		
Islam	27 (32.5)	56 (67.5)		
Marital Status			10.9	**0.001***
Married	86 (43.2)	113 (56.8)		
Single/divorced/separated	4 (12.5)	28 (87.5)		
Occupation of respondents			5.62	0.060
None/Unskilled	21 (28.4)	53 (71.2)		
Skilled	37 (41.6)	52 (58.4)		
Professional	32 (47.1)	36 (52.9)		
Educational level of respondents				
Primary/Quranic	6(27.3)	16 (72.7)	5.87	0.053
Secondary	17 (28.8)	42 (71.2)		
Postsecondary	67 (44.7)	83 (55.3)		
Family type			5.47	**0.019***
Monogamous	79(42.7)	106(57.3)		
Polygamous	11(23.9)	35(76.1)		
Women substance use			1.08	0.299
None	83 (40.1)	124 (59.9)		
Alcohol/Cigarette	7 (29.2)	17 (70.8)		
Women's income			7.92	**0.019***
Poor	68 (35.2)	125 (64.8)		
Average	13 (52.0	12 (48.0)		
High	9 (69.2)	4 (30.8)		
Gynaecologic condition			5.10	**0.024***
Minor	12 (63.2)	7 (36.8)		
Major	78 (36.8)	134 (63.2)		
Spousal age difference			1.79	0.617
0-4	41 (36.6)	71 (63.4)		
5-9	33 (38.4)	53 (61.6)		
10-19	11 (45.8)	13 (54.2)		
20+	5 (55.6)	4 (44.4)		
Partner's education			9.96	**0.007***
Primary/Quranic	3 (18.8)	13 (81.2)		
Secondary	14 (25.5)	41 (74.5)		
Postsecondary	73 (45.6)	87 (54.4)		
Partner's occupation			9.98	**0.007***
None/Unskilled	7 (18.9)	30 (81.1)		
Skilled	31 (36.5)	54 (63.5)		
Professional	52 (47.7)	57 (52.3)		
Partner's substance use			4.67	**0.031***
None	74 (43.0)	98 (57.0)		
Alcohol/Cigarette	16 (27.1)	43 (72.9)		
Partner's income			19.25	**0.000***
Low	51 (33.5)	101 (66.5)		
Medium	32 (65.3)	17 (34.7)		
High	7 (23.3)	23 (76.7)		

Table 6: Multiple logistic regression analysis between intimate partner violence and women/partner characteristics

Women/Partner characteristics	UOR	p-value	95%CI	AOR	p-value	95%CI
Marital status						
Married#	1			1		
Single/Divorced/Separated	5.32	**0.003***	1.80 – 15.76	3.63	**0.037***	1.08 – 12.16
Occupation of respondents						
None/unskilled	1			1		
Skilled	0.56	0.081	0.28 – 1.08	1.11	0.805	0.48 – 2.56
Professional	0.45	0.023	0.22 – 0.89	1.26	0.627	0.49 – 3.18
Level of education of respondents						
Primary/Quranic	1			1		
Secondary	0.93	0.891	0.31 – 2.77	1.86	0.366	0.48 – 7.12
Postsecondary	0.46	0.130	0.17 – 1.25	1.70	0.461	0.42 – 6.94
Family type						
Monogamous#	1			1		
Polygamous	2.37	**0.022***	1.13 – 4.96	1.42	0.453	0.57 – 3.53
Women SES						
Poor#	1			1		
Average	0.50	0.107	0.21 – 1.16	0.69	0.463	0.25 – 1.88
Rich	0.24	**0.022***	0.07 – 0.81	0.16	**0.034***	0.03 – 0.78
Gynaecologic health condition						
Minor Gynaecologic#	1			1		
Major Gynaecologic	2.95	**0.030***	1.11 – 7.79	1.93	0.244	0.63 – 5.88
Partners' level of education						
Primary/Quranic#	1			1		
Secondary	0.68	0.582	0.16 – 2.73	0.62	0.567	0.12 – 3.14
Postsecondary	0.27	0.049	0.07 – 0.99	0.37	0.231	0.07 – 1.90
Partners' occupation						
Unskilled#	1			1		
Skilled	0.41	0.059	0.15 – 1.03	0.57	0.307	0.19 – 1.67
Professional	0.25	**0.003***	0.10 – 0.63	0.50	0.219	0.16 – 1.50
Partner SES*						
Poor#	1			1		
Average	0.26	0.000	0.13 – 0.53	0.36	**0.010***	0.07 – 0.78
Rich	1.66	0.276	0.66 – 4.12	3.78	**0.029***	1.14 – 12.43
Partners substance use						
None#	1			1		
Alcohol/Cigarette	2.03	**0.032***	1.06 – 3.88	1.56	0.237	0.74 – 3.28

*# Reference category; SES - Socioeconomic status; *Significant p values*

in polygamous union had slightly higher odds to experience IPV compared to those in monogamous families (AOR=1.42, 95%CI=0.57–3.53). Having a gynaecologic health challenge predicts risk of IPV; thus, women with major gynaecologic health problems were about 3 times more likely to have experienced IPV compared to those who had minor gynaecologic health problem (UOR=2.95, 95%CI=1.11–7.79). Women's socio-economic status (SES) (AOR=0.16, 95%CI=0.03–0.78) was a predictor of IPV. Wealthier women (rich class) were less likely to experience IPV compared to women in the economic disadvantaged class. The occupation of the women and partner was also predictive of IPV. Women who were professionals were less likely to experience IPV than women with unskilled jobs (AOR=0.25, 95%CI=0.10–0.63).

DISCUSSION

This study evaluated the prevalence of IPV and the attitude of the women attending the gynaecologic clinic to IPV; the main finding was that about three-fifth of the women had experienced at least one form of IPV in the past; and IPV was highest among women who had been married for less than 5 years. Women with major gynaecologic conditions (malignancies, genital fistula, symptomatic fibroids, infertility) were two times higher odds to suffer IPV than those with minor conditions (such as genital tract infections, menstrual

disorders, menopausal symptoms). Psychological abuse was the commonest form, closely followed by verbal abuse. About two thirds of the women who were abused by their partners reported, while a few of them opined that their health seeking attitude had been negatively impacted.

More than half of the respondents had experienced IPV. This was similar to the findings of Ameh and colleagues (56%) who assessed the prevalence of IPV among women, but doubles the prevalence reported by Aduloju *et al.* (31.2%) and Envuladu *et al.* (31.8%).[20–22] The higher prevalence of IPV in this study may be due to the difference in study population (gynaecology patients versus pregnant women), the setting, associated gynaecological health condition or financial burden posed by the condition. This difference could also be due to the socio-cultural diversities in study populations, as well as difference in the data collection tools.

Intimate partner violence was reported by both married, and single women in this study. It was expected that IPV will be commoner in married couples, however, a high proportion of single, divorced, separated women also experienced IPV. In this study, IPV was also observed to be commonest in those whose duration of marriage was less than 5 years and decreased with increased duration of the union. Öyekçin and colleagues reported similar finding in their study where IPV was inversely related with duration [23] It may be explained that duration of marriage is a protective factor against IPV as the couples tend to understand, tolerate and respect each other with time. Women in the so called 'surviving' marriages may have been able to adapt better or push back. Also, many women do not report the abuse due to shame thus the women suffer in silence.[6]

The existence of health challenges and burden of the disease on the family may also increase the risk of IPV. Health challenges such as infertility, malignancies, fistulae are psychological and financial stressors for couples and could trigger aggression with subsequent resort to domestic violence. In this study, women with major gynaecological conditions were at increased risk of IPV, though this could be because most of the respondents (91%) in this study had major gynaecologic health challenge. Families are faced with living with a disease, sometimes develop coping mechanisms; while others are overwhelmed, frustrated and resort to violence. Aduloju *et al.* reported that the longer the duration of infertility, the higher the risk of IPV among infertile women.[20]

Several forms of IPV were reported. About half of the women suffered both psychological and verbal abuse, followed by financial abuse. These are silent forms of IPV; constitute various forms of deprivation of basic necessities, humiliating remarks and comments that may threaten the self-esteem and mental health of women without people paying attention to them. Thus, they tend to persist for a long period. Psychological abuse is the commonest form; similar to the findings of Olagbuji *et al.*, Aduloju *et al.* (50%) and Ozgoli *et al.* (74.3%).[10,15,20] This finding may be explained by widespread gender inequality, lack of or poor women autonomy and empowerment, and poor girl-child education in our environment. Sexual (14.7%) and physical (11.7%) violence were less common in this study, contrary to reports by Evulandu *et al.* who found sexual violence to be as high as 60.9%[22] This may be due to under-reporting and associated underlying gynaecologic disease conditions.

About two thirds of the women who suffered abuses reported it and three quarters of these women reported to family members, while others informed friends. It is noteworthy that none reported to security agencies. Tenkorang *et al.* reported similar findings (65% reportage of violence) from a study on how the severity and type of violence affected victim's health seeking behavior and majority sought help from informal sources.[24] Many women who suffer intimate partner only confide in family and friends who have little or no authority to sanction or prosecute their abusers. This is indicative of the several barriers, both systemic and personal, that confront women in accessing formal services to address IPV. It is both surprising and worrisome that none of the women who experienced IPV reported to the law enforcement agencies. Fear, shame, and low trust in the role of these agencies may be responsible. It may also be due to protection of family integrity, feelings of personal guilt, and avoidance of public embarrassment.[25,26]

Interestingly, about four fifths agreed that their health-seeking behavior has been negatively impacted by IPV. This aligns with the observation of Modessit and colleagues that women who suffered abuse were more likely to present with advanced stages of their disease conditions.[12] The factors associated with IPV include marital status, educational status, family setting, occupation, women and partner's income, educational level, family type and substance use. This is similar to the findings of Envuladu *et al.*[22] In addition, the risk of IPV was increased in women whose partners abused substances or alcohol, were unemployed or had low income. These are similar to the findings of Oseni *et al.* in a community-based study conducted in Edo state.[27]

Gynaecologic patients may experience IPV in addition to the underlying health condition. IPV is commonly not given enough attention or relevance while attending to gynaecology client; thus, a missed opportunity to offer holistic care to women. The findings of this research addressed a relevant research question on exposure of gynaecology patients to IPV. It is pertinent that clinicians be more vigilant while screening women during gynaecology consultation.

STRENGTH AND WEAKNESS

A limitation of this study is the small sample size. However, the strength of this study is the identification of an important social issue which affects the overall health of any woman. This study has established the fact that a detailed evaluation is imperative and holistic care of gynaecologic clients is not complete without giving attention to intimate partner violence during consultation. Our study also showed that women who suffer IPV have a negative health seeking behavior and significantly lower chances of officially reporting to legal or security agencies; hence identification of IPV requires clinicians' surveillance.

RECOMMENDATIONS

IPV remains a public health issue which affects women of all age groups. Education on IPV should be offered in schools to adolescents, in the home as part of moral teaching irrespective of gender, and during pre-marital/marriage counseling for intending couples. Every obstetric, gynaecologic and reproductive service clinic contact should be an opportunity to evaluate women at risk or victims of abuse. When identified, women should receive appropriate intervention, support for the victim and her partner; and protection from partner where necessary.

The couple should be counseled on practical approaches to preventing and stopping IPV while working with a clinical psychologist, therapist and social worker to achieve. The remote causes of IPV such as poor education, poor woman autonomy and gender inequality should also be addressed. Substance abuse such as excessive alcohol intake, marijuana and cocaine use should be discouraged using various media. Government agencies such as the ministry of women affairs should initiate help-seeking process(es) and campaigns that will encourage the victims to report to formal authorities and criminalizing violence.

CONCLUSION

Women with gynaecologic conditions suffer various forms of IPV and it affects their health-seeking behaviour. Predisposing factors include low socioeconomic status, polygamous family setting, being divorced/separated and partner's substance use. It is paramount to explore and identify IPV during gynaecologic consultations, in order to provide good quality healthcare using holistic multidisciplinary approach to address both IPV and other health challenges. Concerted efforts must be made to prevent it, encourage prompt reporting when it occurs in a bid to decisively address it.

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