Development and Validation of a Resilience Scale for Wives of Persons with Alcohol Dependence- A Psychometric Protocol

Mrs. Jyothi Quadras[1], Dr. Anitha Jayaraj[2], Dr. Johnson Pradeep R MD[3], Dr. Rajeswari Singaravelu[4]

[1]Assistant Professor St. Johns College of Nursing, Bangalore

[2]Professor, Dept. of Community Medicine, Sri Ramachandra institute of higher education and Research (DU), Chennai

[3]Professor, Head - Unit-1, Department of Psychiatry, St. John's Medical College & Hospital, Bangalore

Affiliations: Head, Division of Mental Health & Neurosciences, St. John's Research Institute

Faculty, Department of Medical Ethics, St. John's Medical College

Member, Institutional Ethics Committee (Member), St. John's Medical College & Hospital,

[4]Reader, Faculty of Nursing, Sri Ramachandra institute of higher education and Research (DU), Porur, Chennai

Abstract

Background: Alcohol use disorders not only affect the individual person but also their family. Wives of individuals with alcohol dependence are often affected by the harm caused by alcohol. There is a need to assess their resilience and empower them to face challenging situations. The objective of this study is to develop a resilience scale specifically for these wives and evaluate its reliability and validity.Methodology: The study will adopt a mixed approach using sequential exploratory design, combining qualitative and quantitative methods. The qualitative phase will include a literature review and focus group discussions and in-depth interviews to generate a pool of items. The integration phase will evaluate the content and face validity of the instrument through a panel of experts. The quantitative phase will use exploratory and confirmatory factor analysis to validate the scale and measure its reliability through ICC The study will be conducted among wives of persons with alcohol dependence during their husband's admission in the departments of Psychiatry and gastroenterology of St. John's Medical College Hospital, and associated community centers at Bangalore, Karnataka state. The participants will be wives of persons with alcohol dependence who accompany their husbands during their admission. Participants will be screened using modified MINI screen.Conclusion: The results of this study will help identify resilience among these wives and improve it through strength-based therapy. The development of a specific resilience scale for these wives will be a valuable tool in their assessment and empowerment.

Key Words: Resilience, Alcohol Dependence, Development and Validation

Introduction

Alcohol abuse has a significant impact on both global and Indian societies. According to the World Health Organization (WHO) 2022, there are 3 million deaths each year due to the harmful use of alcohol, accounting for 5.3% of all deaths. Overall, 5.1% of the global burden of disease and injury is attributable to alcohol based on Disability-adjusted life years (DALYs).[2] According to National Family Health Survey-5 (NFHS-5), 2019-21, found that the prevalence of alcohol use disorders is 9% in adult men. In India, the alcohol-attributable fraction (AAF) of all cause deaths was found to be 5.4%. Also, alcohol consumption among both genders is higher in rural India than in urban India. In Karnataka, among adults aged 15-49, over one-fifth (23%) of men and a minor proportion (0.3%) of women drink alcohol[3]. Alcohol consumption tends to be a major problem in India due to the socio-cultural diversity across the nation and different alcohol policies and practices. Alcohol consumption leads to more than 200 diseases, injuries and other health conditions such as mental and behavior disorders. In India, around 62.9% of all the deaths due to liver cirrhosis were attributable to alcohol use[2]. The harmful use of alcohol results in harming other people such as family members, friends, co-workers and strangers[3] particularly their spouses who are most adversely affected. Moreover, the alcohol dependent is so obsessed with drinking that he ignores the needs and situations of other family members and is unable to take up his expected roles and responsibilities. Alcoholism can cause domestic violence, financial difficulties, and mental health problems of the spouse. In such scenario, the functions which are normally carried by husbands often fall on the wives that further add to their burden and suffering. The wife takes over the husband's role and performs the roles of both parents for her children[6]. Studies have shown that wives of persons with alcohol

dependence experience more mental, physical and communication problems, low social activity and marital dissatisfaction[7].

In the growing field of positive psychology, resilience is highlighted as a strength that can help people adapt positively to adversity. The resilience of wives of persons with alcohol dependence may confer protection against the adverse effects of alcoholism. However, the divorce rates among alcoholics in India are lower compared to the west. The resilience of Indian wives of alcoholics has not well studied, and there is no specific scale available to measure their resilience although there are various scales have been developed to measure the resilience among various groups such as Connor-Davidson (2003) Resilience scale for adults (RSA), The Brief Resilience Scale (BRS) and Academic Resilience Scale (ARS-30) etc.. A study conducted in Bangalore found that majority of the wives of persons with alcoholism (82%) scored low on the Resilience scale for adults (RSA). the study found that the wives with low resilience reported poor marital quality[4].

The results of this study will help to assess the resilience specifically in wives of persons with alcohol dependence and also contribute to the understanding of protective factors that keep them in the relationship with their families despite the chronic stressors posed by their alcohol dependent husbands. Protective factors may include regulating their emotions, self-esteem, positive outlook on life, an internal locus of control, adequate problem-solving skills, self-care and a sense of humor. Understanding these factors will help to empower the wives of persons with alcohol dependence. The study will provide valuable information for the development of interventions to support these women and help them cope with the challenges posed by their husbands with alcohol dependence. Hence we would like to develop a new resilience scale that specifically looks at resilience in WopA in the Indian context.

Methodology

This study will employ a mixed method using exploratory sequential design including qualitative and quantitative phase.

Study population

Wives of persons with alcohol dependence who accompany their husbands' during their admission to the department of Psychiatry and Gastroenterology, St. Johns' Medical College Hospital.

Inclusion criteria

1.   Wives of persons with alcohol dependence between the age of 25 to 55 years.
2.   Subjects who could speak English, Kannada. Tamil
3.   Subjects living with their husband for a minimum period of five years.

Exclusion criteria

1.   Screening positive for any major Axis 1 psychiatric disorders like schizophrenia, depressive episode, Bipolar disorders and substance abuse using MINI-Screen.
2.   Divorced or separated for more than 3 years.

Sample size

Qualitative Phase

Focus group discussions (FGD): We would conduct Focus group discussions (FGD) till the redundancy of the data occurs i.e, when the data being collected from the wives of persons with alcohol dependence begins to repeat itself.

In-depth cognitive interview: The wives of persons with alcohol dependence who participated in focus group discussion and showed characteristics of good resilience will be included in in-depth cognitive interview.

Quantitative Phase

The rule of thumb has been at least 10 participants for each item in the scale, i,e., an ideal ratio of respondents to items is 10:1. Hence for factor analysis we will recruit ten wives of persons with alcohol dependence for one item. However, depending on the number items, participants will be recruited.

Process of development and validation of scale

This study will be conducted in three phases. The preparation phase is aimed to conduct qualitative study to generate a pool of primary items. This phase is focused on findings review of literature and qualitative conventional content analysis findings which will be done through focus group discussion.

Phase i – preparation phase

Preparation phase is a critical step in developing a resilience scale for wives of persons with alcoholism, as it lays the groundwork for the research and helps to ensure that the study is conducted in an ethical and rigorous manner

Item Generation

Based on literature review and phenomenology, the researcher develops pool of items for resilience scale for wives of persons with alcohol dependence.

Literature Review

The researcher does a systematic search of electronic databases such as PubMed, PsycINFO, and CINAHL using appropriate keywords related to resilience, wives of persons with alcohol dependence. We will identify the key constructs and factors that influence resilience in wives of persons with alcohol dependence. We will conduct the exhaustive review of literature related to the components, characteristics and pillars of resilience, protective factors of wives of persons with alcohol dependence, their quality of life, social relation and their coping strategies.

Phenomenology

The researcher will explore the lived experiences of resilience of WoPA through focus group discussion (FGD) using FGD guide with open ended questions. Each focus group will have eight to twelve members.

Focus group discussions will be moderated by the primary investigator and an assistant to facilitate the discussions and to take the notes. All focus group discussions will be audio-recorded and the data will be transcribed. Primary investigator will read through the transcripts repeatedly and manually identify the codes, categories and themes. Qualitative content analysis will be done.

Integration of findings from the literature review and phenomenological research

In this phase, the researchers will combine the results of the literature review and extraction of items from the focus group discussion. Hence the group of experts selects a subset of items from the initial set that are most relevant and informative for measuring resilience in wives of persons with alcohol dependence. The questionnaire will be scored on a 5-point Likert scale (strongly agree to disagree, uncertain).

Expert Evaluation

Experts in the field of alcohol dependence, resilience, and psychological measurement will be identified. These may include psychologists, psychiatrists, social workers, sociologist and researchers who have experience working with wives of persons with alcohol dependence.

Face validity

Experts will assess face validity for determining whether the items in the scale appear to be measuring the construct of resilience. This will be assessed by having experts in the field review the scale items and provide feedback on their clarity and relevance to the construct.

Content validity

Experts will assess content validity for ensuring that the items in the scale are comprehensive and cover all the important aspects of resilience. This will be assessed by having experts in the field; they review the scale items and provide feedback on their completeness and relevance to the construct.

Item Revision

Based on the feedback from the experts, the researcher will compile the feedback report and along with panel of experts will revise or modify the items in the resilience scale to ensure that they are clear, relevant, and comprehensive. The items that have a high degree of agreement are retained, while the items with a low degree of agreement may be revised or removed.
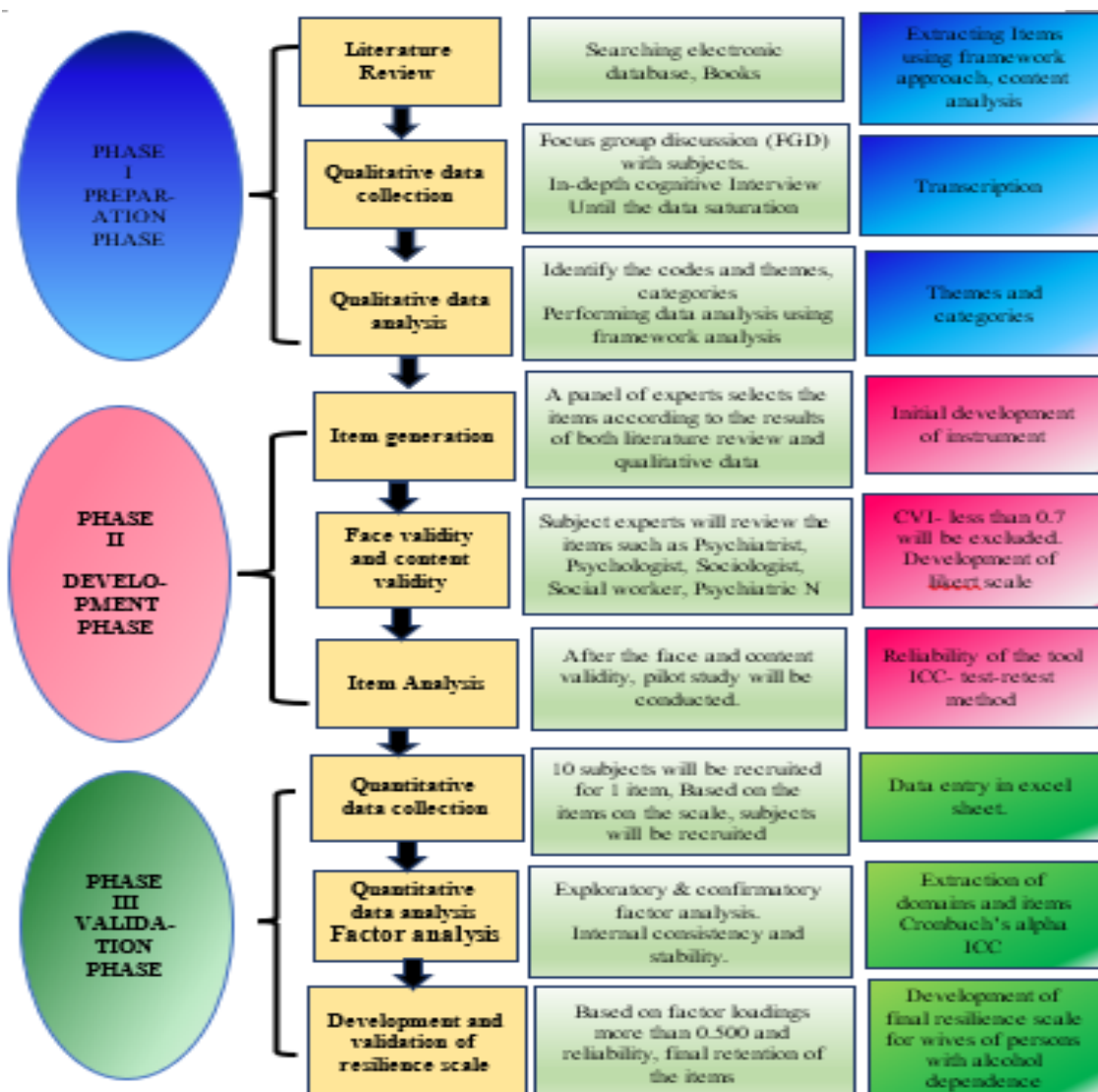

Figure 2: process of development and validation of scale

Phase ii- development of scale

Pilot testing of the scale

Pilot testing is an important step in the development of a resilience scale for wives of persons with alcohol dependence. Pilot testing of the newly developed items will be administered on 30 subjects along with their demographic information. The face to face interview will be done for 20mins to collect the information. Subsequently data analysis will be done with descriptive statistics, item mean scores and item-total correlations.

Reliability of the instrument

To evaluate the reliability of the resilience scale, a test-retest reliability study will be conducted where the same participants are tested with the resilience scale on two separate occasions. Hence to assess the test-retest method the researcher will administer the newly developed scale for same group of wives of persons with alcohol dependence between two week gap from the previous test.

Intra-class correlation (ICC) measures the degree to which individuals within the same group are similar in their responses to the items on the scale. Reliability, on the other hand, measures the consistency of responses to the scale over time. A high ICC value would indicate that the resilience scale is consistent and reliable across different testing occasions. Statistical software will be used to calculate the ICC, which ranges from 0 to 1. An ICC close to 1 will indicate high agreement among the participants, while an ICC close to 0 indicates low agreement. ICC, 0.7 or higher, the researcher considers as a good reliability. Cronbach's alpha, will be used to measure the Internal consistency of the items in the resilience scale for wives of persons with alcohol dependence.. A high reliability coefficient (e.g., above 0.7) indicates good internal consistency of the items on the scale.

Refinement of the items

based on the results of the pilot test, we will revise and refine the items and remove any that are redundant and unclear.

Scale Revision

Based on the feedback from the pilot test, the scale will be revised to improve its clarity and relevance. This may involve modifying or deleting items, rephrasing items to make them clearer, or adding new items to improve the comprehensiveness of the scale.

Phase iii- validation phase

Finalization of the Scale

After the pilot test, the final version of the resilience scale will be developed. The final version will have good clarity, relevance, and comprehensiveness..

Quantitative data collection

The resilience scale will be administered to a larger sample of wives of persons with alcohol dependence. It will be administered to minimum of 10 participants per item on the scale, which means if the scale has 30 items; the scale will be administered to 300 participants. This method ensures that there are enough participants to provide variability in responses and to conduct statistical analysis and reliability testing. Demographic information will be obtained from the subjects. The obtained data will be entered in excel sheet and data analysis will be carried out.

Psychometric Testing

The final version of the scale is then subjected to psychometric testing, including factor analysis and reliability testing, to ensure that it is a valid and reliable measure of resilience for wives of persons with alcohol dependence

Quantitative data analysis

The obtained data will be assessed for construct validity. It is measured and could be established in different ways, such as different forms of factor analysis and other statistical evaluations. In this study to investigate factorial structure of the questionnaire, the exploratory and confirmatory factor analysis will be done. To confirm the hypothesis, EFA, Kaiser-Meyer-Olkin(KMO) and Barlett's test will be performed. KMO test is will be used in EFA to determine how suited the data is and measure the sampling adequacy. Barlett's test of Sphericity will be used to assess the adequate of correlation between items. Scree plot is will be used to determine the number of factors.

Reliability

Intra-class Correlation coefficients will be calculated to understand the reliability and stability of the resilience scale for wives of persons with alcohol dependence. Intra-class correlation (ICC) and reliability coefficients are both important measures of the validity of a resilience scale. Cronbach's alpha, will be used to measure the Internal consistency of the items in the resilience scale for wives of persons with alcohol dependence..

Refinement of instrument

Based on the results of factor analysis and reliability test, the items will be retained in the questionnaire. Hence the final version of the resilience tool for wives of persons with alcohol dependence will be developed.

Linguistic translation of the tool

The final version of the tool will be translated to local language which is Kannada.

Ethical consideration

Permission from the Institutional Ethical Committee and concerned hospital authorities will be obtained. The researcher will obtain the list of participants who fulfills the inclusion criteria. The participant information sheet will be administered and if they are willing to share their experience, informed written consent will be obtained to participate in the study as well as written permission to audiotape the focus group discussion, in-depth interview and conversation.

Conclusion

Overall, the development and validation of a resilience scale for wives of persons with alcohol dependence requires a systematic and rigorous approach to ensure that the resulting scale is valid and reliable. The scale can be used by those who work with wives of alcohol dependent persons in the community, deaddiction centers and hospitals. It helps in screening the resilience of wives of person with alcohol dependence. The strength-based psychotherapeutic approaches may be utilized in low-scoring resilience factors amongst wives of persons with alcohol dependence. Measuring the resilience among wives of alcohol dependent persons may help to manage potentially modifiable aspects of resilience that could significantly empower the wives of persons with alcohol dependence.

References

1. WHO global information system on alcohol and health (GISAH) [online database]. Global Health Observatory. Geneva: World Health Organization; 2018 (https://www.who.int/data/gho/data/themes/topics/topic-details/GHO/levels-of-consumption/, accessed 4 May 2022).

2. PRS Legislative Research, Vital Stats National Family Health Survey 5, Dec 2020, https://prsindia.org/files/policy/policy_vital_state/NFHS-5_VitalStats.pdf

3. World Health Organization. Burden and socio-economic impact of alcohol: The Bangalore study. WHO Regional Office for South-East Asia; 2006. [Last accessed on 2018 Aug 11]. Available from: http://www.searo.who.int/entity/mental_health/documents/9290222727.pdf [Google Scholar]

4. Johnson PR, Britto C, Sudevan KJ, Bosco A, Sreedaran P, Ashok MV. Resilience in Wives of persons with Alcoholism: An Indian exploration. Indian J Psychiatry. 2018 Jan-Mar;60(1):84-89. doi: 10.4103/psychiatry.IndianJPsychiatry_271_14. PMID: 29736068; PMCID: PMC5914269.

5. Bonu S, Rani M, Peters DH, Jha P, Nguyem SN. Does use of tobacco or alcohol contribute to impoverishment from hospitalisation costs in India? Health Policy Plan. 2005;20:41–9. [PubMed] [Google Scholar]

6. Plata A, Motoki K, Spence C, Velasco C. Trends in alcohol consumption in relation to the COVID-19 pandemic: A cross-country analysis. Int J Gastron Food Sci. 2022;27:

7. Marshal.MP ;For better or for worse? The effects of alcohol use on marital functioning; Marshal.MP;ClinPsycholRev.2003December;23(7):959–997.doi:10.1016/j.cpr.2003.09.002.

8. Moos, R.H., Finney, J.W. and Concrite, R.C. (1990) Alcoholism treatment: context, process and outcome

9. Govindappa L, Pnkajakshi B. A community study on wives of alcoholics. [Last retrieved on 2015 Mar 30];DPS. 2014 17:323–27. Available from: http://www.medind.nic.in/daa/t14/i2/daat14i2p323.pdf . [Google Scholar]

10. McGraw and Wong (1996) proposed a framework for understanding ICC that distinguishes between two sources of variation: within-group variation and between-group variation. This framework has been widely cited and used in various studies.

11. Shrout, P. E., & Fleiss, J. L. (1979). Intraclass correlations: Uses in assessing rater reliability. Psychological Bulletin, 86(2), 420–428. https://doi.org/10.1037/0033-2909.86.2.420

12. Jossué Correa-Rojas, Intraclass Correlation Coefficient: Applications to estimate the temporal stability of a measuring instrument, Ciencias Psicológicas July-December 2021; 15(2): e-2318. doi: https://doi.org/10.22235/cp.v15i2.2318.