

## PSYCHOMETRIC ANALYSIS OF PERCEIVED STRESS SCALE AND BRIEF-COPE INVENTORY SCALE IN MENOPAUSAL WOMEN

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### ABSTRACT

**Introduction:** Menopause is generally considered a stressful experience, with 25% of menopausal women reporting that they experience stress. Using appropriate coping strategies can help reduce stress levels and alleviate other problems in menopausal women. **Aims:** This study aims to analyze the psychometric properties of two questionnaires designed to measure menopausal stress and coping strategies among menopausal women in Sarawak. **Methods:** The content validity of this study was assessed by calculating the I-CVI, S-CVI average, S-CVI universal agreement, and CVR. The face validity was also assessed for comparisons within subgroups. A cross-sectional study was conducted in Subis District, Sarawak, involving 221 menopausal women. Participants were selected using a purposive sampling technique and data were collected from face-to-face interviews. Psychometric analysis was performed using SPSS version 28.0. **Results:** A total of 38 questionnaire items were analyzed by experts for relevance, clarity, simplicity, and ambiguity. After the second modification, the I-CVI, S-CVI/Ave, and CVR for all domains and items were acceptable. Therefore, all items were retained. Face validity was also confirmed with an average ICC of 0.979 and a 95% confidence interval between 0.96 and 0.99 ( $F(9,261a) = 47.996, p < 0.05$ ). Meanwhile, reliability test with a Cronbach's alpha coefficient of greater than 0.70 indicated a good internal consistency. **Conclusion:** The questionnaires appeared to be a psychometrically sound instrument for measuring menopausal stress and coping strategies in menopausal women.

**Keywords:** coping, menopausal stress, reliability, validity

### INTRODUCTION

Menopause marks the end of a woman's reproductive life (Peacock and Ketvertis, 2022). The changes experienced during this period, including, such as behavioral, physiological, and psychological changes, are associated with the decline in ovarian follicular activity, which leads to a decrease in estrogen and progesterone production (North American Menopause Society, 2017). Menopausal symptoms such as night sweats, fatigue, muscle pain, headache, sleeping difficulty, depression, irritability, and urinary problems can be challenging for many women (Khatoon et al., 2018). These experiences can disrupt their regular routine. As women's life expectancy

increases, they are likely to spend a significant portion of their lives in menopause, yet many women still view menopause as a stressful experience. However, women may react differently during this period (Ishak et al., 2021; Alwi et al., 2021). The American Psychological Association (2021) stated that menopause can cause physical and psychological changes that create stressors which can be difficult to cope with. Various coping strategies have been introduced to help menopausal women deal with stress. An appropriate coping mechanism may help reduce stress levels and other existing problems in menopausal women (Ngai, 2019). Therefore, accurate and culturally validated assessment techniques are crucial in identifying coping strategies for

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menopausal women in Sarawak to understand and help them during this period.

Various tools are available to measure the different stress levels in individuals, such as the Perceived Stress Scale (Jatic et al., 2023), Stress Appraisal Measure (Poulus et al., 2020), and Depression Anxiety Stress Scale-21 (Ali et al., 2021). In addition, individuals may use different coping strategies to cope with the challenges of daily life. Three widely used tools for assessing coping strategies in a population setting are the Brief-COPE Inventory Scale (Abdul Rahman et al., 2021), Ways Coping Questionnaire (Algorani and Gupta, 2023), and Coping Inventory for Stressful Situation (CISS) (Veisani et al., 2021). The Perceived Stress Scale (PSS) and Brief-COPE Inventory Scale are two commonly used instruments in the field of psychology and health research (à Ile-Ife et al., 2020; Awoke et al., 2021). The PSS is a self-report questionnaire consisting of multiple items designed to assess an individual's perceptions and emotions related to stressors. The scale has been widely used in studies of menopausal women to assess stress levels in this population ( Hossain, 2020; Masoudi et al., 2020). By quantifying responses from the PSS in Sarawak, a standardised and validated tool can be used to capture subjective stress experiences and inform intervention and support strategies tailored for the specific population group. Moreover, the scale has demonstrated good psychometric properties through its translation into several other languages.

The Brief-COPE Inventory Scale is the most commonly used instrument for assessing coping mechanisms used by individuals in stressful situations. The scale can be used to measure different coping mechanisms, including avoidant, problem-focused, and emotion-focused approaches (García et al., 2018; Rahman et al., 2021). This scale has also been used in many studies of menopausal women to assess their coping strategies (Ngai, 2019). In

addition to understanding how menopausal women deal with stressors, it is also useful to identify unhealthy coping strategies that may be maladaptive, which may exacerbate stress and lead to adverse effects (Stute and Lozza-Fiacco, 2022). This study can provide health practitioners with the necessary information to assist menopausal women in developing effective coping strategies.

Using these two questionnaires to measure stress levels and coping strategies in menopausal women is appropriate for the research objective and the population of interest. Moreover, using these two questionnaires in a well-established and widely published study related to the field that measures similar constructs underscores their reliability and validity of in assessing the intended concept. Validity refers to the ability of the selected items to accurately represent the variables of the constructs under measurement. It can be divided into content validity and construct validity. The level of agreement and decision to retain an item is determined after calculating its content validity, including face validity, content validity index, and content validity ratio. Reliability is defined as the degree to which the measuring tool produces consistent results when the procedure is repeated. Cronbach's alpha is calculated to test the consistency of the instruments (Elangovan and Sundaravel, 2021). Although these scales have been validated across different populations, it is important to confirm their effectiveness when used in menopausal women in Sarawak. In addition, a standardized tool ensures consistency and comparability across participants and studies. Currently, no research has been conducted in the local setting.

Therefore, this study aims to evaluate the validity and reliability of the Perceived Stress Scale (PSS) and the Brief-COPE Inventory Scale in menopausal women in Sarawak. The validation process includes translation, cultural adaptation, and linguistic validation to maintain the