

## DEVELOPMENT AND VALIDATION OF ABUSE BY SPOUSE QUESTIONNAIRE AMONG FEMALES IN PAKISTAN

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**ABSTRACT:Background:** Spouse abuse constitutes of verbal, emotional, and physical harm which may result in short and long-term psychological and physical consequences for victims. There is no locally developed questionnaire to assess spouse abuse against pregnant women in Pakistan so far. Therefore, it is necessary to develop a comprehensive spouse abuse questionnaire that suits our population and validates for its practical use.

**Objective:** To develop the questionnaire for spouse abuse and validate it among pregnant females of the local population

**Materials and Methods:** A questionnaire containing 25 items against 4 factors was developed on a Likert scale after a thorough literature review as well as face and content validity. For construct validity, data from 125 females were collected and exploratory factor analysis was done. Data was entered and analyzed using SPSS v.23. Descriptive, commonalities, and Eigenvalues were calculated and Principle Component Analysis (PCA) was done using varimax rotation for loading of items.

**Results:** Kaiser-Meyer-Olkin (KMO) test was found statistically adequate (0.883) and Bartlett's test of sphericity was also statistically significant ( $p$ -value= 0.000). The level of commonalities was greater than 0.5 in all 25 items and the eigenvalues of all four factors were greater than 1 (5.578, 4.843, 3.885, and 3.400 respectively). The cumulative variance explained by these four factors through the rotated sum of squares was 70.826%. The values against all items in four factors were satisfactory i.e.  $>0.05$  using PCA and hence all items were retained without any elimination

**Conclusion:** This study concludes that the developed questionnaire is statistically valid and reliable for the assessment of spouse abuse among females.

**Keywords:** Validation, reliability, exploratory factor analysis, spouse abuse, intimate partner violence, development of the tool.

### INTRODUCTION:

Domestic violence is a critical health issue for women worldwide.[1, 2]. It includes the violation of fundamental rights and freedom of choice of women. [3]. The definition of violence against women by the United Nations (UN) is "any act of gender-based violence that results in, or is likely to result in physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life". [4]. Spouse abuse is an important component of domestic violence. Spouse abuse constitutes verbal, emotional, and physical harm which may result in short and long-term psychological and physical consequences for victims. [5].

Spouse abuse is common among females in developing countries, especially in Southeast Asia [6]. Poverty, financial dependence, parental dominance, and power are some of the frequently reported motives behind spouse abuse.[7, 8]. Women in vulnerable states are at higher risk of abuse and may face worse outcomes.[9] Some Canadian studies have reported an estimated prevalence of 5.5-6.6% of women abused during pregnancy. [10]. A recent study in India reported non-physical abuse in as many as 45% and physical abuse in almost 18% of pregnant females.[11]. Literature in Pakistan has reported emotional as well as physical abuse ranging from 18-77% among females. (8)Women who undergo abuse suffer from extreme psychological trauma as well as physical consequences.[12, 13].

A number of questionnaires and scales have been devised in order to quantify the existence and magnitude of intimate partner abuse. The Conflict Tactics Scale is considered a gold standard screening tool for domestic violence [14], whereas

the Revised Conflict Tactics Scale (CTS-2) is considered a reliable tool for assessing violence against couples (both dating and marital). [15]. In India, few questionnaires have been developed to assess the physical, sexual and psychological violence of husbands against their wives. [16]. However, some of these questionnaires contain questions not applicable to our local population or have cultural conflicts while other questionnaires are too exhausting to apply in clinical settings. There is no locally developed questionnaire to assess spouse abuse against pregnant women in Pakistan so far. Therefore, it is necessary to develop a comprehensive spouse abuse questionnaire that suits our population and validates for its practical use.

**OBJECTIVE:** To develop the questionnaire for spouse abuse and validate it among pregnant females of the local population

### MATERIALS AND METHODS:

**Study Design:** Validation of Questionnaire

**Study Population and Setting:** Females of reproductive age 15-35 years visiting Lady Aitchison Hospital Lahore were included in the study. The willing subjects were briefed about the purpose of the research. As per Kline's rule, the sample size for EFA should be 5-10 subjects per item. So according to desired 25 items, the number of subjects selected was 125.

**Development of Spouse Abuse Questionnaire:** The development of the questionnaire was the first step. Extensive literature review and first-hand observation were taken into consideration for item generation. [17-18]. The experiences and opinions of women living in shelter homes were also considered. The authors were directed to make their own initial questions that were, later, discussed one by one in meetings.

After several meetings, duplicate or similar questions were eliminated and the questionnaire was finalized after consensus. The final draft was consulted with a panel of experts including one gynecologist, one psychologist, one social worker, and one biostatistician. Their expert opinion was considered for content validity and upon their advice and the consensus of the authors, the final version of the questionnaire was reduced to 25 items.

**Item Generation:** Due to the unavailability of the standardized tool, common modes of abuse used by in-laws were used in the questionnaire. The components of emotional abuse, physical abuse, financial abuse, and blackmailing were taken while generating items. The responses against each item were recorded on a five-point Likert scale (1-Never, 2-Rarely, 3-Sometimes, 4-often, 5-very much). Two psychological experts, one gynecologist, and one senior public health expert were consulted as well to ensure face and content validity.

**Ethical Statement:** The study was approved by the Ethical Committee of UniSZA, Malaysia, and the Board of Ethics at Lady Aitcheson Hospital, Lahore, Pakistan.

**Data Collection:** Data collection was started after taking ethical approval from the ethical committee of UniSZA, Malaysia, and Aitcheson Hospital, Lahore. First, data was collected from 10 participants for the purpose of face validity. Their opinion was taken through focus group discussion with the main theme of discussion being the content, level of language, and understanding of the terms used in the questionnaire. With the consensus of all participants, it was decided that the questionnaire was adequately satisfactory in all three domains. Finally, for the main data collection, females were approached and briefed about the purpose of the research. Informed consent was taken from willing participants and face-to-face interviews were conducted. If needed, they were also helped to understand questions better by the interviewer.

**Analysis:** All data were entered, cleaned, and analyzed in SPSS version 23. Kaiser-Meyer-Olkin (KMO) test was applied for the factorability of data and Bartlett's test was also used to find the significance of adequacy of sampling. It is recommended in the literature to perform validation in a systematic manner.[19, 20]. In Exploratory Factor Analysis (EFA), Principal Component Analysis (PCA) was used to see the correlation, and a component matrix was made. For rotation and control of cross-loading of items, the varimax rotation method was used. Eigenvalues and communalities were reported for assessment of variance explained by items. Whenever wrong, poor, or cross-loading was detected among items, they were dealt with by eliminating them from the questionnaire. After finalizing the questionnaire, Chronbach's Alpha was applied to see internal consistency.

## RESULTS:

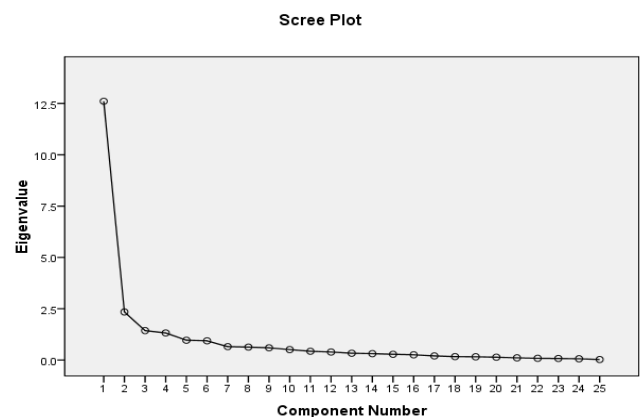
**Content and Face Validity:** The first stage was to develop the questionnaire. For this purpose, literature was consulted extensively and the expert opinion of two gynecologists and one public health expert was also taken. The authors were assigned the task to formulate a set of questions individually and then these were combined to see any duplicate or similar questions which were merged into a single synonymic item. For items with confusion, disagreements, or any controversy, the consensus was made after discussion. The final version was developed after several meetings. The finalized questionnaire was then pretested on 20 subjects for their response to the wording and content of the questionnaire and was reported as satisfactory and adequate. Therefore the first finalized draft contained 25 questions on 4 factors were included.

**Descriptive Statistics:** This study was conducted on 125 females with a mean age of  $28.5 \pm 3.0$  years, mode parity of 3, and the commonest mode of delivery as Normal delivery (50%), followed by Cesarean section (40%) and another mode of delivery (10%).

**Exploratory Factor Analysis:** The adequacy of the sample was tested using Kaiser-Meyer-Olkin (KMO) test and was found statistically adequate (0.883) and the factorability of items included was checked by Bartlett's test of sphericity which was also statistically significant ( $p$ -value= 0.000). These results mean further analysis through EFA was appropriate to be carried out on this data.

The method of Principal Component Analysis opted for the extraction of factors and checking the communalities. The level of communalities was greater than 0.5 in all 25 items, hence indicating the variance explained by factors was adequate. Similarly, the eigenvalues of all four factors were greater than 1 (5.578, 4.843, 3.885, and 3.400 respectively). The cumulative variance explained by these four factors through the rotated sum of squares was 70.826% with the highest explained variance being 22.312% and the least being 13.599%. The Scree plot showed a steep fall after the first item and indicated the eigenvalues. **(Graph-1)**

All 25 items were subjected to PCA and were rotated through varimax rotation. The values against all items in four factors were satisfactory i.e.  $>0.05$  and hence all items were retained without any elimination



**Graph-1: Scree plot of the First Version of the Tool**

**Table 1: Rotated Factor Loading of Finalized Tool Using Varimax Rotation**

Items	Factor 1	Factor 2	Factor 3	Factor 4	Chronbach's Alpha
Q1 Accuses you of flirting with other men or being unfaithful	.629				
Q2 Belittles or insults you in front of others	.540				
Q3 Does not take a stand when his family insults or harms you	.643				
Q4 Does not believe you or keep a check on you	.748				
Q5 Pushed You	.547				
Q6 Twisted Your Arm	.721				.932
Q7 Hurt any other body part e.g. hair, back, belly, choking, etc.	.849				
Q8 Tried to burn specific body parts with harmful material e.g. iron, cigarette, lighter, etc.	.792				
Q9 Threatened to harm you or kids in case you reported the abuse to family, friends or authorities	.660				
Q10 Do you feel scared or anxious around your husband		.723			
Q11 Makes you feel guilty or wrong in every situation		.658			
Q12 You feel as if nothing is ever good enough to please him		.798			
Q13 Does not give any importance to your decisions or opinion		.838			.924
Q14 Forces sex on you without your consent		.723			
Q15 Threatens to harm you or your kids if you ever left him		.616			
Q16 Does not consult you with money matters			.686		
Q17 Does not give you enough money for your needs			.674		
Q18 Suspicious if you talk to men			.744		.887
Q19 Slapped You			.651		
Q20 Beat you in front of others			.569		
Q21 Becomes angry when you oppose his opinion				.679	
Q22 Forbids you from interacting with your family or friends				.500	
Q23 Prevents you from taking medical help or necessary medications				.644	
Q24 Makes excuses for abuse (If you behaved correctly I wouldn't have slapped, I was tired, It is my love for you etc.)				.529	.795
Q25 Ignores you intentionally by not bothering your problems or not having sex with you for a long time				.746	

**Reliability Analysis:** Chronbach’s alpha was used to see the reliability of the overall questionnaire as well as of individual factors. The values of reliability against each factor were 0.932, 0.924, 0.887, and 0.795. The questionnaire was overall statistically reliable to assess spouse abuse among females as well (Chronbach’s Alpha=0.956). **(Table-1)**

**DISCUSSION:**

Spouse abuse remains a significant social and public health concern, especially in South East Asia.[21]. Many studies have reported that women still go through physical, verbal, emotional, and economic abuse by their husbands [5]. Such abuse is commonly observed but underrated in Pakistan as well [22]. Societal and family pressures as well as aspects of power and control are basic motives behind spouse abuse. Women, particularly in vulnerable situations, such as pregnancy, health issues or dependents are even more at risk [23].

One study in Pakistan reported 45.2% abuse in rural compared to 30.6% in Urban areas of Pakistan. The mode of abuse was emotional in 36.4% whereas physical in 18.4% of women. the frequency of emotional and physical violence was highest in Khyber Pakhtunkhwa (KPK; 54.9% and 36.4%) followed by Balochistan (50.0% and 25.5%), Punjab (35.9% and 15.8%), Sindh (24.7% and 13.3%) provinces.[24]. Despite of high frequency of spouse abuse and reported consequences in the form of morbidity and even fatality in some cases, no standardized tool is still available in Pakistan to quantify and assess it.

Due to the unavailability of a specific tool, most studies in Pakistan use different tools such as intimate partner violence, conflict tactics scale, and California Psychological Inventory's

subscale of Well-being, etc.[6, 8]. However, some questions in these scales are not relevant to our setting and hence we require a specific tool for the assessment of violence in Pakistan. This study was therefore conducted to develop and validate a specific questionnaire to assess spouse abuse among Pakistani females.

The factors considered for abuse were physical abuse, emotional abuse, financial dependence, and toxic control. As mentioned in the literature, Exploratory Factor Analysis was conducted and commonalities, Eigenvalues, and component matrices using the varimax rotation method were used. Moreover, the reliability of the overall questionnaire as well as for individual domains was also calculated. All 25 items loaded against these four factors were included in the finalized questionnaire. However, more studies are recommended for confirmatory analysis and multi-centric studies are recommended for a bigger sample.

**CONCLUSION:**

This study concludes that the developed questionnaire is statistically valid and reliable for the assessment of spouse abuse among females.

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