

ABSTRACT

Background:

Chronic Low back pain (CLBP) adversely affects health-related quality of life in nursing professionals. Yoga has positive impact on LBP. Studies assessing the effects of Yoga on CLBP in nursing population are lacking.

Aim:

Present study is conducted to evaluate and compare the effect of integrated Yoga and physical exercises on pain, disability, psychological parameters and quality of life in nurses with CLBP.

Methods:

It is a prospective randomized control trial. 88 female nursing professionals of age 33.77 ± 3.44 years from a tertiary care hospital of South India were randomized into yoga group (YG) (n=44; 31.45 ± 3.47 years) and control [exercise] group (CG) (n=44; 32.75 ± 3.71). YG was intervened with Integrated Yoga Therapy Module (IYTM) practices, one hour per day, five days week for six weeks. CG practiced a set of physical exercises for the same duration. All subjects were assessed using Numerical Rating Scale (NRS) for pain, Roland Morris Disability Questionnaire (RMDQ) for functional disability, Fear Avoidance Belief Questionnaire- physical (FABQpa), Fear Avoidance Belief Questionnaire - work (FABQw), State and Trait Anxiety Inventory (STAI), Beck's Depression Inventory (BDI), and Perceived Stress Scale (PSS), Heart Rate Variability (HRV) [low frequency (LF), high frequency (HF), LF/HF ratio] and WHO quality of life questionnaire (WHOQOL-BREF) at baseline and end of six week intervention. Data were analyzed by paired samples t test and independent samples t test for within group and between group comparisons respectively by using SPSS version 22.

Results:

After six weeks of Yoga intervention, we found a significant decrease in NRS ($p<0.001$), RMDQ ($p<0.001$), FABQpa ($p<0.001$), FABQw ($p<0.001$), State Anxiety ($p<0.001$), Trait Anxiety ($p<0.001$), BDI ($p<0.001$), and PSS ($p<0.001$), LF/ HF ratio ($p<0.001$), WHOQOL-BREF [Physical ($p<0.001$), Psychological($p<0.001$), Social($p<0.001$)] but did not differ statistically for HF ($p=0.24$) and LF ($p=0.103$), environmental-QoL ($p=0.078$) variables compared to baseline in YG.

After six weeks of physical exercise intervention, there was a significant decrease in NRS ($p<0.001$), RMDQ ($p<0.001$), FABQpa ($p<0.001$), FABQw ($p<0.001$), State Anxiety ($p=0.031$), BDI ($p<0.001$), and PSS ($p<0.001$), WHOQOL-BREF [Physical ($p<0.001$), Psychological($p<0.001$), Social($p<0.001$)] but did not differ statistically for Trait Anxiety ($p=0.29$), LF ($p=0.513$), HF ($p=0.555$) and LF/HF ratio ($p=0.615$), environmental- QoL ($p=0.0957$) variables compared to baseline in CG.

On comparison between groups, YG showed a significant decrease in NRS ($p<0.001$), RMDQ ($p<0.001$), FABQpa ($p<0.001$), FABQw ($p<0.001$), State Anxiety ($p<0.001$), Trait Anxiety ($p=0.025$), BDI ($p<0.001$), and PSS ($p<0.001$), LF ($p=0.01$), LF/ HF ratio ($p<0.001$), WHOQOL-BREF [Physical ($p<0.001$), Psychological($p<0.001$), Social($p<0.001$)] but did not differ statistically for in HF ($p=0.32$) and environmental-QoL ($p=0.25$) variables compared to control group for post assessment.

Conclusions:

Integrated Yoga intervention was found to be more beneficial in improving pain, disability, anxiety, stress, fear avoidance, heart rate variability and quality of life among

nursing professionals with chronic low back pain. There was a negative correlation between psychological parameters and quality of life at baseline.

Keywords:

Yoga; Exercises; Low Back Pain; Nurses; Quality of Life; Disability; Stress; Anxiety; Depression; Fear Avoidance; Occupation; CAM