

## ABSTRACT

The middle age, which is defined as 40 to 60 years, is a time of many changes for women with physical, psychological and social importance. For most women, menopause occurs during this midlife, which might also cause physical health problems (e.g. menopausal symptoms, atrophy of urogenital tracts, osteoporosis etc.); psychological problems (e.g. presence of depressive, anxiety, or stress symptoms); sexual functioning difficulties (due to changes such as dryness of vagina and change in sexual desire and satisfaction); and changes in relationships. Hence, assessment of common emotional states such as depression, anxiety and stress during this midlife is a priority area for researchers.

Therefore, the current study was embarked upon to translate and validate the DASS-21 for women aged 40-55 years to assess the prevalence of depression, anxiety and stress according to menopausal status; to assess associated factors of anxiety and stress among menopausal women; and to identify risk factors of depression among menopausal women of the same age group in the District of Colombo.

The study consisted of two components. Component one translated and validated DASS-21 to assess depression, anxiety and stress among women aged 40-55 years. The DASS-21 Sinhala was validated to be used as a screening tool to distinguish women with depression/anxiety/stress from women without depression/anxiety/stress. An independent sample comprising 35 cases from each category was selected from the psychiatric clinic of the Colombo South Teaching Hospital and 49 controls selected from the community and cut off values were obtained for each category using ROC curves. Cut off values, sensitivity and specificity, and positive predictive values (PPV) and negative predictive values (NPV) are as follows:

Depression scale - cut off 17, sensitivity of 97.1%, specificity of 97.96%, PPV 97.9%, NPV 97.2%;

Anxiety scale - cut off 16, sensitivity of 97.1%, specificity of 97.96%, PPV 97.9%, NPV 97.2%;

Stress scale - cut off 20, sensitivity of 97.1%, specificity of 97.96%, PPV 97.9%, NPV 97.2%.

The second component of the study, the prevalence of depression, anxiety or stress among women aged 40-55 years was determined in the District of Colombo using the validated DASS-21 Sinhala. A sample of 1553 women aged 40-55 years was selected using multistage, stratified cluster sampling. The adjusted prevalence of depression, anxiety and stress among these women were 19.7%, 15.7% and 19.8% respectively. A stepwise increase in prevalence of depression was observed according to premenopausal, perimenopausal and postmenopausal status (11.5%, 19.9%, and 25.5% respectively). The prevalence of anxiety was high among perimenopausal women (17.4%) compared to premenopausal (14.5%) and postmenopausal women (14.9%). Further, prevalence of stress was observed to increase from 15.4% in premenopausal to 18.9% in perimenopausal and 23.7% in postmenopausal women.

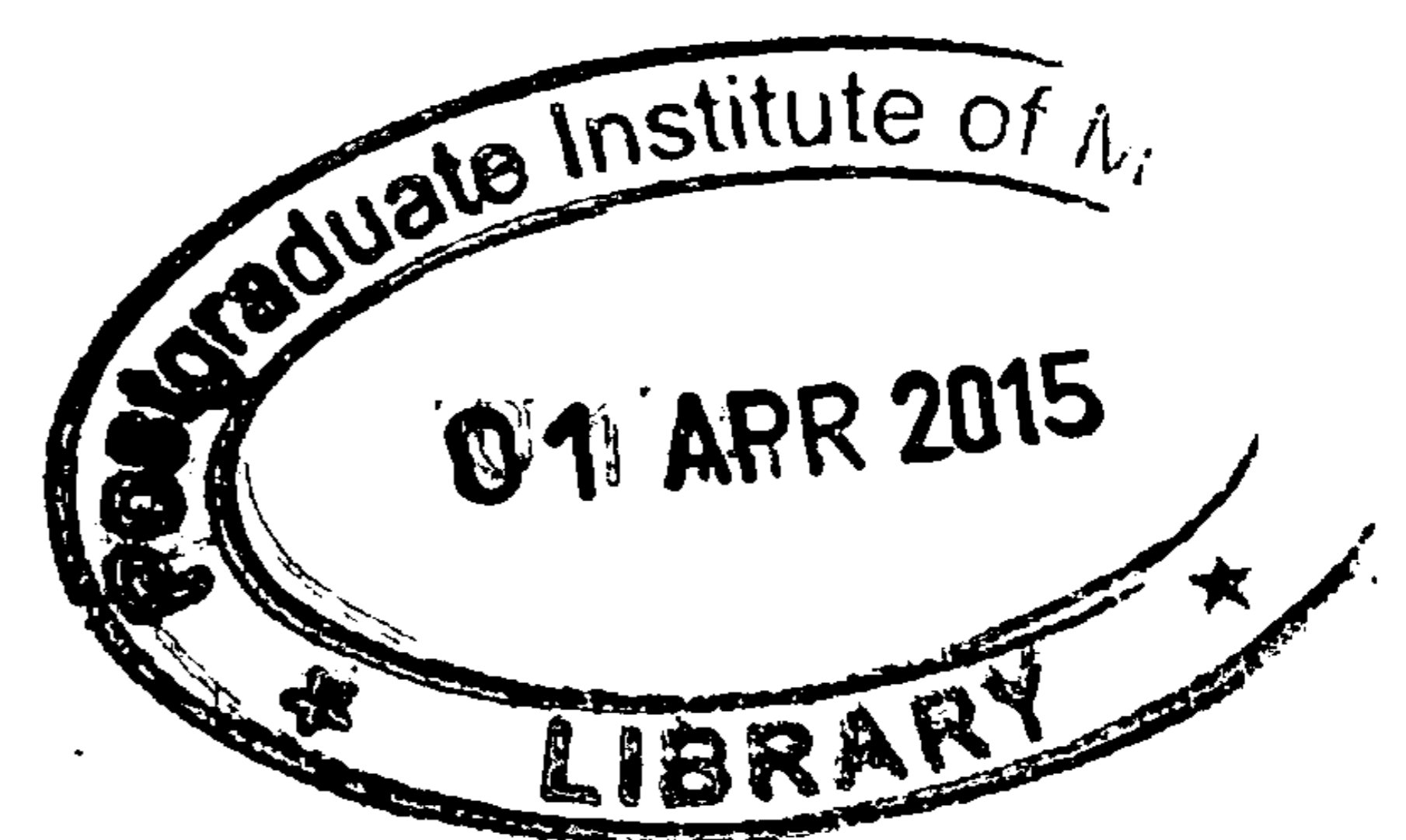
The presence of menopausal symptoms; having a high score for dysfunctional coping strategies; a negative attitude towards menopause; and poor quality of life in relation to social relationships, were revealed as common associated factors of both anxiety and stress.

Further, an extended family structure; the presence of one or more stressful life events in the past 5 years; low perceived social support in relation to the number of people; presence of premenstrual symptoms in the past; having a past history of a psychiatry disorder; and perceived lower quality of life in relation to physical health, were identified as other associated factors of anxiety.

In addition, significant associations were observed between stress and religion, stress and higher educational level (O/L passed and above), and stress and low social support, in relation to their satisfaction of the social support they received.

The third subcomponent of the component two was a case control study, with confirmed cases of depression (137) and unmatched controls with no depression (137) selected from the prevalence study in the District of Colombo. Bivariate analysis followed by logistic regression analysis was performed to identify the independent risk factors for depression adjusted for confounding effect in the logistic regression model.

Logistic regression analysis identified nuclear family structure (OR=2.90, 95% CI: 1.51-5.56), presence of high score for menopausal symptoms (OR=2.23, 95% CI: 1.34-



4.01), presence of premenstrual symptoms in the past (OR= 2.01; 95% CI: 1.14-3.53), less number of people available for social support (OR=2.03; 95% CI: 1.16-3.54), and presence of stressful life events (OR=2.13; 95% CI: 1.15-3.92) as risk factors of depression among menopausal women aged 40 – 55 years.

The research concluded that DASS-21 Sinhala is a valid and reliable tool to assess depression/ anxiety/stress among middle aged women. Depression, anxiety and stress could be considered as an emerging psychological health problem, as nearly one fifth of women in the study population had the above psychological problems. The risk factors specific for depression among menopausal women are mainly related to the reproductive system (presence of premenstrual symptoms and presence of menopausal symptoms), stressful life events and social support available. Measures should be taken to improve the psychological wellbeing of middle aged women by making available programmes at community level. Hence, findings of this study will be useful for the health planners to implement intervention programmes for these women to enjoy life in their midlife.

**Keywords: Depression, anxiety, stress, prevalence, middle aged women, menopause, risk factors, DASS-21**