EPH - International Journal of Medical and Health Science
ISSN (Online): 2456-6063
Volume 01 Issue 01 March 2015

DOI: https://doi.org/10.53555/eijmhs.v1i1.84

THE RELATIONSHIP BETWEEN THE ILLNESS PERCEPTION OF PATIENTS AFTER ACUTE MYOCARDIAL INFARCTION AND THEIR QUALITY OF LIFE

Grinberg, K[1*], Gonen, A[2]

Corresponding Author:-

Background: *Myocardial Infarction (M.I) is a Heart disease that considered as one of the most serious problems of the modern world and is one of Israel's leading causes of death. Patients who survived the heart attack are likely to face a new challenge of recovery and to adapt to chronic illness. The perception of the disease may affect the way of the patients' way of coping with chronic illness and their quality of life.*
Aim: *Examing the relationship between the Illness Perception of patients after acute Myocardial Infarction (M.I) and their Quality of Life*
Methods*:* *The sample included 110 respondents, post M.I The data was collected by questionnaires: The illness perception and the Multi-dimensional quality of life.*
Results: *Findings indicate that the more sense of negative disease perception in the eyes of M.I patients, there is lower quality of life. Furthermore, there are significant positive correlations between some of the illness perception components and quality of life of M.I patients.*
Conclusion*:* *It seems that the way that patients perceive and conceptualize their heart disease, is one of the factors that affect their quality of life. The identification of adaptive illness perceptions and accordingly, the treatment plans, may make it easier to M.I patients to cooperate throughout all stages of their recovery, and to adapt themselves to chronic illness.*

Key words: *Illness Perception, M.I, Quality of Life, Heart disease*

BACKGROUND

Heart disease is considered as one of the most serious problems of the modern world and is one of Israel's leading causes of death, for both men and women, and for Jews and non-Jews.

Myocardial infarction (M.I) is the irreversible damage caused by acute and severe ischemia to the heart cells. The process of atherosclerosis cause the Myocardial infarction that often occurs when a clot block the coronary arteries. The heart's damage ends in 4-6 hours and a few days after the attack, the healing process of the heart muscle begins [Cafri et al., 2003; Boner et al., 2014].

The event of the M.I suddenly occurs in the individual life, creating a crisis and is accompanied by emotional responses such as anger, stress, anxiety and depression. These reactions threaten his physical, mental and social existence, and he have to cope with the new situation [Sahoo et al., 2014 [Patients who survived the heart attack are likely to face a new challenge of recovery and to adapt to chronic illness. They need to continue to control the risk factors in a new way of selfcare, like, changing lifestyle habits and negative health behaviors that sometimes include: new dietary habits, physical activity, medications and relief of stress [Deirdre et al., 2001].

A situation like this can affect the patient's quality of life. Studies have found that the patient's quality of life after heart attack was low and many patients complained about difficulties in adapting to the new situation and in addition, their compliance for the treatment was low.

However, we did not find studies about the relationship between the perception of the disease and the patient's quality of life. The literature suggests that the perception of the disease may affect the way of the patients' coping with chronic illness and their quality of life [BenyaM.Ini et al., 2013].

The concept of disease' perception is defined as the understanding and assessment of the disease by the individual and it is based on an organized entity of knowledge and beliefs related to the disease [Leventhal et al., 1980; Maeland & Havik, 1989]. In the recent years, a special research attention is given to the issue of the disease perception from the perspective of the patient, and its effect on the reactions and behavior in context of the disease and way how to deal with it [Keith et al., 2002].

The disease perception model that was developed by Weinman et al., [1996] allows evaluation of the disease's cognitive representation and perception of disease from the perspective of the patient. The model is based on the theory of self-regulation [Leventhal et al., 1980; Leventhal et al, 1984; Leventhal et al., 1992]. This model will be used in this study as a theoretical framework in order to explain the relationship between the M.I patients' disease perception and their quality of life.

The model suggests that the individual builds an actively representation of the disease that later regulates the reactions and behaviors related to his illness. Perception of the disease plays an important role in its results by the ways of decisions acceptance, choosing choices and actions, coping and evaluation [Leventhal et al, 2003]. According to this model, when the individual meets with a health threat, it produces dimensional representation of two parallel processes: The first is an evaluation or objective representation – cognitive to a threat relates to the individual's beliefs about the disease and accompanied by a process of confronting and evaluating the outcomes. The second dimension is a subjective representation of the emotions associated with health or the disease threats, such as (Fear and Stress), and adapting coping processes aimed at controlling emotions. This process is the interpretation of the situation, which is the first step toward obtaining assistance, or adopting coping strategies, for getting the care that needed.

The disease perception model consists of five components that constitute the foundation of the model, and have significant implications for coping and recovery processes in the situation of health conditions: **A**. The disease Identity, **B**. Timeline perception (acute or chronic), **C**. The disease causes **D**. Controllability (personal control and treatment control), **E**. Emotions and consequences of the disease. Each one of these components may affect the quality of life of patients [Bishop et al., 1986; Leventhal et al., 1992; Cameron et al., 2005].

Therefore, the purpose of the study is to determine the effect of illness perception (IP) on the perceived quality of life) QOL (of M.I patient.

The study hypothesizes are:

1. We will find correlation between disease perception components: identity, timeline, causes, controllability, emotions, coherence and quality of life.
2. We will find a positive correlation between the disease (M.I) perceptions, to the individual quality of life.

Methods

The study is a cross sectional one, and was conducted in patients who had a myocardial infarction in the past two years. The study examines the relationship between the variables of perception of the disease (independent variables) on the quality of life of M.I patients (the dependent variable). The sample included 110 respondents from one hospital in northern Israel. They were sampled from six months to a year after M.I within the framework of surveillance clinic at the hospital (77% men and 23% women), average age was 52.3 years.

Research Tools

The data collected by followed three questionnaires: A sociodemographic Questionnaire, the illness perception questionnaire revised (IPQ-R) [Moss- Morris et al et al., 2002] and the Multi-dimensional quality of life questionnaire [Kreitler & Kreitler, 2006].

Sociodemographic questionnaire: Sociodemographic questionnaire included data such as age, sex, education, marital status, number of children, smoking (yes / no), making regular exercise (yes / no), background diseases or comorbidities and medications use.

The Revised Illness Perception Questionnaire: The Revised Illness Perception Questionnaire (IPQ-R) [Moss-Morris et al., 2002] was used to tap the identity, timelineacute/chronic, serious consequences, personal control, treatment control, illness coherence, emotional representation, and causal attribution dimensions from selfregulation theory. The items for the timeline-acute/chronic, serious consequences, personal control, treatment control, illness coherence, and emotional representations scales were presented in a mixed order and were rated on five point scales ranging from (1) 'disagree very strongly' to (5) 'agree very strongly'. Internal reliability range of 0.69 to 0.83 for the total score.

Multidimensional quality of life questionnaire: This self-report questionnaire was chosen for the study because of its simplicity, good coverage of a broad set of domains relevant for QOL, its good psychometric qualities and suitability for M.I patients. It includes 60 items, each followed by four response alternatives, presented in a row as a discontinuous scale and labeled verbally in a manner specific to each item (e.g. your economic state? Very good / Quite good- / Medium, some difficulties / Very hard, many difficulties). The items refer to a great variety of themes, such as mobility, functioning at work (or studies), eating and appetite, sleep, functioning in the family}as a partner, as a parent, as a sibling, and as son/daughter, entertainment, sense of being successful, independent functioning in daily life, memory, concentration, loneliness, anger, despair, depression, unhappiness, hope, joy, fear, self-esteem, sense of coherence, strength and ability to cope with the tasks of everyday life, and worries about health. Each item is presented separately and refers to one specific theme. The items are simple, easy to respond to and require no complex comparisons or evaluations. The respondent's task is to read each item and put a check mark near one of the four presented response alternatives. Usual time of administration is 10 Min. internal reliability in terms of Cronbach's alpha coefficients is in the range of 0.76 to 0.90 for the total score, and 0.72 to 0.86 for the scales. There are 16 scales, defined on the basis of factor analyses (in the following list, 'low' indicates the expectation when QOL is high) and cluster analyses: functioning in the family, sexuality, negative feelings (low), cognitive functioning, positive feelings, physical state, disorientation and bewilderment (low), activity, health, pain (low), friends, body image, self-image, sense of control, sense of coping, meaningfulness. The scales with the highest percent's of accounted for variance are functioning in the family, physical functioning and social functioning.

Procedure

After approval of the institutional ethics committee and the approval of the director of the intensive care unit and the clinics participants completed questionnaires. The researcher explained to patients that the study is anonymous and data collected for the purpose of research only. Patients signed an informed consent form to participate in the study. Filling questionnaires were in the presence of the investor in order to clarify and explain for details which were not clear. All subjects were asked to answer the questionnaires independently in order to avoid bias or outside influence. Multi tested expressed great appreciation for the research, and found great willingness to participate in it. Data were collected from May 2013 to December 2013 and coded in Microsoft SPSS 19 version.

Results

The study included 110 patients who had a myocardial infarction (n = 110) ages ranged from 40-65 years (M = 52.3, SD = 7.33). Most were men (77%) than women (23%) and most of them were Jews (64%) compared with non-Jews (26%). Over half of them did not work (57%). About 60% were smokers and only 30% of them were engaged in
Regular physical activity.

The study hypothesizes were:

Hypothesis no 1: We will find correlation between disease perception components: identity, timeline, causes, controllability, emotions, coherence and quality of life. The hypothesis was confirmed. We found correlation between some of the illness perception components and quality of life of patients with acute myocardial infarction (see Table 1).

Table no 1: Pearson corre rception and quality of life variabl

7.7.4

Pearson correlation								
1-Quality of life								
2- Timelineacute	7.4.7**							
-Timeline3 chronic	7.337**-	7.84**3						
4-**Identity (Symptoms)**	7.745	7.3.**6	7..8**8	7.7.4				
5- **Consequences**	7.688**-	-7..76	-7..77					
6- **Personal control**	-7.747	7.4. **.	7.43**5	7.4.**6	7..70			
7- **Treatment control**	7.747	7.40**7	7.47**.	7..30*	7.033	7.64**3		
8- Coherence	7.37.**	7...5*	7..80*	7.7.0	7.406**-	7.040	7.37**.	
9- **Feelings**	7.507**-	-7.7.0	-7.760	7.005	7.77.**	7.30**0	7..77	7..37*-

* P<0.05 **P<0.01 A multi stage regression test done to check which variables of the IP are predicting the quality of life of M.I patients. We found that the most criteria affecting quality of life are the consequences of the disease and emotional representation. It was also found that illness coherence and timeline (acute and chronic) also affect the quality of life, as a better coherence of disease relates to a better quality of life and also, As long as the patient perceives his disease as a chronic problem, his quality of life is diM.Inished (see Table 2).

Table 2: Multi-stage regression model predicting quality of life of M.I patients

Predictors	**β**	**t**
Illness perception total score	-053.0	-354.4***
Identity	-05300	-45..3**
Consequences	0520.	25230*
Reasons	-052...	-2503.*
Control	050.0	05..2
Feelings	050.0	05.03
Timeline	-05.22	-.5233
R²	.05. %	
Adj. R²	.353%	
F	.0533***	

***P<0.001 ** P<0.01 *P < 0.05 N=307

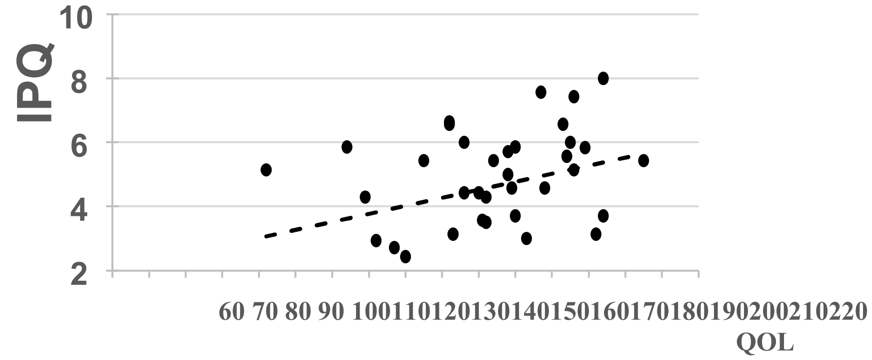
Table 2 present a quality of life predicting model of patients after M.I, while the percentage of variance explained by this model is 60.1%. There are four significant factors that help to improve the perception of quality of life of those patients, while the dominant variable is the total score of the M.I patient's illness perception of their disease.

Hypothesis no 2 was: We will find a positive correlation between the disease (M.I) perceptions, to the individual quality of life. The hypothesis was confirmed. The findings indicates a significant positive correlation between the total score of the overall illness perception of the disease

Marking the quality of life, so that when there is negative disease perception, his

Quality of life is lower (r = 0.418, p = 0.027) (Figure 1).

Figure The relationship between the total score of the perception of disease (IPQ), and the quality of life of M.I patients (QOL).



Discussion

This study examined the relationship between the perception of the disease of patients with myocardial infarction and their quality of life. The findings suggest a correlation between some components of illness perception and quality of life of these patients. It seems that the negative perception of illness associated with lower quality of life and vice versa. As the disease is seen as acute and chronic, and there are more symptoms that indicate the identity of the disease, a lower quality of life. Patients after M.I suffer crisis, they are forced to adapt to a new lifestyle and the adaptation process demand them high compliance, adherence and long term behavioral changes. This new situation accompanied with psychological and cognitive representations and while they are negative, it may influence their daily coping and their quality of life.

The cognitive representations and illness perception may have a major impact on coping with the disease and quality of life of patients [Hagger & Orbell, 2003]. Furthermore, as the patient perceives his illness as detrimental to him, and the disease involves substantial negative emotions such as anger, guilt, depression and lower coherence of his disease, there is a decline in his quality of life. The findings of these studies are consistent with findings of other studies that have examined the relationship between the perception of different diseases such as atopic dermatitis [Benyamin et al., 2012], Cushing syndrome [Tiemensma et al., 2011], and Multiple sclerosis [Spain et al., 2007] and patient's quality of life. Those studies found similar findings while a negative illness perception correlates with poor quality of life.

We also found that the variables: Identity, reasons and consequences predicts M.I patient's quality of life. The identity is based on symptoms such as: Chest tightness, abdominal pain, nausea, headache, etc., and when the patient has more symptoms like these, the lower his quality of life will be. In addition, negative perceptions of consequences were found to be related with quality of life. Benyamini et al. [2004; 2013] also found that as long as the disease has more negative consequences, which reflected in all areas of human life, such as physical implications, economic, emotional and social, there is a negative impact on quality of life. We also found that there is a correlation between internal and external reasons that may affect the patient's perception such as: environmental, genetics, stress, personal attitudes, burden feeling at work etc', and their quality of life. Our findings are consistent with Nicola& Moss- Morris [2003], who found that as long as there is a psychological and social reason which causes the disease, from the patient's view, his perception about his illness will be more negative and may affect his quality of life.

In summary, the present study found that, most of the illness perception components correlate with the quality of life of M.I patients. These findings are in line with the theoretical literature, which assumed that, the way that a person perceives his illness / problem, may be correlate with a significant correlation with his quality of life [Keith, J., et al, 2007].

Conclusions

It seems that the way that patients perceive and conceptualize their heart disease is one of the factors that affect the quality of life. There is quite differences between the ways that each patient perceives his illness and there is a wide range of emotional and behavioral responses to this problem, with different effect on his quality of life.

REFERENCES

[1]. BenyaM.Ini, y., Goner-Shilo, D., & Lazarov, a. (2012). Illness perception and quality of life in patients with contact dermatitis. *Contact Dermtits*, 76(4), 193-199.

[2]. BenyaM.Ini, Y., Gozlan, M., & Kokia, E. (2004). On the shelf regulation of health threat: Cognitions, coping and emotions among women undergoing treatment for infertility. *Cognitive Therapy and Research*, 28(5), 577-592.Bishop, G.D. & Converse, S. A. (1986). Illness representations: A prototype approach. *Health Psychology*, 5: 95-114.

[3]. BenyaM.Ini, Y., Roziner, I., Godbourt, U., Drory, Y., & Gerber, Y., (2013). Depression and Anxiety Following Myocardial Infarction and Their Inverse Associations with Future Health Behaviors and Quality of Life. *Behavioral Medicine*, 933-945.

[4]. Bonner, F., Jacoby, C., Temme, S., Borg, N., Ding, Z., Schrader, J., & Flogel, U.(2014). Multifunctional MR monitoring of the healing process after myocardial infarction. *Basic Research in Cardiology*, 109-115.

[5]. Cafri, C., Crystal, E., Kobal, S., Weinstein, J.M., Gilutz, H., & Llia, R. (2003).Acute myocardial infarction: patient selection for reperfusion with coronary angioplasty. *Europe PMC Plus*. 5 241- 244.

[6]. Cameron, L.D., Petrie, K.J., Ellis, Ch.J., Buick, D.& Weinman, J.(2005). Trait negative affectivity and responses to a health education intervention for myocardial infarction patients. *Psychology and Health*, 20(1):1-18.

[7]. Deirdre, L., Douglas, C., Christopher, R., Gareth, D., & Gregory, L. (2001).Mortality and Quality of Life 12 Months After Myocardial Infarction: Effects of Depression and Anxiety. *Psychosomatic Medicine*, 63(2), 221-230.

[8]. Hagger, M.S. & Orbell, SH.(2003). A meta-analytic review of the common-sense model of illness representations. *Psychology & Health*,18(2):141-184.

[9]. Heijmans, M. (1998). Coping and adaptive outcome in chronic fatigue syndrome: importance of illness cognition. *Journal of Psychosomatic Research*,45:39-51.

[10]. Helder, D.J., Kaptein, A.A., Kemper, G.M., Weinman,J., Houwelingen, H.C., & Roos, R.A.

[11]. (2002). Living with Huntington's disease: Illness perception, coping mechanisms, and patients wellbeing. *British Journal of Health* Psychology, 7, 449-462.

[12]. Keith, J.P., Linda, D.C., Chris, J.E., Deanna, B., & Weinman, J.(2002). Changing illness perception after myocardial infarction: An early intervention randoM.Ized controlled trial. *Psychosomatic Medicine*, 64, 580-586.

[13]. Keith, J.P., Lana, A., Jago and Daniel, A.D.(2007). The role of illness perceptions in patients with medical conditions. *Current Opinion in Psychiatry*, 20:163-167.

[14]. Kreitler, S., & Kreitler, M. M. (2006). Multidimensional quality of life: A new measure of quality of life in adults. *Social Indicators Research*, 76, 5-33.

[15]. Leventhal, H., Brissette, I., & Leventhal, E.A.(2003). The common-sense of self-regulation of health and illness.In: Camerone, D.& Leventhal, H.(Eds), The self-regulation of health and illness Behaviours, (pp 42-65). Routledge, London and New-York.

[16]. Leventhal, H., Diefenbach, M. & Leventhal, E.A.(1992). Illness cognition: using common sense to understand treatment adherence and affect cognition interaction. *Cognitive Therapy and Research*,16: 143-163.

[17]. Leventhal, H., Meyer, D., & Nerenz, D.(1980). The common sense representation of illness danger. In S. Rachman (Ed.), *Medical Psychology*, 2, New-York: Pergamon.

[18]. Leventhal, H., Nerenz, D.R., & Steele, D.J. (1984). Illness representations and coping with health threats. In A. Baum, S. E. Taylor, & J. E. Singer (Eds.), *Handbook of Psychology and Health*, 4. Hillslade, NJ: Lawrence Erlbaum Associates.

[19]. Maeland, J.G. & Havik, O.E. (1989). After a myocardial infarction. A medical and psychological study with special emphasis on perceived illness. *Scandinavian Journal of Rehabilitation Medicine*, 11(22): 1-87.

[20]. Moss-Morris, R., Petrie, K.J. & Weinman, J.(1996). Functioning in chronic fatigue syndrome: Do illness perceptions play a regular role? *British Journal of Health Psychology*, 1:15-25.

[21]. Moss-Morris, R., Weinman, J., Petrie, K., Horne, R., Cameron, L. D., & Buick, D. (2002). The revised illness perception questionnaire (IPQ-R). *Psychology and Health*, 17(1),1-16.

[22]. Nicola, M., Moss-Morris, R., (2003). The role of illness severity and illness representations in adjusting to multiple sclerosis. *Journal of Psychosomatic Research*, 54, 503-511

[23]. Sahoo, S., & Losordo, D.W.(2014). Exosomes and Cardiac Repair after Myocardial Infarction. *Circulation Research*, 114, 333- 344.

[24]. Spain, L.A., Tubridy, T.J., Adams, S.J., & Holmes, A.C.N.(2007). Illness perception and health-related quality of life in multiple sclerosis. *Acta Neurologica Scandinavica*, 116, 293299.

[25]. Tiemensma, J., Kaptein, A.A., Pereira, A.M., SM.It, J.W.A., RoM.Ijn, J.A., & Biermasze, N.R. (2011). Negative illness perceptions are associated with impaired quality of life in patients after long-term reM.Ission of Cushing's syndrome. *European Journal of Endocrinology*, 165, 527535. Keith, J.P., Lana, A., Jago and Daniel, A.D.(2007). The role of illness perceptions in patients with medical conditions. *Current Opinion in Psychiatry*, 20:163-167.

[26]. Weinman, J., Petrie, K.J., Moss-Morris, R., & Horne, R. (1996). The illness perception Questionnaire: A new method for assessing the cognitive representations of illness. *Psychology and Health*, 1, 114-129.