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Women Abuse Screening Tool: A Validation Study on Nigerian Pregnant Women

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Abstract
Domestic violence is identified across the globe as a menace as it poses a threat to the mental health of its victims, the significant others of the victim and the security of a nation at large. In some cases, the victim of domestic violence is a pregnant woman and harm is caused not only to a woman but her fetus also and this calls for urgent psychological assessment and intervention. Although there is no doubt that psychological tests are effective in the assessment of domestic violence, using the psychometric properties obtained from a different population may produce generate inaccurate findings. This paper therefore attempts the validation study of Women Abuse Screening Tool (WAST) using a sample of 379 pregnant women attending antenatal clinic at the State Specialist Hospital, Osogbo, Osun State, Nigeria. The study derived a Cronbach's Alpha Reliability of 0.758, $p < .05$ and a Guttman split-half coefficient of 0.683, $p < .05$. Furthermore, concurrent validity of Women Abuse Screening Tool (WAST) and Ongoing Abuse Screen (OAS) was established as 0.29, $p < .05$. The norms of the instrument were given as 2.38 for tolerable level of domestic violence and 5.79 for severe and pathological level of domestic violence. Authors conclude that Women Abuse Screening Tool has acceptable psychometric properties to justify its usage for the assessment of level of domestic violence among pregnant women in Nigeria and other nations with similar socio-cultural backgrounds.

Keywords: Validation, Women Abuse Screening Tool, Domestic Violence, Pregnant Women, Nigeria.

Introduction

Domestic violence against women is a public health challenge and human right concern, and it is associated with significant negative and psychological consequences (United Nations, 2015; World Health Organisation, 2013; World Health Organisation 2005; World Health Organisation 2002). Domestic violence against women refers to any type of harmful behaviour directed at women and girls by significant others such as the husband/spouse (Lawson, 2012; Verku & Addisie, 2002; Little, 2000). It can take various forms including psychological, physical or sexual abuse (Fisher, Yassour-Borochowitz, & Neter, 2003). It may involve threats of violent acts, actual perpetuation of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or private life.

The Confidential Enquiry into Maternal and Child Health (CEMACH) (2001) found that 30 per cent of domestic abuse begins during pregnancy, with pregnant women more likely to have multiple sites of injury, indicating that the fetus and the woman herself are the focus of the perpetrator's abuse. According to the United Kingdom Department of Health (2010), 30% of domestic violence starts during pregnancy. When the victim of domestic violence is a pregnant woman, harm is caused not only to a woman but her fetus. In other words, domestic violence during pregnancy is a focused attack that puts not just one but two lives at risk, the pregnant woman and the unborn fetus.

Domestic violence during pregnancy is categorized as an abusive behavior towards a pregnant woman, where the pattern of abuse can often change in terms of severity and frequency of violence (Envuladu, Chia, Banwat, Lar, Agbo & Zoakah, 2012). This can lead to far reaching physical and psychological consequences (Pan American Health Organization, 1999). Pregnancy and the post-partum are times of increased vulnerability for the onset or relapse of a mental illness (Smith, Shao, Howell, Lin & Yonkers, 2011).
According to Howard, Oram, Galley, Trevillion and Feder, (2013), high levels of symptoms of perinatal

depression, anxiety, and PTSD are significantly associated with having experienced domestic violence. In addition, maternal-fetal attachment, infant fearfulness, child's attention and concentration index, infant temperament, child's cognition, emotion and behaviour are significantly affected by maternal psychopathology even from the first trimester of pregnancy.

Furthermore, domestic violence may contribute to pregnancy complications by stimulating the neuroendocrine mechanisms which culminate in increased susceptibility to intra amniotic infections and inflammations (Schetter & Tanner, 2012; Brown et al, 2011; Mulder et al, 2002) and trigger unhealthy coping strategies in pregnant women such as smoking, poor eating habits, sleeplessness, which are counterproductive both for the expecting mother and the baby (Cedars-Sinai, 2010; Anachebe, 2006). Furthermore, domestic violence against pregnant women is known to be associated with adverse pregnancy outcome such as recurrent miscarriage, preterm delivery, low birth weight, fetal injury, perinatal death and maternal death (Healthwise, 2015; Koenig, Stephenson, Acharya, Barrick, Ahmed & Hindin, 2010; Ntaganira, Muula, Siziya, Stoskopf & Rudatsikira, 2009; Rodrigues, Rocha & Barros, 2008; Kady, Gilbert, Xing & Smith, 2005; Farmarzi, Emsaelzedeh & Mosavi, 2005; Neggers, Goldenberg, Cliver & Hauth, 2004;
Janssen, Holt, Sugg, Emmanuel, Crithchlow & Henderson, 2003; Valladares, Ellsberg, Pena, Hoberg & Persson, 2002; Covington, Hage, Hall & Mathis, 2001; Murphy, Schei & Myhr, 2001; McFarlane, Soeken, Reel, Parker & Silvia, 1997; McFarlane, Parker, Soeken & Bullock, 1992; Bullock & McFarlane, 1989; Helton, Anderson & McFarlane, 1987).

The prevalence of domestic violence among pregnant women in developing countries ranges from 4% to 29% (Nasir & Hyder, 2003). In Nigeria, according to the National Demographic Health Survey (2008), the prevalence of domestic violence among pregnant women varied from region to region with the highest in the south-south (9%) and lowest in the North Central region (7%). As of 2013, 5.0% women experienced violence in pregnancy and this is influenced by the level of education, employment status and marital status. The prevalence of domestic violence during pregnancy in Nigeria ranged between 2.3% and 44.6% with lifetime prevalence rates ranging between 33.1% and 63.2% (Nigerian Demographic Health Survey, 2013). These rates therefore reveal that domestic violence is a menace within the Nigerian society and is capable of causing psychological and physical disturbances both for the current and future generations of this nation, hence the need for proper psychological assessment and treatment of women affected by domestic violence.

Psychological assessment is a process of testing, using a combination of techniques to help arrive at some hypotheses about an individual or group and their behaviours, personality and capabilities (Framingham, 2016). Asides the use of clinical interviews, the use of psychological tests in clinical situations has proven effective for the management of psychological disturbances. A psychological test is an objective and standardized measure of an individual's mental and/or behavioural characteristics (Singh, 2014).

According to Encyclopedia of Children's Health (2015), psychological tests are used to assess a variety of mental abilities and attributes, including achievement, intelligence, ability, personality and neurological functioning. Psychological tests are rarely given in isolation but as a part of a battery. This is because any one test cannot sufficiently answer the complex questions usually asked in clinical situations (Walker, Hall and Hurst, 1990). Psychological tests are also very important in the management of psychological disturbances.

Women Abuse Screening Tool in the Assessment of Domestic Violence

In pregnancy, domestic violence often escalates with higher than average rates of miscarriage, fetal damage and low birth-weight babies (Campbell, 2002). Without quality psychological assessment, domestic violence may go undetected in its victims thereby increasing the potential for further psychological, physical and sexual harm a pregnant woman and her fetus may suffer and making proper management of domestic violent causes difficult or outright impossible.

There is no doubt that psychological tests are effective in the diagnosis of psychological disturbances, including domestic violence. In a study conducted by Daw (2001) and reported APA's Psychological Assessment Work Group (PAWG) it was proven that many psychological tests produce results of comparable validity to medical tests such as pap smears, mammography, magnetic resonance imaging

(MRI) and electrocardiograms. An example was cited using the test scores from the Minnesota Multiphasic Personality Inventory (MMPI) which was discovered to have an average ability to detect depressive or psychotic disorders with the same reliability that pap tests detect cervical abnormalities. It was also disclosed that some psychological tests work as well as medical tests in detecting the same illnesses. They point to neuropsychological testing for dementia producing results with the same level of effectiveness as an MRI.

The Women Abuse Screening Tool (WAST) (Brown, Lent, Schmidt & Sas, 1996) is an 8-item scale, developed as a standardized psychological self-report instrument to record aspects of domestic violence including psychological, physical and sexual abuse. The test was developed and piloted using purposive samples of abused and non-abused women. It was found to have a high internal consistency of 0.95 among this sample. It also demonstrated construct validity, with total scores correlating highly (r=0.96) with scores on the Abuse Risk Validity (ARI) (Brown, Lent, Schmidt and Sas, 2000).

Existing Psychometric Properties of Women Abuse Screening Tool

Previous validation study provided evidence of discriminant validity, finding significant differences in the scores of abused and non-abused women both on individual items and on overall scores. Studies further reveal that the test correctly classified 91.7% of the abused women and 100% of the non-abused women in the validation study. The test is scored 1(never or none) to 3 (a lot or often), the total scores range from 8 to 24, and the test developer recommend a cutoff of 13 to indicate presence of domestic violence. Hence the original norm reported by the authors of the instrument is 13.

This study aims at not only establishing new psychometric properties (reliability and validity coefficients) for Nigerian pregnant women, but also getting a new norm for Nigerian population, particularly pregnant women. While the original authors were interested in the presence or otherwise of domestic violence, this study is interested in the levels of violence since not all experiences of domestic violence may be pathological. As clinicians, we are interested in the pathological level as this would be useful in making vital clinical decisions which will in turn have implications for clinical practice.

Methods Research Design

This study is a hospital based exploratory survey which adopts the cross-sectional survey research design using ex-post facto. This design was used because there was no manipulation of variables; the study only reported what already existed. This design was also selected because it permitted the collection of data from numerous participants at the same point in time.

Setting

This study was conducted among pregnant women in the State Specialist Hospital, Osogbo, Osun State, and south-western Nigeria.

Instruments

The WAST was used for this study. The first two items of the tool assess the degree of relationship tension that a woman and her partner have in working out arguments on the scale of 1 to 3. The remaining 6 questions are used to gain a more comprehensive assessment of the experience of domestic violence by asking the respondent to rate the frequency of various feelings and experiences on a scale of 1 (often) to 3 (never). The WAST items are recorded and summed to calculate the overall score.

Originally, the validity of the Women Abuse Screen Tool (WAST) was assessed by using the Ongoing Abuse Screen (OAS) to validate it. The OAS was developed by Weiss, Ernst, Cham and Nick (2003); it is a 5-item scale which measures general domestic violence. The higher a participant scores on the test, the higher the degree of domestic violence experienced by such an individual. The instrument has an inter-item correlation 0.23 and Cronbach's Alpha of 0.59 as measures of its reliability. The instrument has a sensitivity ranging between 30-60% and specificity ranging between 90-100% (using the ISA as gold standard).

Inclusion-Exclusion Criteria

Participants sampled consisted of married pregnant women and unmarried pregnant women involved with a male partner at least six months prior to test administration and were unaccompanied by husband/partner at the time of the study. Also, the sample included pregnant women in good physical condition (self-reported) who were willing to spend about five minutes for the study.

These inclusion criteria provided this study with a valid research outcome by minimizing the possibility of responses which could originate from non-pregnant women, women who are not married and not involved with male partner, bias due to partner's presence, ill health or lack of time to carefully attempt the battery of psychological tests.

Furthermore, these inclusion criteria facilitated easier and more effective data collection and helped to ensure that all prospective respondents were adequately informed on the purpose of the study, thereby fostering motivation and true response.

Instrument Administration

The researcher administered the instrument to women who met the inclusion criteria and consented to participate in the study. Patients were informed about the details of the study before the test was administered. The researcher was readily available to clarify areas of confusion in the test.

Data Analysis

The scoring of the WAST involved recording the responses to reflect a higher score for higher reported frequency of experiences for women who answered all 8 items as explained by Brown, Lent, Schmidt & Sas (2000). To determine the reliability and the validity of the WAST, the Crobach Alpha, the Spearman Brown's coefficient and the Guttman Split-Half Coefficient were computed with the aid of Statistical Package for Social Sciences (SPSS) pack 23 to ascertain the reliability of the instrument. For the new validity, item-total correlation was computed and WAST was paired with Ongoing Abuse Screen (OAS) (Weiss, Ernst, Cham and Nick, 2003) to determine the concurrent validity. The socio-demographic variables of the sample population were also computed using simple frequencies and mean scores.

Results

A total of 400 patients were approached to participate in this study, all of which met the inclusion criteria, however 21 (5.25%) of them refused to be a part of the study giving lack of time, stress, body aches, bulkiness of battery of instrument and discomfort discussing personal issues as their reasons. Thus, the final sample consists of 379 pregnant women. Table 1 presents the socio-demographic characteristics of the respondents.

Table 1: Socio-Demographic Characteristics Of The Respondents

Variables	**Levels**	**Frequency**	**Percentage (%)**
Age	18-49yrs $\bar{x}$ age	379 29.11	 100
Age of Spouse	18 - 63years $\bar{x}$ age	379 36	 100
Duration of Marriage	<1 – 29 years $\bar{x}$ Duration of Marriage	379 3.75	 100
Type of Marriage	Court Marriage Christian Marriage Muslim Marriage Traditional Marriage **Total**	108 134 121 16 **379**	28.5 35.4 31.9 4.2 **100**
Type of Family	Monogamous Polygamous	306 69	80.7 18.2

	Single Parent **Total**	4 **379**	1.1 **100**

The summary presented in Table 1 shows the socio-demographic characteristics of the respondents. In analyzing these characteristics, it is observed from the table that all respondents are aged between 18 – 49 years, with a mean age of 29.11 years. The age range correlates with the national reproductive age group which is 18 - 49 years. The respondents' age range is dynamic and accommodates adolescents, young adults, adults and the older adults. In analyzing these spousal characteristics, it is observed that the age of the spouses of the respondents ranged from 18 to 63 years, with a mean age of 36. This reflects a tendency for some women to marry older aged men. The data on age on the age of the respondents' spouses and their spouses is dynamic and accommodates adolescents, adolescents, young adults, adults and the elderly. Also, duration of marriage among the respondents ranged from <1year to 29 years with a majority of 106 (28.0%) in their first year of marriage. Christian marriage (35.4%) was the highest type of marriage contracted followed closely by Muslim marriage (31.9%). Majority of the respondents were married into a monogamous home (80.7%)

Reliability

In deriving new reliability coefficients for the WAST, the Cronbach's alpha, Spearman-Brown coefficient and the Guttman Split-Half coefficient were computed using SPSS. The reliability showed a Cronbach's alpha of 0.758, p<.05, a Spearman-Brown coefficient (r) of 0.683, p<.05, a Guttman Split-Half coefficient of 0.680, p<.05. The aforementioned reveals that the reliability of the instrument ranges from moderate to high on all three measures. These results show that the instrument has acceptable reliability coefficients using a Nigerian sample.

Validity

As summarized in Table 2, item-total correlation of Women Abuse Screening Tool (WAST), using a sample of Nigerian pregnant women was derived to calculate new validity scores.

Table 2: Item-Total Correlation of WAST

S/N	**ITEM**	**r**
1	In general, how would you describe your relationship?	.631*
2	Do you and your partner work out arguments with (great difficulty, some difficulty, no difficulty)?	.655*
3	Do arguments ever result in you feeling down or bad about yourself?	.556*
4	Do arguments ever result in hitting, kicking or pushing?	.610*
5	Do you ever feel frightened by what your partner says or does?	.553*
6	Has your partner ever abused you physically?	.627*
7	Has your partner ever abused you emotionally?	.651*
8	Has your partner ever abused you sexually?	.575*

*p =.000

Table 2 reveals that all 8-item of the instrument correlate with the item-total ranging from a r .553 on item 5 to .655 on item 2, p =.000.

A significant positive correlation was found between WAST and Ongoing Abuse Screen (OAS) (Weiss, Ernst, Cham & Nick, 2003) (r = .286 p<0.05). This result is an evidence of acceptable validity.

Norms

Summarized in Table 3 are the new and acceptable norms for the Women Abuse Screening Tool (WAST), using a sample of Nigerian pregnant women.

Table 3: New Norms for WAST using a sample of Nigerian Pregnant Women

Physical Violence	≥1.46
Emotional Violence	≥2.83
Sexual Violence	≥0.65
Domestic Violence Total	≥5.79

Table 3 shows that physical violence is reflected by a score of ≥1.46 on the sum of items 4 and 6, emotional violence is reflected by a score of ≥2.83 on the sum of items 3, 5 and 7, sexual violence is reflected by a score of ≥0.65 on item 8. Domestic violence total is reflected by a score ≥5.79 on the cumulative sum of all items in the instrument.

Conclusion

Based on the findings from this study we conclude that this instrument is a promising assessment tool for Nigerian population with acceptable psychometric properties. Furthermore, this study as well as several other studies across the globe have reported that WAST has a moderate to high reliability and validity. The instrument is sufficient to uncover physical, sexual and psychological abuse within a short period of time.

Recommendations

Based on the findings of this study, this tool is recommended for psychodiagnostics and other clinical decision making in the management of pregnant women experiencing domestic violence. Also that further validation studies should be carried out to establish the usefulness of the instrument among other specific or general population. This study further recommends that researchers and clinicians should derive up-to-date psychometric properties of psychological tests before administering them to clients so as to arrive at valid and reliable conclusions.

Conflict of Interest

Authors declare no conflict of interest.

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