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RESEARCH

Nursing guidance on bed baths to reduce anxiety

Orientação de enfermagem sobre o banho no leito para redução da ansiedade

Orientación de enfermería acerca del baño en el lecho para reducción de la ansiedad

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ABSTRACT

Objective: to evaluate the effectiveness of a nursing guidance protocol to reduce the anxiety of patients with acute coronary syndrome undergoing bed bath, and the correlation of vital signs with state-anxiety. **Method**: randomized clinical trial study. The sample consisted of 120 patients. The intervention group received a nursing guidance protocol about bed bath and the control group received the unit's routine information. The STAI-State scale was used to assess anxiety, and data were collected at three times: immediately after informing the patients about the bed bath; immediately after interventions; and immediately after the bath. **Results**: the intervention group presented significantly lower state-anxiety compared to the control group ($p < 0.001$) after the intervention. **Conclusion**: the nursing orientation was effective to reduce anxiety in patients with acute coronary syndrome undergoing bed bath.
Key words: Anxiety; Acute Coronary Syndrome; Baths; Nursing Care.

RESUMO

Objetivo: avaliar a efetividade de um protocolo de orientação de enfermagem para redução da ansiedade de pacientes com síndrome coronária aguda, submetidos ao banho no leito e a relação dos sinais vitais com a Ansiedade-Estado. **Método:** ensaio clínico randomizado. A amostra foi constituída por 120 pacientes. O grupo intervenção recebeu um protocolo de orientação de enfermagem sobre o banho no leito e o grupo controle as informações rotineiras da unidade. A ansiedade foi avaliada por meio do Inventário de Ansiedade-Estado em três momentos: imediatamente após informar ao paciente sobre a necessidade do banho no leito, imediatamente após as intervenções e imediatamente após o banho. **Resultados:** o grupo intervenção teve uma redução significativamente maior da ansiedade quando comparado ao grupo controle ($p < 0,001$) após a intervenção. **Conclusão:** a orientação de enfermagem foi efetiva para reduzir a ansiedade dos pacientes com síndrome coronária aguda que se submetem ao banho no leito.
Descritores: Ansiedade; Síndrome Coronariana Aguda; Banhos; Cuidados de Enfermagem.

RESUMEN

Objetivo: evaluar la efectividad de un protocolo de orientación de enfermería para reducción de la ansiedad de pacientes con síndrome coronario aguda, sometidos al baño en el lecho y la relación de las señales vitales con la Ansiedad-Estado. **Metodo:** ensayo clínico randomizado. La muestra estaba constituida por 120 pacientes. El grupo intervención recibió un protocolo de orientación de enfermería sobre el baño en el lecho y el grupo control, la información rutinaria de la unidad. La ansiedad se evaluó por medio del Inventario de Ansiedad-Estado en tres momentos: inmediatamente tras informar al paciente sobre la necesidad del baño en el lecho, inmediatamente tras las intervenciones e inmediatamente tras el baño. **Resultados:** el grupo intervención tuvo una reducción significativamente mayor de la ansiedad cuando comparado al grupo control ($p < 0,001$) tras la intervención. **Conclusión:** la orientación de enfermería fue efectiva para reducir la ansiedad de los pacientes con síndrome coronario agudo que se someten al baño en el lecho.
Palabras clave: Ansiedad; Síndrome Coronario Agudo; Baños; Atención de Enfermería.

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INTRODUCTION

The practice of caring for patients with coronaropathies is a challenge for nursing. This disease has the characteristic of causing unexpected hospital admissions, bringing about many doubts and fears. In this regard, the nurse has an important role in guiding these individuals.

Nursing guidance makes it possible to minimize negative feelings presented by patients in reaction to new experiences, making them feel safer, which increases quality of life[1-3]. Communication generated by the nursing guidance enables the identification of meanings that the patient gives the disease and the hospital stay[4]. Lack of information and the unknown may generate many negative feelings, such as anxiety and depression[5-6]. Some studies show a strong correlation between anxiety and depression[7-8].

Anxiety is defined as a vague and uncomfortable feeling of unrest or fear, accompanied by an autonomic response; it is a feeling of apprehension caused by the anticipation of danger[9]. Anxiety disorders include disturbances that share characteristics of excessive fear, anxiety, and related behavioral disorders[10].

Currently, many instruments measure depression symptoms and the level of anxiety of patients. The most used are the Beck Depression Inventory[11-12] and the State-Trait Anxiety Inventory[13], respectively. The State-Trait Anxiety Inventory is composed of two different scales, the State-Anxiety Inventory and the Trait.

State-anxiety is the anxiety that the patient presents at the time of evaluation. It is seen as a transitory emotional state or condition of the human organism, presenting unpleasant feelings of tension and apprehension consciously perceived and accompanied by an increase in activity in the autonomic nervous system[13]. Trait-anxiety, on the other hand, is used to measure the anxiety that a person feels normally. This scale's scores are less sensitive to changes that result from environmental situations and remain relatively constant over time[13].

The association between anxiety and acute myocardial infarction has shown a negative impact on these patients' prognoses, since it causes many physiological changes[14-15] in addition to the psychic manifestations. Anxiety may activate the sympathetic nervous system, increasing heart rate and contraction, blood pressure, and oxygen consumption, and may eventually lead to an increase in the disease's severity[14-15].

Anxiety is often more intense according to the procedure the patient is undergoing, as well as how the patient assesses such procedure. Bed bath is one of the procedures that may intensify this feeling[16].

Thus, we consider it essential to conduct studies that verify the impact of the specific protocols of nursing guidance regarding different nursing procedures on the anxiety of patients with acute coronary syndrome, because these studies may contribute to good nursing practices.

This study's objective was to assess the effectiveness of a nursing guidance protocol for decreasing state-anxiety in patients with acute coronary syndrome undergoing bed baths and to assess the relationship between vital signs and state-anxiety.

METHOD

Ethical Aspects

The study was preceded by an approval by the Research Ethics Committee of the Federal University of São Paulo (Universidade Federal de São Paulo) [UNIFESP], through the signing of a free and informed consent form, registered at clinical.trials.org (NCT01724762).

Design, period, and study location: This was a randomized controlled trial conducted in the period from March 2011 to October 2012 in the coronary units of the Heart Institute of the Central Teaching Hospital of the Medical School of the University of São Paulo (Instituto do Coração do Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo) [InCor-HCFMUSP], a reference service for education, care, and research in cardiology in Brazil. This institution serves clinical and surgery patients with various heart and lung diseases.

Population and inclusion criteria: The sample was comprised of patients with acute coronary syndrome who were admitted to coronary units.

Inclusion criteria: Age > 18, any gender, with at least four years of education (self-applicable instruments), without lung congestion (Killip I)[17], and with a first-time recommendation for bed bath in the current admission.

Exclusion criteria: Presence of vascular conditions or arteriovenous fistula in the upper left limb, because this limb is the standard for measuring arterial pressure; exposed to situations that may influence anxiety or vital signs such as the presence of arrhythmia, ischemic pain, or performance of invasive procedures on the day of inclusion in the study; use of benzodiazepines or anxiolytics; changes in the level of consciousness; or visual deficit.

Calculation of sample size: Based on a previous study[16], in which the mean score for state-anxiety (41.4 points) was obtained immediately after informing the patient of the need to have baths on the bed. This score refers to moderate anxiety and the patient would have to reach a score below 34 points to obtain a significant decrease in state-anxiety after the intervention. This score refers to light anxiety, with a difference of seven points less in the state-anxiety score between groups. For a significance level of 5% and power of 95%, the minimum sample size to detect a difference of seven points in the state-anxiety score between groups, according to Wilcoxon's rank sum test, was 112 patients. Foreseeing the possibility of losses during data gathering, we increased the sample size by 10% and, therefore, the final sample consisted of 124 patients.

Study Protocol: Patients were divided into two groups (group 1 or intervention group and group 2 or control group) and randomly chosen using the computer system Random®[18]. The program generated a sequence of two numbers, 1 and 2, and patients were assigned according to the random sequence predetermined by this system. Group 1 or the intervention group consisted of the patients who received the guidance protocol. The protocol was built from the main researcher's clinical experience in coronary units and from previously conducted research[16], and included verbal and written guidelines

contained in an informative manual regarding bed bath. The manual was previously constructed and validated, according to the stages described by Echer[19], and contained information about what a bed bath is, the reason for the patient to need this type of bath, the professional who conducts this procedure, how it is done, length of the procedure, and how many times a day the patient needs to have it done[20]. First, the patients read the informative manual and, afterward, the main researchers addressed any questions or doubts about the information contained in the manual. We called attention to the fact that, as the patient read the manual, the researcher stood beside the patient. The guidance protocol had an average length of 10 minutes.

Group 2 or the control group consisted of the patients who received only routine information in the unit. In other words, they were told that the bath would be conducted on the bed while maintaining their privacy.

To conduct the bed bath in both groups, the patients remained lying down and the same professional conducted the procedure. The patients' state-anxiety was the outcome of the study. It was evaluated at three different times:

I) Immediately after informing patients about the need to take baths on the bed, with the goal of evaluating the impact of this information on them
II) Immediately after interventions (nursing guidance or routine information), with the goal of evaluating the impact of this guidance or information; and
III) Immediately after the bed bath, with the goal of evaluating anxiety generated by the procedure

The guidance protocol (intervention group) or routine unit information (control group) were conducted only once between the first and second assessment of state-anxiety.

Anxiety was assessed through the State-Anxiety Inventory–A-State[13]. This inventory assesses anxiety at the time of data gathering, and scores vary from 20 to 80 points, with a higher score corresponding to higher anxiety for the patient[13]. The following categories and score values were used to assess results: low anxiety (20-34 points); moderate anxiety (35-49 points); elevated anxiety (50-64 points); and very elevated anxiety (65-80 points).

Vital signs were assessed before state-anxiety and obtained through a cardiac monitor.

Socio-demographic and clinical variables (age, gender, systemic arterial hypertension, stress, obesity, sedentariness, family history of cardiovascular disease, smoking, alcoholism, use of beta-blockers, previous medical diagnosis and/or depression symptoms, trait-anxiety, and any previous hospital admission) were obtained through interviews with the patients, data from medical records, and validated instruments. These variables were assessed because they might influence the patients' state-anxiety.

Socio-demographic and clinical variables were gathered through an instrument created by the researchers and used in a previous study[16]. Trait-anxiety was assessed through the Trait-Anxiety Inventory, which assesses the patients' anxiety profile and has a score that varies from 20 to 80 points[13]. The same values, scores, and categories from state-anxiety were used to assess the results.

Depression symptoms were assessed through the Beck Depression Inventory[11-12]. This inventory is self-applicable and assesses the frequency and intensity of depression symptoms in the past week. It has 21 categories, with four alternatives that vary from 0 to 3, with 0 corresponding to absence of symptoms and 3 to the presence of intense symptoms. In this study, we used the following categorization for patients with a previous medical diagnosis of depression[11-12]: scores from 0 to 9 (no depression symptoms); scores from 10 to 18 (light depression symptoms); scores from 19 to 29 (moderate depression symptoms); scores from 30 to 63 (heavy depression symptoms). Patients with no previous medical diagnosis of depression, according to the patient's report and/or information obtained through medical records, were categorized as: scores from 0 to 14 (no depression symptoms); scores from 15 to 19 (dysphoria symptoms); scores 20 or over (depression symptoms).

We present the researched patients' flowchart in Figure 1.

Statistical analysis: We used the software Statistical Package for Social Sciences (SPSS), version 19. Data normality was tested using Kolmogorov-Smirnov test. The statistical tests chi-square, likelihood ratio, and Student-t were used to verify whether the socio-demographic and clinical variables between the control and intervention groups were similar,

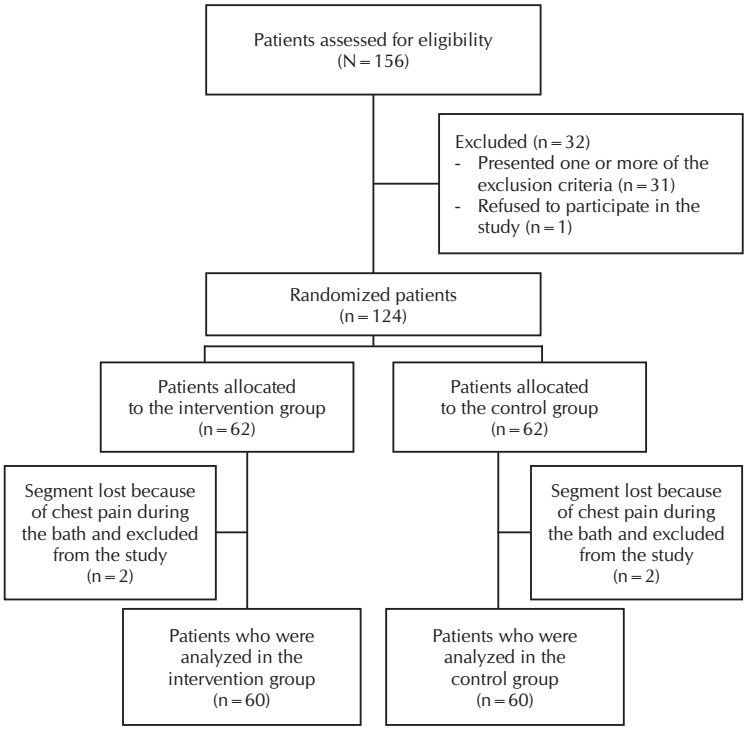

Figure 1 - Flowchart of researched patients, São Paulo, 2011-2012

because these might influence results. To compare levels of state-anxiety in the intervention and control groups, we used the Mann-Whitney Test each time. Correlation between state-anxiety and vital signs at the three times of evaluation was verified through Pearson's correlation coefficient. Values $p < 0.05$ were considered statistically significant.

RESULTS

Of the 120 patients that were assessed, most were male (n = 82; 68.3%), hypertensive (n = 88; 73.3%), and with an average age (SD) of 61(9.5) years. We verified that, regarding trait-anxiety, 70% of assessed patients from both groups presented moderate, elevated, or very elevated anxiety. As for depression, we observed that 22 (18.3%) patients presented with this diagnosis before the study, with 12 belonging to the intervention group and 10 to the control group. Twenty (90.1%) of these patients presented with depression symptoms confirmed by the Beck Depression Inventory. Of the patients who did not present with a previous medical diagnosis of depression (n = 98), more than half presented with no symptoms of the disease when the Beck Depression Inventory was applied.

It may be observed in Table 1 that the intervention and control groups were similar, except for smoking ($p = 0.007$). The prevalence of smoking patients was higher in the intervention group (n = 15; 25%) when compared to the control group (N = 10; 16.7%); however, this result was random, because patients were randomized.

State-anxiety was assessed in 120 patients (60 from the intervention group and 60 from the control group). Table 2 shows that, on the first assessment, both groups were homogenious ($p = 0.773$). In the second and third assessments, the intervention group had significantly lower state-anxiety in comparison to the control group.

We observed that there was no correlation among any vital signs and state-anxiety in either group (Table 3).

Table 1 - Comparison of socio-demographic and clinical variables between control and intervention groups. São Paulo, São Paulo, Brazil, 2011-2012

Variable	Intervention group		Control group		Total		p value
	n	%	n	%	n	%	
Gender (male)	40	66.7	42	70.0	82	68.3	0.695*
Arterial hypertension	42	70.0	46	76.7	88	73.3	0.409*
Stress	31	51.7	38	63.3	69	57.5	0.196*
Depression	12	20.0	10	16.7	22	18.3	0.637*
Obesity	15	25.0	9	15.0	24	20.0	0.171*
Sedentariness	33	55.0	37	61.7	70	58.3	0.459*
Family history of cardiovascular disease	37	61.7	41	68.3	78	65.0	0.444*
Smoking							
No	25	41.7	13	21.7	38	31.7	0.007*
Yes	15	25.0	10	16.7	25	20.8	
Ex-smoker	20	33.3	37	61.7	57	47.5	
Alcohol consumption							
No	39	65.0	39	65.0	78	65.0	0.084†
Social	17	28.3	13	21.7	30	25.0	
Daily	3	5.0	1	1.7	4	3.3	
Ex-alcoholic	1	1.7	7	11.7	8	6.7	
Previous hospital stay	47	78.3	48	80.0	95	79.2	0.822*
Trait-anxiety							
Low	19	31.7	17	28.3	36	30.0	0.284†
Moderate	30	50.0	33	55.0	63	52.5	
High	9	15.0	10	16.7	19	15.8	
Very high	2	3.3	0	-	2	1.7	
Beta blocker use	53	88.3	53	88.3	106	88.3	1.000*
Age (years)	61(10)		62(10)		61(10)		0.455‡

* *Chi-squared test; †Likelihood ratio; ‡Student-t Test*

Table 2 - Comparison between state-anxiety of the control group and state-anxiety of the intervention group at the three times of assessment. São Paulo, São Paulo, Brazil, 2011-2012

State-anxiety	Intervention group		Control group		p value (Mann - Whitney)
	Median	Interquartile range (first and third quartiles)	Median	Interquartile range (first and third quartiles)	
First assessment	41	(33 - 50)	41	(34 - 47)	0.773
Second assessment	32	(26 - 40)	40	(32 - 49)	<0.001
Third assessment	28	(24 - 33)	35	(27 - 41)	0.006

Table 3 - Correlation between State-Anxiety and Vital Signs in the Three Assessments. Pearson Correlation Coefficient. São Paulo, São Paulo, Brazil, 2011-2012

Variable	State-anxiety					
	First time		Second time		Third time	
	Pearson Correlation Coefficient	p value	Pearson Correlation Coefficient	p value	Pearson Correlation Coefficient	p value
Systolic arterial pressure	-0.043	0.644	0.096	0.296	0.037	0.686
Diastolic arterial pressure	-0.068	0.459	0.010	0.912	-0.068	0.462
Respiratory rate	0.085	0.354	-0.081	0.381	-0.113	0.218
Heart rate	-0.124	0.176	-0.042	0.647	-0.040	0.664

DISCUSSION

The hospitalized patient who receives a bed bath, goes from an independent individual to a dependent individual needing care from the nursing team in order to perform this procedure[21], and the fear of the unknown may cause many expectations, feelings, and emotions such as anxiety[5,22].

The individual needs to feel safe in regard to the procedure that will be conducted, because if there are doubts they can cause unpleasant feelings such as anxiety and anguish[5]. In this context, the hypothesis that a nursing guidance protocol is effective to decrease anxiety in patients with acute coronary syndrome undergoing bed bath was proved in this study.

Other research has also proven the importance of guidance for people with coronaropathies when it emphasized that guidance brings about a significant decrease in levels of depression, anxiety, anger, hostility, and an increase in these patients' quality of life[23-24]. Therefore, it is fundamentally important that nurses guide patients who are undergoing bed baths with the goal of attenuating or eradicating anxiety, because this feeling may reflect on not only the psychic aspect, but also on the individual's physiological aspect.

Nursing guidance may be transmitted individually or through informative manuals. Informative manuals have the goal of helping patients and families during treatment and self-care and standardizing the guidance that will be followed by the health care team so that patients may understand the health-disease process and help in decision making[24-26].

Regarding the correlation between state-anxiety and physiological variables, we observed that no vital signs correlated to patients' state-anxiety. This result was also found in other studies[16,27]. Although health care professionals believe that increases in anxiety can be detected through changes in heart rate and arterial pressure[14-15,28], there is no consensus in the literature regarding the correlation between vital signs and anxiety. This lack of consensus can be related to the heterogeneity of methods employed in the studies, for assessing both state-anxiety and physiological variables. However, even if such a correlation were to exist, anxiety generated during the bed bath in this study was not sufficient to change such parameters. However, it is important to note that more than 80% of the patients in both groups used beta-blockers, which may have influenced the results in this study.

With this, nurses performing bed baths should not only consider the execution of the procedure's technique, but also show involvement and availability to care for the patient under his or her responsibility. Therefore, we believe that psychic changes resulting from nursing procedures such as bed baths should be a focus of attention for these professionals, because it aims for the well-being of the individual as a whole organism. The nurse must guarantee that information is clear, objective, and precise so that these changes may be minimized.

Limitations of the study

We may point to a limitation of the study the lack of blinding during interventions; however, we also point out that the assessment instruments were self-applicable, with no influence from the researcher. Another aspect is that most patients from both groups used beta-blockers, which may have contributed to the fact that we found no correlation between state-anxiety and vital signs.

Practice implications

This guidance protocol may be duplicated in intensive care units and may be used as a tool to improve the quality of care dedicated to patients undergoing bed bath.

CONCLUSION

The nursing guidance protocol was effective in reducing anxiety in patients with acute coronary syndrome undergoing bed baths.

The adoption of strategies with the goal of reducing anxiety during different nursing procedures contributes to practice based on evidence and to the patient's safety.

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