


# Developing a Screening Tool for Mental Health Professionals for Measuring Intimate Partner Violence among Women with Mental Illness at Tertiary Care Setting

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## Abstract

**Background** Intimate partner violence (IPV) is the major public health issue seen in all cultures. Mental health professionals play a significant role in screening IPV and providing needed care and support to the survivors. There is a dearth of scale to measure comprehensively different dimensions of violence. The study aimed to develop a screening tool for measuring IPV among women with mental illness (WwMI) in India.

**Methods** The newly developed IPV scale was administered to 200 WwMI at a tertiary care hospital.

**Results** The factor analysis revealed four factors constituted 67.15% of the variance. The internal consistency Cronbach's  $\alpha$  (0.92) and split-half reliability coefficient value (0.80) for the final 31-item IPV scale were found to be highly adequate and reliable.

**Conclusion** Psychometric properties of scale found to be an effective tool for screening IPV among WwMI by mental health professionals and planning effective intervention strategies to prevent the IPV.

## Keywords

- ▶ intimate
- ▶ partner
- ▶ screening
- ▶ mental
- ▶ violence
- ▶ hospital

## Introduction

Intimate partner violence (IPV) is a major public health issue worldwide. In India, nearly one-third of women aged 15 to 49 years have experienced physical violence (PV), and 1 in 10 have experienced sexual violence. In total, 35% have experienced physical or sexual violence.<sup>1</sup> The World Health Organization reports that one in three women worldwide whoever had a partner reported physical or sexual violence

by an intimate partner.<sup>2</sup> IPV is the second most risk factor for disability-adjusted life years globally in women aged 20 to 25 years.<sup>3</sup>

A recent systematic review and meta-analysis of cohort studies on IPV against women and health outcomes revealed a significant positive association between IPV and subsequent depressive symptoms and increased symptoms of postpartum depression.<sup>4</sup> In the gender vulnerability context, women with preexisting mental disorders are more at risk of

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experiencing violence. Persons with mental illness, especially women, are two to five times more likely to experience IPV, less likely to seek legal help, especially from health professionals.<sup>5</sup> The lifetime prevalence of IPV in females is 16 to 94% and 18 to 48% in males among psychiatric inpatients.<sup>6</sup>

IPV has been associated with a range of physical and mental health outcomes. The physical impact associated with IPV are injuries, disability, chronic pain, gastrointestinal problems,<sup>6-8</sup> gynecological problems, miscarriage, vaginal bleeding, and sexually transmitted infections.<sup>9,10</sup> Mental consequences are depression, post-traumatic stress disorder (PTSD), anxiety, self-harm, suicidality, insomnia, and substance abuse.<sup>11-13</sup>

Few scales are designed to measure IPV in a marital or dating relationship in nonclinical settings. The frequently used scales are the Conflict Tactics Scale,<sup>14</sup> Women Abuse Screening Tool,<sup>15</sup> Index of Spouse Abuse,<sup>16</sup> and Abusive Behavior Inventory.<sup>17</sup> Many of these scales are too lengthy, lack sensitivity, are primarily developed based on different cultural contexts, and are not appropriate for the Indian context.<sup>18,19</sup> Moreover, the existing scales are unidimensional, assessing either physical or sexual violence and fail to capture multicomponent or multidimensionality of violence prevalent in the different cultural contexts in the society. The present research aims to develop a screening tool/scale for measuring IPV experiences among women with mental illness (WwMI) in the Indian context in the mental health setting.

## Methodology

This study was conducted at the National Institute of Mental Health and Neurosciences, a tertiary mental health hospital in southern Bengaluru, India. A convenient sampling technique was adopted to select the participants for the study. The actual sample size for the sample was calculated based on the criteria of subjects to the variable ratio of 5:1.<sup>20,21</sup>

A sample of 200 subjects (i.e., 40 items  $\times$  5 subjects) was derived for the initial 40-item IPV scale with the following inclusion and exclusion criteria: Those WwMI aged 18 to 55 years availing outpatient and inpatient psychiatric services under remission without active psychopathology were included. WwMI having an intellectual developmental disorder, neurological disorders, organic psychiatric disorders, or history of substance abuse were excluded. Informed consent was obtained from all the participants at the time of recruitment. Permission from institute ethics committee was obtained for the research.

## The Procedure of Scale Development

### Phase 1: Item Generation and Content Validation

The first step in scale construction involves identifying the universe of the item pool for the scale. For the present scale, the initial 75 items were derived through the content analysis of in-depth interviews with six experts in the field of gender and mental health. The 75 items were further examined for their cultural appropriateness, repeatability, and

duplication with other items. This led to the elimination of 15 items from the pool. The initial 60-item scale was given to the 12 experts to validate the items for content appropriateness, cultural relevance, the difficulty level, and the readability of the subjects. The responses of all the judges were examined. This resulted in the elimination of 20 items from the pool. The final scale for field-testing consisted of 40 items with four domains assessing PV (15 items), psychological violence (PSYV, 13 items), economic control/violence (ECV, 5 items), and sexual violence (SV, 7 items) experienced by women from their partners. The responses for each item are “never,” “rarely,” “sometimes,” “usually,” and “always,” on a 5-point Likert scale from 1 to 5. Higher scores indicate a higher level of IPV-experienced WwMI. The range for the total score is 40 to 200.

### Phase 2: Field-Testing of Scale

The 40-item scale was pretested with 25 subjects to obtain feedback on the item appropriateness and difficulty level. The modified scale was field-tested with 200 subjects to examine the measurability of the scale.

## Results

### Background Characteristics

The age of the participants ranged from 18 to 57 years, with a mean of 34.30 (standard deviation [SD] = 9.15). A majority (86.2%) were educated and 13.8% were uneducated. Three-fourths of the women (73.2%) were homemakers, 56.7% of women undergoing IPV were married, 38.9% were either separated/divorced, and 82% of the women had children. The mean number of children was 1.77 with SD of 0.88). A total of 77.7% of women were diagnosed with affective disorders, and 28.3% were diagnosed with nonaffective disorders.

### Factor Analysis and Item Reduction

Factor analysis was done to reduce the items further and establish the factor structure of the new IPV scale using exploratory factor analysis (EFA). The purpose of the EFA is that factor structure is not based on preconceived ideas on which items should be included under each subscale. It is plausible that certain items may in another context merge or split to form new subscales/domains. Thus, EFA using principal component method was performed to test underlying factors and their stability as expressed in the factor loadings. Varimax rotation was applied to limit the number of high loadings under the same factor which enhances the clearer identification of items emerging under each subscale. Kaiser criterion was used deciding number of resulting factors.<sup>22</sup> Items with a factor loading of at least 0.30 were considered significant; this was based on criteria for significant correlation.<sup>23</sup> The contribution of each factor explaining the total variation in the item pool was reported. Rotated factor structure of 40 items resulted in similar four-factor structure with eigenvalue greater than 1. These four factors together constituted 67.15% of the variance among the observed variables. The final version of scale had 31 items (see **Appendix 1**). The first factor contained 13 items labeled

**Table 1** Rotated component matrix of the final 31-item IPV scale after factor analysis and item reduction

| Items of 31-item IPV scale   | Factors and loading |       |       |       |
|--|---------------------|-------|-------|-------|
|  | 1                   | 2     | 3     | 4     |
| 1. Pulled my hair  | 0.832               |       |       |       |
| 2. Kicked me   | 0.823               |       |       |       |
| 3. Threatened to kill me   | 0.818               |       |       |       |
| 4. Grabbed/shook me  | 0.805               |       |       |       |
| 5. Slapped me  | 0.776               |       |       |       |
| 6. Threatened to use weapon to hurt me   | 0.775               |       |       |       |
| 7. Banged my head against the wall   | 0.660               |       |       |       |
| 8. Twisted my arms/legs  | 0.608               |       |       |       |
| 9. Dragged me  | 0.587               |       |       |       |
| 10. Thrown things at me  | 0.542               |       |       |       |
| 11. Choked or strangled me   | 0.453               |       |       |       |
| 12. Prevented me to make phone calls to friends, relatives, and family members   |                     | 0.581 |       |       |
| 13. Threatened to hurt someone I care  |                     | 0.542 |       |       |
| 14. Humiliated me in front of others/in public                                   |                     | 0.831 |       |       |
| 15. Called or sent threatening messages to my mobile                             |                     | 0.817 |       |       |
| 16. Blamed me for all the problems   |                     | 0.772 |       |       |
| 17. Shouted at me  |                     | 0.750 |       |       |
| 18. Ridiculed me   |                     | 0.674 |       |       |
| 19. Negatively criticized my appearance or body (calling ugly, fat, whore, etc.) |                     | 0.640 |       |       |
| 20. Controlled me  |                     | 0.633 |       |       |
| 21. Not allowed me to meet family members/relatives/friends                      |                     | 0.569 |       |       |
| 22. Inflicted burn on me   | 0.458               |       |       |       |
| 23. Tied me  | 0.426               |       |       |       |
| 24. Controlled my money  |                     |       | 0.769 |       |
| 25. Put me in debt   |                     |       | 0.747 |       |
| 26. Prevented me from going to work  |                     |       | 0.665 |       |
| 27. Made fun of me sexually  |                     |       |       | 0.753 |

(Continued)

**Table 1** (Continued)

| Items of 31-item IPV scale                         | Factors and loading |   |   |       |
|--|---------------------|---|---|-------|
|  | 1                   | 2 | 3 | 4     |
| 28. Deliberately withheld sex to punish me         |                     |   |   | 0.680 |
| 29. Treated me like a sex object                   |                     |   |   | 0.667 |
| 30. Inflicted pain or injuries to my private parts |                     |   |   | 0.652 |
| 31. Used pressure or threats to obtain sex from me |                     |   |   | 0.585 |

Abbreviation: IPV, intimate partner violence.

as PV; factor 2 contained 10 items labeled as PSYV, factor 3 contained 3 items labeled as ECV, and factor 4 included 5 items labeled as SV. The descriptive statistics and results of the rotated component matrix of the 31-item scale are presented in ►Tables 1 and 2. The overall mean score for the final IPV scale was 94.06 (SD = 19.14). The minimum and maximum scores ranged from 36 to 135.

**Establishing Reliability of the Scale**

The reliability of the final 31-item IPV was calculated from normative data (N = 200) using internal consistency Cronbach’s α and Gutman split of coefficient. The split of reliability coefficient value for the final scale was 0.80. The Cronbach’s α for each factor was PV (0.92), PSYV (0.81), ECV (0.66), and SV (0.58). The final overall Cronbach’s α of 0.92 indicated a high reliable coefficient value.

**Discussion**

Screening for IPV has important practical implications in providing psychological care and support to the survivors of IPV in the mental health settings. The present IPV scale comprehensively assesses the spectrum of violence

**Table 2** Descriptive statistics of 31-item IPV scale

| Domains of IPV scale | Minimum | Maximum | Mean (N = 200) | SD    |
|----------------------|---------|---------|----------------|-------|
| PV                   | 13.00   | 61.00   | 38.41          | 10.98 |
| PSYV                 | 12.00   | 48.00   | 34.53          | 7.39  |
| ECV                  | 3.00    | 15.00   | 8.85           | 2.80  |
| SV                   | 5.00    | 23.00   | 12.27          | 3.45  |
| Total IPV scores     | 36.00   | 135.00  | 94.06          | 19.41 |

Abbreviations: ECV, economic control/violence; IPV, intimate partner violence; PV, physical violence; PSYV, psychological violence; SD, standard deviation; SV, sexual violence.

experienced by the WwMI by their partners either in marital or intimate relationships. The overall Cronbach's  $\alpha$  value of 0.92 for the 31-item scale indicates greater than the acceptable level of 0.70.<sup>24</sup> The EFA of the IPV scale resulted in a meaningful four-factor structure of the scale, contributing 67.15% of the variance. The current scale is the only scale in India that comprehensively assesses various forms of violence as the existing scales assesses either PV or PSYV. Although the psychometric characteristics of the IPV scale supported this investigation, further studies need to be conducted to assess for the stability of its characteristics in different samples with diverse populations such as women with same-sex relationships, transgender, tribal and rural communities, and women in dating relationships.

## Conclusion

In conclusion, initial validation of 31-item IPV scale found to be an effective tool for screening violence experienced among WwMI in the clinical setting. The scale helps clinicians screen for IPV and plan for a tailor-made psychosocial intervention to prevent or reduce IPV in the clinical setting.

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### Conflict of Interest

None declared.

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## Appendix 1

### IPV Scale

#### Instructions

The statements represent some of the behaviors women report to have been used by their current or former husbands/partners/boyfriends. Please

read each of the statement and circle how often it happened during the past 12 months from your current or former husbands/partners/boyfriends

| Items  | Never        | Rarely | Sometimes | Usually | Always |
|--|--------------|--------|-----------|---------|--------|
| 1. Pulled my hair  |              |        |           |         |        |
| 2. Kicked me   |              |        |           |         |        |
| 3. Threatened to kill me   |              |        |           |         |        |
| 4. Grabbed/shook me  |              |        |           |         |        |
| 5. Slapped me  |              |        |           |         |        |
| 6. Threatened to use weapon to hurt me   |              |        |           |         |        |
| 7. Banged my head against the wall   |              |        |           |         |        |
| 8. Twisted my arms/legs  |              |        |           |         |        |
| 9. Dragged me  |              |        |           |         |        |
| 10. Thrown things at me  |              |        |           |         |        |
| 11. Choked or strangled me   |              |        |           |         |        |
| 12. Prevented me to make phone calls to friends, relatives, and family members   |              |        |           |         |        |
| 13. Threatened to hurt someone I care  |              |        |           |         |        |
| 14. Humiliated me in front of others/in public                                   |              |        |           |         |        |
| 15. Called or sent threatening messages to my mobile                             |              |        |           |         |        |
| 16. Blamed me for all the problems   |              |        |           |         |        |
| 17. Shouted at me  |              |        |           |         |        |
| 18. Ridiculed me   |              |        |           |         |        |
| 19. Negatively criticized my appearance or body (calling ugly, fat, whore, etc.) |              |        |           |         |        |
| 20. Controlled me  |              |        |           |         |        |
| 21. Not allowed me to meet family members/relatives/friends                      |              |        |           |         |        |
| 22. Inflicted burn on me   |              |        |           |         |        |
| 23. Tied me  |              |        |           |         |        |
| 24. Controlled my money  |              |        |           |         |        |
| 25. Put me in debt   |              |        |           |         |        |
| 26. Prevented me from going to work  |              |        |           |         |        |
| 27. Made fun of me sexually  |              |        |           |         |        |
| 28. Deliberately withheld sex to punish me                                       |              |        |           |         |        |
| 29. Treated me like a sex object   |              |        |           |         |        |
| 30. Inflicted pain or injuries to my private parts                               |              |        |           |         |        |
| 31. Used pressure or threats to obtain sex from me                               |              |        |           |         |        |
| <b>Dimensions of IPV scale</b>   | <b>Items</b> |        |           |         |        |
| PV (13 items)  | 1–11, 22, 23 |        |           |         |        |
| PSYV (10 items)  | 12–21        |        |           |         |        |
| ECV  | 24–26        |        |           |         |        |
| SV   | 27–31        |        |           |         |        |
| <b>Scoring</b>   | Never        | Rarely | Sometimes | Usually | Always |
|  | 1            | 2      | 3         | 4       | 5      |

Abbreviations: ECV, economic control/violence; IPV, intimate partner violence; PV, physical violence; PSYV, psychological violence; SD, standard deviation; SV, sexual violence.

Note: Interested parties can use the scale after obtaining the permission from the author for the research purpose only.