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Cardiac Rehabilitation Program and Health-Related Quality of Life; A Randomized Control Trial

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Abstract : Pakistan being the developing country is facing double burden of communicable and non-communicable disease. The aspect of secondary prevention of ischemic heart disease in developing countries is the dire need for public health specialists, clinicians and policy makers. There is some evidence that psychotherapeutic measures, including psychotherapy, recreation, exercise and stress management training have positive impact on secondary prevention of cardiovascular diseases but there are some contradictory findings as well. Cardiac rehabilitation program (CRP) has not yet fully implemented in Pakistan. Psychological, physical and specific health-related quality of life (HRQoL) outcomes needs assessment with respect to its practicality, effectiveness, and success. Objectives: To determine the effect of cardiac rehabilitation program (CRP) on the health-related quality of life (HRQoL) measures of post MI patients compared to the usual care. Hypothesis: Post MI patients who receive the interventions (CRP) will have better HRQoL as compared to those who receive the usual cares. Methods: The randomized control trial was conducted at a Cardiac Rehabilitation Unit of Lady Reading Hospital (LRH), Peshawar. LRH is the biggest hospital of the Province Khyber Pakhtunkhwa (KP). A total 206 participants who had recent first myocardial infarction were inducted in the study. Participants were randomly allocated into two group i.e. usual care group (UCG) and cardiac rehabilitation group (CRG) by permuted-block randomization (PBR) method. CRP was conducted in CRG in two phases. Three HRQoL outcomes i.e. general health questionnaire (GHQ), self-rated health (SRH) and MacNew quality of life after myocardial infarction (MacNew QLMI) were assessed at baseline and follow-up visits among both groups. Data were entered and analyzed by appropriate statistical test in STATA version 12. Results: A total of 195 participants were assessed at the follow-up period due to lost-to-follow-up. The mean age of the participants was 53.66 + 8.3 years. Males were dominant in both groups i.e. 150 (76.92%). Regarding educational status, majority of the participants were illiterate in both groups i.e. 128 (65.64%). Surprisingly, there were 139 (71.28%) who were non-smoker on the whole. The comorbid status was positive in 120 (61.54%) among all the patients. The SRH at follow-up among UCG and CRG was 4.06 (95% CI: 3.93, 4.19) and 2.36 (95% CI: 2.2, 2.52) respectively ($p<0.001$). GHQ at the follow-up of UCG and CRG was 20.91 (95% CI: 18.83, 21.97) and 7.43 (95% CI: 6.59, 8.27) respectively ($p<0.001$). The MacNew QLMI at follow-up of UCG and CRG was 3.82 (95% CI: 3.7, 3.94) and 5.62 (95% CI: 5.5, 5.74) respectively ($p<0.001$). All the HRQoL measures showed strongly significant improvement in the CRG at follow-up period. Conclusion: HRQOL improved in post MI patients after comprehensive CRP. Education of the patients and their supervision is needed when they are involved in their rehabilitation activities. It is concluded that establishing CRP in cardiac units, recruiting post-discharged MI patients and offering them CRP does not impose high costs and can result in significant improvement in HRQoL measures. Trial registration no: ACTRN12617000832370

Keywords : cardiovascular diseases, cardiac rehabilitation, health-related quality of life, HRQoL, myocardial infarction, quality of life, QoL, rehabilitation, randomized control trial
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