

## Effects of Attending Phase II Cardiac Rehabilitation on Patient vs. Partner (Proxy) Quality of Life Perceptions

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**Abstract.** A cardiac event requires continuous adjustment by both patient and partner as they cope with the acute event and later lifestyle changes. Little has been published about patient and partner views of the patient's health related quality of life (HRQL) related to cardiac rehabilitation participation. The purpose of this study was to describe patient versus partner ratings of the patient's HRQL before and after 6 weeks of phase II cardiac rehabilitation. Roy's Adaptation Model framed the study. A non-probability sample of patients referred to phase II cardiac rehabilitation and their partners were recruited. The study enrolled 54 patient/partner pairs. The patient and partner perception of the patient's HRQL was measured using the Short Form-36 v2™ (SF-36) instrument. Differences in HRQL ratings between two groups were evaluated at Time 1 (entry to phase II cardiac rehabilitation) and at Time 2 (after the patient completed 6 weeks of phase II cardiac rehabilitation). Differences between the means of the groups were tested with a student's t-test, ( $p < 0.05$ ). Preliminary results indicate statistically significant difference between patient and partner views of the patient's HRQL in vitality ( $p < 0.001$ ) both at Time 1 (T1) and at Time (T2) 2, in mental health ( $p < 0.001$ ) at T1, and in the mental component summary ( $p < 0.05$ ) at T1. Partner views of the patient, often neglected, may increase understanding of factors affecting the patient's recovery after a cardiac event as well as guiding interventions to ease the stress of both patient and partner during recovery.

### Introduction

It is generally acknowledged that any illness, including a cardiac event, affects not only the patient, but also the patient's partner and family. Partner's view of the patient's HRQL could have an effect on a return to wholeness on the part of the patient, especially if significant differences in viewpoints exist. Roy's Adaptation Model, which views the person as an open, adaptive being who uses coping skills to deal with stressors in a changing environment, forms the framework for evaluating this little-explored aspect of recovery from a cardiac event. Successful recovery after a cardiac event, including making necessary life-style changes, may depend as much on positive support of a partner as on the patient's own coping resources [1].

Cardiac rehabilitation (CR) is designed to encourage behaviors aimed at secondary prevention of coronary heart disease as well as helping patients return to an active and productive life after a cardiac event [2]. HRQL is an important outcome to evaluate the effectiveness of CR [3]. HRQL explores concepts of physical and mental well being, including behavioral functioning, perceived well-being, social and role disability, and personal perception of general health [4].

### Experiment, Results, Discussion and Significance

This study assesses the level of agreement between patient and proxy (partner) SF-36 scores before participation in phase II CR and after 6 weeks of CR. The study population is patients who have been referred to phase II CR following a cardiac event and their partners. The specific research question is: What is the extent of agreement between CR patient (self-respondent) and partners (proxy) ratings of HRQL at entry and after 6 weeks of phase II CR? The independent variable is participation in phase II CR; the dependent variable is HRQL (SF-36).

The SF-36 is a generic instrument that measures HRQL by addressing eight subscales which are frequently measured in health surveys and most affected by disease and treatment [4]. The eight subscales address the patient's ability to engage in vigorous activities, perform activities of daily living, and engage in family, social, and occupational roles. These eight subscales are also summated into two measures: Physical Component Summary (PCS) and Mental Component Summary (MCS). The scores are standardized on a 1-100 scale. Higher scores on the eight dimensions and two summary measures indicate better physical and mental functioning.

After IRB approval, a convenience sample of eligible patients and partners who were referred to Phase II CR were approached for study inclusion. The patients completed the first SF-36 at the orientation visit (T1).

Partners also completed the survey at the orientation visit. If the partner was not present, study materials were sent home with the patient. The second survey (T2) was completed by patients and partners after 6 weeks of Phase II CR. The patient was retained in the study if 12 of 18 sessions were attended. Patient and partner demographic data were collected, and patient's medical data collected from the medical record.

Fifty-four pairs entered the study, 33 pairs completed both surveys, and 13 pairs did not complete the second survey. The average age of patients was 61.4 years (SD=10.21), of the partners 62.4 years (SD=10.73). All participants reported being married, with mean years in the relationship as 34. Thirty-one percent of the patients were female; 71% of the partners were female. Fifty-eight percent of patients and 45% of partners reported being employed full or part time. Fifty-six percent of the patients and 45% of partners had earned a college degree.

A paired-samples t-test was conducted to evaluate differences between the means of the eight subscales and two summary measures of the SF-36 for patients and partners at T1 and T2. Paired t-test was also used to compare patients T1 vs. T2 and partners T1 vs. T2. Significance was set at  $p < 0.05$ .

Results indicate a statistically significant difference between patient and partner views of the patient's HRQL in vitality ( $p < 0.001$ ) both at T1 and at T2, in mental health ( $p < 0.001$ ) at T1, and in the mental component summary ( $p < 0.05$ ) at T1. Of interest is a greater difference between patient and partner means, although not statistically significant, at T2 in 5 of the 8 subscales (physical functioning, role-physical, bodily pain, social functioning, and role-emotional). For the other 3 subscales (general health, vitality, and mental health), less difference between patient and partner means was noted. Statistically significant differences in patient ratings of HRQL at T1 vs. T2 occurred in both summary scales (PCS and MCS) and all subscales except general health. Statistically significant differences in partners T1 vs. T2 occurred in both summary scales and all subscales except general health.

As expected, HRQL improved over time, although literature is not clear as to how much CR contributes to this change. Phillips et al. evaluated patient's and partner's perception of the patient's HRQL at entry into CR [5]. The present study extends these findings by evaluating HRQL over time and at two time periods. Partners reported similar improvements in their perceptions of the patient's HRQL from T1 to T2. For both patients and partners, the only scale that did not show statistically significant improvement over time was that of general health. This finding regarding general health is not surprising as the patient has experienced a major cardiac event and perceptions may not be as positive as the general population at this point in their recovery process.

When comparing differences between patient and partner (proxy) ratings of HRQL, findings revealed that significant differences in vitality were apparent at T1 and T2, reflecting increased energy as the patient progressed in recovery over time. Significant differences in mental health between patient and partner ratings were demonstrated at T1 but not at T2. These similar ratings suggest an improvement in the patient's mental attitude that is observable by both patients and partners, a positive outcome for the individual. Results were similar when comparing patient and partner ratings on the mental health component summary, showing significant differences at T1, but not time T2. These findings reflect positive adaptation in mental health of the patient that is also observable by the partner.

Limitations of the study include use of a nonexperimental design, self-report, and small sample size, thus limiting generalizability. It could not be determined whether the patient is overestimating or the partner is underestimating the patient's HRQL, and the reliability of proxy ratings is uncertain.

## **Conclusions**

Partner views of the patient, often neglected, may increase understanding of factors affecting the patient's recovery after a cardiac event as well as guiding interventions to ease the stress of both patient and partner during recovery. If disparity exists between patient and partner views of the patient's HRQL, stress and maladaptation may result. Further research may help CR nurses, who plan and implement care for post-cardiac event patient and their partners, to design interventions in the early weeks after hospital discharge that may enhance recovery outcomes. Future research will include examination of HRQL over a longer time period, use of a larger sample, and a comparison between those who attend CR versus those who do not.

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