

Patient Comfort in Transradial and Transfemoral Percutaneous Coronary Intervention

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Abstract

Background: Ensuring the comfort of the patient during Percutaneous Coronary Intervention (PCI) is one of the nursing care goals. During procedure, the patient's comfort level may vary depending on the vascular access method. Studies examining comfort from a nursing perspective in coronary interventions are very limited. **Objective:** This study is a descriptive cross-sectional study to identify the general comfort levels of the patients and to determine whether transradial or transfemoral access method affects the comfort level in PCI. **Methods:** The study was conducted on 200 volunteer patients in a private university hospital in Istanbul between May 2018 and May 2019. General Comfort Questionnaire (GCQ) was used in this study. In the evaluation of the data, t-test as well as percentage, mean, standard deviation, row mean descriptive statistical methods were used. **Results:** In this study, 46% of the participants were in the 40-59 age group, 47% were over 60 years old, 74% were male, 92% were married. Angiography was performed in 67% of the patients from the radial artery and 33% from the femoral artery. The average overall comfort score was found to be 3.03 ± 0.3 . The patients received the highest score from psychospiritual comfort subscale and the lowest score from physical comfort subscale. The score averages of physical, psychospiritual, environmental, general comfort of the patients who underwent transradial PCI were statistically higher than transfemoral ($p < 0.05$). According to both access methods, a significant difference was found between the mean scores of the levels of relief and ease. **Conclusions:** As a result, the general comfort level of the patients who underwent PCI was found above medium level. The patients received the lowest score from physical comfort subscale. The comfort level of the patients who underwent transradial method was found to be higher than those transfemoral.

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Key Words: Comfort, General Comfort Questionnaire, Nursing, Percutan Coronary Intervention

INTRODUCTION

Cardiovascular diseases(CVD) are one of the most important problems affecting human health in our age. Despite preventive measures and therapeutic interventions, situations such as increased smoking, unhealthy diet, and inactivity along with the growing industrialization cause a significant increase in cardiovascular diseases. CVD, one of the chronic diseases, has gained importance due to the increase in its incidence in men and women and the mortality rate of over 40% due to this disease.¹⁻³ Coronary artery diseases are in the first place among cardiovascular diseases, and they are at the forefront among the causes of mortality after the age of 40.⁴⁻⁶

According to the statistics of the World Health Organization, coronary artery disease was observed in 15.8 million people in 2010, and it is predicted that this number will reach 23 million in 2030.⁴ According to the data of the Ministry of Health, the cause of 37% of deaths under the age of 70 in Turkey is cardiovascular diseases.^{1,7} According to the mortality data of the Turkish Statistical Institute, the rate of heart diseases in total deaths is gradually increasing. Cardiac diseases ranked first among all causes of mortality by 40% in 1989, 45% in 1993, 40% in 2009, 39.6% in 2013, and 40.4% in 2014.⁸ Coronary angiography (CAG) is the most preferred method in the diagnosis and treatment of coronary artery diseases. Coronary angiography is the process of taking images of the heart vessels by giving radiopaque material from the radial, brachial, or femoral arteries. Coronary interventions such as angioplasty or placement of the stent can also be performed during angiography.⁹

Comfort is used synonymously with the word relief. In nursing, it is a complex multidimensional concept related to overcoming problems with physical, psychospiritual, social, and environmental dimensions and ensuring peace, and it is an expected and desired outcome of nursing care. According to Kolcaba, comfort etymologically comes from the Latin word "confortare," which means "to reinforce more, strengthen." In this sense, it means reinforcing, promoting, encouraging, helping, and relieving.¹⁰

In percutaneous coronary interventions (PCI), pain in the intervention area, the hospitalization requirement, a failure to meet needs such as activity and eating, and experiencing anxiety adversely affect comfort.^{11,12,13} Comfort is a requirement that a human may need, and people expect to meet this requirement. When health care is needed, comfort is first required to be provided because when comfort is cared, considerably better health care services can be reached. It has been determined that comfort has both physical and mental effects on patients' experiences in the field of health. The comfort level of the patient is considered an element of the quality of care.^{10,14}

While radial or femoral arterial access is used in coronary interventions, the use of radial artery access has become widespread in recent years. Interventions with radial artery access are preferred due to its aspects such as fewer complications at the site of access, early mobilization, early discharge, low cost, and increased quality of life.^{11,12,15} Although it is emphasized in many sources that transradial angiography increases success, reduces the procedure time, and is preferred by patients, it has also been mentioned that its use is limited due to the length of the procedure and procedural failure.¹⁵ It has been demonstrated that the cost of procedures and the complication rate are higher, and the length of hospital stay is longer in patients treated with transfemoral vascular access.^{7,11,12,16} After angiography and interventional coronary applications, there are studies involving pain assessment for nursing care. Although it has been reported in the studies that

interventions with radial access increase patient comfort, there is a very limited number of studies in which comfort level is evaluated using a comfort scale.²⁰ Nowadays, it has become important to perform the procedural interventions applied to a large number of patients in the most comfortable conditions. In fact, it has become highly important that patients are adequately informed to choose the most advantageous method. In addition to increasing the patient's comfort by providing physical care in a multidisciplinary team, nurses can also increase comfort by explaining the benefits and risks of PCI according to access route options. Nurses can help the patient decide on the access point.¹⁵ Anxiety can be reduced by adequately informing the patient, and an independent decision-making process is also supported. The aim of this study was to identify the comfort levels of patients undergoing percutaneous coronary intervention and to determine whether different vascular access methods affect the comfort level.

METHODS

Research design and location

It is a descriptive and cross-sectional study. The study was conducted in the angiography unit of a private university hospital in Istanbul between May 2018 and May 2019. Patients are admitted to the angiography unit between 08:00-18:00, and diagnosis-treatment procedures are performed. Patients are usually admitted from their homes by giving appointments a few hours before the procedure. Furthermore, patients hospitalized in the coronary intensive care or cardiology service are also transported to the unit at the time of the procedure. Before the intervention, patients are first admitted to the outpatient service. After they are prepared for the procedure, they are taken to the angiography laboratory, and the procedure is performed. After the intervention is over, the patient is followed up in the outpatient service. Patients' general condition, vital signs, electrocardiography, local pain and bleeding at the procedure site, circulation and movement at the procedure site are monitored for allergic reactions. Unless there is an unusual situation, patients are discharged with training 2 hours after radial intervention and 6 hours after the femoral intervention.

Research questions

What is the comfort level of patients undergoing angiography?

Is there a difference between the comfort levels of patients who undergo radial and femoral angiography?

Sample size and participants

The patients who underwent percutaneous coronary intervention in the angiography unit of a private university hospital constituted the study population. The study sample consisted of 200 patients who underwent angiography between the specified dates and met the sample selection criteria and consented to participate in the study. In the calculation of the study's sample size, the sample size was considered appropriate to be 200 with an effect size of 0.5, an alpha error of 0.05 (95% confidence level), and a power of 0.91.

Sample selection criteria: Patients who were oriented to time and place, could speak Turkish, were aged 18 years and over, had normal vital signs, volunteered to participate in the study, and had undergone percutaneous coronary intervention including one or several of angiography, angioplasty, or stent interventions were included in the sample. Individuals with hearing loss, psychiatric and mental illnesses were not included in the sample.

Data collection procedure

The data were collected using the patient information form and the General Comfort Questionnaire (GCQ) by the face-to-face interview method. The patient information form includes information about the individual and the disease.

General Comfort Questionnaire: The general comfort questionnaire we used in our study was developed by Kolcaba in 1992.¹⁷ It consists of four dimensions and three levels for evaluating the patient's comfort status and determining comfort-related nursing services and comfort-related needs. The sub-dimensions of the scale consist of a total of 48 items, including ease (16 items), relief (17 items), and transcendence (15 items). The

scale is a 4-point Likert-type scale. The response patterns of the scale, which consists of positive and negative items, are given in a mixed form. Accordingly, high scores in positive statements indicate high comfort, and low scores in negative items indicate high comfort. In the evaluation of the scale, the negative scores obtained are reverse coded and added up with positive items. The scale consists of 48 questions and is scored between 1 and 4. The lowest and highest scores to be obtained from the scale are 48 and 192, respectively. The mean score value of the scale is calculated between 1-4 by dividing it by the number of items. Cronbach's alpha value of the scale was found to be 0.88 in Kolcaba's study¹⁸, 0.85 in the Turkish version¹⁹, and 0.78 in this study. After the patient was admitted to the clinic, an explanation was given, and permission was obtained for the study, and the patient information form was filled out. The comfort questionnaire was filled out before the patient left the outpatient service. Patients are discharged after 2-4 hours of follow-up following the intervention unless complications develop. The data were collected by the face-to-face interview method before the patient was discharged. Data collection took approximately 15 minutes.

Statistical Analysis

The data in this study were analyzed using the Statistical Package for Social Sciences, version 25 package program. Descriptive statistics (number, percentage, mean, standard deviation, min-max) were used to identify demographic and health-related characteristics of patients undergoing PCI. The physical, psychospiritual, environmental, and sociocultural comfort variables, which are the sub-dimensions of the GCQ, were identified by taking the average of the items constituting these variables. The conformity of the data to the normal distribution was evaluated by the Kolmogorov Smirnov test. Then, the independent sample t-test, one of the parametric tests, was used to evaluate differences in comfort scores according to vascular access methods. A statistical significance level was considered as $p < 0.05$.

Research ethics

Ethics committee approval of Istanbul Medipol University's non-interventional ethics committee and institutional permission of Medipol Mega Hospital were obtained before starting the application. By having the participants sign an informed consent form, it was confirmed that they participated in the study voluntarily, without any pressure or coercion. To use the General Comfort Questionnaire, permission to use the questionnaire was obtained from the author who performed its adaptation study.

RESULTS

Participants characteristics The details of the demographic characteristics of the individuals included in the study are presented in Table 1. While 47% of the participants were aged 60 and over, 46% and 7% were in the 40-59 age group and 20-39 age group, respectively. Of the participants, 74% were male, 92% were married, 49% were overweight, and 36% were obese. While 60% of the participants were primary school graduates, 16% and 15% were high school graduates and university graduates, respectively. Of the participants, 34% were still working, 70% had public social security, 74% had a balanced income and expenses, and 29% were smokers.

Approximately half of the patients had their first angiography, and approximately half of them had one or more chronic diseases. The intervention was performed as an outpatient and elective procedure in 82% of them. Of the patients, 69% and 20% perceived their disease as a treatable disease and a manageable disease, respectively. Of the individuals, 35% and 55% perceived their disease as very serious and moderately serious, respectively. While 81% of the patients were independent enough to be self-sufficient in activities of daily living, 14% of them were semi-dependent, and 6% were fully dependent. Angiography was performed from the radial artery in 67% of the patients and the femoral artery in 33% of the patients.

Patients' mean scores of the Comfort Questionnaire dimensions and levels are presented in Table 2. In our study, among the comfort dimensions, it was found that the mean score of Physical Comfort was 2.89 ± 0.41 , the mean score of Psychospiritual Comfort was 3.21 ± 0.42 , the mean score of Environmental Comfort was 2.92 ± 0.45 , and the mean score of Sociocultural Comfort was 2.97 ± 0.35 . The mean score of General Comfort was found to be 3.00 ± 0.3 . The mean scores of comfort levels were found to be 3.02 ± 0.35 for Ease, $3.01 \pm$

0.36 for Relief, and 2.96 ± 0.38 for Transcendence.

In Table 3, the mean scores of general comfort and physical, psychospiritual, environmental, and sociocultural comfort, which are the sub-dimensions of general comfort, and the mean scores of ease, relief and transcendence, which are comfort levels, were compared according to the vascular access method in angiography. According to the intervention method of the patients, a statistically significant difference was found between the mean scores of physical ($t=3.162$, $p=.002$), psychospiritual ($t=2.364$, $p=.019$), environmental ($t=3.739$, $p=.000$) and general comfort ($t=3.113$, $p=.002$) and ease ($t=2.137$, $p=.034$) and relief ($t=2.187$, $p=.030$). When the scores were examined, the mean scores of physical, psychospiritual, environmental, and general comfort were found to be higher in the patients who underwent transradial intervention compared to the transfemoral access group ($p<.05$). Furthermore, it was observed that the mean scores of ease and relief level of the patients who underwent transradial intervention were higher than the scores of those who underwent transfemoral intervention. It was determined that there was no significant difference between the mean score of transcendence level of the patients who underwent transradial intervention and those who underwent transfemoral intervention ($p>.05$).

DISCUSSION

Coronary artery disease is one of the leading causes of mortality and morbidity in today's developed modern societies. Coronary angiography is the standard diagnostic method for identifying arterial narrowing due to CAD. In many cases, vascular access interventions are also performed during the diagnostic attempt. The patient's comfort is deteriorated since the intervention may cause problems such as physical pain, limitation of movement, and bleeding. Studies on comfort in nursing are limited. The results on the comfort levels of patients are explained in accordance with the dimensions and levels in Kolcaba's concept of comfort. Although there are studies comparing medical outcomes in patients treated with different techniques for comfort, the evidence on nursing care outcomes is very limited. The data obtained in this study, conducted to determine the comfort levels of patients in transradial and transfemoral vascular access interventions, were discussed based on the literature.

The majority of the participants were aged 40 years and above, and approximately two-thirds were male and overweight individuals. While one-third of the patients had a smoking habit, 29% of them had one chronic disease, and 24% of them had more than one chronic disease. It was observed that the risk factors for coronary artery disease were present in the sample group. Approximately one-third of the patients were still working, two-thirds had balanced income and expenses and had public social security. More than half of the participants in our study were primary school graduates, and almost all of them were married. Angiography was performed in 63% of the patients, angioplasty and stenting was performed in 33% of them.

In our study, the mean score of the *General Comfort Questionnaire* was found to be 3.00 ± 0.3 . The mean scores of the comfort dimension and level varied between 2.89 ± 0.41 and 3.21 ± 0.42 , the lowest mean score was in the *Physical Comfort* sub-dimension, and the highest mean score was in the *Psychospiritual Comfort*. The comfort level and dimension scores were close to each other in patients who underwent angiography and vascular interventions, and the comfort level was below excellent, above the average.

In Turkey, there is a limited number of studies conducted by using the GCQ in patients with PCI. Çakır (2019) compared the comfort levels before and after the intervention in 107 patients who underwent transradial angiography. It was determined that the patients' general comfort scores (ease, relief and transcendence) were higher after the intervention compared to those before the intervention.²⁰ Some studies were found in which the comfort level was evaluated in medical surgical patients. In the study conducted by Anuş Topdemir (2019), the mean score of the GCQ at the third postoperative hour was found to be 2.78 ± 0.32 in patients who underwent cholecystectomy²¹, 3.09 in uremic patients²², 2.79 ± 0.34 in patients with type 2 Diabetes Mellitus²³ and 2.86 in older adults living in nursing homes.²⁴ It can be said that the general comfort level in our study sample was similar to those in other studies. According to the comfort theory, nurses deal with three levels of comfort while helping to meet human needs. The statements for the levels indicate the details about patient comfort and altogether show the holistic nature of the nursing practice. Comfort is in a dynamic

state in this conceptualization and may change rapidly, either positively or negatively. The level of comfort is higher in the absence of pain. Improving comfort may also reduce the patient's anxiety-related complaints by increasing hope and confidence. Kolcaba reported that improving comfort increased patient and nurse satisfaction, provided early discharge, decreased the rehospitalization rate, and reduced the costs.^{10,18} In his study, Reynolds (2001) investigated the effect of raising the head of the bed and walking ambulation on comfort after coronary intervention and reported that raising the head of the bed, changing the position, back massage, and early ambulation decreased the patient's back pain and increased the comfort.²⁵ In the study carried out by Tongsa and Thamlikitkul (2012), it was determined that early mobilization after PCI increased comfort, shortened the length of stay, and reduced the costs.²⁶

In our study, the mean scores of comfort levels were found to be 3.02 ± 0.35 for Ease, 3.01 ± 0.36 for Relief, and 2.96 ± 0.38 for Transcendence. In their study, Kara and Işık Andsoy (2018) examined the effect of training given before pilonidal sinus surgery on comfort, and the comfort scores were found to be 1.94 ± 0.38 for Ease, 2.29 ± 0.36 for Relief, and 2.56 ± 0.22 for Transcendence in the control group during the surgical process.²⁷ Ease is felt by an individual when he/she gets rid of problems as a result of satisfaction, alleviating anxiety, and meeting the needs, and it is required to return to normal functions. Relief refers to meeting the needs, eliminating discomfort (removal of pain, nausea), being at peace, being self-satisfied.^{10,18}

Transcendence is a state of comfort in which patients can overcome difficulties. It is the ability to overcome the disease when it cannot be eliminated. Its aim is to ensure that individuals can overcome their problems and are free to control and plan their destiny at a certain time and in a certain situation according to their potential. An individual whose comfort needs are fully met can reach the level of transcendence, which is the superiority of comfort.^{10,18} All three comfort levels positively affect the patient's performance and are theoretically energizing components.²⁸

Kolcaba indicates comfort as the empowered state achieved as a result of meeting the human needs in physical, psychospiritual, sociocultural, and environmental experiences.^{10,18} In this study, among the comfort dimensions, it was found that the mean score of *Physical Comfort* was 2.89 ± 0.4 , the mean score of *Psychospiritual Comfort* was 3.20 ± 0.4 , the mean score of *Environmental Comfort* was 2.91 ± 0.4 , and the mean score of *Sociocultural Comfort* was 2.96 ± 0.3 . In our study, when all comfort dimensions were considered, it was observed that the physical comfort level was the lowest in the patients. In their study, Huang et al. examined the effect of preoperative surgical positioning on postoperative pain and discomfort in patients with kidney surgery, and it was found that the psychospiritual comfort score was the highest and the physical comfort score was the lowest in the control group patients on the first postoperative day.²⁹ In their study, Wang et al. investigated the effect of mindfulness in the rehabilitation of stroke patients, the psychospiritual comfort score was found to be the highest, and the physical comfort score was found to be the lowest. The result of our study is consistent with the literature.³⁰ Physical comfort is related to bodily perceptions. Fluid electrolyte balance, blood biochemistry, oxygen saturation and other metabolic functions affect physical comfort. According to Kolcaba, when there is an abnormality in physiological indicators, the concept of comfort will be adversely affected.^{18,31} Pain is one of the most important factors reducing physical comfort.¹⁸ In fact, in the study performed by Çarık (2020), it was determined that the fear of pain before the operation affected the comfort levels of patients after the operation.³² Angiography is a painful procedure. Low physical comfort due to pain is an expected situation. On the other hand, psychospiritual comfort consists of mental, emotional, and spiritual components. Self-respect, which adds meaning to an individual's life, includes feelings about self-concept. Since the procedure is performed in a short time in patients undergoing percutaneous intervention, the score obtained in this dimension may have been found to be higher. Anxiety is an important factor that can reduce psychospiritual comfort in these patients.²⁸ The care interventions that can increase comfort may include allowing visitors, making tactile contact, and encouraging them to use their own relief methods to find spiritual peace.¹⁸ Environmental comfort includes external factors such as heat, light, noise, color and a safe environment and their effects on people. Nowadays, it is known that the importance of the environment and environmental comfort should be provided to support the physical and mental functions of an individual.^{10,18} In our study, the mean score of environmental comfort was found to be 2.91 ± 0.4 . It was close to the physical comfort score and suggested that perfect environmental conditions

could not be achieved.

In this study, the intervention was performed by providing transradial access in 67% of patients and transfemoral access in 33% of them. A significant difference was found between the general comfort levels of the patients who underwent radial and femoral interventions ($p < 0.05$). When the mean scores were examined, it was revealed that the physical, psychospiritual, environmental, and general comfort levels of those who underwent transradial intervention were higher compared to those with transfemoral interventions. Furthermore, it was observed that the ease and relief scores of the patients who underwent transradial intervention were higher. In this regard, the advantages of the procedure in patients undergoing radial access angiography were reported in medical sources. While the chance of success and patient comfort increase in interventions performed by transradial access, the procedure time is shortened, and the complication rates are reduced. The risk of developing ischemia in the hand decreases due to double blood supply.^{11,33,34} In a study conducted to determine the effects of a vascular access method on patient comfort, it was determined that patients with the radial intervention felt more at ease and more comfortable and that the complaints of inactivity, defecation, micturition, and sleep were more in patients who underwent transfemoral intervention.¹³ In a study conducted with nurses responsible for post-procedure care in percutaneous coronary interventions, nurses indicated that radial access was more comfortable, less embarrassing and less complicated, patients were discharged early, and care was easier. In a study carried out in Lahore in 2021, it was determined that those with post-angiography femoral access experienced more local pain and more discomfort compared to those with radial access.¹⁵ In the study performed by Fens (2015) in the Netherlands, patients who underwent both radial and femoral interventions were questioned, two vascular access routes were compared based on the patient's perspective, and no access route was found to be superior. It was indicated that the vascular access decision was a preference-sensitive decision and that the importance of the procedure's features might vary according to the patient.¹² In the study, patients listed the most important issues for them as bleeding, length of hospital stay, and mobilization after the procedure. It was indicated that joint decision-making with healthcare professionals and patients might contribute to patient-centered care.

In the study conducted by Abd-Elmaged, Mohammed, Abd-algelil (2018), the satisfaction of patients, patients' families, and nurses on vascular access was examined, and it was determined that nurses were mostly more satisfied with the radial access, followed by patients and their relatives.³⁵ It was found that the majority of the patients and their relatives had insufficient information about the types of vascular access. According to patient references in the study of Vicki et al., it was determined that early mobilization increased comfort.³⁶ In the study conducted by Louvard et al. (2001), patient comfort was found to be higher in the transradial group. It was indicated that the majority of the patients (58%) who experienced both interventions preferred the radial intervention.³⁷ In the study carried out by Kok et al. and aimed at determining the vascular access preference of patients in elective coronary interventions, it was determined that 71.1% of the patients who had experienced both interventions preferred the transradial intervention.³⁸ The results of our study are similar to the literature data.

CONCLUSIONS

This study was conducted to establish a knowledge base on the general comfort level and sub-dimensions of comfort in patients undergoing PCI and to determine the comfort level perceived by the patient following transradial and transfemoral percutaneous coronary procedure. According to the results of the study, transradial access was performed in approximately two-thirds of PCI procedures while transfemoral access was performed in one-third of them, the general comfort level was above the average, the physical and environmental comfort was lower compared to other areas, and the comfort level was higher in transradial catheterization compared to transfemoral catheterization. In fact, both vascular access techniques should not be considered contradictory or mutually exclusive interventions. Instead, they should offer a wider range of therapeutic options to the intervention list. The nursing care of patients undergoing radial or femoral access angiography should be planned specifically for the patient. Comfort can be included among the advantages and disadvantages of vascular access routes in the information to be given to the patient while planning the coronary intervention. Measures can be taken to improve the comfort level of patients undergoing angiogra-

phy, especially in physical and environmental comfort areas. It may be recommended to plan experimental studies to improve the comfort level of patients undergoing angiography.

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TABLES

TABLE 1	Patients' Characteristics and Disease Details	Patients' Characteristics and Disease Details
Patients' characteristics	Patients' characteristics	n (%)
Gender	Gender	
Woman	Woman	52 (26)
Men	Men	148 (74)
Age	Age	

TABLE 1	Patients' Characteristics and Disease Details	Patients' Characteristics and Disease Details
20-39 y	20-39 y	13 (7)
40-59 y	40-59 y	93 (46)
>60y	>60y	94 (47)
BMI	BMI	
Normal	Normal	30 (15)
Overweight	Overweight	98 (49)
Obese	Obese	72 (36)
Marital status	Marital status	
Married	Married	185 (93)
Single	Single	15 (8)
Education	Education	
Illiterate	Illiterate	9 (5)
Lliterate	Lliterate	10 (5)
Primary School	Primary School	119 (60)
Lise	Lise	32 (16)
University	University	30 (15)
Employment	Employment	
Employed	Employed	67 (34)
No	No	133 (67)
Insurance	Insurance	
Private	Private	8 (4)
Social security	Social security	140 (70)
Other	Other	52 (26)
Income	Income	
Low	Low	23 (12)
Middle	Middle	147 (74)
High	High	30 (15)

TABLE 2	Patients' mean scores of the General Comfort Questionnaire dimensions and levels	Patients' mean scores of the General Comfort Questionnaire dimensions and levels	Patients' mean scores of the General Comfort Questionnaire dimensions and levels
		Mean (SD)	Min-Max
General comfort	General comfort	3.00 (0.30)	(2.2 - 3.7)
Comfort dimensions	Comfort dimensions		
Physical Comfort	Physical Comfort	2.89 (0.41)	(1.5 - 4.0)
sychospiritual Comfort	sychospiritual Comfort	3.21 (0.42)	(1.9 - 4.0)
Environmental	Environmental	2.92 (0.45)	(1.8 - 3.8)
Comfort	Comfort		
Sosyokültürel Konfor	Sosyokültürel Konfor	2.97 (0.35)	(1.8 - 3.8)
Comfort levels	Comfort levels		
Ease	Ease	3.02 (0.35)	(1.9 - 3.8)
Relief	Relief	3.01 (0.36)	(2.1 - 3.8)
Transcendence	Transcendence	2.96 (0.38)	(1.5 - 3.7)

TABLE 3 General Comfort Questionnaire total, dimension and level score averages by PCI access method

Comfort Questionnaire Dimensions and levels	Access method Transradial (n=134) Mean (SD)	Access method Transfemoral (n=66) Me
General comfort	3.11 (0.29)	2.98 (0,31)
Dimentions		
Physical Comfort	3.06 (0.41)	2.86 (0.40)
Psychospiritual Comfort	3.35 (0.43)	3.21 (0.41)
Environmental Comfort	3.01 (0.45)	2.85 (0.43)
Sosyokültürel Konfor	2.96 (0.34)	2.99 (0.37)
Levels		
Ease	3,. 2 (0.33)	3.01 (0.37)
Relief	3.12 (0.34)	3.00 (0.39)
Transcendence	2.98 (0.38)	2.92 (0.36)