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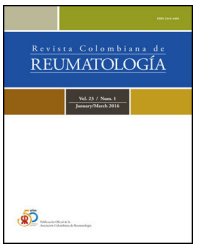

Original Investigation

Relationship between anxiety, pain, and satisfaction of care in women undergoing arthroplasty in Guatemala

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ABSTRACT

Introduction: Arthroplasty is a commonly used surgical procedure for the functional recovery of patients with impaired mobility and displacement. The post-surgical process implies dealing with pain and anxiety, a situation that must be addressed during hospitalization by the nursing staff, to guarantee pertinent and effective care that favours the processes of rehabilitation and patient satisfaction.
Objective: To identify the relationship between satisfaction with nursing care and the presence of anxiety and pain in women who underwent arthroplasty.
Materials and method: Cross-sectional quantitative, with 63 patients undergoing arthroplasty at the Dr. Jorge Von Ahn National Hospital of Orthopaedics and Rehabilitation in León, Guatemala. The variables level of anxiety, pain, and satisfaction with nursing care were measured. Data were analysed with non-parametric statistics using Spearman's coefficient correlation test. International ethical considerations and informed consent were taken into account.
Results: The variable satisfaction with nursing care was related to low level of anxiety and null relationship with pain and the sociodemographic variables sex, age, ethnicity, level of education, and days of stay.
Conclusion: It is necessary to implement therapeutic nursing strategies that continue to humanize the hospital stay and recovery processes, and to conduct mixed studies that deepen the relationship between satisfaction with nursing care variables and anxiety and non-associated sociodemographic variables.

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Relación entre ansiedad, dolor y satisfacción con el cuidado en mujeres operadas de artroplastia en Guatemala

Palabras clave:
Artroplastia
Ansiedad
Cuidado de enfermería
Dolor

R E S U M E N

Introducción: La artroplastia es un procedimiento quirúrgico comúnmente utilizado para la recuperación funcional de pacientes con afectación en la movilidad y el desplazamiento. Afrontar el proceso postquirúrgico implica lidiar con el dolor y la ansiedad, situación que debe atenderse durante la hospitalización por enfermería para garantizar cuidados pertinentes y eficaces que favorezcan los procesos de rehabilitación y satisfacción del paciente.
Objetivo: Identificar la relación entre la satisfacción con el cuidado de enfermería y la presencia de ansiedad y dolor en mujeres operadas de artroplastia.
Materiales y métodos: Cuantitativo transversal, con 63 pacientes operadas de artroplastia en el Hospital Nacional de Ortopedia y Rehabilitación «Dr. Jorge von Ahn de León» de Guatemala. Se midieron las variables nivel de ansiedad, dolor y satisfacción con los cuidados de enfermería. Los datos se analizaron con estadísitca no paramétrica, empleando la prueba de correlación de coeficiente de Spearman, y se tuvieron en cuenta las consideraciones éticas internacionales y el consentimiento informado.
Resultados: La variable satisfacción con el cuidado de enfermería mostró una relación con el bajo nivel de ansiedad, pero no así con el dolor y las variables sociodemográficas sexo, edad, etnia, nivel de escolaridad y días de estancia.
Conclusión: Se requiere implementar estrategias terapéuticas desde enfermería que continúen humanizando la estancia hospitalaria y los procesos de recuperación, así como la realización de estudios mixtos que profundicen la relación de las variables de satisfacción con el cuidado de enfermería con la ansiedad y las variables sociodemográficas no asociadas.

Introduction

Connective and musculoskeletal tissue disorders have a diverse prevalence in terms of demographic profile[1,2] and have also been identified as disabling diseases that are manifested by impairment of the musculoskeletal system, recurrent joint inflammation, or chronic pain that impedes mobility and locomotion.[3]

Given this condition, arthroplasty, a surgical procedure has been commonly performed to replace or substitute bone endings with a metallic system, due to degeneration or joint damage.[4]

This procedure, which is usually carried out in the field of traumatology, has been established as a therapeutic advance that allows substantial improvement in patients' mobility, functional capacity, and quality of life.[5–7]

After undergoing this type of surgery, some research reports have been studying the processes of anxiety and pain as a problem that demands greater attention,[8] since poorly controlled emotional factors predictive of postoperative pain have negative consequences on patients' recovery and lead to an increase in hospital stay, as well as cost overruns.[9,10]

The assessment of postoperative pain, defined as a subjective experience associated with a present or potential injury[11] that is generally classified as moderate to severe, involves not only the use of instruments that allow an early evaluation but also the definition of control methods that lead to relief, considering the physical and emotional needs of the patient.[12]

This last aspect and its relationship with the intensity of postoperative pain have been investigated[13,14]; recent reports have shown that preoperative anxiety is a factor leading to the presence of severe post-surgical pain, along with other associated variables such as age, health condition, and surgery duration.[15,16]

Studies have revealed shortcomings in patient constant evaluation and follow-up in the postoperative phase,[17,18] and have also highlighted the importance of combining pharmacological and non-pharmacological mechanisms to treat postoperative pain comprehensively.[19,20]

Other aspects that must be considered in post-surgical hospital interventions suggest the need to implement adjusted protocols for inpatient attention by the interdisciplinary team, especially the care offered by nursing professionals, an impact that influences patient condition.[21] In this sense, the need to provide humanized, empathetic care that allows patients to feel warmly supported to face the challenges of their recovery and mitigate complications is highlighted.[22]

From this perspective, the present study focuses on identifying the correlation between satisfaction with nursing care and the presence of anxiety and pain in women undergoing hip and knee arthroplasty at the National Orthopedics and Rehabilitation Hospital «Dr. Jorge von Ahn de León».

Method

This was a cross-sectional quantitative study, with a sample of 63 participants, of 131 women who underwent hip and knee arthroplasty at the National Orthopedics and Rehabilitation Hospital «Dr. Jorge von Ahn de León» in Guatemala, from September 2017 to August 2019. The variables measured were: anxiety level, pain scale, and satisfaction with nursing care.

Inclusion and exclusion criteria

Patients over 18 years undergoing hip and knee arthroplasty at the National Orthopedics and Rehabilitation Hospital «Dr. Jorge von Ahn de León» from Guatemala City, who voluntarily decided to participate in the study were included. As exclusion criteria, subjects with some type of previous psychiatric or psychological disorder that prevented them from answering the questions of the applied instruments were considered.

Instruments

The self-applied Hamilton anxiety scale was used, which consists of 14 items that assess the intensity of anxiety from the behavioral, physical, and psychological components, with scores ranging between 0–5 (absence of anxiety), 6–14 (mild anxiety), and greater than 15 (moderate/severe anxiety). The validation of the scale in Spanish obtained a Cronbach's alpha of 0.89 and an interobserver reliability greater than 0.9.[23]

The Visual Analog Scale (VAS) allows high sensitivity and validity, since it enables pain assessment in numerical intensities from mild to severe with high precision, as has been stated in pain studies with unidimensional scales.[11] On this scale, the patient marks the extreme expressions of a symptom on a 10-cm horizontal line, with values of 0–2 (mild), 3–7 (moderate), and 8–10 (intense).

Satisfaction with nursing care was measured using the *Satisfaction with Nursing Care Scale for Orthopedic Surgery Units*. The results were obtained by adding the score of the 22 questions included in the questionnaire, which evaluates the experience and stay of patients in the Women's Surgery Unit. The questionnaire addresses general information regarding medical indications, satisfaction of basic needs (poor, indifferent, good, very good, and excellent), physical presence, professional competence, and satisfaction with care. The test has a Cronbach's alpha of 0.9.

Analysis of data

Available data from the applied instruments were processed in a database in Excel 2021 (18.0) (Microsoft Corporation, Redmond, Washington, USA) and were then processed in the SPSS statistical program version 24 (IBM Corp., Armonk, NY, USA).

The contrasting of the hypotheses was performed with a non-parametric statistical test that allowed to know the correlation between studied variables. The use of non-parametric statistics as an inference method does not require numerical measurement scales, which are used for simple sample data and are associated with relationship variables, order, and frequency categories.[24]

The correlation analysis was carried out using Spearman's coefficient, a measure of association between two variables that requires that at least one of them be measured on an ordinal scale.[25]

The scale used to interpret the Spearman's coefficient was as follows: range between 0 and 0.25: little or no correlation; between 0.26 and 0.50: weak correlation; between 0.51 and 0.75: moderate and strong correlation; and between 0.76 and 1.00: strong and perfect correlation.[26]

The study proposed the following hypotheses:

Alternative hypothesis (H1): the presence of anxiety and pain in women undergoing arthroplasty is related to satisfaction with nursing care.

Null hypothesis (H0): the presence of anxiety and pain in women undergoing arthroplasty is not related to satisfaction with nursing care.

Ethical considerations

Participants signed informed consent with a prior explanation of the purpose of the study and did not receive financial compensation for their participation. The international ethical guidelines outlined in the Declaration of Helsinki[27] were assumed, as well as the ethical criteria proposed in Resolution 8430 of 1993 about risk-free health research with human beings.[28] The study had institutional ethical approval.

Results

Sociodemographic data

Table 1 depicts sociodemographic variables such as sex, age, ethnicity, level of education, and length of hospital stay.

Data reflects that 73% of the participants were 56 years or older; 88% of the sample considered themselves non-indigenous, 63% female and nearly half had completed sixth grade, with women having the fewest opportunities.

Other characteristics of study participants reflected that the majority were married, with children and grandchildren; they fulfilled multiple caring roles in the family, in addition to carrying out productive work, according to personal experience, which could reveal that ethnicity and schooling are potential indicators of intersectional inequalities (related to racism, patriarchy, and classism) and gender conditions. Besides, these women are the ones who probably undergo such surgical procedures, with family support for prosthetic provision, to the point that they get into debt to improve their life status, since the majority are low-income people.

The duration of stay showed a median of 11 days, which relates, according to work experience, to the complexity of the surgical intervention and the fact that many of the patients do not present complete tests, while at the same time exhibiting uncontrolled underlying diseases and have unresolved urinary tract infections. Similarly, there are cases of treatments being not informed at the time of admission to the outpatient clinic, a shortage of the blood type they require, or if they are in private homes, they do not deliver the equipment on time in the appropriate conditions.

Table 1 – Sociodemographic variables of the participating population.

Variables	n	Fr (%)	Fra (%)
Sex			
Female	63	100.00	100.00
Age			
18–25 years	3	4.76	4.76
26–40 years	6	9.52	14.29
41–55 years	8	12.70	26.98
56 or older	46	73.02	100.00
Ethnicity			
Indigenous	4	6.35	6.35
Does not answer	3	4.76	11.11
Non-indigenous	56	88.89	100.00
Level of education			
None	11	17.46	39.68
Sixth grade	30	47.62	87.30
Third grade	3	4.76	92.06
Diversified	14	22.22	22.22
University	5	7.94	100.00
Hospital stay time			
	Mean	Median	Mode
	12.19	11	8

Source: self-made.

Anxiety state

The Hamilton anxiety scale showed that 14.29% of the patients did not present a state of psychological anxiety, while 60.32% presented a mild state, being the class or modal interval of psychological anxiety in the study. On the other hand, 22.22% of the subjects showed a moderate condition and 3.17% experienced severe psychological anxiety.

Regarding somatic anxiety, it was absent in 4.76% of the participants, while 71.43% showed a mild state. As in psychic anxiety, mild-state anxiety is the class or modal interval of somatic anxiety in the study. In the same way, 19.05% of the subjects experienced a moderate state of anxiety and 4.76% a severe state.

In the general anxiety state, it was absent in 1.59% of the patients, while 79.37% had a mild state, representing the class or modal interval of anxiety in the study. Finally, 17.46% of the subjects presented a moderate state and 1.59% a severe state of anxiety. The above leads to the conclusion that the predominant state of anxiety in the sample of women with arthroplasty surgery was mild.

Pain intensity

With the Visual Analogue Scale, it was found that only 4.76% of the patients reported absence of pain, while 36.51% were on a mild to moderate scale; on the other hand, 38.1% were on the moderate to severe scale, this being the type of modal pain in the population of patients undergoing arthroplasty. Lastly, 20.63% reported experiencing intense pain.

Satisfaction with nursing care

Nursing care was evaluated as good in 14.29% of the patients, very good in 31.75%, and excellent in 53.97%, while nursing care was not perceived as bad or indifferent.

Correlation between sociodemographic variables

Table 2 identifies a null correlation between satisfaction with nursing care and the variables age, ethnicity, academic degree, and days of hospital stay. Age, for its part, does not correlate with the sensation of pain experienced by women undergoing arthroplasty. Regarding the academic degree, this does not influence the level of anxiety in the study sample.

Correlation between the variables of nursing care, anxiety, and pain

In Table 3, satisfaction with nursing care has a weak correlation with somatic anxiety, so good care of patients by nursing staff could influence the reduction of this type of anxiety. Otherwise, there is little or no correlation, which means that both variables are independent.

For its part, the general state of anxiety in subjects has a moderate and strong correlation with the level of satisfaction with nursing care, which implies that in the sample nursing care does affect the general state of anxiety of the patients.

Concerning pain, it was identified that nursing care has little or no correlation, and this means that pain can be an independent variable of nursing care, while it is a sensation mainly related to the patient.

In addition, it was found that the presence of pain aggravates somatic anxiety, but not psychic anxiety. The results reflect that, in general, the presence of pain does not aggravate anxiety in women undergoing arthroplasty.

Discussion

The available results agree with other similar studies in terms of sociodemographic data, in which the population participating in arthroplasty surgeries are mostly women over 56 years, who completed elementary education.[29] It was observed that some of the situations experienced by the population of inter-

Table 2 – Correlation between satisfaction with nursing care and sociodemographic variables.

Variable	Significance level	Rho coefficient	
		Rho	Correlation
Satisfaction and age	0.11	0.20	Little or none
Satisfaction and ethnicity	0.51	0.09	Little or none
Satisfaction and academic degree	0.20	−0.16	Little or none
Satisfaction and days of hospital stay	0.59	−0.68	Little or none
Pain and age	0.71	0.05	Little or none
Anxiety and academic degree	0.81	0.03	Little or none

Source: self-made.

Table 3 – Correlation of nursing care satisfaction, anxiety, and pain.

Variable	Significance level	Rho coefficient	
		Rho	Correlation
Somatic satisfaction and anxiety	0.00	0.47	Weak
Satisfaction and psychological anxiety	0.67	−0.05	Little or none
Hamilton's General Satisfaction and Anxiety	0.00	0.69	Moderate and strong
Satisfaction and pain	0.07	−0.23	Little or none
Somatic pain and anxiety	0.08	0.22	Little or none
Pain and psychological anxiety	0.62	−0.06	Little or none
Pain and anxiety	0.70	−0.05	Little or none

Source: self-made.

est are associated with gender status, work overload derived from care tasks associated with home and family, and precarious living conditions.

Regarding hospital stay, findings are similar to other studies that assessed the quality of nursing care, in which an average stay of 7.62 days was observed[30]; in the current study, it was 11 days. These results coincide with a favorable perception of the quality of nursing care, which leads to the estimation that more days spent in the hospital do not affect the evaluation of nursing care.

About anxiety levels during the postoperative period, mild anxiety was reported in 79.37% of the participants, a result that presents discrepancies with other studies, according to which only one in four subjects experience anxiety,[31] which suggests the importance of further analyzing the variables that are related to anxiety in the postoperative period and comparing the effect of educational processes during the preoperative period with the levels of postoperative anxiety.[31]

Concerning pain intensity, VAS measurement in other studies of arthroplasty has shown that mild pain occurs in the postoperative period in 62.2% of the cases.[32] This finding is opposite to the results of the current study, in which mild to moderate pain affected 36.51% of the participants, while moderate to severe pain occurred in 38.1% of the cases; ultimately, 20.63% reported severe pain. The presence of high pain levels demands an individual, comprehensive, and specific review of rehabilitation and support methods appropriate to the needs and precise variables of each subject.[6]

Participants satisfaction levels towards nursing care was considered good in 14.29%, very good in 31.75%, and excellent in 53.97%, like other investigations in subjects undergoing arthroplasty,[29] in which patient global satisfaction was evaluated as "good" in 94.83%. We underscore, in the current study, missed nursing care in 0.64%, contrary to the patients of the National Orthopedics and Rehabilitation Hospital «Dr. Jorge von Ahn de León», who did not report dissatisfaction. The assessment of favorability has been reported in other studies, linked to empathetic treatment, time spent with patients, and clear information regarding nursing care.[21]

The study found that the patient level of satisfaction with arthroplasty nursing care correlates with the general anxiety state. By the aforementioned, studies such as those by Magalhães et al.[33] and Santos et al.[34] have demonstrated the incidence of humanization processes such as quality in nursing staff communication or other strategies that nursing provides to mitigate the appearance of anxiety states and other postoperative complications.

The findings reflected that nursing care does not correlate with the pain reported by patients; however, this should not be a variable that is excluded from nursing care processes, due to recent reports in the review of the literature that have highlighted the impact of nurses' activities such as pain control, pain evaluation, and relaxation therapy, in which autonomous nursing support is essential in the recovery of subjects.[35]

The findings of the study also suggest that, for quality processes in the provision of health services, nursing professionals are called upon to use protocols that assess the subjective processes that patients experience after a surgical intervention and the care offered since the presence of pain and anxiety is not separated from recovery, which implies particularizing care to provide comprehensive satisfaction to patients.[36]

Conclusions

Anxiety and pain reports reveal the importance of implementing alternative non-pharmacological therapeutic protocols and strategies that engage nursing in the postoperative period, benefit the perception of care, and contribute to short-term rehabilitation.

Satisfaction with nursing care reduces patient anxiety state undergoing arthroplasty; therefore, it is necessary to evaluate explanatory models that allow these findings to be generalized.

Although the study presents significant advances for the nursing discipline and hospital facilities, it would be appropriate to joint mixed research projects in health organizations and academic nursing units that allow in-depth knowledge of the variables studied in other populations and Latin American contexts. Furthermore, in indigenous communities, further research is needed on this topic, with a focus on gender, hospital stay, and access to the health system.

Conflict of interests

The authors declare the absence of any conflict of interest.

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