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To assess the effect of planed meeting on the physiologic indicators of the patients who suffer from Acute Coronary Syndrome

Ramazan Rahmani[1], Roza Ahmadian Yazdi[*2], Elaheh Motahedian[3], Abolfazl Rahimi[3]
1.Behavioral Science Research Center & Faculty of Nursing, Baqiyatallah University of Medical Sciences, Tehran, Iran.
**2.Faculty of Nursing & Behavioral Science Research Center, Baqiyatallah University of Medical Sciences, Tehran, Iran.*
3.Faculty of Nursing, Baqiyatallah University of Medical Sciences, Tehran, Iran.

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ABSTRACT

Aims: hospitalization in Cardiac Care Unit (CCU) is always along with stress for the patients. As stress in healthy people can cause increase in heartbeat, cardiac output and blood pressure also in heart patients it can effect on physiologic factors and increasedeath rate in these patients. According to the effect of emotional ties and increase of relationship with the relatives on decrease of these patients' stress, this study had been done with the aim of determining the effect of planned meetings on physiologic indicators of the patients with Acute Coronary Syndrome (ACS).

Methods: This is a semi-experimental study that had been done on 72 ACS patients in CCU. Samples had been chosen with base on target method sampling and had been studied randomly in two intervention and control groups in two CCUs separately. Meeting plan, in intervention group was in the form ofscheduled and included three times meeting in the second and third day of hospitalization with the presence of one to three relatives that the patient had requested and in control group it was in the form of one time meeting per day and with the presence of some open meetings. Patients' Blood pressure, heartbeat, breathing and heart dysrhythmias were recorded every two hours in day and night and also before, after and during meeting.

Results: the results show significant decrease in physiologic indicators in the third day of hospitalization in compare with the first day in intervention group in contrast with control group, also the above variables in intervention group during meeting and after meeting were significantly less than control group($p<0.05$).

Conclusion: Results of this study indicate that supportive effect of planed meeting on the patients is more than limited meeting and because of this it causes decrease of physiologic indicators and consequently it helps treatment. quality improvement of the patients with ACS in CCU.

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* Correspondence Author: Ramazn Rahmani.
Faculty of Nursing, Baqiyatallah University of Medical Sciences, Tehran, Iran. Tel:+98-2126127237
Email: rahmani@bmsu.ac.ir

1. Introduction

ACS in an emergency situation that is cleared by acute and Ischemia of Myocardial and in the

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case of lack of doing rapid interventions it can lead to death of Myocardial. This syndrome includes a spectrum of disorders including; unstable angina and Myocardial infarction [1]. This disorder which threatens life is of the most important reason of need to do emergency actions and hospitalization in hospital in America. Nowadays 82.6 millions of Americans suffer from heart diseases, more than 8 millions of Americans suffer from MI (Myocardial Infarction) and more than 800 thousand of deaths due to heart disease have been reported in this country. This disease is still the first cause of death in America and allocates almost 34% of death to itself. According to the report of cardiac society of America 40/5% of American population suffer from heart diseases and annually about 165 billion dollars is spent for treating heart diseases in America directly or indirectly.

According to the provided statistics by Ministry of health in Iran 15 million suffer from cardiovascular-heart diseases and annually 14 people higher than 40 years old lose their lives due to suffering from these diseases [3]. Ghafari (2011) according to the chief ofCardiovascularDiseases of Ministry of health writes: cardiovascular disease is the first cause of death in Iran that 300 people are dead due to this disease daily that this number is about 110 thousand cases annually in Iran [4].

These patients need special cares in the acute phase and depending on the severity of the disease they spent a while in the intensive care unit. Considering this issue that Thisunitconsists ofspecialized medicalandnursing that in this unit treatment and care of the patients who are suffering from myocardial infarction and fatal acute myocardial complications have been doing according to academic rules and regulations and with using equipment, installations, facilities andmedical technology and essential drugs and also the patients are conscious, then environment of CCU can be a cause of severe stress and psychological deleterious [5].

As stress in healthy people can cause increase in the number of heartbeat, cardiac output and blood pressure of the person, in heart patients it can also affect physiologic factors and increase death in the people who are suffering from MI [6]. Qualitative research which has been done in this regard shows that considering contents such as establishing effective and human communication and improvement of listening to the patient can have high effect on decreasing these stresses [7]. One of the ways of establishing communication in CCU is making and increasing possibility of patient's meeting with relatives and his/her loved ones. Nowadays three methods of meeting are used in different societies:

1. Limited meeting
2. Open meeting
3. Planned meeting (supple)

-Limited meeting is said to a fixed number of people with a certain amount of timethat is usually determined by hospital policies.

-In open meeting families are permitted to have meeting at any time that the patient or his/her family like to.

- Supple or planed meeting is a term between a completely open meeting and a completely limited meeting [8].

Nowadays in most of the hospitals and almost in all the hospitals of our country there is still limited meeting in intensive unit traditionally and some believe that open presence of the relatives on the patient's bed causes disclaimer of calm and relax of the patient. While many other studies which have been done in this issue indicate relaxing effect of meeting on the patients and patients show tendency to increase number of the times of meeting such as the study of Gonzalez et.al (2004) on the patients of intensive care units, these patients preferred 35- 55 meeting for 3 to 4 times a day and usually with the number of more than 3 people [9].

In a study which has been done by Haghbin et al. in 2009 in 71 intensive care units in Fars, meeting was prohibited in 39.4% of the units, in 15.5% it was 1.5 to 2 hours a day and in 23.9%

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of the units there was one hour meeting a day that in some cases this meeting was behind the window. While in this study he explains quoted from Gianini that there is policy of open meeting in France in 23% of intensive units, in England in 50% of the units and in Sweden it is in 70% of the units [10].

Kamrani is quoted as saying Chapman that the studies from 1970 to 1980 decades indicated that the volunteers cause increase of blood pressure and increase of the level of heartbeats but the recent studies showed that there is no important difference in cardio-vascular and neurological state of the patients during meeting the family [11]. In one study in this issue which had been done by Simpson Shaver there was no significant difference in the level of blood pressure and heartbeat and premature ventricularcontractions between two groups of the study (open and limited meeting) [12]. Giulian (1992) studied number of heartbeat and patient's heart rhythm in answering to the meetings with the relatives in compare with the patient'smeeting with the doctor and nurse in 50 hospitalized patients in intensive care unit. There was no significant difference from the approach of heart answers between two groups. These results showed that meeting the relatives for the patient is not more stressful than meeting the nurse and doctor [13].

Lazure (1995) believes that enhancing communication and meeting do not only have negative effect but also they cause more calm and increase of patient's satisfaction and helps reducing his/her pain and balance of hemodynamic parameters. Also some studies showed that reaction to the entrance of the volunteer causes moderate increase of systolic and diastolic pressure of the patients [14]. Fumagali et al. (2006) in a 2 years follow up study on 226 patients resulted that increase in the number of the times of meeting in addition to decrease of cardiovascular complications causes decrease of anxiety level and thyroid hormones [15]. Considering this point that human is a social being and through communications share feelings, attitudes and emotions and through this way provides his/her physical and psychological needs and with considering the importance of family ties in Iranian culture, one of the helping methods to the patients for supporting this adjustment mechanism is to increase emotional ties between patient and family in order to control patient's stress and finally to decrease anxiety due to that and to increase the possibility of the patient's meeting with the family members. From the other side meeting policy without considering conditions of the patient and unit openly and without plan can be along with some problems such as; commuting of the family members according to some traffic problems and distance specially in big cities like Tehran, a crowd and increase of commuting in the unit and consequently causing inconvenient to the patients and personnel, loss of privacy for the patients and increase of staff workload. According to supporting and opposing views about the effect of increase of the number of the times of meeting on patients' physiologic indicators state and necessity to more assessment about meeting policy and also with considering the problems that open meetingcontains them, we decided that instead of using the method of meeting to assess a legal policy which is more planned and adopted with the present conditions and finally this research had been done with the aim of determining the effect of planned meeting on the physiologic indicators of the patients who are suffering from ACS and they are hospitalized in CCU.

2. Methods

This is a semi-experimental study which had been done on 72 patients with ACS who were hospitalized and they were in the age range of 35-65 years old and with confidence of their lack of mental disease under treatment and also lack of suffering from thyroid diseases and lack of previous experience of hospitalization in intensive unit and it was done in two CCUs in Baqiyatallah hospital. Samples of this study were chosen through purposive sampling and in

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order to prevent the effect of intervention on control group, they were studied randomly in two CCUs separately in two test and control group. Number of the samples was counted according to the results of the study of Bagherian et.al (2011) with 80% and standard deviation of anxiety and depression (3.17 and 3.09) [16] and with using Altman Nomogram 36 people in every group were counted. Considered intervention in this research was done according to the aim of the researcher and it was included 3 shifts of meeting in test group in the hours of 11-11:45 in the morning and 14 to 16 and 19 to 19:45 by one to three of the people that the patient requested under the title of planned meeting. In the control group meeting program was in the form of hospital routine plan, it means one time a day at 14 to 16 with high number of volunteers. Heart physiologic indicators including: systolic, diastolic blood pressure, number of heartbeat, respiration rate and hear dysrhythmia including: ventricular,auricular,ventricular tachycardia premature beats, ventricular and auricular fibrillation were recorded every two hours during the first, the second and the third 24 hours of hospitalization and also 15 minutes before meeting, 15 minutes after meeting and 15 minutes after the end of the meeting by cardiac monitoring device and they were gathered by the researcher and were entered in the provided checklist. Blood pressures of all the patients were assessed in the form of noninvasive and while they were sitting. Sphygmomanometercuff was closed to the left arm of all the patients. Validityandreliability of thesystemcitingfactory and using authentic brandand calibration of the device were confirmed. Among the problems that the researcher encountered them in this research include; areas of mental-emotional, cultural and religious , social and economic situationof the subjects of the study, difference in the power of adaptation of the people and their experience of their previous hospitalization, resistance of some nurses who are working in these units against performing program of planed meetingand setting conditions for performing the program, there were some problems about commuting of the volunteers and it was tried to solve them to the possible extent. It was tried to set up meeting hours at the times that in addition to lower workload of the staff, to make better time and traffic conditions for the presence of the family members. After taking written consent from the patients who participated in both groups, intervention was done and the data were collected. Questionnaire related to demographic data was completed according to the records of the patients and asking necessary things from the patient. Finally collected data was analyzed by using $SPSS_{18}$ software and t-test and paired t-test.

3. Results

Findings show that the average age of the samples of the study was 57.2±8.2 years old that 42 people (58.3%) were male and 30 people (41.7%) were female. 61 people (84.7%) married and 11 people (15.3%) lost their spouses. About demographic features before intervention there was no significant statistical difference in two groups.

Findings of table 1 show that:

- The average of systolic blood pressure of the patients in test group in the third day of hospitalization in compare with the first day of hospitalization decreased significantly (p=0.004) while the average of systolic blood pressure in control group in the third day of hospitalization in compare with the first day of hospitalization had been increased, but this difference was not significantly statistic (p=0.487).
- Also the average of diastolic blood pressure in test group in the third day was significantly less than the first day of hospitalization (p=0.041)while diastolic blood pressure in control group in the third day of hospitalization in compare with the first day had been increased that this increase was not statistically significant (p=0.220).

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Table 1: Comparing physiologic indicators of test and control groups during the first and the third 24 hours of hospitalization by using paired t-test

group	test				control			
Time of study	The first day Mean (standard deviation)	The third day Mean (standard deviation)	significant	statistic	The first day Mean (standard deviation)	The third day Mean (standard deviation)	significant	statistic
Systolic pressure	(14.2)124.2	(12.3)117.2	0.004	3.114	(13.7)121.4	(12.6)122.7	0.487	-0.703
Diastolic pressure	(9.3)74.9	(8.5)71.2	0.041	2.126	(9.6)73.8	(8.3)75.4	0.220	-1.248
Number of heart beat	(،10.4)71.3	(11.06)69.5	0.372	0.904	(10.1)70.2	(9.6)72.5	0.119	-1.597
Number of respiration	(1.04)16.9	(2.4)17.05	0.862	-0.175	(0.92)17.1	(1.40)18.01	0.001	-3.491
dysrhythmia	(2.23)1.08	(1.53)0.50	0.0009	2.774	(14.32)4.88	(10.53)6.0	0.492	-0.694

- Number of the patients'' heartbeat in test group in the third day of hospitalization in compare with the first day had been decreased, but this decrease was not statistically significant (p=0.372), in control group this variable in the third day in compare with the first day had been increased that this increase was not significant (p=0.119).

-number of respiration in test group had been increased but this increase was not statistically significant (p=0.862), this variable in control group in the third day of hospitalization in compare with the first day of hospitalization had significant decrease (p=0.009) while this variable in control group had been increased (p=0.492).

Table 2 indicates the overall average of physiologic indicators before, during and after meeting in two test and control groups during hospitalization days.

Findings of table 2 and 3 showed that; patients' systolic blood pressure in test group, during meeting had been increased in compare whit the time before meeting but this difference is not significant (p=0.643). In control group this variable at the time during meeting had been significantly increased (p=0.0). This pressure after meeting had been decreased in both groups and there was no significant difference from the approach of systolic blood pressure at the time after meeting in compare with the time before meeting in both groups. Also systolic

Table 2: The average of physiologic indicators in the processes of before, during and after meeting in test and control group

Group	test			control		
Time of study	before Mean (standard deviation)	during Mean(standard deviation)	after Mean (standard deviation)	before Mean (standard deviation)	during Mean (standard deviation)	after Mean (standard deviation)
Systolic pressure	118.3)12.8(	(11.5)118.7	(12.7)116.8	(15.6) 121.4	(17.9)129.1	(15.6)123.5
Diastolic pressure	(10.0)73.6	(8.4)73.7	(7.9)71.8	(10.0)73.3	(11.1)77.8	(9.3)74.5
Number of heartbeat	(8.1)70.5	(8.02)70.1	(8.3)69.5	(10.7)71.9	(10.2)74.7	(11.2)73.2
Number of respiration	(2.6)11.9	(3.4)18.5	(2.2)17.3	(4.5)18.8	(4.4)19.7	(2.4)17.7

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Table 3: Comparing the difference of the average and standard deviation of physiologic indicators in the processes of before, during and after meeting in every one of test and control groups by using paired t-test.

group	Physiologic indicators	Before and during meeting		Before and after meeting		During and after meeting	
		Mean Standard) (deviation	significant	Mean Standard) (deviation	significant	Mean (standard deviation)	significant
test	Systolic pressure	(4.2)-0.33	0.643	6.2) 1.5(	0.152	(4.5)1.8	0.019
	Diastolic pressure	(4.7)-0.08	0.917	(5.6)1.8	0.060	(3.6)1.9	0.003
	Number of heartbeat	(4.3)0.43	0.547	(3.9)1.05	0.118	(4.5)0.6	0.424
	Number of respiration	(1.8)-0.56	0.074	(1.4)0.61	0.018	(1.4)1.1	0.0
control	Systolic pressure	(11.01)- 7.6	0.0	(12.3)-2.1	0.312	(11.8)5.5	0.008
	Diastolic pressure	(4.8)-4.4	0.003	(8.6)-1.12	0.442	(8.8)3.3	0.031
	Number of heartbeat	(6.4)-2.8	0.012	(9.7)-1.3	0.407	(5.9)1.4	0.142
	Number of respiration	(2.9)-0.8	0.076	(4.8)1.08	0.185	(4.4)1.9	0.012

blood pressure hadbeen increased in these patients in both groups during meeting in compare with the time before meeting that this increase was significant in control group (p=0.003) this pressure had been decreased in both groups in a way that there was no significant difference between diastolic pressure before meeting and after meeting .

-Number of heartbeat in test group during meeting in compare with the time before meeting had been decreased that this decrease was not significant, while in control group patient's' heartbeat during meeting had been significantly increased (p=0.012) Also this variable in both groups after meeting had been decreased in compare with the time before meeting in a way that there was no significant difference between diastolic pressure before meeting and after that.

- Number of respiration in both groups during meeting had been increased in compare with before meeting that it had been increased in both groups after meeting.

4. Discussion

The results of the study show that planed meeting which had been done during 45 minutes and three times a day with the presence of three people of the patient's relatives was along with decrease of systolic , diastolic blood pressure, number of heartbeat and patients' dysrhythmia in the third day of hospitalization in compare with the first day of hospitalization were equal,while these indicators in control group that achieved one time of hospital routine meeting had been increased, also systolic, diastolic blood pressure and number of patients' respiration in both groups had been increased 15 minutes after start of the meeting and it had been decreased 15 minutes after the end of meeting and it had been reached to the level of before meeting.

These findings show that systolic and diastolic blood pressure of the patientsincrease 15 minutes after start of the meeting but this increase reaches to the extent of before meeting 15 minutes after the end of meeting. This increase in test group had been observed with less intensity in compare with the control

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group. Regarding this Kamrani (2009) in a study which he had done on 50 patients who were suffering from heart failure and were hospitalized in CCU also achieved this result that systolic and diastolic blood pressure of the patients during meeting had been increased in compare with the time before meeting and until 30 minutes after meeting it reached to the extent of before meeting. Also Ashrafpour (1995) achieved this result that there is significant statistical difference between the average of systolic and diastolic blood pressure of the patients before meeting with the time during meeting and at the end of meeting (p=0.05) so they had been increased during meeting and they had been decreased again 30 minutes after meeting [17].

The average of the number of patients' heartbeat in test group during meeting and after meeting had been decreased in compare with before meeting but in control group the number of heartbeat had been increased during meeting and until 15 minutes after the end of meeting it was still higher than the time before meeting. In a study which had been done by Schult on the patients hospitalized in intensive care unit, the effect of open and planed meeting on the number of heartbeat and patients' heart dysrhythmia had been assessed, the results indicate significant decrease of the number of patients' heartbeat in the group which achieved open meetingat the time after meeting, while number of patients' heartbeat in the group that achieved limited meeting, after meeting was higher than the time before meeting, this result was in consistent with the result of the present study [18]. In a study which had been done by Kamrani number of patients' heartbeat had been increased during meeting, but 30 minutes after the end of meeting, it had been reached to the time before meeting, the reason of this difference in test group with Kamrani's study can indicate soothing effect of planed meeting with the limited number of visitors in compare with limited meeting and hospital routine. Number of respiration had been increased in both groups at the time of meeting and it had been decreased after meeting that this decrease was significant in test group. This finding is in consistent with Kamrani'sstudy [11].

In a study which had been done by Simpson on 24 patients who were hospitalized in CCU, he achieved this result that the level of systolic and diastolic blood pressure at the time of meeting the family is significantly less than the time of meeting the nurse. Also in the present study these variables in test group were less than control group. In this study number of heartbeat at the time of meeting the family was more than the time of meeting the nurse that this difference was not statistically significant, this difference in the result can be because of the difference in the number of the samples [12].

Appearance of dysrhythmia at the time of meeting in test group was significantly less than control group. In Simpson's study there was no significant difference from the approach of the number of PVC at the time of meeting the family and meeting the nurse. Considering that in the study of Simpson, meeting the family had been compared with meeting the nurse, we can consider soothing effect of the family as the reason of the difference of the results in these two studies [12].

In the present study also physiologic indicators during 24 hours of day and night had been studied that the results indicated significant decrease of these indicators in the third day of hospitalization in test group, while these variables had been increased in control group. This issue indicated soothing effect of planed meeting against limited meeting in day and night.

5. Conclusions

According to the findings of this study it can be concluded that the present and current method of meeting in CCU that is in the form of once a day and with several and different volunteers has the danger of increase of the emotions and consequently increase of heart workload. But planed meeting can have soothing effect on the patient by increasing supportive role of the family members, establishing positive

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emotional environment through meeting and can cause heart workload decrease, balancing physiologic indicators and faster improvement of the patient.

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