

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

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**ABSTRACT: Background:** Spouse abuse constitutes of the 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 women in Pakistan so far. Therefore, it is necessary to develop a comprehensive spouse abuse questionnaire that suits our population and validate for its practical use. **Objective:** To develop the questionnaire for spouse abuse and validate it among females. **Materials and Methods:** A questionnaire containing 25 items against 4 factors was developed on Likert scale after thorough literature review as well as face and content validity. For construct validity, data from 125 females was 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. For CFA, Pathway analysis and several model fit indices were calculated including CMIN/df, SRMR, RMSEA, CFI, GFI, TLI, AIC and BIC. P-value<0.05 was considered significant. **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 communalities 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). Cumulative variance explained by these four factors through 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. The standardized regression weights were all above 0.5. Several parameters of model fit summary were calculated to see if the model was adequate enough to explain the factors. **Conclusion:** This study concludes that the developed questionnaire is statistically valid and reliable for assessment of spouse abuse among females.

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

### INTRODUCTION

Domestic violence is a critical health issue for women worldwide [1,2]. It includes violation of fundamental rights and freedom of choice of women [3]. The definition of violence against women by 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 of the 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 of developing countries especially in SouthEast Asia <sup>6</sup> Poverty, financial dependence, parental dominance and power are some of the frequently reported motives behind spouse abuse [7,8]. Women in vulnerable state are at higher risk of abuse and may face worse outcomes [9,10]. Some Canadian studies have reported an estimated prevalence of 5.5-6.6% women abused during pregnancy [11]. A recent study in India reported non-physical abuse in as many as 45% and physical abuse in almost 18% of pregnant females [12]. Literature in Pakistan has reported emotional as well as physical abuse ranging from 18-77% among females. <sup>8</sup>Women who undergo abuse suffer from extreme psychological trauma as well as physical consequences [13,14]. 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 gold standard screening tool for domestic violence [15] whereas Revised Conflict Tactics Scale (CTS-2) is considered reliable tool for assessing violence against couples (both dating and marital) [16] In India, few questionnaires have been developed to assess physical, sexual and psychological violence of husbands against their wives [17] To develop the questionnaire for spouse abuse and validate it among pregnant females of local population. However, some of these questionnaires contain questions not applicable in our local population or having 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 validate for its practical use.

### MATERIALS AND METHODS

**Study Design:** Cross sectional study

**Study Population and Setting:** Females of reproductive age 15-35 years visiting Lady Aitchson Hospital Lahore were included in the study. The willing subjects were briefed about the purpose of research. As per Kline's rule, the sample size for EFA should be 5-10 subjects per item [18, 19]. So according to desired 25 items, the number of subjects selected were 125.

**Development of Spouse Abuse Questionnaire:** The development of questionnaire was the first step<sup>20</sup>. Extensive literature review and first hand observation were taken into consideration for item generation.<sup>21-23</sup> 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 questionnaire was finalized after consensus. The final draft was the 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 consensus of authors the final version of questionnaire was reduced to 25 items.

**Item Generation:** Due to unavailability of standardized tool, common modes of abuse used by in-laws were used in 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 Ethical Committee of Unisza, Malaysia (REC # UniSZA/UHREC/2019/114).

**Data Collection:** Data collection was started after taking ethical approval from ethical committee of UniSZA, Malaysia and data collection permission from 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 questionnaire. With 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 through random sampling and were briefed about the purpose of 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 was entered, cleaned and analyzed in SPSS version 23. Kaiser-Meyer-Olkin (KMO) test was applied for factorability of data and Bartlett's test was also used to find significance of adequacy of sampling. It is recommended in literature to perform validation through systematic manner [24, 25]. In Exploratory Factor Analysis (EFA), Principal Component Analysis (PCA) was used to see correlation and component matrix was made. For rotation and control of cross loading of items, 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 by eliminating from questionnaire. After finalizing the questionnaire, Chronbach's Alpha was applied to see internal consistency.

For the purpose of Confirmatory Factor Analysis (CFA), all 25 items were subjected to analysis because of no item reduction. The retained items were used to calculate appropriate sample size using 10-20 samples per item.<sup>26</sup> As there were 25 items, we included 250 women from the same setting after a period of six weeks. Data on the finalized questionnaire was collected taking informed consent from the participants. The data was entered and analyzed using AMOS version 24.0. Mean±SD, frequency (percentage) were used for descriptive analysis. Pathway analysis and several model fit indices were calculated including CMIN/df, SRMR, RMSEA, CFI, GFI, TLI, AIC and BIC. P-value<0.05 was considered significant.

## 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, 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 about the wording and content of questionnaire and were reported satisfactory and adequate. Therefore the first finalized draft contained 25 questions on 4 factors (physical abuse, emotional abuse, financial abuse and social abuse) were included.

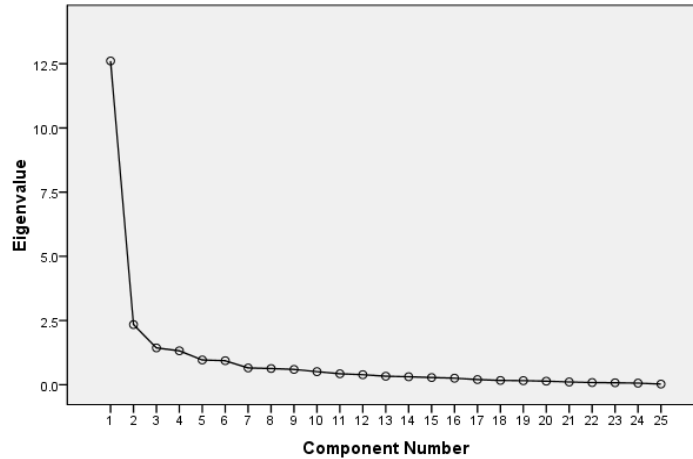
**Descriptive Statistics:** This study was conducted on 125 females with a mean age of 28.5±3.0 years, mode parity of 3 and commonest mode of delivery as Normal delivery (50%), followed by Cesarean section (40%) and other mode of deliveries (10%).

**Exploratory Factor Analysis:** The adequacy of the sample was tested using Kaiser-Meyer-Olkin (KMO) test and was found statistically adequate (0.883) and 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 was opted for 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). Cumulative variance explained by these four factors through rotated sum of squares was 70.826% with highest explained variance being 22.312% and least being 13.599%. Screeplot showed a steep fall after first item and indicated the eigenvalues.

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

Scree Plot



Graph-1: Screeplot of First Version of 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				.932
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 keeps check on you	.748				
Q5 Pushed You	.547				
Q6 Twisted Your Arm	.721				
Q7 Hurt any other body part e.g. hair, back, belly, chocking etc.	.849				
Q8 Tried to burn specific body part 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 You feel scared or anxious around your husband		.723			.924
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			
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		.887
Q17 Does not give you enough money for your needs			.674		
Q18 Suspicious if you talk to men			.744		
Q19 Slapped You			.651		
Q20 Beat you in front of others			.569		
Q21 Becomes angry when you oppose his opinion				.679	.795
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	
Q25 Ignores you intentionally by not bothering your problems or not having sex with you for 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 the spouse abuse among females as well (Chronbach’s Alpha=0.956).

**Confirmatory Factor Analysis (CFA):** The mean age of total 250 females included in CFA was 30.644±6.05 years, with

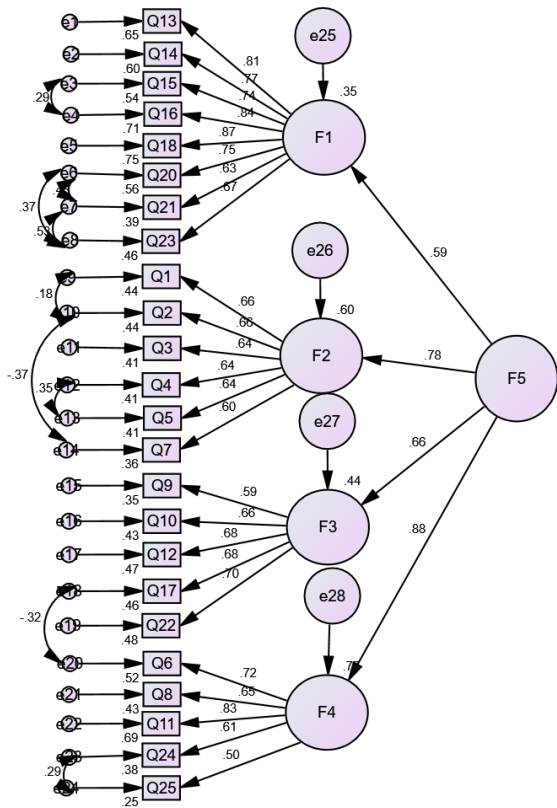
normal delivery in 52%, C-section in 44% and other mode of deliveries in 4% whereas mode parity was 3.

**Pathway analysis:** The pathway was made using four domains with respective items in each domain. The components of fear, control, verbal abuse and physical abuse were considered in the four factors respectively. The 25 items aligned accordingly and the standardized regression weights were all above 0.5 meaning items had significant contribution in measuring respective factors individually.

**Model Fit Summary:** Several parameters of model fit summary were calculated to see if the model was adequate enough to explain the factors. All values of these measures were fulfilling the threshold or cutoff making model satisfactory to be finalized as final.

**Table 2: Fit Indices of CFA Model [n = 250] “Abuse by spouse” tool**

Model	CMIN/D.F	p-value	SRMR	RMSEA	CFI	GFI	TLI	AIC	BIC
	2.03	<0.001	0.062	0.064	0.919	0.866	0.906	605.48	619.09



**Pathway Analysis of Final Tool of Spouse Abuse Hence final validated tool is;**

**Table 3: The Abuse by Spouse to Induce Fear (asif) Questionnaire  
(A tool to measure abuse by husband)**

Please tick against each statement the best option you feel that your husband treats you like; (1-Never, 2-Rarely, 3-Sometimes, 4-often, 5-very much). (The more the total score is, the higher the level of abuse. Minimum possible score is 25 and maximum is 125)

	Does your husband do any of these things?	1	2	3	4	5
Q1	Accuses you of flirting with other men or being unfaithful					
Q2	Belittles or insults you in front of others					
Q3	Does not take a stand when his family insults or harms you					
Q4	Does not believe you or keeps check on you					
Q5	Pushed You					
Q6	Twisted Your Arm					
Q7	Hurt any other body part e.g. hair, back, belly, choking etc.					
Q8	Tried to burn specific body part with harmful material e.g. iron, cigarette, lighter etc.					
Q9	Threatened to harm you or kids in case you reported the abuse to family, friends or authorities					
Q10	You feel scared or anxious around your husband					
Q11	Makes you feel guilty or wrong in every situation					

Q12	You feel as if nothing is ever good enough to please him					
Q13	Does not give any importance to your decisions or opinion					
Q14	Forces sex on you without your consent					
Q15	Threatens to harm you or your kids if you ever left him					
Q16	Does not consult you with money matters					
Q17	Does not give you enough money for your needs					
Q18	Suspicious if you talk to men					
Q19	Slapped You					
Q20	Beat you in front of others					
Q21	Becomes angry when you oppose his opinion					
Q22	Forbids you from interacting with your family or friends					
Q23	Prevents you from taking medical help or necessary medications					
Q24	Makes excuses for abuse (If you behaved correctly I wouldn't have slapped, I was tired, It is my love for you etc.)					
Q25	Ignores you intentionally by not bothering your problems or not having sex with you for long time					

**DISCUSSION:**

Spouse abuse remains a significant social and public health concern especially in South East Asia [25]. 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 [28]. The 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, any health issue or dependent are even more at risk [29].

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% women. he 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%), and Sindh (24.7% and 13.3%) provinces.<sup>30</sup> 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 unavailability of 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 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 literature, Exploratory Factor Analysis was conducted and communalities, Eigenvalues and component matrix using varimax rotation method were used. Moreover, reliability of overall questionnaire as well as for individual domains were also calculated. All 25 items loaded against these four factors and 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 assessment of spouse abuse among females. Husband's abuse is mostly related to physical, emotional, financial, sexual and social support related factors. Couple counselling and anger management should be discussed and implemented more in our society to deal with such issues. Similarly, women should be encouraged to get educated and financially independent, well aware about their rights and have the authority to decide for themselves. A better spousal relationship may significantly improve mental health and quality of life of women in Pakistan.

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