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Prevalence, Pattern and Predictors of Intimate Partner Violence Amongst Female Undergraduates in Abia State, Nigeria; Public Health Implications

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Abstract

Background:

Intimate Partner Violence (IPV) is the range of sexually, psychologically and physically coercive acts used against adult and adolescent women by a current or former male partner. It is a major public health problem globally. This study determined the prevalence, patterns and predictors of IPV amongst female undergraduates in Abia State.

Methods

A cross-sectional study was conducted from January - February 2022 amongst 306 female undergraduates in Abia State. A mixed method of an online structured questionnaire created on Google forms & onsite self-administered questionnaire were deployed for data collection. Descriptive, bivariate and multivariate analyses were done using IBM SPSS Version 26.0. The level of significance was set at 5%.

Results

A total of 306 respondents participated in the survey. The overall prevalence of IPV amongst female undergraduates was 51.2% (95% CI: 44.8%-57.6%). Emotional abuse was the most common form of abuse 78.9%, followed by Physical abuse 42.0% and Sexual abuse 30.8%. Predictors of IPV reported include female earning/receiving more than their partner monthly(aOR = 2.30; 95% CI: 1.20–4.41); male (partner) alcohol consumption(aOR = 5.17; 95% CI: 2.46–10.88), being a smoker of cigarette/marijuana(aOR = 11.01; 95% CI: 1.26–96.25) and having witnessed domestic violence as a child(aOR = 3.55; 95% CI: I.56-8.07).

Conclusion

Over half of all female undergraduates in Abia State have experienced IPV with emotional abuse being the commonest. Some Individual and relationship factors were identified as predictors of IPV. We recommend intensifying primary prevention campaigns against risk factors identified like smoking and alcohol consumption.

Background

Intimate Partner Violence (IPV) is a major public health problem globally [1]. Alternate terminologies for it are domestic violence, family violence or relationship violence [1]. It is the commonest form of violence against women and one of the most pervasive human rights abuses against women [1]. Intimate Partner Violence refers to any behavior or act in the confines of an intimate relationship that results in physical, psychological or sexual harm to those in the relationship [2]. Repeated abuse in the same relationship is known as “Battering” [2]. The various forms of IPV include physical abuse, emotional or psychological abuse, sexual abuse and economic/financial abuse [2]. The 49th World Health Assembly declared that violence is a leading worldwide public health problem affecting people of all ages and sexes but especially women and children [3]. The worldwide prevalence of IPV is 35%, the prevalence in sub-Saharan Africa is reported to range from 20–71% and 38% of all murders of women worldwide are committed by intimate partners [4]. The 2013 Nigerian Demographic Health Survey (NDHS) reported that 25% of women in Nigeria reported having experienced IPV from their partner [5]. The consequences of IPV range from benign conditions such as bruises, cuts and so on to extreme consequences like suicidal thoughts, suicidal attempts and homicides [2]. A multi-country study stated that between 15–71% of female respondents reported to having experienced physical and/or sexual abuse by an intimate partner at some point in their life [6]. Amongst female undergraduates in Nigeria, a study done amongst female students in Ibadan, South-Western Nigeria reported an IPV prevalence of 44.1% amongst undergraduates [7], however, to the best of our literature search, there was no found study amongst female students in South Eastern part of Nigeria. Female students in tertiary institutions are a very important subset

in the society as not only are they in/entering the most active reproductive stage of life, they also serve as an active pool for the workforce of the nation. Continuous unmitigated exposure to IPV will impact both the reproductive and economic fortunes of the nation amidst other negative impact. IPV is very rampant but exhibits an iceberg phenomenon as the cases seen and reported are just a tip of the iceberg compared to the submerged portion of the iceberg which comprises of numerous unreported cases [5]. Women who are victims of the violence are exposed to a variety of untoward health outcomes [8]. The outcomes include low birth weight in women who were victims of IPV during pregnancy, unwanted pregnancy and induced abortion, sexually transmitted infections (STIs), physical injury, temporary or permanent disability, depression, alcohol abuse, post-traumatic stress syndrome [8]. In extreme cases, IPV has been seen to lead to homicides and suicides [8]. The 2013 NDHS reported that amongst women who experienced physical violence in the 12 months preceding study, 33% reported varying degrees of physical injuries [5]. In addition to the above, amongst female students, IPV can also lead to inability to concentrate on their studies, absenteeism, interrupted studies and so on [7]. One of the recommendations from the 49th World Health Assembly was that member states assess the burden of the problem of IPV in their territories and initiate public health activities to address this problem [3]. In addition, WHO has posited that though addressing the problem of IPV is through primary prevention, the very first step of this process is through determination of prevalence in member states and building of the knowledge bank concerning IPV. In Nigeria, especially in the South Eastern part where this study was carried out, there is paucity of information among the young population and those in dating/courtship. There is also a need to assess this burden among the undergraduates, because there is a greater risk attached to this specified population. Alcohol abuse, substance abuse, multiple partners and so on are some of the factors associated with IPV from previous studies that are rife in University settings, hence the appropriateness of this setting for this study. With the prevalence data and the developed knowledge bank, relevant stakeholders can be objectively engaged with facts and data, and the problem of IPV can be holistically addressed. This study will aid in addressing IPV by taking the critical first step of building the knowledge bank and providing data on the burden, determinants and consequences of IPV amongst female undergraduates in Abia State. This study aimed to determine the prevalence, patterns and predictors of IPV amongst female Undergraduates in Abia State.

Methods

Study Setting and Design

This was a descriptive study conducted in Abia State. Abia state is one of the five states in the South-East zone of Nigeria. It has an estimated population of 3,784,355 in 2017 projected from the 2006 national population census based on an annual growth rate of 3.0% [9]. Geopolitically, Abia state is divided into three senatorial zones (Abia North, Abia South, and Abia Central) with 17 local government areas and 291 political wards [9]. The State has 1 Federal University, 1 State University and 4 private universities. From the list of six Universities in Abia State, two were randomly selected via drawing of lots – Micheal Okpara University of Agriculture Umudike (MOUAU), and Abia State University (ABSU). MOUAU is located in Umudike, Abia State and the most recent statistics indicates the school has a student's population of 27,750 undergraduates with over half being females [10]. Umudike is about 10 kilometers from Umuahia, the Capital of Abia State. ABSU on the other hand has 3 campuses in Umuahia, Uturu and Aba and recent statistics show the school has a student's population of about 20,900 undergraduates with over half being females [11].

Study Population

Female undergraduates in Abia State made up the study population. The inclusion criteria included ABSU and MOUAU female students aged ≥ 18 years who were in a current relationship or had ever been in a relationship. Eligible participants who were ill or pregnant were excluded from the study.

Sample Size Determination

Using the proportion of 23.6% who had experienced IPV from a previous study amongst females in Osogbo Nigeria [12], and precision of 5%, the sample size was calculated using the single proportion population formula. It is given as n = (ZA)2pq/d2.

The minimum sample size was estimated to be 308. A non-response rate of 10% was assumed to arrive at this minimum sample size.

Study tool and data collection process

Rigorous literature review was done and the structure of the questionnaire was formed using published research. With the help of Google forms, a cloud-based survey tool powered by Google, a semi-structured questionnaire was created for data collection over a 2-month period (January - February 2022). One hundred and sixty (160) copies of the same questionnaire were also printed and given to respondents who did not have access to smart devices or functional internet to fill. The questionnaire was validated using the face and content validity techniques. The introductory segment of the questionnaire emphasized the privacy and confidentiality of the respondents' responses. The pretest was done in a community outside the study area. This helped to improve the diction and appropriateness of the questionnaire. The questionnaire had different sections. **Section A** included information on the Socio-demographics such as age, level of study, religion, denomination, HIV status of partner, occupation of partner, partners level of education and so on. **Section B** obtained information on occurrence of IPV and pattern. **Section C** obtained information on determinants of IPV such as partners alcohol consumption, monthly allowances/earnings of couple, partners cigarette or marijuana use, type of relationship (open, committed, single or married), partner having concurrent relationships outside marriage, witnessing or experiencing domestic violence as a child, and presence of aggressive behavior in spouse. The questionnaire link was distributed to various social media platforms of ABSU and MOUAU female undergraduates such as WhatsApp messenger and Telegram. This was done through the admins of such groups who were also students and served as trained research assistants providing help to the respondents during the process and escalating difficult problems to the researchers if any. Research assistants also distributed hardcopies of the questionnaire to eligible participants who were unable to fill the online form for a myriad of reasons. A total of 160 responses were obtained from the online platform while a total of 146 responses were received from the physical questionnaires (Fourteen eligible respondents refused to fill the physical questionnaire for various reasons).

Measurement of Variables

The primary outcome measure was IPV amongst the female undergraduates sampled.

Statistical Analysis

Data coding, entry, cleaning, and analysis were done using IBM SPSS version 26 statistical program for Windows. Descriptive statistics was used to characterize the sample and study variables. Associations between independent variables and IPV were assessed with crosstabulations. Bivariate logistic regression model was used to identify associated factors of IPV in the study population and multivariate logistic regression model was used to determine the significant independent predictors of IPV. The level of significance was predetermined at a p-value of less than 0.05.

Ethical Approval and Consent to Participate

Study was approved by the **Health Research Ethics Committee** of Federal Medical Centre Umuahia, Nigeria. Informed Consent was obtained from the respondents prior to filling the questionnaire. All methods in this study were carried out in accordance with the Declaration of Helsinki.

Results

A total of 306 participants took part in the study out of 320 eligible respondents approached. The mean age was 24.02±5.77 years. Those aged 20-24years constituted the majority of the respondents (45.8%). Majority of the respondents were Christians (90.2%) out of which Pentecostals (39.2%) were the most prevalent denomination compared to others. Among the respondents, the majority (34.6%) were in year three of study. Sixty-five percent of the respondents were in one form of relationship or the other compared to (35%) that were single. A greater proportion of the respondents were currently in the category of 'in a relationship/ had been in a relationship' (81.7%). A greater proportion of the respondents had their first sexual

intercourse after 18years of age (50.7%) while some were yet to achieve coitarche (30.1%). The condition of first sexual contact among majority of the respondents was consented sex (59.5%). Majority of the respondents were HIV negative (85.3%), while some, do not know their HIV status (12.1%) (**Table 1).** Out of the 250 respondents who were currently in a relationship or ever been in a relationship, majority of their partners were undergraduates (48.4%) and were employed (72.8%). A greater proportion of their partners were HIV negative 209 (83.6%) **(Table 2).** Among the respondents currently in a relationship/ever been in a relationship, 91.6% of them were aware of Intimate Partner Violence. The prevalence of IPV amongst female undergraduates is 51.2%**.** The most prevalent form of IPV suffered by these undergraduates was Emotional abuse (78.9%), followed by Physical abuse (42.0%) and lastly Sexual abuse (30.8%) **(Figure 1).**

Table 1: Socio-demographic and Sexual Characteristics of respondents (N= 306)

Variables	Frequency	Percentage (%)
Age (years)		
<20	58	19.0
20-24	140	45.8
25-29	62	20.3
≥30	46	15.0
Mean ± 2SD	24.02±5.77	
Religion		
Christianity	276	90.2
Islam	23	7.5
Traditionalist	7	2.3
Denomination		
Catholic	109	35.6
Orthodox	40	13.1
Pentecostal	120	39.2
Others	7	2.3
Level of study		
100	46	15.0
200	65	21.2
300	106	34.6
400	69	22.5
500	14	4.6
600	6	2.0
Relationship status		
Single	107	35.0
Married	31	10.1
Committed	116	37.9
Open	52	17.0
Ever had a partner		
Yes	250	81.7
No	56	18.3
Age at first sexual intercourse		
< 18 years	59	19.3
≥18 years	155	50.7
No sexual intercourse yet	92	30.1

Conditions of first sexual intercourse		
Consented	182	59.5
Coerced/forced	32	10.5
No intercourse yet	92	30.1
HIV status of respondent		
Negative	261	85.3
Positive	8	2.6
Unknown	37	12.1

Table 2: Educational Status and Occupation of Respondents Partners

	Frequency	Percentage (%)
Educational Status		
Secondary	6	2.4
Undergraduate	121	48.4
Postgraduate	95	38.0
Others	28	11.2
Total	250	100.0
Occupation		
Employed	182	72.8
Not Employed	68	27.2
Total	250	100.0
HIV status		
Negative	209	83.6
Positive	9	3.6
Unknown	32	12.8
Total	250	100.0

Table 3; Associated factors and Significant Predictors of Intimate Partner Violence (IPV) in Female Undergraduates

Variables	IPV		COR (95% CI)	*P value*	aOR (95% CI)	*P value*
	Yes(%)	No(%)				
Do you earn/receive more than your partner per month						
Yes	50(65.8)	26(34.2)	2.37(1.35 - 4.14)	0.002	2.30 (1.20-4.41)	0.012
No	78(44.8)	96(55.2)				
Does your partner consume alcohol						
Yes	54(78.3)	15(21.7)	5.21(2.73 - 9.91)	0.001	5.17 (2.46-10.85)	0.001
No	74(40.9)	107(59.1)				
Do you consume alcohol						
Yes	36(69.2)	16(30.8)	2.59(1.35 - 4.97)	0.003	0.98 (0.43-2.22)	0.954
No	92(46.5)	106(53.5)				
Does your partner smoke cigarette/marijuana						
Yes	29(76.3)	9(23.7)	3.68(1.66 - 8.14)	0.001	1.43 (0.55-3.70)	0.466
No	99(46.7)	113(53.3)				
Do you smoke cigarette/marijuana						
Yes	10(90.9)	1(9.1)	10.25(1.29 - 81.36)	0.007	11.01(1.26-96.25)	0.030
No	118(49.4)	121(50.6)				
Does your partner have a concurrent relationship						
Yes	15(65.2)	8(34.8)	1.89(0.77 - 4.64)	0.158	-	-
No	113(49.8)	114(50.2)				
Ever witnessed domestic violence as a child						
Yes	30(73.2)	11(26.8)	2.57(1.21 - 5.47)	0.002	3.55 (1.56-8.07)	0.002
No	98(46.9)	111(53.1)				
Is your partner regularly involved in fights with other men or participate in riots						
Yes	13(68.4)	6(31.6)	2.18(0.80 - 5.94)	0.118	-	-
No	115(49.8)	116(50.2)				

In the bivariate logistic regression model, monthly allowance/income, alcohol consumption, smoking and having witnessed domestic violence as a child were significantly associated with suffering IPV. Undergraduate females who earned/receive more than their male partners were more than two folds likely to suffer IPV (OR = 2.37; 95% CI: 1.35 - 4.14). Those who consume alcohol (OR = 2.59; 95% CI: 1.35 - 4.97) and those whose partners consume alcohol (OR = 5.21; 95% CI: 2.73 - 9.91) were more likely to suffer IPV compared to their counterparts. Similarly, female undergraduates who smoke (OR=10.25; 95%

CI: 1.29 - 81.36) or who have partners' that smoke (OR= 3.68; 95% CI: 1.66 - 8.14) were also more likely to suffer IPV compared to their counterparts. Respondents who witnessed domestic violence as children were about three-folds more likely to suffer IPV compared to those who never witnessed domestic violence as children (OR =2.57; 95% CI: 1.21 - 5.47).

After controlling for other variables in the multivariate logistic regression model, the predictors of Intimate Partner Violence were: female earning/receiving more than male partner monthly (aOR = 2.30; 95% CI: 1.20-4.41); male (partner) alcohol consumption (aOR= 5.17; 95% CI: 2.46-10.88), female smoker of cigarette/marijuana (aOR = 11.01; 95% CI: 1.26-96.25) and having witnessed domestic violence as a child (aOR = 3.55; 95% CI: I.56-8.07) **(Table 3).**

Discussion

IPV was a prevalent issue amongst female undergraduates in this study. The prevalence of IPV (51.2%) reported in this study is higher than that reported in a similar study conducted in Ibadan Nigeria amongst female students [7]. This suggests that more than half of Female Undergraduates in Abia State have been abused by their partners with its attendant consequences on their emotional, physical and sexual health. Furthermore, if screenings are not carried out abused students during their clinic/hospital visits for somewhat innocuous or unexplainable injuries or conditions, IPV diagnosis will be missed and there may be recurrence with worsening consequences which may greatly interfere with the student's health, academic performance and may at the extreme lead to homicides or suicide. This rate was also higher than the IPV prevalence rate of 42.0% reported amongst HIV negative women in a cross-sectional study done in Aminu Kano Teaching Hospital [13]. The Composite Abuse Scale (CAS) tool was used to assess IPV in this study which is different from the tool used in this study. Furthermore, this study was restricted to reproductive age women (15–49 years of age). These all may have accounted for the lower prevalence reported. A much lower prevalence rate of 28% was also reported in a study done in Ahmadu Bello Teaching Hospital [14]. However, this study was done amongst pregnant women attending ANC clinic and wanting to keep any act of domestic violence against them a secret may have led to underreporting. In the African continent, a study from Rwanda amongst pregnant women reported an IPV prevalence of 35.3% in the last 12 months [15]. This is also much lower than was reported in this study though both studies used the Conflicts Tactics Scale tool for ascertaining IPV. However, another study from Africa, Zambia to be precise, reported a prevalence of 48.4% which is very close to the prevalence reported in this study [16]. Moving to the European continent, the prevalence reported in this study is higher than what was reported in Spain [17]. This study reported a lower prevalence of 19.2% amongst women. However, there may have been gross underreporting of IPV as these women were studied in the immediate postpartum period and the fear of losing custody of their children if they report physical abuse may have led to a lot of them keeping mum on the issue. In addition, the lower prevalence rates of IPV in Europe compared to this study and the above reviewed studies in Africa may also be due to better law enforcement against IPV perpetrators serving as a deterrent to others.

Moving on to the forms of IPV, this study revealed prevalences of 78.9%, 42.0% and 30.8% for emotional, physical and sexual violence respectively amongst Female Undergraduates in Abia State. This is slightly similar in pattern to what was reported in the NDHS 2013 study for Abia State differing only in which form was the commonest [5]. From the 2013 NDHS, a prevalence of 12.9%, 21.2% and 5.5% for emotional, physical and sexual abuse respectively were reported in Abia State [5]. Both studies agreed that the least common form of abuse amongst women in Abia State is sexual abuse but differed in findings for the commonest form, with the NDHS reporting that the commonest was physical abuse with a prevalence of 21.2% while the commonest from this study was emotional abuse with a prevalence of 78.9%. This study was restricted to female undergraduates in Abia State while the NDHS surveyed all women in Abia state and this may account for the disparity in prevalence and commonest patterns reported. The pattern of IPV reported in this study is also very similar to the patterns reported in other studies from other parts of Nigeria [7, 12, 13, 18, 19]. One thing common to the pattern of IPV in all the studies reviewed above (despite the varying prevalence rates) is that Emotional/psychological violence was the most commonly reported form of abuse against women followed by physical violence and sexual violence being the least commonly reported. In addition, the reported pattern in this study is similar to what was reported in studies from West Africa.

A study from Togo reported that the rates of physical abuse amongst both Women Living with HIV/AIDs (WLWHA) and HIV negative women (63.1% as against 69.7% respectively) was significantly higher than the rate of sexual abuse amongst both WLWHA and HIV negative women (39.3% compared to 35.3%) [20]. This corresponds with the pattern of abuse reported in this study. It is important to note at this juncture that the study from Togo failed to study psychological violence and concentrated on physical and sexual violence. Nonetheless, the similarity in forms can be due to the similarities in culture amongst the West African countries with trans-border business and marriages propagating a mixture in cultures and norms. Away from West Africa, it is seen that studies from other parts of Africa showed a different pattern of IPV occurrence amongst women [6, 21]. To expatiate on this, it is seen that studies from Ethiopia, Namibia and Tanzania all reported the prevalence of physical, sexual and emotional violence as 48.7%, 58.6% and 9.2% respectively, 30.6%, 16.5% and 8.4% respectively and 46.7%, 30.7% and 15.3% respectively [6]. This pattern reported in these countries suggest that emotional violence is the least common form of IPV amongst the three studied forms of IPV which is different from what was reported in this study. Cultural differences, different levels of patriarchy and legalization of male roles across the different countries and regions in Africa may be responsible for this deviation in pattern. Also, most of the studies outlined above did not study psychological/emotional abuse as an entity of its own. This may also account for the difference in pattern of IPV observed. In Europe, studies from Spain showed a similar pattern of IPV to that reported in this study [17]. Amongst pregnant women in Spain, 15.5% experienced emotional abuse, 7.1% experienced physical abuse and 1.3% reported sexual abuse [17]. The Public health significance of increased forms of IPV amongst female undergraduates are vast and range from non-adherence to medications, poor academic performance, reduced health seeking actions, increased associated morbidities and so on and all these may increase mortality and reduce productivity in the society.

Individual factors are factors peculiar to the individual and they have been found to be risk factors for IPV [2, 22]. This study reported that females who witnessed domestic violence as a child were over 3 times more likely to experience IPV later in life. This is congruent with the finding from Ibadan Nigeria where it was reported that students who had exposure of inter-parental violence were significantly associated with experiencing IPV later in life [7]. A study from the United States also reported that the most auspicious finding they made in WLWHA and HIV negative women was the strong association of childhood abuse and risk for later abuse in both groups [23]. Though the study done in the United States was a Prospective cohort study which is different from this which was a cross sectional study, both report this same finding as one of the predictors of IPV in women. Witnessing abuse as children especially amongst parents may have a profound normalization effect on the child. Future abuse may not be seen for what it is due to the numbing effect her childhood experience has had on her psyche thus making her more vulnerable to abuse. This mindset may also be transferred down to their children thereby resulting in inter-generational normalization of abuse and various forms of violence. Partner frequent use of alcohol is another individual factor associated with IPV amongst female undergraduates in this study where it was reported that females whose partners use alcohol frequently were at least five times at risk of experiencing IPV. The disinhibition associated with alcohol use may result in heightened response from the victim's partner to minimal provocation from the victim. Disinhibition from alcohol use may also result in the partner having multiple sexual partners – an issue that usually fuels discord amongst couples. Frequent alcohol use may also lead to partner neglect and also constitute a drain on couple finances. This may fuel tension amongst couples which may eventually lead to violence. Frequent alcohol use by partner may be his adaptation mechanism to the numerous societal and/or economic challenges facing the nation, for example owed salaries, downturn in business fortunes, academic problems and so on. The 2013 NDHS corroborated this finding as it reported that women whose husbands or partners get drunk often were more likely to report IPV than women whose husbands drink but do not get drunk and women whose husbands do not drink [5]. This is also congruent with findings in studies from Enugu, Ebonyi, Kano, and Ibadan [7, 13, 24]. In all these studies, partner alcohol use was a predictor for IPV amongst women – similar to what was reported in this study. In the World report on violence and health, heavy drinking was reported as one of the factors that may influence occurrence of IPV [2]. Husband drunkenness was also one of the factors associated with occurrence of IPV in a multi-country study done in nine different countries [16]. Similarly, a report stated that the harmful use of alcohol influences both perpetration and experience of IPV. This they reported can occur in isolation or synergistically with other factors [8]. In the study from Osogbo, partner alcohol use was reported as one of the predictors of IPV in WLWHA [12]. This finding was also reported amongst WLWHA from studies conducted South Africa [21]. Female smokers of cigarette or marijuana were also

reported in this study to be eleven times at risk of experiencing IPV. This is very similar to what was reported in a study done in Ibadan Nigeria amongst female students where it was reported that there was a higher rate of IPV amongst students who were smokers than amongst those who were not smokers [7]. This finding of an association between smoking and IPV was similar to what was reported in the study from South Africa amongst HIV positive pregnant women even though the South African study did not state the type of substance which was being abused by the partner which resulted in IPV amongst the women [21]. Cigarette and marijuana use can influence the occurrence of IPV the same way alcohol does. Both agents lead to dependence and disinhibition which may alter the partners sensorium and lead to violent responses to provocation, responses which may not have occurred had the substances not been used. They can also affect the couple's finances as people who abuse these may also have other substances they abuse for a prolonged high, substances which most times do not come cheap. Irritation from low finances or the partner requesting for money may lead to tension amongst them, tension that may degenerate to violence. Disinhibition from cigarette and marijuana smoking may also lead to having multiple sexual partners, a situation which may heighten tension amongst couples and may lead to violence. Relationship factors are factors peculiar to the relationship that influence occurrence of IPV [2, 22]. Earning/receiving more than one's partner in a month was reported in this study to be one of the risk factors associated with IPV in female undergraduates. It was reported that female undergraduates who received/earned more than their partners monthly were at least twice at risk of experiencing IPV. Earning more than one's partner in a patriarchal/male dominated society may lead to IPV as the men may not be comfortable with knowing their partners earn more than they do and are financially superior. This may lead to inferiority complex problems on the man's part and tension build-up, tension which may eventually lead to violence. Also, if the man asks the woman for money or financial assistance and the woman refuses either because she genuinely does not have or she has but does not want to give, the man may feel insulted and may resort to violence to assert his masculinity over the woman. The urge to always be the alpha male/dominant partner in the relationship despite the earning disparity may lead to tension amongst the couples which may also be responsible for the violence that occurs in the relationship. This finding of an association between earning more than partner and IPV was congruent with findings from both Enugu and Ebonyi States [24]. The study from Enugu reported that spouse unemployment was a factor associated with occurrence of IPV amongst pregnant women [24]. This was also reported in the study from Abakaliki and Osogbo amongst pregnant women and WLWHA respectively [24, 25].

The major strength of this study is that the study is among the first studies in South Eastern region of Nigeria to explore IPV holistically amongst female undergraduates to the best of our search. Secondly, female undergraduates (fulltime, part-time and sandwich programs) from the 2 biggest universities (MOUAU and ABSU) with 4 different campuses located in different parts of Abia state were used for this study. This gives a very good representative spread of undergraduate respondents from different locations of Abia State improving the generalizability of this study. Finally, both online and physical questionnaires were used to reduce the possibility of selection bias and restricting respondents to only those with access to smart devices (phones and tablets) connected to the internet. A few limitations were observed in this study. IPV is a very sensitive issue and some people may be guarded about providing information on abuse and some may have recall bias of some events or not want to talk about it at all. Also, due to the cross-sectional design of this study, only associations of IPV could be tested for and this study was unable to determine causal relationships or describe temporal associations between some of the factors associated with experience of violence. Some of the above limitations were mitigated by assuring respondents of full confidentiality of their responses, advising them to fill the questionnaire (either online or physical) in a private space with little distractions, advising them in the introductory section of the questionnaire not to proceed if some of the questions may cause them any form of distress and providing the researchers contact for easy accessibility incase the respondent needed any form of psychosocial support or help with reporting recent or ongoing abuse.

Conclusion

IPV was prevalent amongst over half of female undergraduates in Abia State. Furthermore, emotional abuse was the commonest form of abuse while sexual abuse was least common. Female undergraduate earning/receiving more than male partner monthly, male (partner) alcohol consumption, female smoker and having witnessed domestic violence as a child were all significant predictors of IPV amongst female undergraduates.

We therefore recommend that primary and secondary prevention interventions targeted at curbing the identified risk factors of IPV be instituted for both young men and women in Abia state tertiary institutions. Additionally, there is need for institutions to implement adequate reporting and effective response mechanisms to assist victims and mitigate the myriad of negative outcomes.

Abbreviations

ABSU Abia State University

AIDS Acquired Immune Deficiency Syndrome

aOR: Adjusted Odds Ratio

CDC Center for Disease Control

FMC Federal Medical Centre

HIV Human Immunodeficiency Virus

IPV Intimate Partner Violence

MOUAU Micheal Okpara University of Agriculture Umudike

NDHS Nigerian Demographic and Health Survey

SPSS Statistical Package for Social Sciences

STIs Sexually Transmitted Infections

UN United Nations

WHO World Health Organisation

WLWHA Women Living With HIV/AIDS

Declarations

Ethical approval and consent to participate

Study procedures and consent protocols for this online survey was approved by the Health

Research Ethics Committee of the Federal Medical Centre Umuahia, Abia State, Nigeria.

Respondents were informed that their participation was voluntary, and consent was implied upon completion of the questionnaire. All methods in this study were carried out in accordance with the Declaration of Helsinki.

Consent for publication

Not applicable

Availability of data and materials

The dataset analysed in the study are not publicly available due to concern for misuse and breach of privacy/confidentiality but are available from the corresponding author on reasonable request.

Competing interest

None

Funding

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Authors Contribution

FO, MI and UO: Study conceptualization and design, data collection, analysis and interpretation, and drafting of manuscript. UN, FO, CE and UE: Study design, data collection, interpretation of results and revision of manuscript. KUK, UE, CA and MI: Study design, data collection, analysis, interpretation and revision of manuscript. KUK, CE, UO, CA and FO: Study design, data collection, analysis, interpretation and revision of manuscript. FO, CA, UN and UE: Study design, data collection, interpretation and review of manuscript. All authors read and approved the final manuscript.

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References

1. United Nations Childrens Fund (UNICEF). Behind closed doors; the impact of domestic violence on children [Internet]. body shop Int. plc, Watersmead, Littlehampton, West Sussex, BN17 6 LS, United Kingdom. New York; 2006 [Date Accessed 2021 Oct 10]. p. 1–8. Available from: www.thebodyshop.com
2. Krug E, Dahlberg L, Mercy J, Zwi A, Lozano R. World report on violence and health [Internet]. WHO. Geneva; 2002 [Date Accessed 2021 Oct 19]. p. 89–111. Available from:
3. World Health Organisation (WHO). Global Health Estimates 2016: Disease burden by cause, Age, Sex, by Country and by Region [Internet]. New horizons Heal. [Date Accessed 2021 Dec 30]. p. 1–10. Available from: http://www.who.int/healthinfo/global_burden_disease/estimates/en/index1.html
4. Whetten K, Leserman J, Thielman N. Depression, abuse, and other traumatic events. AIDS Patient Care STDS. 2006;20:418–28.
5. National Population Commission (NPC) and ICF International. Nigerian Demographic and Health Survey. Abuja, Nigeria; 2013. p.301–428
6. García Moreno C, Jansen H, Ellsberg M, Heise L, Watts C. WHO Multi-country study on women's health and domestic violence against women [Internet]. WHO. Geneva; 2005 [Date Accessed 2021 Dec 17]. p. 236–390. Available from:
7. Umana J, Fawole O, Adeoye I. Prevalence and correlates of intimate partner violence towards female students of the University of Ibadan, Nigeria. BMC Womens Health. 2014;14:131.
8. World Health Organisation (WHO). Violence against women;Intimate Partner and Sexual Violence against women [Internet]. WHO Fact Sheet. 2016 [Date Accessed 2021 Nov 2]. p. 1. Available from: http://www.who.int/mediacentre/factsheets/fs239/en/
9. National Population Commission of Nigeria. National Population Commission of Nigeria [Internet]. Census Rep. 2017 [Date Accessed 2021 Oct 22]. p. 10. Available from: http://www.population.gov.ng/
10. Historical Background - Michael Okpara University of Agriculture Umudike [Internet]. [Date Accessed 2021 December 11]. Available from: https://mouau.edu.ng/historical-background/. p. 1–3
11. Home - Abia State University Uturu [Internet]. [Date Accessed 2021 Dec 17]. Available from: http://abiastateuniversity.edu.ng/.p. 1–2

12. Olowookere S, Fawole O, Adekanle D, Adeleke N, Abioye-Kuteyi E. Patterns and correlates of intimate partner violence to women living with HIV/AIDS in Osogbo, Southwest Nigeria. Violence Against Women. 2015;21:1330–40.
13. Tanimu T, Yohanna S, Omeiza S. The pattern and correlates of intimate partner violence among women in Kano, Nigeria. African J Prim Heal Care Fam Med. 2016;8:2071–928.
14. Ameh N, Abdul M. Prevalence of domestic violence amongst pregnant women in Zaria, Nigeria. Ann Afr Med. 2004;3:4–6.
15. Ntaganira J, Muula A, Masaisa F, Dusabeyezu F, Siziya S, Rudatsikira E. Intimate partner violence among pregnant women in Rwanda. BMC Womens Health. 2008;8:1–7.
16. Kishor S, Johnson K. Profiling domestic violence: a multi-country study [Internet]. Meas. DHS+. Calverton, Maryland; 2004 [Date Accessed 2021 Nov 19]. p. 1–43. Available from: https://dhsprogram.com/pubs/pdf/OD31/OD31.pdf
17. Velasco C, Luna J, Martin A, Cano A, Martin-De-Las-Heras S. Intimate partner violence against Spanish pregnant women: application of two screening instruments to assess prevalence and associated factors. Acta Obstet Gynecol Scand. 2014;93:1050–8.
18. Efetie E, Salami H. Domestic violence on pregnant women in Abuja, Nigeria. J Obstet Gynaecol (Lahore). 2007;27:379–82.
19. Fawole O, Ajuwon A, Osungbade K. Evaluation of interventions to prevent gender-based violence among young female apprentices in Ibadan, Nigeria. Health Educ. 2004;105:186–203.
20. Burgos-Soto J, Orne-Gliemann J, Encrenaz G, Patassi A, Woronowski A, Kariyiare B, et al. Intimate partner sexual and physical violence among women in Togo, West Africa: Prevalence, associated factors, and the specific role of HIV infection. Glob Health Action. 2014;7:20–34.
21. Bernstein M, Phillips T, Zerbe A, McIntyre J, Brittain K, Petro G, et al. Intimate partner violence experienced by HIV-infected pregnant women in South Africa: a cross-sectional study. BMJ Open. 2016;6:119–344.
22. World Health Organisation (WHO). Intimate partner violence [Internet]. Underst. addressing violence against women. Geneva; 2012 [Date Accessed 2022 Dec 6]. p. 1–12. Available from:
23. Gruskin L, Gange S, Celentano D, Schuman P, Moore J, Zierler S, et al. Incidence of violence against HIV-infected and uninfected women: Findings from the HIV Epidemiology Research (HER) Study. J Urban Heal. 2002;79:512–24.
24. Obi S, Ozumba B. Factors associated with domestic violence in South-East Nigeria. J Obstet Gynaecol (Lahore). 2007;27:75–8.
25. Onoh R, Umeora O, Ezeonu P, Onyebuchi A, Lawani O, Agwu U. Prevalence, pattern and consequences of intimate partner violence during pregnancy at Abakaliki Southeast Nigeria. Ann Med Health Sci Res. 2014;3:484–91.

Figures

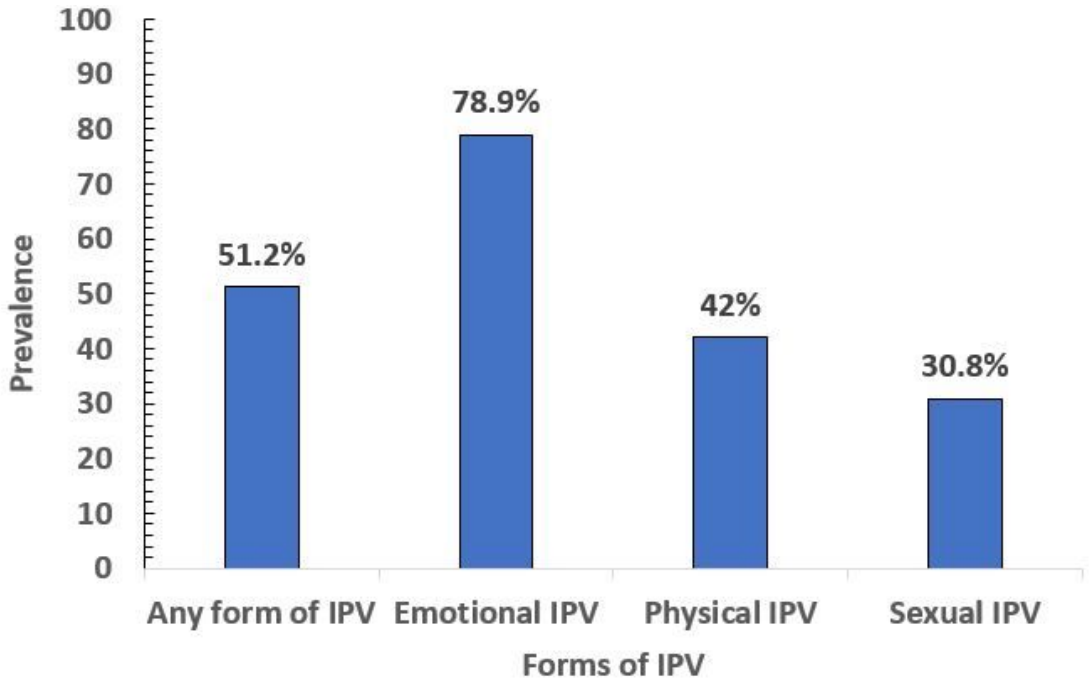

Figure 1

Prevalence and forms of IPV amongst Female undergraduates