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Quality of Life and Coping Strategies in Coronary Heart Disease Patients

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Abstract: This study aims to find the relationship between quality of life and coping strategies in coronary heart disease patients. Two hundred coronary heart disease patients at Tehran Heart Center, who had been diagnosed with the disease 3 months before, were selected and filled out The Coping Inventory for Stressful Situations (CISS) and Quality of Life-SF36. Results showed a discrepancy between quality of life indices and coping strategies. Task-oriented strategy had a positive and significant relationship with total quality of life and PF indices while it had a negative and significant relationship with MH, RE and RP indices. Emotional-oriented strategy had a positive and significant relationship with RP and RE indices while it had a negative and significant relationship with PF, GH, PH, total psychological health and total quality of life indices. Avoidance-oriented strategy had a negative and significant relationship only with MH index. Furthermore, quality of life aspects (physical and psychological) had a positive and significant relationship with emotional-oriented strategy, but it did not have a significant relationship with task-oriented and avoidance-oriented strategies. Also, the social aspect of quality of life did not have a significant relationship with any of the strategies. Considering the effect of stress on decreasing the quality of life, we recommend a psychologist train coping strategies to coronary heart disease patients along with medical treatments in order to improve recovery, maintain health and reduce recurrence.

Key words: Quality of life, coping strategies, coronary heart disease patients

INTRODUCTION

One of the diseases that root in psycho-socio-economic status is cardiopulmonary diseases which become more prevalent year by year. It is estimated that almost 25 million deaths will occur because of coronary heart diseases in the year 2020. Many factors are involved in these diseases including stress (Sigstad *et al.*, 2005). Stress causes several symptoms in cardiac patients: physical such as sleep disturbance, headache and appetite change; psychological such as anger, hopelessness, isolation and depression; behavioral like fast speaking, restlessness and chain smoking, all of which decrease quality of life. In other words, physical, psychological and behavioral aspects of stress contribute to coronary heart diseases and reduce quality of life (Schultz and Winstead, 2002).

One of the variables associated with quality of life is coping strategies in which people use cognitive behavior to control internal and external, threatening or harmful desires (Lazarus, 1973; Sheridan and Radmacher, 1992).

Coping and quality of life affect diseases from childhood to adulthood. In different viewpoints, some parts of coping and quality of life overlay in that coping reflects a process of active involvement at a specific time and quality of life is a consequence rather than a process (Sheen *et al.*, 2005). Selecting a strategy can affect the consequence of quality of life which can be positive or negative (Sigstad *et al.*, 2005).

If people use successful and adaptive coping strategies to reduce stress, they can have a major role in their physical and psychological health and thus their quality of life. Coping strategy affects peoples' reaction to diseases because their physical and psychological responses to diseases are more desirable and more relaxed while unsuccessful and incompatible coping strategies not only do not reduce stress but also cause more severe psychosomatic reactions to the disease (Potter and Perry, 1999).

There are many studies about the relationship between quality of life and coping strategy, for instance on heart failure (Doering *et al.*, 2004), older heart patients

(Klein *et al.*, 2007), on stroke (Darligton *et al.*, 2007), after heart surgery (Mathisen *et al.*, 2007). Sheen *et al.* (2005) believe patients who have more activity after having heart disease and use task-oriented strategy improve faster. The long-term consequence of this strategy is more persistent health. Meanwhile, emotional-oriented strategy is associated with psychosomatic tension syndrome including anxiety and anger. Sigstad *et al.* (2005) showed patients with lower quality of life use incompatible coping strategy. Elderen *et al.* (2003), Kimberly *et al.* (2003) and Vosvick *et al.* (2003) found out that quality of life is lower in patients using emotional-oriented, avoidance and incompatible strategies and it is related with depressive syndrome and weaker health.

Considering the practical importance of the relationship between quality of life and coping strategies and in order to know the relationship between coronary heart diseases and these two factors, we conducted this study to find the relationship between quality of life and coping strategies in coronary heart disease patients. This is the first time to do such a study in Iran.

MATERIALS AND METHODS

The study was post hoc, correlation method. Out of all coronary heart disease patients at Tehran Heart Center, 200 people were selected. Their age ranged from 30 to 80 years old with a mean of 55. One-hundred and thirty eight were male and 62 were female. 66.5% had a high school diploma and the rest had a higher certificate. 93% were married and 7% were single.

We used two questionnaires in this study; the first one was Coping Inventory for Stressful Situations (CISS) to evaluate coping strategies and the second one was quality of life questionnaire-SF36 to evaluate quality of life. Questionnaires were given to individuals, who firstly filled out SF36 and secondly did CISS.

The Coping Inventory for Stressful Situations (CISS) is a 48-item self-report inventory designed to measure three basic coping styles: Task Oriented, Emotion Oriented and Avoidance Oriented coping. Reliability index of this questionnaire was 0.90, 0.85 and 0.82 for task-oriented, emotional-oriented and avoidance-oriented, respectively (Endler and Parker, 1990).

Quality of life SF36 questionnaire has 36 items. There are 3 main scales of total physical health, total psychological health and total quality of life. In addition, there are 8 subscales: physical functioning (PF), role functioning-physical (RP), bodily pain (BP), general health (GH), vitality (V), social functioning (SF), role functioning-emotional (RE) and mental health (MH) (Ware and Gandek, 1994). Reliability of the questionnaire has been

reported 0.73 to 0.90 (Cronbach alpha coefficient) by Brazier *et al.* (1992), Bell and Kahn (1996), Lyons *et al.* (1994), Jenkinson *et al.* (1994) and Ware and Sherbourne. (1992). To analyze data, we used correlation method.

RESULTS AND DISCUSSION

To evaluate the relationship between quality of life and coping strategies, Table 1 was made using correlation index. As it is seen, quality of life has no significant relationship with avoidance-oriented strategy, but has a significantly positive relationship with task-oriented strategy ($p < 0.05$) and a significantly negative relationship with emotional-oriented strategy ($p < 0.01$).

Table 2 shows the relationship between aspects quality of life (physical, psychological and total). There is a negative significant relationship between emotional-oriented strategy and physical and psychological components and total of quality of life ($p < 0.05$ - $p < 0.01$). In addition, there is no significant relationship between quality of life aspects and task-oriented and avoidance-oriented strategies. Furthermore, there is a positive significant relationship between task-oriented strategy and total of quality of life ($p < 0.05$).

In order to assess the relationship between coping strategies and quality of life indices, Table 3 was made. As it is seen, task-oriented strategy had a positive significant relationship with PF index and a negative and significant relationship with MH, RE and RP indices. Emotional-oriented strategy had a positive and significant relationship with RP and RE indices and a negative and significant relationship with PF, GH and PH indices. Avoidance-oriented strategy had a negative and significant relationship with only MH index.

This study on the relationship between quality of life and coping strategies (task-oriented, emotional-oriented and avoidance-oriented) showed there is a significant

Table 1: Correlation coefficients of quality of life with coping strategies in coronary heart disease patients

Coping styles	Quality of life	Sig.
Task oriented	0.15	0.037*
Emotion oriented	-0.24	0.001**
Avoidance oriented	-0.06	0.408

**: $p < 0.01$, *: $p < 0.05$, $n = 200$

Table 2: Correlation coefficients between quality of life of coronary heart disease patients and coping strategies

Quality of life	Coping strategies		
	Task oriented	Emotion oriented	Avoidance oriented
Physical component	0.13	-0.23**	0.05
Psychological component	0.06	-0.19**	0.01
Total	0.15*	-0.24**	-0.06

**: $p < 0.01$, $n = 200$

Table 3: Correlation coefficients of coping strategies with quality of life index

Quality of life index	Coping strategies		
	Task oriented	Emotion oriented	Avoidance oriented
Physical functioning (PF)	0.20**	-0.17*	-0.12
Role functioning-physical (RP)	-0.21**	0.16*	-0.09
Bodily pain (BP)	0.11	0.08	0.02
General health (GH)	0.01	-0.26**	0.07
Vitality (V)	0.10	-0.08	0.10
Social functioning (SF)	0.10	0.08	-0.02
Role functioning-emotional (RE)	-0.15*	0.22**	-0.11
Mental health (MH)	0.21**	-0.12	-0.16*

** : p<0.01, * : p<0.05

relationship between task oriented strategy and quality of life in patients with coronary heart diseases. Those who apply this strategy, divide the problem in to smaller and more controllable parts and use cognitive and rational aspects, flexibility, looking ahead and analyze the stresses more precisely and use available resources. If people apply this strategy, which is the most effective one (Sheridan and Radmacher, 1992), they will enjoy positive and longer consequences. In addition, as Gray (2000) believes, using task-oriented strategy makes people objective-oriented. When people use this strategy, they are inclined toward meditation (self-caring), spirit elevation and increasing self-confidence, all of which increase total quality of life. This study also showed that quality of life had a negative and significant relationship with emotional-oriented strategy. We can justify this finding this way: since emotional-oriented strategy means blaming one-self for becoming emotional and angry, stress increases in some cases and reactions are headed toward the person. This, in turn, causes irrational interpretations of the events and creates a vicious cycle and increases anxiety and worry. This kind of behavior is related to low adaptability in physical as well as psychological aspect of quality of life. Present findings are in agreement with those of Sigstad *et al.* (2005), Elderen *et al.* (2003), Sheen *et al.* (2005), Kimberly *et al.* (2003) and Katharina and Laederach-Hofmann (2003).

Finally, it was shown there was no relationship between quality of life and avoidance-oriented strategy. However, there is evidence of a relationship between them (Myaskovsky *et al.*, 2003). To clarify this disagreement, we argue that age can be a confounding factor in task-oriented strategy, (Bearnz and Johnson, 1998) and stress controlling methods are used more often with age. Also, Wright and Brown (1987) report that people have different coping strategies, which are affected by age. Older people do not use incompatible strategies very often. On the other hand, Klein *et al.* (2007) believe older people with chronic diseases may keep away from the disease and its management, so they might not choose

the right coping strategy. Since mean age of our subjects is high and they suffer from a chronic disease, it is a possible explanation why we did not find a relationship between quality of life and avoidance-oriented strategy, which is an incompatible one.

Another finding in this study is the negative significant relationship between psychosomatic aspect of quality of life and emotional-oriented strategy. In emotional-oriented strategy, people blame themselves and direct the reactions toward themselves, so they get angry and believe the stressing factor is not controllable. Furthermore, since there is a relationship between quality of life aspects, every factor affects other ones; for example, somatic problems cause anxiety and depression and hence affect psychological status of people. Therefore, we can conclude that this behavior and strategy affects psychosomatic aspects of quality of life in that physical aspect reduces the energy of the person and affect sleep, rest, capacity and work power of the person. Likewise, the psychological aspect of quality of life causes depression, fear and anger, so the psychological status of the person is disturbed. These finding are in agreement with those of Potter and Perry (1999) and Kimberly *et al.* (2003).

Regarding a negative significant relationship between economic aspect of quality of life and coping strategies, we can say there is strong relationship between income and quality of life, between welfare, comfort and enjoying quality of life. Schultz and Winstead (2002) believe economic status is an important part of quality of life. Since financial status is related to feeling secure, self-confident and useful, people feel less secure, self-confident and useful when they have a low income. As a result, when they encounter a problem, they express self-directed emotional reactions such as blaming themselves in order to decrease their stress. In the present study, we found the highest variance in emotional-oriented strategy is determined by economic aspect of quality of life (9%). Furthermore, Carver *et al.* (1998) showed people with more personal and environmental resources such as higher income and better job apply task-oriented strategy more and incompatible strategy less.

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