Survey the prevalence of psychopathology in Coronary heart disease patients: A casual model based on analysis of the role of psychological factors

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Abstract

Introduction: In recent decades Cardiovascular disease (CVD) is the important leading cause of death in the world. One of its most insidious forms is coronary heart disease (CHD). There are a number of factors that may contribute to incidence of CHD and physical and psychological side effects of it. But previous research indicates that Type D personality, emotional intelligence, stress, coping styles and Quality of life may be interrelated with CHD patients' Psychopathology. The present survey, studies the prevalence of Psychopathology and the role of psychological factors on it in CHD patients' at imam Reza hospital in Mashhad.

Materials & Methods: Through convenience sampling method, 180 CHD patients based on G.Power software were selected and filled in SCl-25, Type D personality, Coping Style Questionnaire, The Perceived Stress Scale, the Emotional Intelligence Scale and Whoqol. Prevalence of psychopathology and conceptualized model of psychopathology were evaluated through path analysis by lisrel software.

Results: In the 1 and 2 levels upper average, interpersonal hostility and paranoid believes and Emotional Intelligence was significantly related to perceived stress, coping styles and quality of life. Respectively high and low prevalent psychopathology in coronary heart disease patients. Also the conceptual casual model showed direct and indirect effects of psychopathology in CHD patients. Quality of life, Type D personality and emotional intelligence directly and with mediating role of stress and coping styles could affect significantly of psychopathology of patients.

Conclusion: Educating the appropriate personality characters, stress management, positive coping style and EQ could lead to decrease of psychopathology in CHD patients and in result reduce somatic and psychic side effects of it and promoting improvement of patients. Then attention to mental health factors in these patients could prominent help to heart specialist in treatment of heart disease patients.

Keywords: Psychopathology, Stress, Coping style, Coronary heart disease.

Introduction

Coronary heart diseases generate from heart coronary blockage and are one of health problems in advanced and advancing countries and one of causes of mortality in world and its syndromes are a leading and increasingly common cause of hospitalization worldwide (1). Cardiovascular diseases are the most prevalent reason of mortality in our country and unfortunately, in spite of increase in developments in prevention, diagnosis, treatment, and rehabilitation of cardiac diseases, there is still a growing trend in mortality rate resulted from these diseases. Mortality rate resulted from these diseases was 10% of total mortality rate in 1910 but it increased to 50% in 2000 and it is predicted to increase to 75% by 2020 (2). This disease not only effects on welfare and health of patients, also effects on social relationship, life style, family atmosphere, job and income level of them (2-4). Coronary heart diseases have

negatively high pathological effects on various dimensions as physical, psychological, social and spiritual of them life (3). Multiple studies showed that Coronary heart diseases patients have low levels of quality of life and suffer from physical dysfunction, depression, mood and relational disorders and the majority of patients presenting with CHD have psychopathology (4). Furthermore studies showed that these patients in comparison of other chronic disease patient's for example lung blockage, arthritis and unstable angina have lower psychological health and quality of life and majority of them for physical and psychological disability resulted from their diseases and cerebrovascular accident have inadequate status in physical, psychological, economic and social dimensions of their life. In recent decade multiple studies showed that Coronary heart diseases have comorbidity with some psychopathology as anxiety, depression and other mood disorders, aggression, generalized anxiety disorder, interpersonal hostility, obsessive compulsive disorder, phobias, and this comorbidity cause to more severer problems and more delay in improvement of these patients and in more times cause to linger of treatment period and decreases in probability of improvement (6-7). In this way, researchers with study in this domain, survey to identify multiple factors that lead to prevalence of psychological disorders in heart disease patients, and provided background for combination of two psychology and cardiology fields for help to psychology science to better prevention and treatment of psychopathology in heart disease patients (8-9).

Researchers' studies showed that physical factors that cause heart disease, not only

determinant in incidence and prevalence of psychological disorders in heart disease patients, and some other variables as personality, emotions management, behavior and quality of life have direct and indirect effects in shaping the adequate background in afflict of psychopathology in heart disease patients (10). Some of important variables in multiple studies are perceived stress (9), psychological variables and personality traits (11), mood and emotions disorders and emotional intelligence (12), emotion focused and problem focused coping strategies (13) and quality of life (14).

So beside only physiological approach to Coronary heart diseases we should be include this disease in types of psychosomatic disorders and in study of its generous effective factors and reducer of patients' quality of life, must be attention to combination of psychological and physical risk factors and multidimensional approach.

In recent decade the new approach is submitted in survey of health of people in clinical and non-clinical atmosphere that attends to various dimensions of life and marked as quality of life (15). Quality of life index identify by physical health, mental health, positive relationship with other people, attending in social activities and self-actualization sense (16).

Also with regard to new approach of world health organization, health not only absence of any disease, but health includes welfare and physical, mental and social comfortable. So in assessment of peoples' health, not only notice to traditional indices of health like mortality and morbidity, and will be measurers, assesse and regard to perception that people have about their quality of life (17-18). In this way

through two recent decades interesting for assessment and improvement of chronic patients quality of life like coronary heart disease patients prominently increases and changes to one of more important goals in treatment of coronary heart diseases patients (19). Also many studies have been conducted in world to evaluate quality of life in cardiovascular diseases. Furthermore attention to quality of life in CHD patient's leads to decrease in mortality rate (20) and the results of clinical experimental studies showed that quality of life could be an index as quality of health caring and will be a partial of treatments' plan in these patients. And assessment of it in chronic patients can have more information about health status of patients for treatment team (21). Recently psychologists and psychiatrists submitted the new concept and believed that it is one personality type that predisposing for heart disease and names it as type D personality.

Type D ('distressed') personality is a term used to describe individuals with high negative affectivity (a tendency to experience negative emotions) and high social inhibition (a tendency to suppress negative emotions in social interactions). Individuals with Type D perceive stress chronically, tend to be generally tense and insecure and show low self-esteem

Also this type of personality correlates with vast domain of emotional disorders like anxiety, post traumatic disorder, low quality of life, unhealthy life style and some types of physical and mental disorders and heart disease (22). The concept of emotional intelligence aims to capture the individual differences in the extent to which people experience, attend to, identify, understand, regulate, and utilize their emotions and those of others. While some authors have conceived EI as a set of abilities forming a new form of intelligence, others have emphasized that EI was conceptually (inversely) related to the personality dimensions of neuroticism and alexithymia – among others – and should therefore be conceived as a set of affect-related traits (23).

Emotional intelligence is subject that regard to status and role of emotions, feelings and affections regulation on human ability, and is one type of social intelligence that include controllability, self and others emotion and feeling regulation, discrimination between them and applying of these information in directing of cognition and behavior (23). Also regard to emotions, appropriate applying of them in human relations, self and others emotions perceptions, self-controlling and domination on transient needs, empathy to others and usage of positive emotions in thinking and cognition are components of emotional intelligence (24). Several studies showed that high emotional intelligence accompany with appropriate emotion regulation and is good conservative factors against everyday life stressors and morbidity to physical and mental disorders (25). Also stress is physical, mental and emotional reactions that experienced in results of everyday life changes and needs. Stress as one psychological phenomenon is one of more important factors in incidence and continuity of more of mental disorders and specific heart disease (26). For this, in recent years attentions to stress its sources and stress coping styles in various types of patients increased and were studied. Also showed that applying effective coping strategies to stress,

has important role in decrease of stress and prevents of chronic physical disease like heart disease and mental disorders like post traumatic disorder, anxiety and phobia (27). Researchers claim that for preventing of stressors events that leads to physical and mental disorders must be applied appropriate coping styles (28). With regard to prevalence of heart disease and effects of this disease on all dimension of patients' life and quality of life, And psychological disorders that are consequent of these disease, in first we study prevalence of psychopathology in these patients and then in frame of one casual model, we study direct and indirect relations of stress, emotional intelligence, type D personality, Quality of life and coping style on psychopathology.

Materials & Methods

Present study with regard to its goal, for its predisposing for quality of life, is basic and with regard to non-interventional in obtaining the data is correlational and ^{Non experimental casual} study. Statistical society of this study is all of heart disease patients that refers to specific cardiology section of Mashhad's' Imam Reza hospitals at summer 2012. Patients' entrance indices was absence of psychological disorder at least for 6 recent months, literacy for study of questionnaire, low and tolerable level of disease and medium level of economic status in at least 1 last month. In this study 180 heart disease patients by Gpower.3.1. That have entrance indices and consensus through accessible sampling method were selected (effect size=0/35, predictors=2, error level=0/05, test power=0/95). Data were analyzed through Path analysis by Lisrel (linear structural relations) software.

For data gathering some questionnaires were applied.

Demographics questionnaire includes several indices like age, gender, education level and marital status.

Billings and mous coping style questionnaire (1981) includes 19 items that measures two emotion focused Coping style with 11 questions and problem focused Coping style with 8 questions. At every items, one four optional scale from always, often, seldom to never were applied and participants based on option selection gain one likert score between 0 to 3 (27). Validity and reliability of this questionnaire reported good in Iran (28). Also In this study reliability through internal consistency by chronbach Alfa was 0.81.

Perceived stress questionnaire was provided by cohen and others (1983) and have 14 items that measures level of stresses that everybody experienced in their last month of life. In this questionnaire at every items, one five optional scale from always, often, seldom, some when to never were applied and participants based on option selection gain one likert score between 0 to 4. Reliability through internal consistency by chronbach Alfa reported from 0.84 to 0.86 and at total validity indices of this questionnaire don't effect by age and gender (29). Also In this study reliability through internal consistency by chronbach Alfa was 0.73.

Emotional intelligence questionnaire planed by farenham and petraized. In normalization of 30 items EQ questionnaire 4 factors as emotion control, self and others emotion perception, social skills and optimistic were extracted (30). In this questionnaire at every items, one seven optional scale from very agree to very disagree were applied and

participants based on option selection gain one likert score between 0 to 6. The range of scores is between 0 to 180. Also validity and reliability of this questionnaire reported adequate (31). In this study reliability through internal consistency by chronbach Alfa was 0.86.

Type D personality: this 22 items questionnaire has 5 factors that include depression and anxiety, aggression, irritability, social limitation and verbal inhibition. Reliability by three way as chronbach Alfa, test-retest and split half are 0.85, 0.92 and 0.74. With factor analysis by principle component and varimax rotation 5 factors extracted and depression, anxiety, aggression and irritability named as negative emotions factor and social limitation and verbal inhibition named as social inhibition factor that showed good construct validity of this questionnaire. Furthermore convergent validity of this questionnaire through correlating with GHQ and glass social interaction was 0.55 and 0.52 (32).

Quality of life questionnaire planed by world health organization to measures quality of life. Short form of this questionnaire has 26 items and measures four physical health, mental health, social relations and environmental health factors (33). More scores show more Quality of life. Nejat and others (2006) normalized this questionnaire in Iran and gets reliability through internal consistency by chronbachs Alfa for physical health 0.70, mental health 0.73, social relations 0.55 and environmental health 0.84 and reported reliability coefficient 0.70 through test-retest method after two weeks (34). In this study reliability through internal consistency by chronbachs Alfa was 0.84.

General psychopathology questionnaire (scl-25): planed by najarian and daviudi. This questionnaire measures psychological status that everybody experienced in their last seven days. Includes 25 items that at every items, one five optional scale from always, often, seldom, some when to never were applied and participants based on option selection gain one likert score between 0 to 4. Indeed this questionnaire measures psychopathology. In this questionnaire, nine dimensions of psychopathology as 1.psychosis, 2.somatic complaint, 3. Obsessive compulsive disorder, 4. Depression, 5. Anxiety, 6. Interpersonal hostility, 7.agression, 8. Phobia and 9. Paranoid believes were measures.in interpretation of this questionnaire scores, lower scores show mental health and upper scores show psychological disorder. The reliability coefficient through test-retest method was 0.87 and through internal consistency was 0.98 (33). In this study reliability through internal consistency and test-retest method by chronbachs Alfa was 0.83 and 0.88.

Results

In present study minimum age of participants (39.3 percent male and 60.7 percent female) was 23 and maximum was 68 with average of 2.41 and standard deviation of 3.10. 21.9 percent has primary education, 12.2 percent was middle school education, 47 percent has diploma, 12.9 percent has license and 6 percent was post graduated. 14.2 percent hasn't confine history and 47 percent one time, 27.3 percent two times, 12 percent three times, 14.6 percent more than three times have confine history at heart disease section in hospital. The majority of patients were

diagnosed with Coronary heart disease. Descriptive statistics of variables and Pearson correlations were calculated to analyses the association of the psychological variables (Table 1). The results can be meaningfully interpreted.

Table 1: Descriptive statistics and Correlation matrix between variables

Variables	Mean	Standard deviation	1	2	3	4	5	6
Emotional intelligence	108	24.8						
Type D personality	47.3	2.16	-0.45*					
Problem coping	9.15	5.4	0.59*	-0.66*				
Emotion coping	21.4	6.7	-0.47*	0.64*	-0.56*			
Perceived stress	32.5	11.5	-0.74*	0.73*	-0.58*	0.72*		
Quality of life	67.8	7.19	0.71*	-0.63*	0.61*	-0.67*	-0.69*	
Psychopathology	64.21	14.6	0.50*	-0.61*	-0.56*	0.48*	0.54*	-0.50*

* p<0.01

Table 2: Prevalence of nine dimensions psychopathology at two levels in heart disease patients

Psychopathology	Psychosis	Somatic complaint	Obsessive compulsive disorder	Depression	Anxiety	Interpersonal hostility	Aggression	Phobia	Paranoid believes	Total psychopathology
One Standard deviation more than average	27.2	21.2	31.7	29.4	31.7	42.2	21.7	15	1.26	14.4
Two Standard deviation more than average	5	7.8	5.6	3.3	5	11.1	8.3	5.6	1.7	5.6

As showed in table 2 in one Standard deviation upper than average 27.2 percent of heart disease patients experienced psychosis, 21.1 percent has somatic complaint, 31.7 percent has Anxiety, 29.4 percent has Depression, 42.2 percent has Interpersonal hostility, 15 percent has Phobia, 31.7 percent has Obsessive compulsive disorder, 1.26 percent has Paranoid believes and 21.7 percent has aggression. Furthermore at two Standard deviation upper than average, most experienced disorders by heart disease patients was Interpersonal hostility, Phobia, Anxiety, aggression and somatic complaint and least disorder with 1.7 percent was Paranoid believes (Table 2).

Kolmogorov–Smirnov test showed that all variables were normal. Therefore, parametric test were performed. With regard to other goal of this study that is survey direct and indirect effects of psychological variables on psychopathology, one path analysis model for studying the casual relation between variables were applied. path analysis method is one generalize method of usual regression that moreover assessment of direct effects, can show and measures total effect of each variable, indirect and mediating role effects of variable on independent variable. And logically interpret observed relation and correlation between variables. Survey the casual relations do in some way and in present study for testing the hypothesize model of psychopathology goodness of fit method were applied. In this method four indices as GFI, AGFI, RMSEA and X^2 have most importance and determine level of PROPRIETY of submitted conceptual model and gathered data that extracted from sample (36).

As show in table 3 these GFI, AGFI, RMSEA and X^2 indices are 0.98, 0.94, 0.01117 and 17.35 that show appropriate submitted model. In this model whatever scores being closer to 1, show better models' goodness of fit and model has very good fitness. Also with regard to X^2.df that is less of 3 and insignificant of X^2, therefore we can say that gathered data are coordination with hypothesize model of psychopathology, and for this, proposed model can be appropriate explanation for psychopathology in heart disease patients (Table 3).

Table 3: Goodness of fit statistics of Psychopathology in heart disease patients

Statistics	RMSEA	CFI	AGFI	GFI	Sig	df	X^2
Estimate	0.00117	0.98	0.94	0.92	0.213	6	17.35

RMSEA index show average of residuals and lower estimate of it show favorite and appropriate of model fitness. Also X^2 is most important index of model fitness that measures differences between observed and calculated matrices. Insignificance of this index show conceptual models' fattiness (37). In this model X^2 value divide to DF=6 is insignificant (p>0.05).

Graph 1: Approved and final model of path analysis for psychopathology in heart disease patients
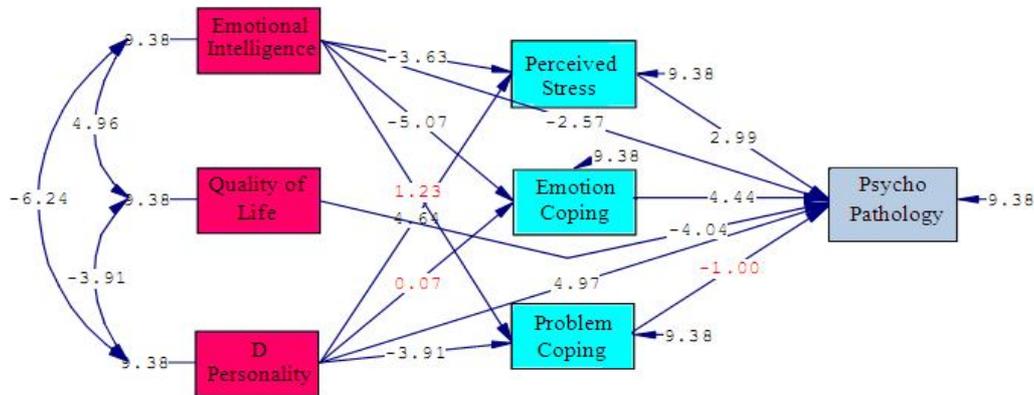
Chi-Square=17.35, df=6, P-value=0.071240, RMSEA=0.001117

Graph 1 show approved model of path analysis for psychopathology in heart disease patients and its t values in every path (direct and mediate) and its significant status that three paths are insignificant. Except personality- Emotion coping (t=0.07, p>0.05), Emotional Intelligence- Problem coping (t=1.23, p>0.05), Problem coping-psychopathology (t=-1, p>0.05), other direct and indirect paths are significant (Graph 1). Furthermore quality of life directly (t=-4.04, p<0.05) and Emotional Intelligence and Type D personality directly and indirectly with mediating role of coping styles and perceived stress effect of heart disease patients, psychopathology (p>0.05).

Discussion

Whereas several studies have investigated the role of psychological factors in the etiology of heart disease, there is a striking lack of empirical studies on the casual role of dispositional factors on heart disease. The present study seeks to help address this gap.

Being able to predict such casual psychological factors is indeed a particularly important first step in Prevention of chronic diseases like heart disease because Beside mortality, disability and high disease burden, these disease cause severe problems in psychological and social aspects of patient's lives.

Heart disease is one of prevalent chronic, progressing and debilitating diseases. Incidence and prevalence of it are age related and progress with age increasing and approximately in America one percent of fifty years old people and ten percent of eighty years old people are heart diseases (14). And was responsible for nearly two million death in Europa at 2000 (38). Physical and psychological side effects of heart disease leads to decreasing quality of life and as other studies showed this disease effects on all dimension of patients' life and this issue approved in similar researches that did by researchers in the world and show that heart disease negatively effect on quality of life, majority of patients haven't favorite status in

their physical, psychological, social efficacy, professional and economic progression domain of life, and these dysfunctions effect cyclically on severity of heart disease (39) and Therefore lead to increase of incidence and prevalence of most of psychological disorders. For this problem, researchers decide to survey the side effects and psychopathology of heart disease. Present study surveys these issues.

The primary goals of this study were to examine prevalence of Psychopathology in Coronary heart disease patients. The findings of present study show that in this study majority of heart disease patients simultaneously have upper scores of average in several scales of psychopathology. These findings coordinate with other researchers finding and demonstrate high prevalence of psychopathology in heart disease patients (5-6, 9,10).

The effects of heart disease on personal and inter personal dimensions is pervasive and influential and gradually lead to appearance of psychopathology symptoms and more dysfunction in several dimensions of life and these dysfunctions effect cyclically on severity of heart disease symptoms, decrease in improvement and treatment process (13, 24,25).

Other finding of this study was submitting the casual model to survey the role of psychological variables on Psychopathology in Coronary heart disease patients. With approving the model we can say that Emotional Intelligence, Quality of life and Type D personality directly and indirectly by mediating role of perceived stress, Problem focused coping and Emotion focused coping effect of heart disease patients' Psychopathology.

By observing the results of this study, that are presented in Tables 1, it can be seen that strongest Psychopathology predictors is Type D personality

With attention to graph 1, we can say that more Emotional Intelligence relates with several psychological components like health related behavior (40), more empathy, optimistic and courage (41), less depression and distress (42). moreover Manchester university's' researchers found in their studies that emotion management and regulation, positively correlates to humor, happiness, mental and physical health and negatively correlates to sadness and upset moods (43). Furthermore ability of emotions perception negatively correlates to self- destruction and aggression, and people with more emotional intelligence have more successfulness in coping with everyday life problems and have more mental and physical health (44). Indeed people with more emotional intelligence have less mental and physical acute and chronic disorders and have more health and quality of life (45). Thus emotional intelligence directly and also by effecting on perceived stress and Problem focused coping style leads to decrease of Coronary heart diseases' side effects on patients and in conclusion increases patients' quality of life and decreases rate, severity and prevalence of heart disease patients' Psychopathology.

We anticipated that Type D patients would experience more stress. We found that Type D patients experienced significantly more stress. Present study findings show direct and indirect role of Type D personality on heart disease patients' Psychopathology. This finding is coordinates with other researchers' findings (46). Indeed Type D personality has two

factors as negative emotion (anxiety and depression) and social inhibition (emotional inhibition and avoidance in social verbal and nonverbal interaction) (47). This type of personality orients the person to experience upset, uncomfortable and negative emotions and simultaneously blockage of them in social verbal and nonverbal interaction and in therefore this emotions suppression leads to psychosomatic and psychological disorder (48). Indeed suppression of negative emotions lead to several types of physical disease like headache, backache, muscle impulses and neural impulses and several psychological disorders for example anxious disorders, depression, nightmare, interpersonal hostility and obsessive worries (49). Moreover surveys show that suppression of negative emotions positively correlate with anger, irritation, aggression and leads to incidence of psychological and psychosomatic disorder (50). Other finding of our study show that stress effects on Psychopathology in Coronary heart disease patients and Patients with Type D personality show maladaptive ways to regulate emotions and higher levels of more stress that is coordinate with other researchers' findings (51-52). Optimal level of stress is a good motivator for function but high level of stress has negative effect on function and in long time can lead to dysfunction and physical and psychological diseases like anxiety, depression, muscle tension, memory dysfunction, insomnia, attention deficient, irritability, exhaustion and physical disorders like digestive disease, coronary heart disease, chronic headache, irritable bowel syndrome and asthma (53). Recent clinical studies suggest that everyday life stressors gradually weak immune system and leads to physical

and psychological disorders and negatively effects on quality of life (8).

The new approaches on stress beside emphasis on identity and importance of stress, emphasis on individuals' psychological sources in coping with stressors factors because by manipulating of dysfunctional coping style can plans appropriate therapeutic process for patients. Hence, quality of coping style with stress is more important than frequency and severity of it (54). So stress management and successfulness in control of stress or type of coping style that patients applied has influential role on vulnerability of stress or neutralizing the stress.

In the way to explanation the role of coping style on heart disease patients' Psychopathology we can say that, response to every event, depend on personality types, personal ability in problem solving, morality, social support, individual-environmental interactions, personal experiences, social and cultural variables (55-56). And coping style as psychological variable is personal attempt to increase adapting with environment and the way to prevention of negative outcomes of stressful everyday life events (57). Similar to Type D, there is evidence that maladaptive coping style is associated with the experience of stress. Emotion focused and problem focused coping styles are two coping ways that were applied to adapting with environment and neutralizing the threatening and stressful situations and conditions (58). Selection the Appropriate coping style against stress could decrease effects of stress on mental health and then leads to mental calmness. Several studies suggest that types of suitable coping styles have influential role in moderate and reduction of Psychopathology in

vast domain of chronic patients like arthritis, intestinal disease and heart disease and reduce stress and increase mental health and quality of life (59-60). The results indicate that people who are more emotionally intelligent feel healthier than those who are less emotionally intelligent. To confirm these findings, it was important to evaluate whether individuals who perceive themselves as healthy are more emotionally intelligent that those who feel they are less healthy.

We found evidence that quality of life had direct effects on Psychopathology that is coordinate with other studies (60) and our results fully support this finding.

Researchers' findings showed that quality of life has significantly positive correlation with physical and mental health, self-efficacy and positive moods, adaptation and significantly negative correlation with depression, negative moods and anxiety (61-65).

Important of quality of life in view of researchers and specialist leads to entrance the quality of life in therapeutic fields in positive and health psychology. Researchers have emphasized that with Quality of life based Intervention could improve physical and mental health, self-esteem, spirituality, goals and values, effective relationships, learning ability, creativity, economic status and reduce disease and mental disorders (66).

Conclusion
Generally, we can say that with suitable clinical intervention and optimal psychological education about quality of life, appropriate personality types and coping styles and stress management we could help patients and healthy people to improve their mental and physical health that leads to reduction in psychopathology in Coronary heart disease patients.

Taken together, we found evidence that quality of life, Type D personality and emotional intelligence are related to perceived stress, emotion management and psychopathology.

With regard to epidemiologic transition in developing country, chronic diseases and its risk factors are most important health problems in these countries. Also with attention to high prevalence of mental disorders in coronary heart disease patients in present and similar studies, and in other hand approving the conceptualize casual model that explain role of psychological factors on psychopathology, we could providing good and appropriate education about stress management, emotional intelligence, efficient personality traits, suitable coping styles with stress for patients to reduce risk factors of heart disease and mental disorders and prevalence of psychopathology in heart disease patients. These findings emphasize the potential value of psychotherapeutic programs in the treatment of CHD patients. The results of this type of diagnostic studies could indicate the need to refer patients for remedial counseling designed to strengthen specific EI deficiencies needed to help improve physical health and wellbeing.

On the whole psychologist could help physician to speed up and ameliorate therapeutic process that physician planed for heart disease patients.

Since our study was cross-sectional then, longitudinal and intervention studies are needed. Moreover, refraining patients with language barrier, lacking reading ability or

with mental retardation from participation may bias the date to a higher educational or socioeconomic status each in prevalence of psychopathology. For future studies it is suggested to conduct a study with qualitative approach (phenomenology) in this field in order to achieve better and deeper understanding about quality of life and psychopathology from patients' point of view.

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