

## Effectiveness of Mobile Health Augmented Cardiac Rehabilitation (MCard) on Health-Related Quality of Life among Post-Acute Coronary Syndrome Patients: A Randomized Controlled Trial

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**Abstract :** Objective: To determine the effectiveness of Mobile health augmented Cardiac rehabilitation (MCard) on health-related quality of life (HRQoL) among post-acute coronary syndrome(post-ACS) patients. Methodology: In a randomized controlled trial, post-ACS patients were randomly allocated (1:1) to an intervention group (received MCard; counseling, empowering with self-monitoring devices, short text messages, in addition to standard post-ACS care) or control group (standard post-ACS care). HRQoL was assessed by generic Short Form-12 and MacNew quality of life myocardial infarction (QLMI) tools. Participants were followed for 24 weeks with data collection and analysis at three-time points (baseline, 12 weeks and 24 weeks). Result: At baseline, 160 patients (80 in each group; mean age 52.66+8.46 years; 126 males, 78.75%) were recruited, of which 121(75.62%) continued and were analyzed at 12-weeks and 119(74.37%) at 24-weeks. The mean SF-12 physical component score significantly improved in the MCard group at 12 weeks follow-up (48.93 vs. control 43.87,  $p<.001$ ) and 24 weeks (53.52 vs. 46.82  $p<.001$ ). The mean SF-12 mental component scores also improved significantly in the MCard group at 12 weeks follow-up (44.84 vs. control 41.40,  $p<.001$ ) and 24 weeks follow-up (48.95 vs 40.12,  $p<.001$ ). At 12-and 24-week follow-up, all domains of MacNew QLMI (social, emotional, physical and global) were also statistically significant ( $p<.001$ ) improved in the MCard group, unlike the control group. Conclusion: MCard is feasible and effective at improving all domains of HRQoL. There was an improvement in physical, mental, social, emotional and global domains among the MCard group in comparison to the control group. The addition of MCard programs to post-ACS standard care may improve patient outcomes and reduce the burden on the health care setting.

**Keywords :** acute coronary syndrome, mobile health augmented cardiac rehabilitation (MCard), cardiovascular diseases, cardiac rehabilitation, health-related quality of life, short form 12, MacNew QLMI

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