

Psychometrics of a Tool on Intimate Partner Violence among Female Teachers in a Nigerian State

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ABSTRACT

Background: One of the possible strategies for instilling culture of prevention of Intimate Partner Violence (IPV) among rudimentary age-groups is training of teachers on this subject.

Aim: To determine teachers' ability to precisely define their experience of IPV prior to training, this study evaluates the psychometric properties of an adapted WHO/IPV scale assessed on teachers of selected secondary schools.

Methods: Self-applied responses from a WHO scale on experience of IPV of a sample of 365 female teachers recruited by a two-stage sampling technique was subjected to principal component analysis and ANOVA of independent comparative means.

Results: The PCA yielded three components with respective items correlation range and reliability of: Psychological violence (0.3-0.43, 0.61); sexual violence (0.3-0.52, 0.72) and physical violence (0.3-0.69, 0.73). Experience of psychological and physical violence differed significantly with having an alcoholic spouse while weekly alcoholics differed with the former IPV construct. Having less than three children and voluntary termination of pregnancy differed with sexual violence. Psychological violence was significantly different with ever tried delaying or avoiding getting pregnant $p < 0.05$.

Conclusion: This study affirms the validation of the WHO/IPV tool's delineation across theorized psychological, physical and sexual constructs among secondary school teachers. The tool discriminated against pertinent family, lifestyle, sexual and reproductive characteristics of these pivotal change agents in grass-root prevention of IPV. The tool can be used to assess the problem among the specified population.

Keywords: Intimate partner violence; Psychometrics; World Health Organization (WHO); Female educators; Principal component analysis

INTRODUCTION

Violence against women in our world today, is one of the major, widespread, persistent and devastating fundamental human rights violations. It is being under-reported due to the impunity, silence, stigma and shame surrounding it. Such violence impedes on women's fundamental right of bodily integrity and freedom from fear, it jeopardizes their basic human capabilities, and, as a result, undermines their ability to participate as full citizens in the economic, political and social life of their community. Consequently, children, families and the wider society are affected, thus, constituting a major barrier to the attainment of broader equitable and sustainable human development goals [1].

Violence against women refers to violence that is directed towards

women because they are women as well as violence that affects women disproportionately [2]. It involves complex, dynamic and historically determined phenomena which is an evidence of unequal power relations that has its roots in primacy of males over females [3,4].

According to WHO (2021) 5, one-third (30.0%) women have experienced either physical or sexual violence from intimate or non-intimate partners and specifically, 27% of girls and women whose ages range between 15-49 reported being subjected to violence by intimate partners.

Trends of IPV across regions of the world ranged between lowest in Europe (25%) and America (30%) to highest in Africa (37%) and Asia (38%) (WHO, 2021) [5]. A systematic review study of

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prevalence of IPV in various SSA countries sourced from 25 studies reported a lowly 13.9% (95% CI 10.8, 17.6%) [6]. A study among perinatal women with depression symptoms in South Africa to a highly 97% (95% CI 94.6, 98%) [7]. In a study of rural women in Nigeria and an overall meta-analysis estimate of 44.4% (95% 38.4, 49.8%) [8].

In Nigeria's context, NDHS (2018) [9] reported estimates of ever-married women's current experiences of IPV as 36% and their respective experiences of physical, psychological, sexual constructs of violence as, 19.2%; 7.0% and 31.7% respectively. Other separate studies from Nigeria have published the prevalence ranges of recognised domains of IPV as 31% to 61% for psychological/emotional violence, 20% to 31% for sexual violence, and 7% to 31% for physical violence [10,11].

Primary prevention of intimate partner violence an offshoot of public health violence prevention approach focused on thwarting the occurrence in the first place [12]. This strategy has been widely acknowledged as most important compared to secondary or tertiary prevention strategies which had been receiving majority of resources. It evolves around deliberate and complementing efforts to create a generation of men, women, children, religious leaders and decision making institutions to take a common ground against unacceptable violence in the family [12].

As teaching in the 21st century have created an opportunity for teacher to student relationship, it has been empirically confirmed to induce the concept of what constitutes increasing motivation and emotions essential to learning and teaching [13]. In LMICs, teachers are potentially qualified to explore this philosophy in delivering knowledge of violence prevention and associated sexual and reproductive rights to young pupils through skills and passion. This might require further training to ensure success of the violence prevention program [13]. The combined attributes of teachers' experience of IPV, attitudes towards violence and sensitivity towards the topic will drive the success of violence prevention program in schools [13].

Most importantly, impacts of knowledge to younger generation are critical and strategic partners in delivering the principles and goals of prevention interventions against violence on vulnerable individuals and populations. Female teachers experience of IPV and ability to define its types and underlying components as well as what triggers them essentially qualify them as change agents of re-orientation programs through school curricular activities aimed at ending the culture of violence in the society [14-16]. Thus, this paper used principal component analysis to ascertain the components of IPV and the characteristics they embody among instructors of selected secondary schools in Osun state. This would be providing evidence-based information to decision makers to guide them in making far-reaching public health policy on gender-based violence prevention at the level of the state's primary and secondary education system.

The study used principal component analysis to determine the psychometric properties of the WHO VAW instrument (semi-structured) administered on teachers in selected secondary schools in Osun state and to validate components derived with socio-economic, family, lifestyle characteristics of respondents' partners.

MATERIALS AND METHODS

The present investigation is part of a cross-sectional study on

determination of sexual and reproductive rights and experience of intimate partner violence among selected secondary school instructors of Osun State, Nigeria.

Sample size and sampling technique

The minimum sample size of 365 female secondary school teachers was estimated by Leslie Kish sample size formula for determining single proportion for descriptive studies.

Data of a scale on experience of intimate partner violence an adjunct to a questionnaire on assessment of knowledge and attitude on sexual and reproductive rights was collected from teachers employed in four Federal Government owned secondary schools and some selected private schools located in three senatorial districts of Osun state *via* systematic random sampling. The schools were purposively selected but teachers from each school were proportionally recruited. A response rate of 97.3% was obtained from the respondents out of the initial sample projection of three-hundred and seventy-five (375).

All teachers who were currently married, co-habiting with a partner and those who have ever had an intimate partner but not currently. Twelve participants were excluded for being in an ineligible category of those who never had any form of intimate relationship with anyone (same-sex or opposite sex).

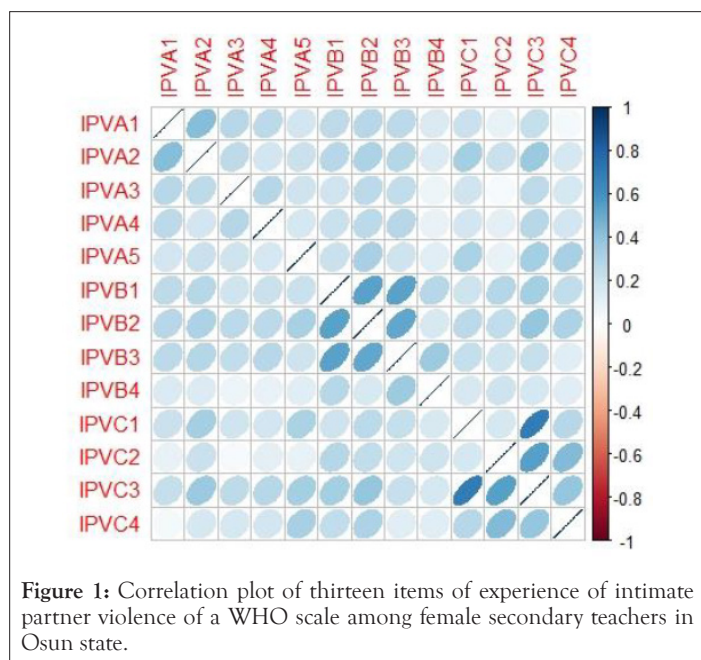
Data collection procedure and instrument

Data collection was done using a pretested semi-structured self-administered questionnaire. The report from the pre-test was used to revise the questionnaire for the field survey. The questionnaire which consisted of 80 items, was developed and administered in English language. The questions on Intimate Partner Violence which ranged from theoretical components of psychological, physical and sexual were adapted from the WHO multi-country study on women's health and domestic violence [3]. To ensure that respondents responses reflect their experience of IPV as itemized in the instruments, trained field data collectors and study investigator were available to explain any ambiguous terms. The researcher and a data manager reviewed the filled questionnaires for completion and appropriateness of responses before entry into the database.

Instrument for the screening of violence

The questions for the screening of intimate partner violence were grouped into: A) Psychological (emotional) violence, where teachers were asked: Since you became married or in relationship has your partner ever IPVA1) insulted you or made you feel bad about yourself? IPVA2) Publicly embarrassed by hurling words of abuse? IPVA3) Make you scared or intimidate you on purpose? IPVA4) Expect permission from you before healthcare seeking or going anywhere? (WHO, 2005) and IPVA5) Threatened to leave you and take away children? The next category was B) Sexual violence where respondents responded to the following questions: IPVB1) has your partner ever physically forced you to have sexual intercourse against your will? IPVB3) had sexual intercourse with you because you were afraid of what your partner might do? IPVB2) forced you to do something you found to be sexually degrading or humiliating? and IPVB4) has your partner ever deny you sex? (WHO, 2005). Physical violence questions include: IPVC1) Pushed, kicked or punched you? IPVC2) Twisted your arm, burnt with hot object? IPVC2) twisted your arm or burnt you with hot objects? IPVC3) slapped or

hit your body parts? and IPVC4) threatened you with, or actually used a gun, knife or other weapon against you? (WHO, 2005). (The response options for each of these questions were: A) no (coded as 0), b) yes (coded as 1) (Figure 1).



Ibo	30	8.2
Hausa	3	0.8
Age categories		
Mean±SD	35.58 ± 8.28	
20-29	76	20.8
30-39	170	46.6
40-49	99	27.1
≥ 50	20	5.5
Age categories of Partner		
Mean±SD	-	-
20-29	70	19.2
30-39	125	34.2
40-49	120	32.9
>OR=50	50	13.7
Years of marriage		
Mean±SD	9.42 ± 8.18	-
<10 years	196	61.4
≥ 10 years	123	38.6
Family type		
Monogamous	329	90.1
Polygamous	36	9.9
Highest educational status		
Secondary	2	0.5
Tertiary	336	92.1
Post-graduate	27	7.4
Years of teaching experience		
Mean±SD	7.91 ± 6.79	-
<8 years	233	63.8
≥ 8 years	132	36.2
P35480	P35480	P35480

Figure 1: Correlation plot of thirteen items of experience of intimate partner violence of a WHO scale among female secondary teachers in Osun state.

Statistical analysis

Principal component analysis one of mostly used multivariate analytic method in exploratory factor analysis and data mining was used in coalescing IPV components according to their percentage of variations and eigen values [17-19]. Cronbach alpha test was to scale the reliability of items that constitute each component and independent comparative means analysis was used to determine significance differences between standardized scores of components of IPV with sociodemographic and spouses' lifestyle characteristics.

RESULTS

Majority of respondents practiced Christian religion 79.2% compared to Muslims 20.8%. of the three tribes in Nigeria a larger proportion of respondents in the study were Yoruba in ethnicity (86.8%). Respondents of age group 30-39 recorded highest proportion (46.6%) followed by 40-49 age group (27.1%) and 20-29 (20.8%) respectively. More respondents had less than 10 years of marriage (61.4%) compared to those who had more than 10 years of marital experience (38.6%). Higher proportions of the respondents have monogamous family type (90.1%) and tertiary education was their highest academic qualification (92.1%). A higher percentage of respondents have practiced teaching for less than 8 years (63.8%) compared to 36.2% with 8 or more years in teaching profession (Table 1).

Table 1: Patient's characteristic in the reference to type of fracture.

Variable	N	%
Religion		
Christianity	289	79.2
Muslim	76	20.8
Ethnicity		
Yoruba	317	86.8

Internal validity and reliability

The principal component analysis yielded three components of a cumulative variance of 52.2%. The first, second and third components consecutively constituted 18.3%, 17.5% and 16.4% of the total loadings. The first component that emerged from the aggregation of four items (IPVC3, IPVC4, IPV2, IPVC1 and IPVA5) of the IPV scale was physical violence correlation coefficients that ranged from 0.33-0.69 and reliability coefficient of 0.74. Items of IPVB1, IPVB2, IPVB3, IPVB4 constituted the sexual violence component with correlation coefficient range of 0.60-0.77 and Cronbach alpha value of 0.72. The Psychological violence component of the PCA comprised of IPVA1, IPVA3, IPVA2, IPVA4 having coefficients that ranged from 0.30 to 0.43 and reliability coefficient of 0.61 (Table 2).

Cronbach's α -coefficient ranged from moderate to satisfactory for the subscales derived from the PCA model: 0.61 (psychological scale), 0.74 (physical scale), 0.73 (sexual scale) and 0.82 (total scale). Deleting any item in each of the IPV constructs does not suggest increase in their respective Cronbach alpha (Table 3).

Table 2: Correlation matrix of thirteen items of experience of intimate partner violence of a WHO scale among female secondary teachers in Osun state.

Groups	IPVA1	IPVA2	IPVA3	IPVA4	IPVA5	IPVB1	IPVB2	IPVB3	IPVB4	IPVC1	IPVC2	IPVC3	IPVC4
IPVA1	1	0.43	0.28	0.27	0.19	0.25	0.28	0.27	0.16	0.21	0.09	0.24	0.04
IPVA2	0.43	1	0.25	0.19	0.22	0.27	0.31	0.29	0.15	0.33	0.21	0.36	0.18
IPVA3	0.28	0.25	1	0.28	0.2	0.19	0.26	0.24	0.07	0.19	0.04	0.25	0.18
IPVA4	0.27	0.19	0.28	1	0.17	0.22	0.26	0.27	0.1	0.18	0.11	0.27	0.18
IPVA5	0.19	0.22	0.2	0.17	1	0.21	0.33	0.2	0.12	0.31	0.09	0.33	0.32
IPVB1	0.25	0.27	0.19	0.22	0.21	1	0.54	0.54	0.27	0.21	0.28	0.34	0.25
IPVB2	0.28	0.31	0.26	0.26	0.33	0.54	1	0.52	0.17	0.27	0.25	0.38	0.31
IPVB3	0.27	0.29	0.24	0.27	0.2	0.54	0.52	1	0.35	0.24	0.19	0.23	0.12
IPVB4	0.16	0.15	0.07	0.1	0.12	0.27	0.17	0.35	1	0.17	0.2	0.17	0.13
IPVC1	0.21	0.33	0.19	0.18	0.31	0.21	0.27	0.24	0.17	1	0.18	0.69	0.27
IPVC2	0.09	0.21	0.04	0.11	0.09	0.28	0.25	0.19	0.2	0.18	1	0.55	0.44
IPVC3	0.24	0.36	0.25	0.27	0.33	0.34	0.38	0.23	0.17	0.69	0.55	1	0.39
IPVC4	0.04	0.18	0.18	0.18	0.32	0.25	0.31	0.12	0.13	0.27	0.44	0.39	1

Table 3: Outcomes of principal component analysis and reliability of thirteen items of experience of intimate partner violence of a WHO scale among female secondary teachers in Osun state.

Reliability- α	Rotated Component Matrix ^a	Component		
		1	2	3
0.74	IPVC3 slapped or hit your body-parts	0.8	0.34	0.12
0.74	IPVC4 threatened you with knife other weapons	0.71	0.02	0.16
0.74	IPVC2 Twisted your arm, burnt with hot object	0.7	-0.16	0.33
0.74	IPVC1 Pushed, kicked or punched you	0.62	0.43	-0.02
0.74	IPVA5 Threatened to leave you and take away children	0.39	0.39	0.07
0.61	IPVA1 Partner ever made you feel bad by words in private	-0.03	0.69	0.19
0.61	IPVA3 Make you scared or intimidate you on purpose	0.06	0.65	0.06
0.61	IPVA2 Publicly embarrassed by hurling words of abuse	0.24	0.59	0.17
0.61	IPVA4 Expect permission from you before healthcare seeking or going anywhere	0.1	0.52	0.17
0.73	IPVB3 Ever had sex based on fear of partner behaviour	0.02	0.32	0.77
0.73	IPVB1 Physical forced you for sex	0.19	0.21	0.75
0.73	IPVB4 Ever denied of sex by partner husband	0.11	-0.02	0.61
0.73	IPVB2 Forced you to do degrading and humiliating sexual practices	0.26	0.36	0.6

External validity

The means of standardized scale scores of each component of WHO scale on experience of intimate partner violence were validated against independent socio-demographics, family and lifestyle characteristics of respondents and their partners.

According to the analysis to be in a polygamous marriage, have partners with history of alcohol intake who also consume alcohol daily significantly differed with experience of psychological

violence (0.31 ± 1.25 , 0.52 ± 1.08 , 2.19 ± 0.97). Teachers who live in polygamous marriage, those whose family had less or equal to three children and had partners with smoking history statistically significantly differed with sexual violence (0.88 ± 1.81 , 0.36 ± 1.32 , 0.07 ± 1.05).

There is a statistically significant difference between partners' history of alcohol intake and experience of physical violence, where $p < 0.05$ (Table 4).

Table 4: Comparison of means of teachers' socio-demographic characteristics and their partners behavioural characteristics with standard scores of intimate partner violence experience constructs

Characteristics		Psychological violence		Sexual violence		Physical violence	
	N (%)	Mean \pm SD	p-value	Mean \pm SD	p-value	Mean \pm SD	p-value
Ethnicity							
Yoruba	317 (90.6)	-0.03 \pm 0.98	0.2	-0.01 \pm 0.98	0.76	0.01 \pm 1.04	0.81
Ibo	30 (8.6)	0.13 \pm 1.00		0.01 \pm 0.090		-0.06 \pm 0.75	
Hausa	3 (0.9)	-0.90 \pm 0.00		-0.43 \pm 0.00		-0.30 \pm 0.00	
Highest educational status							
Secondary	2 (0.6)	-0.05 \pm 1.19	0.8	0.75 \pm 0.00	0.39	-0.28 \pm 0.00	0.69
Tertiary	295 (91.0)	-0.01 \pm 0.98		0.02 \pm 1.04		0.01 \pm 1.03	
Advanced qualification	27 (8.3)	-0.14 \pm 0.82		-0.16 \pm 0.60		-0.22 \pm 0.31	
Family types							
Monogamous	329 (90.1)	-0.03 \pm 0.97	<0.05	-0.04 \pm 0.95	<0.05	-0.03 \pm 0.90	0.07
Polygamous	36 (9.9)	0.31 \pm 1.25		0.36 \pm 1.32		0.29 \pm 1.66	
Religion							
Christianity	289 (79.2)	-0.05 \pm 0.96	0.7	-0.03 \pm 0.97	0.32	-0.02 \pm 0.91	0.37
Muslim	76 (20.8)	0.19 \pm 1.14		0.10 \pm 1.11		0.09 \pm 1.30	
Partners' highest level of education							
Primary	4 (1.1)	0.43 \pm 0.89	0.69	-0.13 \pm 0.59	0.95	-0.30 \pm 0.00	0.81
Secondary	28 (7.7)	-0.02 \pm 1.14		0.04 \pm 0.93		0.06 \pm 1.19	
Tertiary	333 (91.2)	-0.00 \pm 0.99		-0.00 \pm 1.01		-0.00 \pm 1.00	
Partners ever smoked?							
Partners' age							
≤ 40	176 (56.6)	0.05 \pm 1.05	0.96	0.10 \pm 1.12	0.29	0.02 \pm 1.00	0.59
> 40	135 (43.4)	0.05 \pm 0.98		-0.03 \pm 0.96		0.10 \pm 1.18	
Number of children							
≤ 3	212 (76.3)	0.04 \pm 0.97	0.67	0.07 \pm 1.05	<0.05	0.03 \pm 0.95	0.85
> 3	66 (23.7)	-0.21 \pm 0.68		-0.21 \pm 0.68		0.00 \pm 1.19	
No	356 (97.5)	-0.01 \pm 0.99		-0.02 \pm 0.97		-0.02 \pm 0.96	

Partners' alcohol intake status							
Past drinker/ currently drinks	50 (13.7)	0.52 ± 1.08	<0.05	0.19 ± 1.22	0.16	0.29 ± 1.39	<0.05
never drank	314 (86.3)	-0.08 ± 0.96		-0.03 ± 0.96		-0.05 ± 0.92	
Frequency of alcohol intake							
Everyday	3 (7.1)	2.19 ± 0.97	<0.05	1.14 ± 2.72	0.4	1.89 ± 0.94	0.3
Once/twice weekly	23 (54.8)	0.54 ± 1.20		0.39 ± 1.30		0.15 ± 1.01	
1-3 times a monthly	4 (9.5)	0.13 ± 0.81		-0.43 ± 0.00		0.13 ± 0.81	
Occasionally	12 (28.6)	0.02 ± 0.75		0.07 ± 1.06		0.67 ± 2.45	

Teachers who ever terminated pregnancy voluntarily had statistically significant differences with higher scores of sexual violence experience (0.12 ± 1.13 , $p < 0.05$). Teachers who ever tried delaying or avoid getting pregnant significantly differed with experience of psychological violence (0.19 ± 1.00 , $p < 0.05$).

DISCUSSION

This present study validates the WHO VAW/IPV instrument applied on secondary school teachers in selected secondary schools in Osun State, Nigeria using principal component analysis and independent means comparison of components scale scores with socio-demographic characteristics of respondents and lifestyle characteristics of their spouses.

According to the components derived from PCA all the items respectively loaded on the three theoretically established domains of intimate partner violence except IPCA5: Threatened to leave you and take away children? which loaded on physical violence component instead of proposed psychological component. This finding is supported by previous validation of the WHO intimate partner violence tool in a separate Brazilian and Swiss studies but disagreed with them in terms of a debated cross-loading of a psychological violence predetermined item (threatened to hurt me or someone I care about) which loaded on psychological violence as hypothesized in the Brazilian study but loaded on the physical/psychological in the Swiss study [20,21]. In all, individual cross-loadings of items as well as items that existed in other domains outside the conceptual model indicated that female victims often are not limitedly exposed to one form of violence in isolation to one or some of the others [22,23].

Cronbach's α -coefficients found for the subscales in this study almost share similarity with those reported in other studies of Garcia-Moreno et al, and Schraiber et al. [21-24]. For example the Cronbach alpha reported in the Swiss study reported 0.79 for psychological scale, 0.80 for physical scale, 0.72 for sexual scale and 0.88 for total scale compared with 0.61, 0.74 and 0.73 in this current study. Furthermore, all sites in a WHO Multi-country study of assessment of IPV, specifically yielded a reliability coefficient of 0.81 for physical violence and 0.66 for sexual IPV [24]. These shared similarities suggest a consistency in the internal reliability of violence against women scales across countries despite peculiarities of culture and socioeconomic differences between them [22].

Several studies have reported the effects of alcohol intake and substance abuse on experience of violence in intimate relationship a fact which aligns with the finding of this study. It is all agreed by these studies that all components of IPV had increased chance of occurrence either when partners are co-drinkers or when only one person does the drinking [25-28]. It is always advisable to include watchfulness of substance and alcohol use by partners going into a fresh relationship or an already in relationship one because of assorted violence risks they could constitute to building of peaceful and long-lasting relationship. With respect to polygamous marriages and experience of both psychological and sexual violence as detected in this study, citizens of Nigeria are multi-religious in beliefs. Some religions permissively authorize polygamy for its adherents if they have the wherewithal to provide for all their needs equitably [29]. Individuals have to be clear about their expectation on types of marriage types they desire for themselves that would enhance blissful attainment of marital goals.

This study's statistically significant difference between those with less than or equal to three children and sexual violence seems generally plausible in reality. In African setting, sexual exploitation could be a weapon of violence when couples are not agreeing on numbers of children to have [30]. This is therefore one of most salient and unavoidable conversations to be understood and agreed upon prior to legalizing a relationship. Mutual understanding about expectations on would be family size affords couples the opportunity to be prepared for the most effective family planning services that suit and support their individual and family goals.

This study reported significant difference between women who ever contemplated delaying getting pregnant and psychological violence. It's being reported that poor general maternal and neonatal outcomes have IPV as significant risk factors and rising cases of psychological/emotion/verbal abuse have most especially being implicated [31]. Women may rationalize becoming pregnant again due to physiological burden associated with aggravating and unbearable psychological violence of previous pregnancies episodes or that being. Currently experienced. Women may be unwilling to add concerns associated with ante-natal and post-natal care to their existing sufferings from intimate relationship. 21st century women need spouses with whom they can have mutual confidence and understanding with over sex and sexual related issues. This is necessary to assuage pressures from unmet career objectives coupled with domestic responsibilities [32-34].

This study detected significant differences between those who have ever done abortion before and experience of sexual violence. Unprotected sexual encounters when women are not on contraceptives done by coercion and against mutual consent often result in unwanted pregnancies that could ultimately get terminated. A study conducted in New Zealand reported that, half of women attending pregnancy termination services in their lifetime have been victims of physical or sexual violence which indicates a higher prevalence of intimate partner violence among the women seeking pregnancy termination compared to average women (36%) [35]. Ismayilova et al. [35] found a joint experience of physical and sexual violence a predictor to termination of unwanted pregnancies among samples of women in three former Soviet Union countries. Generally, IPV can be a major cause of women's lack of fertility control which often leads to unwanted pregnancies and abortion. World-wide, history of studies conducted have indicated a rising prevalence (15%-39.5%) of IPV among women requesting abortion services making this group of women a special target for intervention [36-39].

CONCLUSION

The three components of PCA derived from this study, which delineated across already theorized constructs of IPV establish the WHO VAW/IPV scale as a multidimensional one consisting of psychological, physical and sexual dimensions. Alcohol intake, having less than three children, ever contemplated getting pregnant and ever terminated pregnancy before significantly differed with highly relevant IPV components' experience. The estimated sample size of the study did not permit further advance factor reduction analysis of the WHO/IPV scale. This limited the opportunity to detect significant level of sensitivity for precision between items and their respective domains. A larger sample size and inclusion of independent variables of women's sexual and reproductive rights could make the external validity of the subscales more generalisable. These are necessary considering the significance of this population to implementing prevention of IPV policies at the level of secondary educational systems.

REFERENCES

1. Kabeer N. Violence against women as 'relational' vulnerability: engendering the sustainable human development agenda.
2. Meyersfeld BC. The council of europe convention on preventing and combating violence against women and domestic violence. *Int Leg Mater*. 2012;51(1):106-132.
3. WHO Multi-Country Study on Women's Health and Domestic Violence Against Women: Summary Report of Initial Results on Prevalence, Health Outcomes and Women's Responses. Geneva, World Health Organization, 2005.
4. Assembly UG. Declaration on the Elimination of Violence against Women, 1993;104.
5. Violence against women prevalence estimates, 2018: global, regional and national prevalence estimates for intimate partner violence against women and global and regional prevalence estimates for non-partner sexual violence against women. Geneva: World Health Organization; 2021.
6. Muluneh MD, Stulz V, Francis L, Agho K. Gender based violence against women in sub-Saharan Africa: A systematic review and meta-analysis of cross-sectional studies. *Int J Environ Res Public Health*. 2020;17(3):903.
7. Schneider M, Baron E, Davies T, Munodawafa M, Lund C. Patterns of intimate partner violence among perinatal women with depression symptoms in Khayelitsha, South Africa: A longitudinal analysis. *Glob Ment Health*. 2018;5(11).
8. Ajah LO, Iyoke CA, Nkwo PO, Nwakoby B, Ezeonu P. Comparison of domestic violence against women in urban versus rural areas of southeast Nigeria. *Int J Womens health*. 2014;6:865-872.
9. National Population Commission (NPC) [Nigeria] and ICF. 2019. Nigeria Demographic and Health Survey 2018 Key Indicators Report. Abuja, Nigeria, and Rockville, Maryland, USA: NPC and ICF.
10. Tanimu TS, Yohanna S, Omeiza SY. The pattern and correlates of intimate partner violence among women in Kano, Nigeria. *Afr J Prim Health care Fam Med*. 2016;8(1):1-6.
11. Okenwa-Emegwa L, Lawoko S, Jansson B. Attitudes toward physical intimate partner violence against women in Nigeria. 2016;6(4).
12. Heise L. What works to prevent partner violence? An evidence overview.
13. World Health Organization. School-based violence prevention: a practical handbook. World Health Organization. 2019.
14. Miller GE. School violence miniseries: Impressions and implications. *School Psych Rev*. 1994;23(2):257-261.
15. Gladden RM. Reducing school violence: Strengthening student programs and addressing the role of school organizations. *Rev Res Educ*. 2002;26(1):263-299.
16. Dake JA, Price JH, Telljohann SK, Funk JB. Teacher perceptions and practices regarding school bullying prevention. *J Sch Health*. 2003;73(9):347-355.
17. Brereton RG. Applied chemometrics for scientists. John Wiley & Sons; 2007.
18. Cozzolino D, Cynkar WU, Shah N, Damberg RG, Smith PA. A brief introduction to multivariate methods in grape and wine analysis. *Int. J. Wine Res*. 2009;1:123-130.
19. Cozzolino D, Cynkar WU, Shah N, Smith P. Multivariate data analysis applied to spectroscopy: Potential application to juice and fruit quality. *Food Res Int*. 2011;44(7):1888-1896.
20. Esbensen KH, Guyot D, Westad F, Houmoller LP. Multivariate data analysis: In practice: An introduction to multivariate data analysis and experimental design. 2002.
21. Schraiber LB, Latorre MD, França Jr I, Segri NJ, d'Oliveira AF. Validity of the WHO VAW study instrument for estimating gender-based violence against women. *Rev saude publica*. 2010;44:658-666.
22. Nybergh L, Taft C, Krantz G. Psychometric properties of the WHO Violence Against Women instrument in a female population-based sample in Sweden: A cross-sectional survey. 2013;3(5):2053.
23. Jewkes R. Intimate partner violence: Causes and prevention. *Lancet*. 2002;359(9315):1423-9.
24. Garcia-Moreno C, Jansen HA, Ellsberg M, Heise L, Watts CH. Prevalence of intimate partner violence: Findings from the WHO multi-country study on women's health and domestic violence. *Lancet*. 2006;368(9543):1260-1269.
25. Fals-Stewart W. The occurrence of partner physical aggression on days of alcohol consumption: A longitudinal diary study. *J Consult Clin Psychol*. 2003;71(1):41-52.
26. Graham K, Bernards S, Wilsnack SC, Gmel G. Alcohol may not cause partner violence but it seems to make it worse: A cross national comparison of the relationship between alcohol and severity of partner violence. *J Interpers Violence*. 2011;26(8):1503-1523.

27. Fals-Stewart W, Leonard KE, Birchler GR. The occurrence of male-to-female intimate partner violence on days of men's drinking: The moderating effects of antisocial personality disorder. *J Consult Clin Psychol.* 2005;73(2):239.
28. Abramsky T, Watts CH, Garcia-Moreno C, Devries K, Kiss L, Ellsberg M, et al. What factors are associated with recent intimate partner violence? Findings from the WHO multi-country study on women's health and domestic violence. *BMC public health.* 2011;11(1):1-7.
29. Kramer S. Polygamy is rare around the world and mostly confined to a few regions.
30. Alhusen JL, Ray E, Sharps P, Bullock L. Intimate partner violence during pregnancy: Maternal and neonatal outcomes. *J Womens Health.* 2015;24(1):100-106.
31. Blair-Loy M. *Competing devotions: Career and family among women executives.* Harvard University Press; 2009.
32. Moffitt RA. The deserving poor, the family, and the US welfare system. *Demography.* 2015;52(3):729-749.
33. DanzigerSK, DanzigerS, SeefeldtKS, ShaeferHL. From welfare to work-based safety net: An incomplete transition. *J Policy Anal Manag.* 2016;35(1):231-238.
34. Öberg M, Stenson K, Skalkidou A, Heimer G. Prevalence of intimate partner violence among women seeking termination of pregnancy compared to women seeking contraceptive counseling. *Acta Obstet Gynecol Scand.* 2014;93(1):45-51.
35. Ismayilova L, El-Bassel N. Intimate partner physical and sexual violence and outcomes of unintended pregnancy among national samples of women from three former Soviet Union countries. *Viol Against Women.* 2014;20(6):633-652.
36. Wiebe ER, Janssen P. Universal screening for domestic violence in abortion. *Womens Health Issues.* 2001;11(5):436-441.
37. Kaye D. Domestic violence among women seeking post-abortion care. *Int J Gynecol Obstet.* 2001;75(3):323-325.
38. Hathaway JE, Willis G, Zimmer B, Silverman JG. Impact of partner abuse on women's reproductive lives. *J Am Med Womens Assoc.* 2005;60(1):42-45.
39. Williams GB, Brackley MH. Intimate partner violence, pregnancy and the decision for abortion. *Issues Ment Health Nurs.* 2009;30(4):272-278.