Effectiveness of Schema Therapy Techniques on Working and Prospective Memory, Personality and Medication adherence in Cardiac Patients

Eficacia de las técnicas de terapia de esquema en el trabajo y la memoria prospectiva, la personalidad y la adherencia a la medicación en pacientes cardíacos

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ABSTRACT

Several studies have combined the combination of two disciplines of psychology and cardiology to help with the help of psychology to better prevent and treat heart-related diseases. The aim of this study was to evaluate the effectiveness of schema therapy on D-type personality and medication adherence in coronary heart disease patients with the role of moderating work memory and prospective memory. This experimental study was carried out in a single-subject experimental manner by controlling the multiple baselines simultaneously and with adherence of 6 weeks. Five men with heart disease were selected through targeted sampling from among those referring to Razavi supersonic hospital. Patients participated in this study after the treatment conditions. The effectiveness of the treatment protocol in 3 stages (baseline, 10-session treatment, and 6-week follow-up) using the D-type Personality Questionnaire, PMQ, Wechsler's Memory Testimonial Questionnaire, and MMAS- 8) were investigated. The data were analyzed using Visual Drawings, Permanent Change Index (RCI), and Percentage Improvement Formula. The results showed that the effect of schema therapy on the reduction of personality type D, increased working memory, perspective, and adherence to medical treatment of cardiac patients was statistically significant (P <0.05) and clinical significance. Schematic therapy is effective in reducing personality D, increasing working memory, perspective, and medication adherence of inclusive medical therapy.

Key Words: Schema Therapy; Personality Type D; Working Memory; Prospective Memory; medication adherence

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RESUMEN

Varios estudios han combinado la combinación de dos disciplinas de psicología y cardiología para ayudar con la ayuda de la psicología para prevenir y tratar mejor las enfermedades relacionadas con el corazón. El objetivo de este estudio fue evaluar la efectividad de la terapia de esquema en la personalidad de tipo D y la adherencia a la medicación en pacientes con enfermedad coronaria con el papel de moderador de la memoria de trabajo y la memoria prospectiva. Este estudio experimental se llevó a cabo de forma experimental en un solo sujeto mediante el control simultáneo de múltiples líneas de base y con una adherencia de 6 semanas. Se seleccionaron cinco hombres con enfermedad cardíaca a través de un muestreo dirigido de entre los que se refieren al hospital supersónico Razavi. Los pacientes participaron en este estudio después de las condiciones de tratamiento. Se investigó la efectividad del protocolo de tratamiento en 3 etapas (línea de base, tratamiento de 10 sesiones y seguimiento de 6 semanas) utilizando el Cuestionario de Personalidad tipo D, PMQ, Cuestionario de Testimonios de Memoria de Wechsler y MMAS-8). Los datos se analizaron utilizando Dibujos visuales, Índice de cambio permanente (RCI) y Fórmula de mejora de porcentaje. Los resultados mostraron que el efecto de la terapia de esquema en la reducción del tipo de personalidad D, el aumento de la memoria de trabajo, la perspectiva y la adherencia al tratamiento médico de los pacientes cardíacos fue estadísticamente significativo (P <0,05) y de importancia clínica. La terapia esquemática es eficaz para reducir la personalidad D, aumentar la memoria de trabajo, la perspectiva y la adherencia a la medicación de la terapia médica inclusiva.

Palabras Claves: Terapia de Esquema; Tipo de personalidad D; Memoria de trabajo; Memoria prospectiva; adherencia a la medicación

Introduction

Cardiovascular diseases caused by coronary artery stenosis and congestion and a health problem in developed and developed countries are among the leading causes of mortality in the world, including Iran (Sabahi and Akbarzadeh Tootoonchi, 2014) One of the most important variables on coronary artery disease is D-type. Personality type D has two components: 1) Negative emotion that refers to the tendency to experience negative emotions over time and in different situations; 2- Social inhibition, which tends to inhibit the expression of these emotions in social interaction (Denolt and Colleagues, 2003). The study of the relationship between emotions and memory has also progressed dramatically since the 1970s. In the research, Rasmussen and Brentsen (2010) investigated the relationship between the five-factor model of personality and memory in two studies. The results showed that in both studies, there is a positive relationship between openness and memory scores. Memory is one of the components of the brain's functional functions. System memory is a process that stores and temporarily stores information and is also essential for high-level cognitive functions (Kanda and Osaka, 2008). There was also a significant relationship between memory and tone relief in cardiac patients, so that high resiliency can increase the memory performance of cardiac patients. Future memory is a sign of the ability to set goals, programs and maintain, re-recall and transfer them in a suitable time and space

(Insteig 2005). Understanding the relationship between specific dysfunctional abilities and mortality among cardiac patients is important because cognitive impairment is common among heart patients. More than eighty-two studies show that cognitive impairment occurs in cardiac patients. Twenty-five percent to fifty percent of cardiovascular patients have cognitive impairment, and in some studies it is up to 80 percent. Cognitive impairment is often studied in language spheres, active memory, working memory, prospective memory, psychomotor velocity, and executive function (Pearler, Kim, Rayleigh, Roniz, and Gradus-Pislow, 2010). On the other hand, the individual's willingness to follow the instructions is also one of the factors that can contribute to the improvement of heart disease. In 1976, Scott and Hunts published a standard and important essay. Today, treatment is still a major issue in chronic diseases, as well as heart disease (Vander Wal, Jarsma and Van Voldasin, 2005). Of these, memory impairment has been identified as one of the predictors of non-compliance among patients with heart disease. Memory and recall is one of the factors influencing the adherence of patient's treatment, which Lee referred to in the adherence pattern of the patient, and this is where the pattern, memory and perception of the patient are two of the main factors that indirectly Have an effect on the satisfaction of treatment and also directly affect adherence (Agden, 2007). In his research, Lee concluded that the memory error and the power of reminding people to relate to the therapeutic prescriptions and therapies recommended by the therapist (Lee, 1989). In Iran, Zahidnezhad, Pour Sharif and BabaPour (2012) studied artifacts between memory errors and medication adherence in diabetic patients, which showed that patients who had less memory impairment followed their treatment more Showed. Savadi and Zare (2016) stated during the research that in addition to physical therapy, psychological interventions for heart patients should be considered. Regarding the existence of maladaptive schemas in the cardiac patient and the presence of maladaptive schemas in generating negative emotions in cardiac patients as a prognosis of this disease, it seems that other effective therapies in patients Heart can be used for schemata. The treatment schema developed by Yang et al. (2010) is a modern and integrated therapy based mainly on the development and extension of concepts and methods of classical cognitive-behavioral therapy. The schema of medicine combines the principles and foundations of cognitive-behavioral, attachment, gestalt, object relations, constructivism, and psychoanalysis in the form of a valuable therapeutic and conceptual model (Ahmadi, Nejad Farid and Barajali, 1393). This method A cure for combining cognitive and behavioral approaches has emerged (Houghton, Malkskis, Kirk and Clarke, 2010). Ahmadi, Nejad Farid and Barajali (1393) during a research entitled "Comparing early maladaptive schemas and cognitive emotion regulation strategies in patients with coronary artery disease and healthy people" found that the cardiac score of the components Initial maladaptive schemas and emotional cognitive regulation strategies were higher than healthy subjects. So far, the effectiveness of schema therapy has been proven in a variety of chronic diseases. Now, the question arises that the effectiveness of schema therapy by improving the Personality of the D type increases the performance of work memory and prospective memory in coronary heart patients and ultimately increases the medication adherence.

Method

In this research, a single-case experimental design and a base line type were used. The statistical population of the present study was men with heart disease (CHD) in Mashhad who referred to Razavi supersonic hospital in Mashhad, 1396-1396. A sample of 5 male subjects was selected through targeted sampling and based on entry criteria. Schematic therapy was performed on 5 people. Some of the entry criteria were: aged 30 to 55 years; type D personality; minimum cycle education (third grade); non-psychiatric drugs; male gender; non-intake of other psychotherapy. Some of the exclusion criteria were: mental retardation; major depression and anxiety disorders; severe personality disorder; drug abuse. After completing questionnaires (YSQ, DS14, PMQ, MMAS-8) and Wechsler's memory test on sample members, the schema therapy techniques were individually grouped in 10 sessions of 60 minutes I was trained once a week. The treatment process was carried out according to the principles of the experimental design of the single subject: referents were first at the baseline stage, Young's Schema Questionnaire (YSQ) (Yang et al., 2007); Personality Type D Questionnaire (Denullet, 1998), Prospective Memory Questionnaire Mental health (PMQ) (Hannon et al., 1995), Wechsler's Memory Tests (Crowe, Matthew and Venkhurst, 2007) and the medication adherence questionnaire (Morisci, Ang, Crossover Wood, and Importer, 2008). The next week (the first session of treatment) responded to all questionnaires and the test was repeatedly reviewed at the first, third, fifth, seventh and tenth sessions. At the last meeting (tenth session), all questionnaires were completed again by the authorities. Like most single-case designs, the present study uses a visual or ocular visualization strategy or method. Also, in order to evaluate the clinical significance and calculate the statistical change in this study, in addition to calculating the recovery rate, the permanent change index was used with modified formula (Abdi, Yakhshi Pour, Alilu and Farnam, 2013).

Research tools

Young Schema Questionnaire (YSQ) Short Form: This questionnaire has 75 questions. Based on the results of factor analysis, a long form of Young Schema Questionnaire has been extracted. This questionnaire measures 15 early maladaptive schemas. For each schema, five questions are considered. Questions that have been selected in the long form of this questionnaire are the most important factor (Smith, Joyce, Young, and Telech, 1995). The results of the Loknal-Chollet, Machend, Cathrax, Boward and Martin (2006) studies showed that alpha Cronbach's questionnaire is between 0.44 and 0.87. Sadaqi, Agbar-Wafaei, Rasoulzadeh Tabatabaee and Esfahanian (2008) in a sample of 370 male students from different faculties of Shahid Beheshti and Shahed universities in Tehran were asked to study the structure of this questionnaire. The results of their research showed that there are 17 factors in this questionnaire. Fifteen subscales of this questionnaire showed good internal consistency (0.62-0.92). The internal consistency for this questionnaire was 0.94.

Personality istic D Questionnaire D: Personality type D has been developed by Denolt. This scale has 14 items and measures the components of negative emotions and social inhibition (Denullet, 1998). Each subject is scored on a 5-point scale, correct, fair, interstitial, fairly false and incorrect, which is 0, 1, 2, 3, and 4, respectively. The range of grades is between 14 and 56. Denolt has considered

the inner consistency of the negative subscale of 0.88 and the internal consistency of social inhibition is 0.86 and the coefficient of validity of this scale has been reported by the personality type A scale of 0.63 (Jang et al., 2007). . Correlation coefficient of this scale is significant with observational evaluations (r = 69%) (Yu, Zang and Levy, 2008). In the research of Zalghianani and Wafaei (2006), the internal consistency of the negative subscale was 0.77 and the internal consistency of the social deterrence subscale was 0.69. Also, in a study by Abolghasemi, Zahed and Narimani (2009), the Cronbach's alpha coefficient was 0.72.

Subjective Future Memory Questionnaire (PMQ): This questionnaire was developed by Hannon et al. In 1995. The scale has 52 rows and consists of four subscales, three subscales related to the defects of three dimensions of future memory, and a subset of it is the use of helpful strategies for this type of memory. The three dimensions of future memory considered by this questionnaire are: Future short-term habitual memory, Future long-term memory of the event, Future memory is the onset of the environment (internal) and the techniques used to remind. The components of this scale have high reliability and have coefficients of internal consistency of 0.92 and coefficient of openness of 0.88 (Hannon 1995).

Wechsler's Memory Trial: A Wechsler memory test used to measure work memory is comprised of two parts: the front-end digits and the reciprocal digits of the reciprocal digits. In forward numbers, a series of numbers is presented, and the subject must repeat the numbers in the same order. In the reciprocal digits, a series of numbers is presented, and it is necessary to repeat the subject in terms of the order of the presented. In Iran, in this research, the reliability coefficients of the Cronbach's alpha method for the subscales were from 0.65 to 0.85 for the subscales and from 0.75 to 0.86 for the indicators. Also, the reliability coefficients of the two halves for the subscales varied from 0.62 to 0.84 and for the indicators varied from 0.70 to 0.85 (Saeed, Roshan and Moradi, 2008).

Morisky Medication Adherence Scale (MMAS-8): Adherence Scale is a Self-Reporting Questionnaire developed by a team of researchers in 2010, containing 8 items. On this scale, medication adherence with a score of 8 out of 8, adherence moderate medication with a score of 6 out of 8, and medication adherence with a score of less than 6 (Morriske, Ang, Croswell wood, and Imer, 2008). The scale of medication adherence was made on a scale of 4 previous valid substances and complemented by other substances that include the conditions that follow the treatment. This scale was first reviewed and reviewed by Bekayan (1392) in Persian. The reliability of the Cronbach's Alpha-Cronbach's Cluster Scale was 89.0, indicating a desirable reliability of this scale.

Findings

Table 1 shows the demographic Personality istics of the users. In his schema happened. The second, third, fourth, and fifth patients achieved 50%, 52%, 60% and 51%, respectively. Improvement of the first and fourth patients was more than other patients. The first-rank grades in the D-Personality represent a 50% improvement in the final session, with a significant reduction in his D Personality . The second, third and fifth patients also recovered 53%, 58%, 48% and 60% respectively. But the fourth patient achieved less improvement compared with other patients. The results of the D Personality ization in the 6-week medication

adherence showed that patients achieved a clinically meaningful improvement compared to the baseline, and the improvement of the fifth patient was more than other patients. Scores treatment compliance in Table 2 indicate that the patient first, second, third, fourth and fifth respectively 50%, 75%, 40%, 50% and 66% recovery achieved and the process in 6 weeks during the fall had. Scores working memory in Table 3 show that the patient first, second, third, fourth and fifth respectively 60%, 80%, 57%, 25% and 67% recovery achieved and the process in 6 weeks during the decreasing Is. Scores of prospective memory in Table 3 show that the patient first, second, third, fourth and fifth respectively 53%, 51%, 52%, 55% and 54% recovery achieved and the process in 6 weeks during the fall had. The trends in tables 2 and 3 are shown in Figures 1, 2, 3, 4, and 5. The negative sign (-) indicates a decrease in the scores.

Table (1) Demographic Personality istics of subjects

Abnormal disorder	marital status	Duration of illness	Education	sex	Age	group
Social phobia	Married	2 years	Diploma	Male	47	Subjects 1
Good depression	Married	1 year	Cycle	Male	42	Subjects 2
Obsessive-compulsive disorder	Married	1 year	Associate Degree	Male	45	Subjects 3
Depression disorder	Married	3 years	MA	Male	50	Subjects 4
-	Married	3 years	Diploma	Male	52	Subjects 5

Table 2: Percentage of recovery and patient survival index on D-type personality scale and medication adherence

medication adherence						Type D Personality						Schema			
Fifth patient	Fourth patient	Third patient	Second patient	First patient	Fifth patient	Fourth patient	Third patient	Second patient	First patient	Fifth patient	Fourth patient	Third patient	Second patient	First patient	Steps of intervention
3	4	5	4	4	48	50	52	49	50	326	318	309	320	323	Base Line 1
2	3	3	2	2	50	54	54	51	52	307	308	311	306	303	Base Line 2
2	2	2	2	3	50	52	51	53	51	309	311	313	298	303	Base Line 3
3/2	3	3/3	6/2	6/2	3/49	52	3/52	51	51	314	3/312	311	308	6/309	Average base line
3	3	2	2	4	49	48	47	47	45	282	280	284	290	295	Session 1
4	4	3	3	5	42	48	44	42	40	236	242	243	249	244	Session 3
5	4	5	5	7	37	44	42	36	34	201	201	204	218	210	Session 5
6	5	5	6	7	32	35	35	30	32	179	170	182	190	181	Session 7
5	6	7	7	6	19	26	22	23	25	160	148	147	161	148	Session10
6/4	4/4	4/4	6/4	8/5	8/35	2/40	38	6/35	2/35	6/211	2/208	212	6/226	6/215	Average sessions
02/1	02/1	74/1	8/1	17/1	1/10	54/8	92/8	5/8	8/6	33/43	82/47	61/47	98/44	81/50	Standard deviation
1/4	1/4	1/4	1/6	1/4	6/44-	9/36-	1/46-	40-	5/38-	83-	85-	81-	5/79-	5/87-	Change index

66 %	50 %	40 %	75 %	50 %	60 %	48 %	58 %	53 %	50 %	51 %	60 %	52 %	50 %	54 %	Percentage of recovery
		2/56%					8/53 %					4/53 %			Overall improvement
no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	Clinical significance
5	5	6	7	6	24	28	23	25	26	177	160	168	181	166	Adherence 1
4	5	7	7	7	27	30	24	27	28	191	177	183	187	183	Adherence2
5	6	7	6	6	29	33	25	29	29	205	178	185	188	184	Adherence3
6/4	3/5	6/6	6/6	3/6	6/26	3/30	24	27	6/27	191	6/171	6/178	3/185	6/177	Average adherence
47/0	47/0	47/0	47/0	47/0	05/2	05/2	82/0	63/1	25/1	43/11	26/8	59/7	09/3	26/8	Standard deviation
08/4	08/4	08/4	08/4	08/4	2/29-	1/26-	5/41-	7/30-	3/32-	5/60-	70-	62-	66-	6/69-	Change index
66 %	50 %	40 %	50 %	50 %	39 %	34 %	52 %	41 %	42 %	37 %	44 %	40 %	41 %	43 %	+ Percentage of recovery
		2/51					6/41 %				41 %				Overall improvement
no	yes	yes	yes	yes	yes	no	yes	yes	yes	no	yes	yes	no	yes	Meaningful

Table 3: Percentage of recovery and patient survival index in working memory and prospective memory scale

Future memory					Working memory					Steps of intervention
Fifth patient	Fourth patient	Third patient	Second patient	First patient	Fifth patient	Fourth patient	Third patient	Second patient	First patient	
182	181	168	175	170	6	7	7	5	5	Base Line 1
175	176	164	175	173	6	5	6	7	6	Base Line 2
177	180	171	172	170	6	6	5	6	6	Base line 3
178	179	6/167	174	171	6	6	6	6	6/5	Average base line
169	174	163	165	161	8	7	8	6	7	Session 1
155	160	151	149	142	7	8	8	6	7	Session 3
132	143	124	129	125	10	9	9	8	8	Session 5
110	124	95	101	97	8	10	10	8	8	Session 7
83	82	81	85	80	10	9	11	9	8	Session 10
8/129	6/136	8/122	8/125	3/129	6/8	6/8	2/9	4/7	6/7	Average sessions
85/30	02/32	41/31	54/29	65/32	2/1	02/1	17/1	2/1	49/0	Standard deviation
44-	44-	6/38-	40-	40-	25/6	12/3	25/6	25/6	7/4	Permanent change indicator
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	Clinical significance
54 %	55 %	52 %	51 %	53%	67 %	25 %	57 %	80 %	60 %	Percentage of recovery
		53 %					8/57 %			Overall improvement
85	83	86	89	83	10	8	10	9	9	Adherence1
85	84	89	92	87	8	8	8	8	8	Adherence2
100	98	95	98	92	8	9	9	8	9	Adherence3

90	3/88	90	93	3/87	6/8	3/8	82/0	3/8	6/8	Average follow up
07/7	85/6	74/3	74/3	68/3	94/0	47/0	47/0	47/0	47/0	Standard deviation
4/36-	8/36-	4/32-	2/34-	4/32-	12/3	12/3	12/3	67/4	25/6	Permanent change indicator
45 %	46 %	43 %	44 %	46 %	33 %	25 %	28 %	60 %	80 %	Percentage of recovery
		8/44 %					2/45 %			Overall improvement
yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	Clinical significance

In general, the findings show that after a schematic course, the grades of personality D of patients with heart disease during the treatment sessions were reduced, and this reduction was maintained at the adherence stage. In addition, the scores of subjects increased in terms of medication adherence, working memory and prospective memory, and these increases were maintained during follow-up. It should be noted that the incremental scores in the stages of treatment and adherence of each patient are somewhat different due to the impact of personality, psychological and environmental Personality istics. Based on the results of the recovery rate and the permanent change indicator, the effectiveness of this therapeutic approach on type D personality, medication adherence, work memory and prospective memory is satisfactory. It should be noted that in order to reach the clinical significance, the cut-off points calculated on the basis of standard deviation and the mean of previous research in cardiac patients and healthy population were determined so that for type-factor D, cutting point (31.47), adherence(6) , Working memory (7.7) and prospective memory (105.78) were calculated.

Discuss

The aim of this study was to evaluate the effectiveness of schema therapy intervention on type D personality and medication adherence with moderating role of work memory and prospective memory in patients with heart disease. The findings showed that applying schema to patients with heart disease resulted in a significant reduction in type D personality and an increase in medication adherence due to increased work memory and prospective memory, which is consistent with the results of Soltani Shal research And Agha Mohammadian Sharbaf (1394), Biazi et al. (1392), Bekayan et al. (1392), Mazi and Rastegar (2005), Pleasure, Arabism, Ashoori and Shirkhand (1394), Sohrabi (2010), Rahimian and Ghafari 2014), Brownes et al., (2013), Van Denbrooke, Worcester, Edman and Pedersen (2011), and Danolt (2011). Many epidemiological studies (Hapsley, 2008) have found that cardiovascular disease is multifactorial and at the same time preventable (Held, 2012). Among these factors, among the numerous studies in cardiac patients, personality traits (Soltani Shal, 1394), medication adherence (Baljani, Rahimi, Heidari and Azimpour, 1392), and executive functions of the brain (working and prospective memory) (Nancy Et al., 2016). The key structure in psychotherapy is to focus on the basic mediation mechanisms in therapeutic success (Spoutola, 2014). Among these mediators, executive functions (working memory and prospective memory) in terms of medication adherence in cardiac patients with

a D-type personality can be mentioned as a moderator between medication adherence and D-type personality. The results of the research show that there is a negative relationship between memory impairment and treatment following treatment, so it seems that the optimum memory performance and low memory impairment of patients lead to a favorable recall of the recommendations of the physician. Following patients' treatment, both doctors and patients themselves are responsible for memory errors (Zahedinejad, Poursarifi and Babapour, 2012). Other studies have also shown that, to a large extent, people with better memory and memory impairment show a high adherence rate (Bandak, 2009). Working memory is where verbal, visual, and new information is integrated shortly before entering into long-term or futuristic memory (Forbes, Kirk, Macintosh and Laura, 2009).

Information comes from two sources into working memory: sensory memory and futuristic memory (Gryv and Jannaskaran, 2008). This memory does not occur suddenly and directly by an external stimulus, but refers to recalling or commemorating a previous act (Vinhagad, 1988). Cognitive impairment that occurs in cardiac patients (especially reduced work and futures memory) affects patients' ability to follow complex drug regimens and limit their sodium use and care decisions. Discontinuation of drug administration and regimen has often been seen in heart patients. This disability, due to treatment, decision-making and the formation of cardiac patient care due to cognitive impairment, may lead to death (Pearler, Kim, Rayleigh, Roniz, and Gradus-Pislow, 2010). When reminding an event, the information stored in the prospective memory is back to the working memory so that the information entered into the working memory is interpreted using the previous information (Gryv and Jannaskaran, 2008). Person with a defective working memory they are only able to perform that part of the daily functions that do not cover the broad cognitive needs as a result of the ability to perform two or more tasks (Zarmaz, Intelligence and Face Detector, 2011). Therefore, it can be concluded that working and future work memory is a factor in following the treatment of cardiac patients. In the same way, Tusi and Tobaga (1395), during their research, studied the memory function in cardiac patients and concluded that there is a significant relationship between memory performance and stress in a patient with heart disease. This research is in line with these findings. On the other hand, many studies suggest that individual differences in the cognitive imaging of information such as working memory and prospective memory are related to emotional variables of Personality (Gary and Brayver, 2002).

This relationship between executive actions and excitements has been proven in numerous studies. For example, Schmeichel, Volkhov and Dimari (2008) have shown in the research that those with a higher capacity in memory have the potential to suppress emotional states of the face and adopt a non-sexual response when exposed to emotional stimuli. Excitement as a component of personality plays an essential and effective role in the development of psychiatric diseases, especially coronary heart disease, especially the type D personality (Denollet, 2011). Research has shown that negative emotion and anger, anger and hostility, which are part of the D Personality, can exacerbate and aggravate coronary artery disease (Todaro et al., 2003). It seems that having personality traits in cardiac patients initially has an effect on executive functions, which reduces the executive function (NLBand et al., 2012), and since executive actions are related

to medication adherence (Zahedinejad, Powertrain and BabaPour, 2012), with decreasing executive actions (work and further work memory), we are seeing a decrease in medication adherence in a patient with cardiac disease (Hekmatpour, Mohammadi, Ahmadi and Arefi, 2009). On the other hand, maladaptive schemas and evaluations or their related negative cognition can predispose a person to react to a harmful event with negative emotions.

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