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Providing a framework for investigating the effect of cognitive behavioral therapy on resilience and stress of hospital staff

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Abstract

Hospital staff in coronary heart disease is exposed to stress and all of these consequences will affect their mental health in the long run. Typically, stress-induced insomnia is transient and lasts for only a few days, but when an outbreak of a disease such as Covid-19 persists, this insomnia may lead to chronic insomnia. Medical staffs sometimes have to take 12 hours without a break, and this hard work can be a factor for physical and mental fatigue, and the stimulation of insomnia can be observed due to high stress in some of them. However, some strategies have been proposed to help reduce these negative effects on the mental health of medical staff, including Cognitive Behavior Insomnia Therapy (CBTI), which aims to improve sleep patterns. The question that led to this study was what effect do cognitive behavioral therapies have on the resilience and stress of hospital staff? The aim of this study was to investigate the effect of cognitive behavioral therapy on resilience and stress of hospital staff involved with Covid-19.

Keywords: Hospital Staff, Behavioral Therapy, Cognitive, Resilience, Stress.

Introduction:

Working in health care professions that focus on human relationships and health can be very stressful and can affect nurses' emotions. Recognizing the problems of the work environment of the medical staff is important in that it can threaten the physical and mental health of the workforce and disrupt their social function and disrupt the provision of health services [1]. In December 2019, a viral disease was reported in Wuhan, China. The cause of this disease was a new and genetically modified virus from the family of coronaviruses called 2-SARS-CoV, which was named Covid-19 disease [2]. Unfortunately, the virus spread rapidly throughout the world due to its very high transmission power and infected almost all countries of the world in a short time. Considering the global situation of Covid-19 disease, which has affected almost all important economic, political, social and even military aspects of all countries of the world, and in other words has paralyzed the discussion of the psychological effects of this viral disease on health [3]. The psyche of people at different levels of society is very important. Due to the pathogenicity of the virus, the rate of spread as well as the resulting mortality rate, this disease may affect the mental health status of people at different levels of society from patients, health care workers, families, children, students [4]. Expose mentally ill patients and even personnel to different occupations in different ways. Therefore, in the current high-risk situation, it is necessary to identify people prone to psychological disorders at different levels of society whose mental health may be endangered in order to maintain the mental health of these people with appropriate psychological strategies and techniques [5].

Given that healthcare workers are at the forefront of the fight against infectious diseases and Covid-19 disease, they are the first to be exposed to the virus. Covid-19 has been reported. Based on the results of previous studies obtained at the time of the spread of SARS and Ebola, health care workers suffer from some

harmful psychological disorders such as anxiety, fear and labeling stress that can affect the quality of Impact on their activities and services [6]. On the other hand, health care workers should wear heavy protective clothing and a 95-N mask, which restricts movement and makes it difficult to perform medical procedures and procedures compared to normal conditions. All of these factors, as well as the risk of becoming infected and infecting others, increase the risk of psychological disorders among medical staff. The results of a 2005 study by Ko et al., Conducted during the SARS epidemic in Singapore, show that more than half of health care workers reported 56% increase in work stress levels and 53% increase in work stress. Stress is the physical, mental and emotional reactions that are experienced as a result of changes and needs in a person's life [7]. Stress is considered to mean being under psychological pressure. In this state, the human body and mind respond to internal and external demands with pressure. Stress occurs when a person sees their reactions to internal stimuli as disabling and consequently loses their mental balance. Stress is an event that threatens the balance of a living being, and attempts to restore balance cause physiological and behavioral reactions [8]. One of the characteristics that helps nurses cope with the stress of their work environment is resilience. In support of this, some researchers believe that resilience is necessary for success in nursing. Warlo and Edward also argue that nurses in the 21st century need to skillfully develop resilience to deal with professional problems in order to overcome negative experiences and turn those experiences into positive ones [9]. Also, low resilience in nurses increases the negative effects of a stressful environment.

Importance of Issue:

Cognitive behavioral therapy is a psychotherapy system that seeks to reduce self-harming emotional and behavioral responses by altering the flawed thinking and maladaptive beliefs that underlie emotional reactions [10]. To treat

psychological problems, in addition to drug therapies, several psychological therapies have been developed over the years. The first generations of behavioral approaches, as opposed to the original psychoanalytic approach, were based on classical and factor conditioning perspectives in the 1950s and 1960s. The second generation of these therapies, known as "behavioral-cognitive" therapies, emerged in the 1990s with a greater emphasis on cognitive aspects, with an emphasis on the role of beliefs, cognitions, schemas, and The information processing system was in the development of mental disorders and that in psychotherapy, various techniques should be changed or modified or eliminated altogether [11]. Cognitive behavioral therapy is a system of psychotherapy that seeks to reduce self-harming emotional and behavioral reactions by altering the flawed thinking and maladaptive beliefs that underlie emotional reactions. Cognitive-behavioral therapy emphasizes on reducing the frequency and severity of uncompromising responses of therapists and teaching new cognitive and behavioral skills in order to reduce unwanted behaviors and increase more adaptive behaviors [12]. Stress about this virus is common and seems to be mostly due to the unknown and cognitive ambiguity caused by this virus. Fear of the unknown has always been stressful for human beings. Little scientific information about Covid 19 also exacerbates this stress. Everyone in the community is likely to experience this stress; But one group that may experience more stress is the treatment staff involved with coronary heart disease; This is because medical care exposes healthcare workers to a greater vulnerability to the virus if they host people suspected or suspected of having the coronavirus [13]. As mentioned above, due to the prevalence of Covid-19 disease worldwide and the rate of deaths due to this disease, health care workers are more likely than others to be exposed to psychological disorders due to being in the first line of dealing with this disease. Therefore, based on the results of studies, it seems that the care and maintenance of mental health of medical

care workers during dealing with infectious patients as well as Covid-19 disease is of great importance [14]. Stress can weaken the immune system and make a person vulnerable to diseases such as coronary heart disease and increase work pressure and lack of focus in the workplace and personal and professional life. Stress can also increase physical and psychological damage in the medical staff involved in coronary heart disease [15]. Therefore, given the global importance of the coronavirus, and since no specific drug or vaccine has been developed for this disease so far, and the treatments performed for coronary heart disease patients are mostly supportive therapies; It is necessary to study the psychological characteristics of the medical staff and evaluate the effectiveness of various interventions to strengthen the psychological staff of the medical staff to provide better services to the general public and patients. Therefore, using methods such as cognitive behavioral therapy for Therapeutic staff is very important and necessary to deal with the stress caused by this virus in the workplace and increase their quality in the workplace [16].

The concept of occupational therapy:

It is difficult to provide an accurate definition of occupational therapy because it covers a wide range of activities. Perhaps in a very simple and basic way, occupational therapy can be defined as: a field that offers therapeutic approaches at 3 levels "body, mind, mind" in the form of purposeful and meaningful activity. That is, treatment through work and activity [17]. By providing appropriate treatment techniques, while paying attention to the interests of the clients, it treats disorders in the physical and mental areas at different age levels. It relieves the person of dependence and helps him to perform independent daily activities [18]. Therefore, in the treatments provided by the occupational therapist, making the clients independent is one of the ultimate goals of the treatment. For example, a person who has a stroke loses some of his motor and

verbal skills due to the level of damage that occurs in the brain. These disorders cause the person to be limited and dependent on their daily activities as well as on their job and daily family and social relationships [19]. The combination of these factors can cause other problems such as loss of confidence and depression in the person.

Occupational therapy is one of the specialties that comprehensively examines people with special needs and, if necessary, rehabilitates and rehabilitates them in physical, mental, psychological and social aspects, and together with other specialties in the form of a team. Rehabilitation offers its own programs. According to the American Occupational Therapy Association, occupational therapy is the use of targeted activities to maximize independence, prevent disability, and maintain health for people with functional or psychological, social, developmental, learning, or learning disabilities, poverty, and cultural differences. Or have become an aging process [20].

Occupational therapy problems:

Occupational therapy is the use of purposeful activity or interventions designed to achieve functional outcomes that promote health, prevent injury or disability, and provide the highest level of independence for a person with an injury, illness, cognitive problem, or dysfunction [21]. Psychosocial, mental illness, developmental or learning disability or other similar conditions, develops or improves and maintains or recovers, and is one of the universally approved methods for improving children's cognitive skills and enhancing ability [22].

One of the important functions of this method is that it is very effective in promoting the child's daily and educational abilities. An occupational therapist should not only pay attention to all areas of his patient's life, but should also consider therapeutic priorities according to Categorize to his patient priorities [23].

Occupational therapy deals with a wide range of clients and patients and even healthy people. Healthy people need occupational therapy to improve their physical, mental and physical condition in life and social environment and to establish work and professional standards in the work environment. A few days old baby in ICU to the elderly who are in care centers or at home need this course [24].

All people with brain and neurological problems such as stroke, concussion, MS, brain lesions and children with cerebral palsy or developmental and motor retardation need this field and patients with orthopedic problems such as muscle and joint stiffness and those who need We have rehabilitation and fractures and tandem and nerve transplants, and all people who have congenital or acquired abnormalities and malformations benefit from occupational therapy services. The duties of occupational therapy are to pay attention to all the patient's mental and individual needs and to consider the patient's requests and goals after the illness and to establish a strong relationship with the patient to help him return to independent life and full knowledge of the patient's illness [25].

Definition of stress:

"When the requirements of an activity go beyond the individual and social abilities of individuals, there are responses called stress." Interestingly, stress is one of the words that has found its way from English to other languages with minimal changes [26]. In fact, not only is the experience of stress universal, but the term itself is universal.

1. In connection with this definition, it is necessary to mention a few points. As you can see from the example, perceptions of stress can vary from person to person. For example, for a person who has just obtained a driver's license, driving a car for a short distance is also a stressful and stressful experience, but the same thing does not lead to stress for a skilled and experienced driver.

Accordingly, judging the existence of stress in a situation and having an estimate of its amount requires that we be able to look at that situation through the eyes of another [2].

2. The second point is that in this definition, the individual's responses to external stimuli are not placed in any format. In fact, the type of reactions can vary from person to person. Sometimes these reactions are seen but sometimes they are not even visible. Sometimes they are easily identified and a sign of stress, but sometimes the reactions observed are similar to the reactions of a person when he is angry. Sometimes reactions are emotional, but most reactions are physical [5].

3. Another point that can be reached with the help of this definition is one of the important discussions about stress; That life today puts more stress on us than life in the past. The fact is that the more abilities and skills the situation in which we live, the more likely we are to be stressed [6].

For example, these days you have to learn skills that you did not need to know until a few decades ago or even a few years ago. The skill of using different technologies or even the skill of living in an apartment, working in different work environments, will all affect the severity of stress [9].

4. The hopeful point of this definition is that the perception of stress in different situations is directly related to the perception of our abilities; This means that whenever we have the ability to do something and of course trust this ability, the likelihood of having stress while doing it decreases [10].

This is promising because by increasing our abilities we can greatly reduce the stress on ourselves. Of course, you may find that in some situations it is not possible to increase your ability to reduce stress. The only way to manage stress is to increase your capabilities, but there are other ways to manage stress. In psychology, these ways are called stress coping strategies [11].

Nursing job stress:

There are several job stressors in the nursing profession. Each of these factors, in turn, play a significant role in creating stress among nurses. The psychological pressure that is placed on this group also has consequences. Increasing occupational errors is just one of dozens of nurses' work problems. As a result, patients suffer direct damage due to lack of nursing staff. With further studies, the theory of experts in this regard has been mentioned [17].

High working hours: The law stipulates 36 hours per week for hard and harmful jobs, but the approved hours for nurses in the country are now 44 hours per week, while this amount of working hours for the nursing profession, which includes hard and harmful jobs, It counts, it's too much. The results of a study conducted at Iran University of Medical Sciences showed that most nurses working in medical centers suffer from musculoskeletal disorders due to high workload and lack of nursing staff [19].

Job insecurity: Not hiring nurses and concluding 3, 6 and 12 month contracts, especially in nurses working in the private sector can also cause tension and concern in this group [21].

Lack of adequate facilities and equipment: Lack of adequate facilities to care for all patients directly causes inconvenience and work pressure for nurses, because they have to respond to all patients with such facilities [22].

High workload: High patient density and shortage of nursing staff has doubled the workload of nurses. According to the international standard, the number of nurses per hospital bed is two people, which in Iran reaches 0.9 and even in some areas to 0.5, and according to the same international standard, the number of people per thousand population is 8 to 9. The number of nurses in Iran is optimistically one. According to this standard, the country's hospitals need 240,000 specialists, while currently only about 85,000 nurses are working

throughout Iran. In other words, due to the small number of nurses, three-quarters of patient services remain on the ground.

Low wages: While the nursing profession is one of the most difficult jobs, nurses have the lowest salaries and benefits. It has led them to attend several shifts in medical centers, which undoubtedly plays an effective role in reducing their abilities. 80% of the treatment in hospitals is done by nurses, but the doctor's share of a surgery in the hospital is 85%, the hospital's share is 10% and the nurse's share of a surgery is less than 5% [23].

Ignorance of the real status of nurses in society: The important position of this job and its social status is not properly understood. Many patients look at the nurse through the eyes of a servant, which will weaken their morale and reduce their sense of compassion, while the nurse has learned many medical sciences and in the absence of a doctor takes care of patients' health [24].

Forced overtime: Forced overtime prevents nurses from getting enough rest and taking care of other aspects of their lives. For example, if a nurse is required to shift 27 shifts per month, they are sometimes forced to shift up to 40 hours. Forced overtime and constant activity during the holidays have caused most of the country's nurses to be tired and drowsy and to grow old, worn out and sick very soon [25].

Difficulty of nurses' work: As mentioned in the introduction, according to the global classifications, post-mining nursing job has been introduced as the most difficult profession. This difficulty can be felt both mentally and physically.

Sudden changes in patients' status: This is especially noticeable in the intensive care unit because in the intensive care unit the stress and anxiety is so great that if all patients are in the desired condition, the nurse must concentrate on Monitor each patient at all times. They must be very vigilant, because the lives of these patients depend on a moment, and neglecting to reject these parts does not make sense at all and causes irreparable regret [26].

Shift and night work: Night work causes early retirement due to premature disability. In addition, the quality of life of these people is much lower than the life of ordinary people or employees in the morning and evening shifts. Also, issues such as breast cancer, stomach ulcers, sleep disorders and the occurrence of pregnancy problems are among the problems of women who work night shifts [27].

Inadequate and non-standard physical activity: Working in hospitals and treatment centers that are not suitable in terms of physical standards and basic facilities such as light, heating and cooling, etc. are not well provided, in addition to causing discomfort and protest to patients. (As nurses are sometimes forced to provide explanations) also creates physical problems for nurses and makes it difficult for them to refuse to perform their duties [28].

Conflict with physicians, especially inexperienced physicians: These physicians do not trust nurses and are always inattentive to nurses 'explanations of patients' condition [11]. Absence of on-call physicians in medical centers is one of the problems of nurses who treat patients in their offices during the waiting days instead of being in the hospital. Examination of the patient is difficult. Managers of some hospitals and charities have not hired full-time doctors to save money, so they are nurses to follow doctors' orders over the phone [19].

Conflict between colleagues: Nursing profession is one of the professions that requires a lot of cooperation and empathy among colleagues because the existence of conflict and incompatibility among nurses causes them to not feel supported and faced with serious problems in performing activities related to the profession. And it gives them a sense of failure [7].

Frequent contact with patients' pain and suffering: Frequent exposure to patients and the pain caused by the disease has adverse effects on the minds and morale of nurses [30].

Different work environments: Occupational environments such as operating rooms, burn wards, psychiatry, etc. can have significant effects on the mental health status of employees. The amount of stress in nurses working in the emergency department is very high. Or, for example, the stress of nurses working in the intensive care unit is moderate and nurses working in the general wards suffer more stress than the psychiatric ward [31].

Uncertainty about treatment: The point that many officials do not pay attention to is that Iranian nurses, like other countries in the world, should participate in specialized training classes to get acquainted with the latest medical education and new diseases to know in times of crisis. Do not face problems and can act like a doctor [32].

The concept of resilience:

Resilience is the capacity to withstand stress and disaster. Psychologists have always tried to increase this human ability to adapt and overcome the dangers of adversity. Individuals and communities can rebuild their lives even after devastating calamities. Being resilient does not mean that you can live a life without stress and pain. People experience feelings of sadness, grief, and a wide range of other emotions after experiencing problems and losses [6]. The path to flexibility is through work and attention to the effects of stress and painful events. Improving resilience leads to the growth of individuals in acquiring better self-management thinking and skills and more knowledge [12]. Resilience can also be learned through the supportive relationships of parents, peers, and others, as well as through cultural and traditional beliefs about individuals coping with the inevitable blows of life. Resilience can be learned in a variety of behaviors, thoughts, and actions [17].

When the catastrophe is over and basic human needs are met, resilience is likely to emerge. The most important practical result of resilience research is that we

can enhance people's ability so that they can achieve a sense of identity and efficiency, the ability to decide, set goals and believe in the future, and thus meet the needs Put human beings first for kindness, relationships with others, challenges, power and meaning in stressful situations as the focus of any preventive, educational and personal development interventions [21].

In other words, resilience can be considered as a psychological concept that wants to explain how people cope with unexpected situations. With these attributes, resilience not only increases endurance and adaptability [33]. The future of the person in dealing with the problem, but more importantly It enables people to maintain mental health and even resilience to face difficulties and adversity. They face life and work adversity without being harmed and even use these opportunities to flourish and develop their personality [34].

Research hypotheses

1. Hypothesis 1: Cognitive behavioral therapy intervention has a positive effect on the psychological resilience of medical staff involved in coronary panademia.
2. Hypothesis 2: Cognitive behavioral therapy intervention has a positive effect on the perceived stress of the medical staff involved with the coronary panademia.

The method, target population and sample

The statistical population of the study includes all treatment staff available. The sample size formulas and procedures used for categorical data are very similar, but some variations do exist. Since the data are qualitatively and the number of statistical community is unlimited, so the sample size calculation formula is as follows:

$$n = \frac{Z_{\alpha/2}^2 p_0 (1-p_0)}{\epsilon^2} \quad (1)$$

In this study, researcher has set the alpha level a priori at .05, plans to use a proportional variable, has set the level of acceptable error at 5%, and has estimated the standard deviation of the scale as .5. Cochran's sample size formula for categorical data and an example of its use is presented here along with explanations as to how these decisions were made.

$$n = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2} = 384.16 \quad (2)$$

Where $Z_{\alpha/2}$ = value for selected alpha level of .025 in each tail = 1.96.

(The alpha level of .05 indicates the level of risk the researcher is willing to take that true margin of error may exceed the acceptable margin of error).

Where $p(q)$ = estimate of variance = .25.

(Maximum possible proportion (.5) * 1 - Maximum possible proportion (.5) produces maximum possible sample size).

Where ϵ = acceptable margin of error for proportion being estimated = .1

(Error researcher is willing to except).

According to the formula at least 97 samples are needed. Therefore, 100 questionnaires were sent between experts and were collected.

Analysis of information

The statistical sample in this research includes 385 experts based on questionnaires with complete and usable answers. 25% of these experts have a master's degree, 16% have Ph.D. degrees and 59% have a bachelor's degree and less. 43% of these experts are male and 57% are female.

In this research, according to the conceptual model of research, there are 4 hypotheses that a researcher-made questionnaire consisted of 46 questions. There are 8 questions related to the first hypothesis, 7 questions to the second hypothesis, 7 questions to the third hypothesis, 8 to the fourth hypothesis, 8 to

the fifth hypothesis and 8 to the sixth hypothesis. SPSS software and LISREL were used for statistical analysis and one-sample t-test was used to analyze the statistical hypotheses. We used SPSS 22 to analyze the data. In following the results of test hypotheses are offered:

Testing Hypothesis H1. Cognitive behavioral therapy intervention has a positive effect on the psychological resilience of medical staff involved in coronary panademia.

The results of SPSS are shown below:

Table. 1. One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
H1	360	6.7483	1.9873	.21974

Table. 2. One-Sample Test

	Test Value = 5					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
H1	16.944	359	.000	1.7431	1.04722	1.7885

Testing Hypothesis H2. Cognitive behavioral therapy intervention has a positive effect on the perceived stress of the medical staff involved with the coronary panademia.

The results of SPSS are shown below:

Table. 3. One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
H2	360	6.6438	1.0693	.19893

Table. 4. One-Sample Test

	Test Value = 5					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
H2	16.7832	359	.000	1.75604	1.8732	2.0921

The Covid 19 epidemic crisis has caused psychological consequences in nurses such as depression, decreased concentration and mental confusion, lack of self-confidence, negative attitude towards the organization, interpersonal conflict, despair, stress, low mood, etc. in nurses. The conditions created by the Covid 19 epidemic in Iran and around the world have caused health care workers who are directly involved in the diagnosis, treatment and care of patients with Covid 19 to be exposed to many risks, especially in terms of mental distress and other health symptoms. Be fluent. The growing number of confirmed and suspected cases, the high pressure of work, the reduction of personal protective equipment, the widespread media coverage, the lack of specific medications and the feeling of insufficient support for them may all contribute to the psychological stress of these people. To identify these psychological consequences of Covid 19 disease in nurses, 14 nursing professors and medical professionals were interviewed. By examining the interviews, the cases and components mentioned in them were identified as psychological consequences of this disease in nurses. Also, in the second phase of this study, the opinions of 35 managers of hospitals providing services to patients with Covid 19 virus, including senior managers, administrative and human resource managers, and nursing managers were examined through a questionnaire. In the interviews, 16 cases of psychological consequences of Covid 19 disease in nurses were discussed. These include; Decreasing creativity, lack of self-confidence, negative attitude towards the organization,

interpersonal conflict, frustration, stress, low mood, apathy, decreased concentration, burnout, decreased internal satisfaction, reduced job conflict, emotional fatigue, depression, mental confusion and perceived work pressure. . According to studies; Depression, decreased concentration and mental confusion are the most important psychological consequences of Covid 19 among nurses and also negative attitude towards organization and de-creativity are the least important consequences of this disease. "The critical situation following the rapid spread of Covid 19 disease has caused nurses to feel high workload, so that the timing of their work activities has undergone many changes. Due to direct exposure to this disease and the risks of transmitting the disease, nurses must be constantly present in the workplace and in addition; Nurses are denied access to their spouses, children and other family members. So it is no surprise that their mental health is at stake. Medical staff, in addition to their duty behaviors in the workplace with unusual and difficult conditions, must also display some citizenship behaviors. These behaviors can include calming and instilling hope in patients. "This in itself puts more stress on the medical staff."

Conclusion:

The rapid outbreak of COVID-19 in the early 2020s of the world has put severe physical and psychological pressure on the medical staff of hospitals involved in the care of patients with COVID-19, to the extent that the risk of post-traumatic stress disorder (PTSD) is This group grew. Nine months after the outbreak of the coronavirus in the country and the situation we are in now, the medical staff of the hospitals, which includes the nursing staff, has become very tired and weak. In fact, in addition to providing medical care and patient care, these forces must also take care of themselves. On the other hand, living problems and living expenses and non-timely payment of claims and..., go hand in hand so that health advocates suffer from physical and mental exhaustion. Meanwhile, the

situation of nurses is much more difficult than the medical staff. This is because nursing staff, while spending more time with patients, have fewer benefits, which makes them less motivated. In addition to the shortage of nursing staff, there are other problems in the service of nurses that, if resolved, can be hoped to increase the motivation of nurses and, as a result, the quality of care. Stress is one of the most important life phenomena in this century, which has become one of the main topics in managing organizational behavior due to its effect on mental and physical health. Basically, the job of nursing and patient care is stressful in itself, so threatening organizational goals and reducing the quality and performance of nurses in the hospital are the effects of stress in medical settings, especially hospitals. There are different ways to deal with stress, including cognitive-behavioral therapy. The aim of this study was to investigate the effect of cognitive behavioral therapy on resilience and stress of medical staff involved in coronary artery disease.

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