ORIGINAL ARTICLE

Strategy in the care of cardiac surgical patients: evaluation of the Sense of Coherence

ESTRATÉGIA NO CUIDADO AO PACIENTE CARDÍACO CIRÚRGICO: AVALIAÇÃO DO SENSO DE COERÊNCIA

ESTRATEGIA EN EL CUIDADO AL PACIENTE CARDÍACO QUIRÚRGICO: EVALUACIÓN DEL SENTIDO DE LA COHERENCIA

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ABSTRACT

Sense of coherence is the construct proposed by Antonovsky to assess individuals' capacity of dealing with stress. This study aimed to measure the sense of coherence and evaluate its association to sociodemographic variables and the use of psychotropic drugs among 127 patients in the preoperative period of cardiac surgeries. The mean value of sense of coherence was 149.6 (S.D.= 24.6), ranging from 98 to 191 (possible range was 21 to 203), with higher values indicating higher sense of coherence. Higher values were observed among male patients, older than 60 years, married and who did not use psychotropic drugs. Statistically significant differences occurred only for gender and use of psychotropic drugs. Results suggest that female and young patients need more attention from nurses in the planning of their perioperative care.

KEY WORDS

Perioperative nursing.
Thoracic surgery.
Nursing assessment.

RESUMO

Senso de coerência é o construto proposto por Antonovsky para avaliar a capacidade do indivíduo de lidar com o estresse. O presente estudo objetiva medir o senso de coerência e avaliar sua relação com variáveis sócio-demográficas e o uso de psicofármacos, em uma amostra de 127 indivíduos internados para realização de cirurgias cardíacas. O senso de coerência desses indivíduos obteve um valor médio de 149,6 (D.P.=24,6), variando de 98 a 191 (intervalo possível de 21 a 203), com valores maiores indicando maior senso de coerência. Participantes do sexo masculino, maiores de 60 anos, casados, e que não faziam uso de psicofármacos no pré-operatório de cirurgias cardíacas indicaram maior senso de coerência, apresentando diferenças estatisticamente significativas para as variáveis sexo e uso de psicofármacos. Os resultados sugerem que pacientes do sexo feminino e mais jovens precisam de maior atenção dos profissionais da enfermagem no planejamento do cuidado perioperatório.

DESCRITORES

Enfermagem perioperatória.
Cirurgia torácica.
Avaliação em enfermagem.

RESUMEN

El sentido de la coherencia es el constructo propuesto por Antonovsky para evaluar la capacidad del individuo para enfrentarse al estrés. El presente estudio objetiva medir el sentido de la coherencia y evaluar su relación con variables sociodemográficas y uso de psicofármacos en una muestra de 127 individuos internados para la realización de cirugías cardíacas. El sentido de la coherencia de tales individuos obtuvo un valor medio de 149,6 (D.P. = 24,6), variando de 98 a 191 (intervalo posible de 21 a 203), con mayores valores indicando mayor sentido de la coherencia. Los participantes de sexo masculino, mayores de 60 años, casados y que no hacían uso de psicofármacos no preoperatorios en cirugías cardíacas demostraron mayor sentido de la coherencia, presentando diferencias estadísticamente significativas para las variables sexo y uso de psicofármacos. Los resultados sugieren que los pacientes de sexo femenino y más jóvenes necesitan de mayor atención de los profesionales de enfermería en el planeamiento del cuidado perioperatorio.

DESCRIPTORES

Enfermería perioperatoria.
Cirugía torácica.
Evaluación en enfermería.

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INTRODUCTION

Health professionals who deliver care to patients in the perioperative period of cardiac surgeries, among other types, are confronted with different reports on how the experience of this period can be stressful and cause anxiety for patients as well as their relatives, as they are exposed to a wide range of feelings and emotions.

Anxiety is one of the symptoms patients awaiting surgical procedures most frequently mention, mainly in case of cardiac surgery. It has been associated with blood pressure changes[1], thoracic pain complaints in the preoperative period and pain complaints in the postoperative period[2]. The relation between depression and hemodynamic changes has also been observed, with alterations in blood pressure and cardiac frequency among patients in the preoperative phase of coronary artery bypass graft surgery[1]. Postoperative recovery can also be affected, like in the case of depressive patients with some of the following problems: increased and continuing pain[3], higher morbidity rates, higher re-hospitalization rates, difficulties to return to daily activities[3], more cases of cardiac events like angina, acute myocardial infarction, repeated surgeries or cardiac arrest within twelve months after the surgery[4].

People's ability to deal with the stress experienced during perioperative hospitalization is an important aspect for research by health professionals, paying attention to some consequences that can affect them during this period, particularly adjustment disorders related to post-traumatic stress, depression and cognitive deficits, especially upon discharge from hospital[5].

One of the constructs that has been studied in research on stress coping abilities is the sense of coherence[6], referring to a global orientation, a way of looking at the world, of dealing with the stressors present in daily life.

The sense of coherence is the key concept Aaron Antonovsky's Salutogenic Theory, which is considered as a new approach in the health area to assess people with chronic health conditions or belonging to specific groups, such as elderly, adolescents, pregnant women and children[6]. It intends to investigate how and why some people feel good, even after having gone through intense stress situations, broadening discussions on the relation between stress and coping strategies. The sense of coherence can exert the following effects on people's health: 1 – a direct influence on different organic systems, as the sense of coherence supposedly affects people's reasoning, determining whether the situation they are exposed to is dangerous, safe or pleasant. Consequently, the organism will have different ranges and types of reactions towards the perceived stimuli; 2 – people with a high sense of coherence supposedly mobilize existing resources, leading to decreased stress and, thus, indirectly affecting physiological systems, such as cardiovascular and immunological reactions for example; 3 – people with a high sense of coherence are more prone to make healthy choice regarding their lifestyle, including: diet, physical exercise, preventive tests, among others[6].

The sense of coherence is assessed through an instrument called the *Antonovsky Sense of Coherence Questionnaire*[6], with 29 items. Since its publication in the 1980's[6], high sense of coherence scores have been associated with less presence of depressive symptoms and anxiety[7]. In cardiac patients, there are records of greater social support[8], better psychological wellbeing[9], improved quality of life and self-esteem when sense of coherence levels are higher[10].

Assessing the sense of coherence has shown to be relevant for different health areas. Its use by nurses can collaborate to identify coping strategies used by people who are able to be well or satisfied, despite going through situations that might suggest the opposite. Thus, assessing the sense of coherence adds up to the assertion that nurses need to be prepared to understand each phase of the human response to diseases, knowing how to identify and perceive the signs that communicate what each person presents[11]. This perspective is in line with the focus of nursing theories in practice and research and can highlight points like the promotion of well-being and the favoring of coping strategies for patients and relatives who are facing disease situations or traumas. One example is the assessment of coronary artery bypass graft surgery patients' sense of coherence, with a higher frequency of pain complaints after the surgery among patients with a decreased sense of coherence[12]. It is useful for health services to assess this construct in the attempt to plan more holistic care delivery to those patients, exposed to stress situations, particularly cardiac surgeries in this research.

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OBJECTIVES

In view of the above, this study was carried out to measure the sense of coherence construct among patients hospitalized in the preoperative period of cardiac surgeries and to assess possible relations between the sense of coherence measure and the variables: gender, age, civil status, education, remunerated activity performance and the use of psychiatric drugs in the preoperative period.

METHOD

This descriptive and exploratory cross-sectional study involved 127 participants hospitalized in the Ribeirão Preto

Medical School *Hospital das Clínicas* between September 2007 and November 2008. These participants were selected according to the following criteria: being 18 years of age or older, being hospitalized for a cardiac surgery for the first time, and being in clinical (physical and psychological) conditions to answer the researchers' questions. Patients hospitalized at the intensive care unit during the preoperative period were not included due to clinical instability in this period. Approval for this Project was obtained from the hospital's research ethics committee (CEP Opinion No 8157/2006), which granted permission to access the patient file archive service. All subjects who agreed to participate in the study signed the Free and Informed Consent Term.

The researchers collected the data through individual interviews and consultation of participants' medical records. Two instruments were used, the first for sociodemographic (*gender, age in full years, education, marital situation and occupation)* and clinical characterization *(hospitalization time, type of cardiac disease that motivated the surgical treatment and use of psychiatric drugs during hospitalization)* of the participants. The second instrument used was Antonovsky's Sense of Coherence Questionnaire[6], in its version adapted to Portuguese[13]. This instrument comprises 29 items, which are answered on a seven-point scale with anchor phrases at the ends (1 and 7), with score one representing the weakest sense of coherence and seven the strongest. High scores indicate a strong sense of coherence, within a possible interval from 29 to 203. The original version of the instrument showed adequate internal consistency in international studies involving cardiac patients[10,14-15]. The version adapted for use in Brazilian cardiac patients also showed adequate internal consistency (alpha corresponding to 0.79)[13].

Data were processed and analyzed using the Statistical Package for Social Science (SPSS), version 15.0. For descriptive data analysis, position (mean, median) and variability (standard deviation) were used for continuing variables and simple frequency measures for categorical variables. Cronbach's alpha was used to verify the internal consistency of items in Antonovsky's Sense of Coherence Questionnaire. To test for the presence of differences between sense of coherence scores and the variables of interest, Student's t-test for independent samples was used. Significance was set at 0.05.

RESULTS

With regard to the sociodemographic characterization of the 127 study participants, the number of male (66; 52 %) and female (61; 48%) participants was similar. Average age was 57.4 (SD=12.6) years, ranging between 18.4 and 79.3 years, and later grouped in two categories: less than 60 years (68 subjects; 53.5%) and 60 years or older (59; 46.5%). The majority was married or lived with significant others (84; 66.1%), followed by single (19; 15%), widowed (18; 14.2%) and separated people (6; 4.7%). Education was characterized by few years of formal study, with 83 (65.4%) participants who did not finish primary education and 11 (8.7%) who were illiterate. Next, they were grouped in two categories: up to the primary level (101 subjects; 79.5%) and secondary and higher level (26; 20.5%).

The collected clinical data revealed that participants were predominantly awaiting surgical treatment for coronary artery disease (90; 70.9%) and that the average preoperative hospitalization time was 13.3 days (SD=11.6), in an interval ranging from zero (interview on the day of hospitalization) to 59 days, with a median of 12 days. Comorbidities were present which are considered risk factors for cardiovascular diseases, the most prevalent of which were: systemic arterial hypertension (103 patients; 81.1%), dyslipidemias (69; 54.3%), diabetes *mellitus* (46; 32,6%) and obesity (31; 24.4%). Most subjects had between two and three comorbidities (78 patients; 63.4%).

To answer the items of Antonovsky's Sense of Coherence Questionnaire, participants need to subjectively assess what is being asked about themselves and their lives, and this assessment can be compromised by the use of psychiatric drugs, such as antidepressants and anxiolytics. Among the 127 participants who answered this questionnaire, 31 (24.4%) used psychiatric drugs, 21 (67.7%) of whom were taking anxiolytics and eight (25.8%) antidepressants, associated or not with other psychiatric drugs, while two others patients were taking anticonvulsants during the preoperative period.

Results for Antonovsky's Sense of Coherence Scale indicated a mean sense of coherence measure of 149.2 (SD= 24.6), ranging from 98 to 191, with a Cronbach's alpha of 0.77, confirming the instrument's internal consistency in the study group.

Possible relations were analyzed between the sense of coherence measure and the sociodemographic variables (*gender, civil status, age, education and paid work before the surgery)* and the use of psychiatric drugs during preoperative hospitalization. Higher mean sense of coherence scores were found among male patients over 60 years of age, married or living in consensual union and who were not taking psychiatric drugs during preoperative hospitalization for cardiac surgeries. These differences were statistically significant for gender and use of psychiatric drugs during preoperative hospitalization only. Similar mean sense of coherence scores were found when the participants were grouped according to education and paid work before the surgery (Table 1).

Table 1 - Results of tests to compare mean scores for sense of coherence among the subjects, considering the variables: gender, age, education, paid work, civil status and use of psychiatric drugs in the preoperative period - Ribeirão Preto - 2007/ 2008

Variables	Sense of coherence	
	Average (SD)#	*p**
Gender		0.014
Male (n=66)	154.3 (23.0)	
Female (n=61)	143.6 (25.3)	
Age		0.095
Younger than 60 years (n=68)	145.8 (24.0)	
60 years or more (n=59)	153.1 (25.0)	
Education		0.70
Primary level (n=101)	149.6 (25.0)	
Secondary and higher level (n=26)	147.6 (23.6)	
Professional situation		0.920
Paid work (n=49)	148.9 (23.7)	
No paid work (n=78)	149.3 (25.4)	
Civil Status		0.105
Single. widowed. separated (n=43)	144.2 (24.6)	
Married/living with significant other (n=84)	151.7 (24.4)	
Use of psychiatric drugs		0.008
Yes (n=31)	139.1 (24.5)	
No (n=96)	152.4 (23.9)	

#SD = Standard Deviation *Student's T Test

DISCUSSION

The study participants' sociodemographic characteristics were similar to those of North American patients[10] regarding gender and age. As expected, however, lower education levels were found among Brazilian participants. The validation of Antonovky's Sense of Coherence Scale for use in Brazilian cardiac patients is still recent[13]. Therefore, the present results could not be compared yet with other results involving cardiac patients attended at different health institutions in Brazil for clinical or surgical treatment. It is highlighted that the sociodemographic and clinical similarity of the study group, with patients who participated in the validation study of Antonovsky's Sense of Coherence Study for use with Brazilian cardiac patients[13] strengthens evidence on the validity and reliability of this instrument for patient assessment in the preoperative phase of cardiac surgery.

In the assessment of participants' sense of coherence, scores between 98 and 191 were found in a possible interval from 29 to 203, with higher scores indicating greater sense of coherence[6]. The lowest score was higher than those found in other studies with cardiac patients[10,13-14]. The highest score (191) was similar to other studies that assessed patients undergoing clinical treatment for cardiac diseases[13] or who had been submitted to a coronary artery bypass graft more than one year earlier[10]. The average sense of coherence score was 149.2 (SD=24.6), similar to average scores among cardiac patients hospitalized for clinical treatment (M=143.2; SD=24.9)[13] and in clinical follow-up after cardiac surgery (M=146.4; SD=25.9)[10]. In the possible interval for sense of coherence, 116 is the median point.

People's ability to cope with the stress experienced during hospitalization for surgical treatment of their cardiac disease is an important aspect for research by health professionals. Antonovsky' sense of coherence is one of the constructs that has been studied in recent stress coping ability research is the sense of coherence[6], which has shown associations with other variables, such as social support and self-esteem[10]. Some individual characteristics[16] influence both self-esteem and the sense of coherence construct. Older and married people with a higher education level tend to have a greater sense of coherence, while negative events in life, such as the death of a close relative, besides problems at work or with family, can decrease the sense of coherence[15]. Age and the diagnosis time of chronic illnesses were considered predictive variables of the sense of coherence score among cardiac patients and patients with cancer. The construct score did not vary according to patients' gender, race or education level[14].

In this study, when analyzing intergroup differences between sense of coherence scores, significant differences (p=0.014) appeared, with higher average scores among men (M=154.3). A similar result had already been observed in another study of cardiac patients[7], but this result goes against the premise defended in the study[6] and by other researchers[14] that the sense of coherence does not depend on people's gender. Some experts have questioned this premise, based on gender differences, to contradict the idea that the sense of coherence does not depend on gender. They argue that several sciences, such as psychology and sociology, have already confirmed that men and women differ in various aspects, including the resources used to deal with stress situations. Stressors have shown greater impact among women, with more intense reactions to stress. Hence, if gender differences exist in terms of coping resources, it would be natural that these also act in the determination of the sense of coherence[17].

As for the relation between the sense of coherence construct and participants' age, the elderly group showed a higher average score than the adult group, but this difference was not statistically significant (p= 0.095). This result strengthens the author's[6] original viewpoint that a person's sense of coherence does not change after its complete formation, around the age of 30, except for slight oscillations in case of intense stress situations like the loss of a loved one. In line with the assessment of the construct's relation with gender, the relation between a person's sense of coherence and age is also controversial[18].

With regard to education, some authors[14] have also observed that cardiac patients' sense of coherence does

not vary according to the education level. In this research, differences in the examined construct scores according to education, civil status and paid work were not proven.

Considering that a strong association exists between depression and anxiety measures and sense of coherence scores, lower scores were expected for patients using psychiatric drugs during preoperative hospitalization, as proven in the research group. Patients who did not take these drugs demonstrated greater sense of coherence (M=152.4) than those who did (M=139.1), indicating a statistically significant difference (p=0.008). This result, however, differs from the result observed among patients hospitalized for clinical treatment of cardiac diseases, in which the author of the research did not find a statistically significant difference between participants using psychiatric drugs or not[13].

CONCLUSION

Among the 127 patients hospitalized for surgical treatment of cardiac diseases, a high average score was found for the sense of coherence construct, which can be considered a protection factor for the development of perioperative anxiety and depression. Relations between scores for this construct and age, civil status, education and paid work were not confirmed, with a statistically significant difference for the gender variable only, showing higher scores for men. As expected, the sense of coherence measure was associated with the use of psychiatric drugs during hospitalization, with patients using psychiatric drugs showing lower scores for sense of coherence.

The study's cross-sectional design is a study limitation, as it does not permit confirmation of the cause-and-effect relations between the sense of coherence score and the selected sociodemographic variables, nor of the relation with patients' use of psychiatric drugs. Longitudinal studies have already been planned, needed to confirm the existence of these relations in the perioperative period of cardiac surgery and determine the causality between variables. Although no probabilistic sample was used, the results support those identified in international studies, indicating that a person's ability to cope with stress situations like cardiac surgery is an important aspect for research by health professionals. It should be highlighted that sense of coherence is one of the most studied constructs in stress coping ability research.

The Salutogenic Theory can provide a perspective that is more coherent with nursing's proposal to holistically address the people they are taking care of. Assessing care-dependent individuals' sense of coherence would permit a better understanding of how they would react to the disease and its treatment, broadening their strategies in favor of coping. In the field of cardiovascular illnesses, a strong sense of coherence in cardiac patients during rehabilitation from the disease or surgical treatment could take the form of a dynamic feeling of trust, for example, in their ability to sort the variations deriving from the instability of the chronic disease's evolution. The aim would be to adapt to their new physical and psychological condition, so as to find the necessary motivation to get back to their life, as possible, besides minimizing the impact of the cardiac disease on their family and involving in activities that are significant for their new condition of having a chronic illness.

The use of Antonovsky's Sense of Coherence Scale in clinical nursing practice makes it possible to identify people needing more attention in care planning, with a view to promoting strategies that can help them to cope with the stress situation they are facing during hospitalization and while awaiting the surgical procedure. The abovementioned relevance is highlighted with regard to the use of this instrument to measure the sense of coherence construct in case of cardiovascular illnesses in patients with chronic conditions or specific groups, such as elderly, adolescents, pregnant women and children.

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