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A Comparative study of patients' and nurses' perceptions of educational needs following percutaneous coronary intervention in Saudi Arabia

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The purpose of this study is to see if there are any differences in patients' and nurses' perceptions of patients' education needs. A descriptive cross-sectional design was used in this study, with revised cardiac patients and an education needs inventory (CPLNI). In this study, total enumeration was used, and there were 118 patients and 97 nurses who participated. SPSS version 26 was used to organize and analyze the data, and statistical tests such as frequency, percentage, mean, standard deviation, and t-test were used.

Physical activity received a 3.93 (0.74) and 4.53 (0.52) score, respectively, while medication information received a 4.94 (0.34) and 4.82 (0.39) score, respectively. Furthermore, a t-test revealed that there is a significant difference between patients' and nurses' overall perceptions of patient education needs (t (212) =5.47, p=0.001). Medication information should be prioritized first, according to both patients and nurses, while physical exercise should be the least of their concerns. Furthermore, nurses believe that patients in their care require more education than patients believe**.**

Keywords: Ha'il, Saudi Arabia, Health Education, Nurse, Percutaneous Coronary Intervention, Patient education Needs

INTRODUCTION

Nurses have a natural responsibility to provide health education. Conducting an education needs assessment is a crucial stage in this process. This is necessary so that nurses may choose which aspects of client education should be prioritized.

Education is an important instrument for patients' empowerment, and it aids in the promotion of health outcomes (Aghakhani, et al. 2012). An education needs assessment, according to Plicher (2016), is an important element in the planning process for health education. The inconsistency of patient and nurse perspectives on educational needs is one of the challenges to effective health education (Pryor & O'Connell, 2008). According to research, nurses are more likely to estimate their patients' education needs than their patients' perceptions (Smith, (2007); Yu, et al. (2016); Huriani, (2019)). There is currently no study comparing nurses' and patients' perceptions of patients' education needs in the Ha'il Region of Saudi Arabia.

The researchers were compelled to undertake this investigation because of all of these considerations. The goal of this study is to learn about the respondents' top education priorities and to compare and contrast the education needs of patients and nurses. This will be the region's first research of its kind. Furthermore, the findings of this study will serve as basis data for nurses and nurse leaders in the region, allowing them to create an education program that is custom-made to both patients and nurses. Furthermore, this research aspires to contribute to the paucity of literature on the subject.

MATERIALS AND METHODS

Research Design

This study adopted a descriptive research design to illustrate the respondent's education needs. Furthermore, the disparities in the respondents' education needs are examined in this study (Polit and Beck, 2010). Furthermore, this research was carried out at a precise period in time (Cherry and Gans, 2019). As a result, the research design was employed.

Population and Sampling

The patients in Post-Percutaneous Coronary Intervention (post-PCI) and the nurses caring for post-PCI patients are

the subject of this investigation. During the study, 118 post-PCI patients and 97 nurses were eligible to take part. To fully reflect the population, this study used number represents sample for both types of post-PCI respondents from April to May 2020. (Plitcha, and Garzon, 2009).

Ethical Consideration

The researchers got ethical approval from the University of Hail's Standing Committee for Research Ethics (SCRE) before to conducting the study. Furthermore, before collecting data, the researchers obtain consent from the hospitals' relevant authorities.

In addition, the respondents are provided a consent letter with the questionnaires that explains the goal of the study, the benefits and drawbacks, and the time required to complete the survey.

Instruments

The major data-gathering tool in this study was a survey. It is divided into two sections. Part I contains the demographic information for the patients. The revised cardiac patients education needs inventory was used to create Part II (CPLNI) (Turton, 1998). There are 37 items in all, divided into seven sections, in the questionnaire ('anatomy and physiology', 'psychological factors', 'risk factors', 'medication information', 'diet information', 'physical activity' and 'other pertinent information'. Each item starts with the stem 'I need to know.' The respondents were requested to score the items into five importance levels, from 'not important' (NI), to 'very important' (VI). Total scores vary from 40 to 200, and the mean score for each subscale or the entire scale can be calculated. A great need for information is indicated by higher scores.

A face validity review of the instrument was undertaken by five experts from clinical practice and academia, and it received a score of 4.25, indicating that the instrument has relatively strong face validity. Following the face validity evaluation, the researchers ran a pilot test to ensure that the instruments were internally consistent. A total of 25 nurses and patients took part in the pilot study. Cronbach's alpha yielded a value of 0.89 and 0.91, respectively, indicating that the instruments' internal consistency reliability is relatively strong.

Data Analysis

To describe the characteristics of the respondents' frequency, percentage and mean was utilized.

To describe the education needs of the respondents' mean was utilized. The scaling used in this study is described as follows:

1.00-2.33	Low
2.34-3.66	Moderate
3.67-5	High

In addition, a priority ranking was employed to determine the education needs. The t-test was used to look at the differences in the respondents' education needs.

RESULTS AND DISCUSSION

The demographic profile of post-coronary artery bypass graft patients is shown in Table 1. In terms of gender, the vast majority (61%) are male, while the remainder (39%) are female. In terms of age, the majority of participants (65.25 %) are over 47 years old, while others (34.75 %) are under 47 years old. When it comes to marital status, practically all of the participants (93.23 %) are married, and only a handful (6.77) are not.

The demographic profile of nurses caring for post-coronary artery bypass graft patients is shown in Table 2. In terms of gender, practically majority of them are female (93%) and only a few (7%) are male. In terms of age, practically all of the participants (92%) are under the age of 47, and only a handful (7%) are over the age of 47. In terms of marital status, the majority of participants (56%) are married, while others (44) are not.

The level of the respondent's education needs is represented in Table 3. Medication information has the highest importance for both patients and nurses, with mean (SD) scores of 4.94 (0.34) and 4.82 (0.39), respectively, while physical activity has the lowest priority, with mean (SD) scores of 3.93 (0.74) and 4.53 (0.52), respectively. These findings are consistent with those of Huriani (2019), who discovered that all patients getting cardiac care, as well as nurses providing cardiac care, prioritize medication information over physical activity. Furthermore, with mean SD scores of 4.41 (0.33) and 4.68 (0.34), the total education needs of patients and nurses are described as high.

The t-test found that there is no significant difference between the patient's and nurses' perceptions of anatomy and physiology ($t(212) = 1.77$, $p = 0.79$). However, a t-test demonstrated a significant difference in patient and nurse perceptions of patient education needs in terms of psychological aspects ($t(212) = 9.43$, $p = 0.001$). In terms of risk factors, a t-test found no significant difference between patient and nurse perceptions ($t(212) = -1.39$, $p = 0.17$). The t-test, on the other hand, demonstrated a significant difference between the patient's and nurses' perceptions of patient education needs on medication information ($t(212) = -1.39$, $p = 0.17$).

A t-test found that there is a significant difference between the patient's and nurses' perceptions of diet information ($t(212) = 6.01$, $p = 0.001$). In terms of physical activity, a t-test revealed a significant difference between patient and nurse perceptions ($t(212) = 5.46$, $p = 0.001$). In terms of other pertinent information, a t-test revealed a significant difference between the patient's and nurses' perceptions ($t(212) = -4.52$, $p = 0.001$).

Lastly, a t-test demonstrated that there is a significant difference between patients' and nurses' overall perceptions of patient education needs ($t(212) = 5.47$,

p=0.001). This finding is in line with Timmins & Kaliszer's (2003) findings, which revealed that nurses have a larger perceived need for cardiac patient information.

Table 3 shows that the education needs of both patients and nurses are of equal importance. This discovery is significant since patients' education needs frequently conflict with nurses' interventions (Alsaqri, 2020). Both patients and nurses recognize the need of accurate medication information. One of the most important duties of nurses is to provide health education, because education empowers patients, and empowered patients make better decisions about their health. Furthermore, this will improve their medication adherence (Katzung, 2018).

Table 1: Demographic profile of the post-PCI patients (N = 118)

Profile		Frequency	Percentage
Sex	Male	72	61
	Female	46	39
Age	< 47 years old	41	34.75
	47-56 years old	38	32.20
	older than 56 years	39	33.05
Marital Status	Unmarried	8	6.77
	Married	110	93.23

Table 2: Demographic profile of the nurses caring for post-PCI patients (N = 97)

Profile		Frequency	Percentage
Sex	Male	7	7
	Female	90	93
Age	< 47 years old	90	92
	47-56 years old	4	5
	older than 56 years	3	3
Marital Status	Unmarried	43	44
	Married	54	56

Furthermore, non-adherence, according to Salari et al. (2018), can lead to poor treatment outcomes. Physical activity, which was ranked last, should be taught to nurses and patients because it helps to improve cardiac functional status and delay or prevent atherosclerosis of the coronary artery after PCI (Cui, et al. 2012).

More analytical results in table 4 show the differences and similarities in the respondents' perceptions of their education needs. Their perspectives on anatomy and physiology, as well as risk factors, were consistent.

Table 3: The Perception of Patients and Nurses Regarding the Patients' Education Needs

CPLNI domain	Patients' perceptions		Nurses' perceptions	
	Total mean score ± SD	Rank	Total mean score ± SD	Rank
Anatomy Physiology	4.64±0.51	5	4.68±0.40	4
Psychological	3.82±0.82	4	4.69±0.44	3
Risk Factors	4.85±0.34	3	4.79±0.42	2
Medication Information	4.94±0.34	1	4.82±0.39	1
Diet Information	4.14 ±0.56	6	4.61±0.34	6
Physical Activity	3.93±0.74	7	4.53±0.52	7
Other Pertinent Information	4.89±0.35	2	4.65±0.53	5
Total education needs score	4.41±0.33	High	4.68±0.34	High
Total Respondents	118		97	

Table 4: The Difference between the perceptions of the Education Needs of the Respondents

Variable	t-value	df	p-value
Anatomy Physiology	1.77	212	0.79
Psychological	9.43	212	<0.001
Risk Factors	-1.39	212	0.17
Medication Information	-2.57	212	0.01
Diet Information	6.01	212	<0.001
Physical Activity	5.46	212	<0.001
Other Pertinent Information	-4.52	212	<0.001
Total Education Needs Score	5.47	212	<0.001

Table 4: The difference between the education needs of patients and nurses.

Variable	t-value	df	p-value
Anatomy Physiology	1.77	212	0.79
Psychological	9.43	212	<0.001
Risk Factors	-1.39	212	0.17
Medication Information	-2.57	212	0.01
Diet Information	6.01	212	<0.001
Physical Activity	5.46	212	<0.001
Other Pertinent Information	-4.52	212	<0.001
Total Education Needs Score	5.47	212	<0.001

These factors are equally important to them. Patients, on the other hand, believe that medication information and other pertinent information are more important than nurses' beliefs; this indicates that patients are more concerned about their immediate condition after PCI; this finding is consistent with Ong, et al. (2018).

While the nurses believe that psychological well-being, diet information and physical activity are more important than the patients' perspectives. This finding supports Kilonzo and O'nell's claims that nurses treat their patients holistically, focusing not only on immediate care but also on the long-term benefits of other factors related to patient care after PCI (2011).

Project Leonardo demonstrated the feasibility of

incorporating care managers (specially trained nurses) into the health care system to support doctors in the management of patients with CVD, diabetes, heart failure, or CVD risk. Care managers worked directly with individual patients, helping them to make lifestyle changes, monitoring their conditions, and providing the necessary information and advice to promote patient empowerment, enhance self-management skills, and achieve better compliance with care recommendation (Ciccone et al, 2010)

The major limitation of this study is that it only looks at the quantitative data; therefore, the researchers strongly advocate conducting a follow-up study to conduct a qualitative analysis to investigate further the other factors affecting the perspective of the two population groups. Furthermore, the researchers propose those patients' family members or significant others be included in the post-PCI treatment, as they play an important role in the patients' care.

CONCLUSION

According to the conclusions of the study, both patients and nurses believe that medication information should be prioritized first, while physical activity should be the least of their concerns. Furthermore, nurses believe that a patient in their care requires more education than patients believe.

CONFLICT OF INTEREST

The authors declared that present study was performed in absence of any conflict of interest.

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AUTHOR CONTRIBUTIONS

A.M, A.S designed and performleed the analysis and also wrote the manuscript. AV, TL, MS and DR reviewed the manuscript. All authors read and approved the final version.

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