# Correlation between Coping Strategies and Quality of Life among Myocardial Infarction Patients in Nepal

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**Background:** Quality of life (QoL) is an important outcome among myocardial infarction (MI) patients. A patient's use of coping strategies may influence his or her QoL.

**Objective:** To examine the correlation between coping strategies and quality of life among patients with myocardial infarction.

**Method:** A descriptive correlational design was used to examine the relationship between coping strategies and QoL among 88 patients with MI who were older than 18 years, 2 months after the initial diagnosis of MI. QoL was assessed using the cardiac version of the Quality of Life Index. Coping strategy was assessed using Jalowiec Coping Scale. Problem-focused coping and emotion-focused coping were also compared in male and female patients.

**Results:** Problem-focused coping was significantly positively associated with overall QoL ($r = .41$, p = <.01), particularly the health and functioning dimension ($r_s = .39$, p = <.01) and socio-economic dimension ($r_s = .46$, p = <.01) but not with psychological & spiritual and family dimension. Men used more problem-focused coping strategies than women. The problem-focused coping score was significantly different between men and women (t = 4.9, p <.05).

**Conclusion:** The results revealed that patients who used more of problem-focused coping had better QoL than patients who used less problem-focused coping. Educating patients to enhance the use of appropriate coping strategies may be useful to promote the QoL of Nepalese patients with MI.

**Key words:** Coping, quality of life, myocardial infarction

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**Introduction**

Diagnosis of Myocardial Infarction (MI) alters physical, psychosocial, spiritual well-being and adversely affects overall quality of life (QoL) (Alsen, Brink, & Persson, 2008). Effective management strategies in early recovery phase and secondary prevention has increased survival after MI (Gheorghiade et al., 1996; McGovern et al., 1996; Patel, Pawan, Arora, & Rohit, 2010) and many patients live for extended periods and suffer from several medical complications and poor QoL.

Patients after the diagnosis of MI have to live with its consequences, such as breathlessness, particularly during night, were reported as having most negative effect because it evoked fears of drowning and imminent death and disturbed sleep and resulted fragile physical and emotional state. Similarly, fatigue was described as having impact on daily activities and rest. In addition, chest pain was described as the most important cause of worry (Roebuck & Thompson., 2001). In response to the consequences of the disease, coping process is initiated. This study is concerned on the way patients cope with the difficult situations after the diagnosis of MI, and whether the coping strategies are associated with their QoL.

In Nepal, national data on MI prevalence is lacking (Maskey, Sayami, & Pandey, 2003; Panta, Paudel, Paudel, Pathak, & Alurkar, 2009). However, hospital based data showed 40 fold increase in incidence of acute MI in the last 30 years (Maskey et al., 2003). Research studies about the key aspects of MI that include interaction/relation between coping style and outcomes among MI patients are lacking in Nepal. As the way patients cope with MI can be modified by providing appropriate information (Marvaki et al.), nurses can assess the coping strategies used by patients and educate to promote the use of appropriate coping strategies to enhance QoL. Therefore, this study aimed to examine a correlation between coping strategies and QoL among MI patients.

**Materials and Methods**

*Sample*

Eighty-eight patients diagnosed with MI attending out-patient department (OPD) during October 2010 to January 2011 in Sahid Gangalal National Heart Center, Nepal were recruited voluntarily. Inclusion criteria included: age more than 18 years, after two months of initial diagnosis of MI, ability to communicate in Nepali language. The research

was approved by the ethics committee of Prince of Songkla University, Thailand and Sahid Gangalal National Heart Center, Bansbari, Nepal.

### Instruments

Instruments used in this study were (1) Demographic and disease-related data (2) Jalowiec Coping Scale (JCS), (Jalowiec, 1977) (3) Quality of Life Index Cardiac Version (QLI), (Ferrans & Powers, 1985).

*Demographic and Disease Related Data.* Information about demographic data including age, sex, marital status, religion, living status, education level, job status, and income were collected after obtaining verbal consent from patients. In addition, disease related data such as time since diagnosis, re-infarction, need of revascularization, and presenting symptoms (chest pain, shortness of breath, and fatigue) were collected.

*Jalowiec Coping Scale.* Original version of Jalowiec Coping Scale (JCS) was used to assess coping strategies, which consists of 40 items (Jalowiec, Murphy, & Powers, 1984). JCS is a well validated instrument, which is based on theory of psychological stress and coping by Lazarus and Folkman (Jalowiec, 1977) and it has been used in several studies of MI patients. The reliability of JCS in this study population was confirmed by a cronbach's alpha of .87 and .93 for problem-focused coping and emotion-focused coping respectively. Problem-focused coping, comprised of 15 items (score ranging from 15-75), and emotion-focused coping, comprised of 25 items (score ranging from 25-125). Problem-focused coping aims to make direct changes in a stressful situation, whereas emotion-focused coping seeks to ameliorate emotions associated with the problem (Lazarus & Folkman, 1984; Felton, Revenson, & Hinrichsen, 1984). Respondents were asked to report how often they used the listed ways to cope with stressful situation with regard to their illness after MI, by selecting one number for each coping method. All responses were rated using 5-point Likert scale ranging from 1 = never to 5 = always.

*Quality of Life Index-Cardiac Version.* Cardiac Version of Quality of Life Index (QLI) was used to assess QoL. QLI is a self reporting questionnaire consisting of two parts: satisfaction part and importance part. The two each part comprised of the same 35 items. Respondents are required to rate their satisfaction level and their feeling of importance (Ferrans & Power, 1985) in a 6-point Likert scale; 1 = very dissatisfied to 6 =

very satisfied and 1 = very unimportant to 6 = very important in each part, respectively. Score for overall score and each subscale were transformed to a scale of 0-30 according to the method of Ferrans and Power (1985) where higher score indicated higher QoL. QLI is a well validated instrument for the determination of QoL among cardiac patients (Ferrans & Powers). The 35 items comprised of four subscales: health and functioning, social and economic aspects, psychological and spiritual status, and family dimension. The reliability of this instrument in this study was confirmed by cronbach's alpha of .90.

*Statistical analysis*

Assumption testing was performed before doing correlation analysis. Assumptions were met therefore Pearson correlation was used to examine correlation between coping strategies and overall QoL. However, assumption did not meet for each dimension of QoL therefore Spearman's rho correlation was used to examine correlation between coping strategies and each dimension of QoL. Problem-focused coping and emotion-focused coping were compared according to sex by t-test. In addition, disease related data were tested for significance difference in QoL by ANOVA.

**Results**

Table 1 shows the sample characteristics. Patients in this study used more problem-focused coping (M = 51.15, SD = 15.29) than emotion-focused coping (M = 41.92, SD = 7.37). Analysis of coping strategies showed that men used more problem-focused coping (M = 55.54, SD = 14.46) than women (M = 39.44, SD = 10.73) (t = 4.9, p <.05) whereas the same was not true in the case of emotion-focused coping (t = 1.3, p = .18). Table 2 shows the level of QoL. Patients in this study reported moderate level of overall QoL. Patients who had history of re-infarction, needed revascularization had low QoL as compared to the patients who did not get such complications (F = 3.85, p <.05). Table 3 shows the correlation between coping strategies and QoL. Problem-focused coping was positively correlated with overall QoL ($r = .41$, p <.01), particularly health and functioning dimension ($r_s = .39$, p <.01) and socio-economic dimension ($r_s = .46$, p <.01).

Table 1

*Sample Characteristics (N=88)*

| | Characteristics | Frequency (n) | Percentage (%) |
|---|---|---|---|
| 1 | Age (Years) Mean = 57.43, SD = 11.41, min-max = 28 - 85 | | |
| 2 | Gender | | |
| | Male | 64 | 72.7 |
| | Female | 24 | 27.3 |
| 3 | Religion | | |
| | Hinduism | 81 | 92.0 |
| | Buddhism | 6 | 6.8 |
| | Islam | 1 | 1.1 |
| 4 | History of re-infarction | | |
| | Yes | 21 | 23.9 |
| | No | 67 | 76.1 |
| 5 | Revascularization | | |
| | Yes | 8 | 9.1 |
| | No | 80 | 90.9 |
| 6 | Presenting symptoms | | |
| | Chest pain | 16 | 18.2 |
| | Shortness of breath | 11 | 12.5 |
| | Fatigue | 15 | 17.0 |

Table 3

*Mean, SD, and Min – Max Score of Patients' Quality of Life (N=88)*

| Characteristics | Mean | SD | Min - Max | Interpretation |
|---|---|---|---|---|
| Overall quality of life | 22.01 | 3.56 | 12.9-27.5 | Moderate |
| Health and functioning dimension | 21.41 | 4.60 | 9.7 - 29.6 | Moderate |
| Social and economic dimension | 18.72 | 3.99 | 9.5 - 28.1 | Low |
| Psychological and spiritual dimension | 24.28 | 4.22 | 12.3 - 30 | Moderate |
| Family dimension | 25.85 | 5.50 | 6.5 - 30 | High |

Results of Pearson's and Spearman's rho correlation presented in table 3 showed that problem-focused coping was significantly positively correlated with the overall QoL, health and functioning, and socioeconomic dimensions but it was not significant with psychological & spiritual and family dimensions. Emotion-focused coping showed non-significant correlation to overall QoL and dimensions of QoL.

Table 3

*Correlation between Coping Strategies and Quality of Life (N=88)*

| Variables | Problem-focused coping | Emotion-focused coping |
|---|---|---|
| Overall quality of life | .41**[a] | -.17[a] |
| Health and functioning dimension | .39**[b] | -.15[b] |
| Social and economic dimension | .46**[b] | -.03[b] |
| Psychological and spiritual dimension | .17[b] | -.18[b] |
| Family dimension | .10[b] | .07[b] |

Spearman's rho[b], Pearson product moment correlation[a]
** $p<.01$

**Discussion**

Coping is a process through which an individual manages the demands of the person-environment relationship that are appraised as stressful. Each individual uses different types of coping strategies to manage his/her stressful situation depending on appraisals. Problem-focused coping strategy is used to handle or alter the problem (Schussler, 1992).

The results of this study indicated that patients with high problem-focused coping score had better QoL. This result is congruent with previous study (Brink et al., 2002; Kristofferzon, 2005; Ulvik, Nygard, Hanestad, Wentzel-Larsen, & Wahl, 2008). This can be attributed to the treatable nature of MI due to advanced and early management strategies (Gheorghiade et al., 1996; McGovern et al., 1996; Patel et al., 2010). This study population used problem-focused coping more often than emotion-focused coping. Patients in this study were recruited after two months of initial diagnosis. When the duration of stressful situation increases, individuals learn to seek information and are able to solve their problems using problem-focused coping strategies.

Emotion-focused coping strategy had a non significant relationship with both overall QoL and each dimension of QoL. Emotion-focused coping is used to regulate the emotion (Schussler, 1992). To our knowledge, this is the first study to report about the relationship between coping and QoL in Nepal. Hence, the results of this study can be considered as preliminary information, but they are sufficiently indicative of the importance of assessment of coping strategies by health care professionals.

**Conclusion**

Of importance to the field of Nursing, the results of this study suggest that nurses can assess the coping strategies used by patients and educate them to promote the use of appropriate coping strategies to enhance QoL.

**Recommendation**

A longitudinal study would be useful to grasp the dynamic nature of coping process and QoL. A qualitative study is needed to gain better understanding of MI related coping strategies and QoL.

**Acknowledgement**

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