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Patients' and nurses' perceptions of post-percutaneous coronary intervention learning needs in Saudi Arabia: A comparative study

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This study aims to examine the differences the perception of the patients and nurses regarding patients' learning needs. This study used a descriptive cross-sectional design; using revised cardiac patients, learning needs inventory (CPLNI). Total enumeration was utilized in this study and there were 118 patients and 97 nurses who participated in this study. Data was organized and analyzed using SPSS version 26, and statistical tests used were frequency, percentage, mean, standard deviation, and t-test. Medication information scored a mean (SD) score of 4.94 (± 0.34) and 4.82 (± 0.39) respectively, while physical activity scored of 3.93 (± 0.74) and 4.53 (± 0.52) respectively. Further, t-test revealed that there is a significant difference between the overall perception of the patients and nurses regarding the patient learning needs ($t(212) = 5.47, p < 0.001$). Both patient and nurses perceive that medication information should be prioritize first, while physical activity is the least concern. Moreover, the nurses perceive that patients under care needs more learning than the perception of the patients.

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

INTRODUCTION

Provision of health education is an innate responsibility of nurses. To achieve this, one critical step is conducting a learning needs assessment. This is important so that nurses will know what should be prioritized in educating their client.

Education is an essential tool to empower patients, thus, it helps in the improvement of health outcomes (Aghakhani, et al. 2012). According to Plicher (2016), a learning needs assessment is an essential step in the planning process in the conduct of health education. One of the barriers to effective health education is the incongruent views of patients and nurses when it comes to learning needs (Pryor & O'Connell, 2008). Research shows that most of the time nurses tend to rate the learning needs of their patients than the perception of their patients

(Smith, (2007); Yu, et al. (2016); Huriani, (2019)). Currently, in the Ha'il Region, Saudi Arabia, there is no existing study that compares the perception of nurses and patients regarding patients' learning needs.

With all these in mind, the researchers prompted to conduct this study. This study aims to know the learning needs priorities of the respondents, and to examine the difference between the learning needs of patients and nurses. This study will be the first of its kind in the region. Also, the findings of this study will be baseline data for the nurses and nurse leaders in the region to have a tailor-fit learning session for both patients and nurses. Further, this study hopes to add to the dearth of literature with the same theme.

MATERIALS AND METHODS

Research Design

This study utilized the descriptive- cross-sectional research design; this study presents the learning needs of the respondent. Also, this study looks at the differences between the learning needs of the respondents (Polit and Beck, 2010). Further, this study was conducted in a specific point of time (Cherry and Gans, 2019). Hence, the research design was used.

Population and Sampling

This study is focused on two categories of respondents namely: the patients in post PCI and the nurses caring for post PCI patients. During the conduct of the study, there were 118 post PCI patients, who were eligible to participate in the study and there were 97 eligible nurses.

This study used total enumeration sampling for both categories of respondents post PCI for April 2020- May 2020 to fully represent the population (Plitcha, and Garzon, 2009).

Ethical Consideration

Prior to the conduct of the study the researchers sought ethical approval from the Standing Committee for Research Ethics (SCRE) of the University of Hail. Further, the researchers also get the approval of the hospitals' concerned authorities before the actual data collection.

Furthermore, the respondents are given a consent letter attached to the questionnaires stating the purpose of the research, the pros and cons, and the time needed to complete the questionnaire.

Instrumentation

This study used a survey as the main data gathering instrument. It is composed of two parts. Part I consists of the patients' demographic data. Part II was adapted from the revised cardiac patients learning needs inventory (CPLNI) (Turton, 1998). The questionnaire has 37 items clustered into seven groups ('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 range from 40 to 200, and the mean score can be obtained for each subscale individually or

for the total scale. Higher scores indicate a high need for information.

Five experts in the clinical practice and academe conducted a face validity review of the instrument, and it scored 4.25, which indicates that the instrument has relatively high face validity. After the face validity review, the researchers conducted a pilot test to check the internal consistency of the instruments. There were 25 nurses and 25 patients who participated in the pilot test. Cronbach's alpha revealed a score of 0.89, and 0.91, respectively; which indicates that the instruments have relatively high internal consistency reliability.

Treatment of Data

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

To describe the learning 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

Further, to know the learning needs priority ranking was used. To look at the difference between the learning needs of the respondents, t-test was utilized.

RESULTS

Table 1 shows the demographic profile of the post-coronary artery bypass graft patients. Regarding sex, the great majority (61%) of them are male and some (39%) of them are female. Regarding age, the great majority (65.25%) of the respondents is more than 47 years old and some (34.75%) are less than 47 years old. Regarding marital status almost all (93.23%) of the respondents are married and very few (6.77) are not married.

Table 2 shows the demographic profile of the nurses caring for post-coronary artery bypass graft patients. Regarding sex, almost all (93%) of them are female and very few (7%) they are male. Regarding age, almost all (92%) of the respondents are less than 47 years old and very few (7%) are more than 47 years old. Regarding marital status majority (56%) of the respondents are married and some (44) are not married.

Table 3 depicts the level of the respondent's learning needs. Both patient and nurses perceives that medication information has the highest priority with mean (SD) score of 4.94 (± 0.34) and 4.82 (± 0.39) respectively, while physical activity is

their least priority with mean (SD) score of 3.93 (± 0.74) and 4.53 (± 0.52) respectively. These findings are congruent with the findings of Huriani (2019), wherein he found out that all of the patients receiving cardiac care, and nurses delivering cardiac care prioritizes medication information, and their least priority is physical activity. Further, the total learning needs of patient and nurses are describe as high with mean SD score of 4.41 (± 0.33) and 4.68 (± 0.34) respectively.

Regarding anatomy and physiology, t-test revealed that there is no significant difference between the perception of the patient and nurses regarding ($t(212)=1.77, p=0.79$). Meanwhile, t-test revealed that there is a significant difference between the perception of the patient and nurses regarding patient learning needs on psychological aspect ($t(212)=9.43, p<0.001$). Regarding risk factors, t-test revealed that there is no significant difference between the perception of the patient and nurses ($t(212)=-1.39, p=0.17$). On the other hand, t-test revealed that there is a significant difference between the perception of the patient and nurses regarding patient learning needs on medication information ($t(212)=-1.39, p=0.17$). Regarding diet information, t-test revealed that there is a significant difference between the perception of the patient and nurses ($t(212)=6.01,$

$p<0.001$). Regarding physical activity, t-test revealed that there is a significant difference between the perception of the patient and nurses ($t(212) =5.46, p<0.001$). Regarding other pertinent information, t-test revealed that there is a significant difference between the perception of the patient and nurses ($t(212) =-4.52, p<0.001$).

Finally, t-test revealed that there is a significant difference between the overall perception of patients and nurses regarding the patient learning needs ($t(212) =5.47, p<0.001$). This finding is consistent with the finding of Timmins & Kaliszer (2003), wherein they found out that nurses have a higher perceived need for cardiac patient in-formation.

The result in table 3 suggests that patients' and nurses' learning needs have the same priority. This finding is a good indication since patients' learning needs are often contradicting the nurses' intervention (Alsaqri, 2020). Both patients and nurses view the value of proper medication information. One of the key roles of nurses is giving health education and through education, patients are empowered, and when patients are empowered, they will have informed decision-making regarding their health. Further, this will increase medication adherence to their medication (Katzung, 2018).

Table 1: Demographic profile of the post-coronary artery bypass graft 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
	more than 56 years old	39	33.05
Marital Status	Not Married	8	6.77
	Married	110	93.23

Table 2: Demographic profile of the nurses caring for post-coronary artery bypass graft 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
	more than 56 years old	3	3
Marital Status	Not Married	43	44
	Married	54	56

Table 3: The Perception of patients and nurses regarding the patients' learning 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 learning 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 Learning 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 Learning Needs Score	5.47	212	<0.001

Table 4 reveals the difference between the learning needs of patients and nurses.

Also, according to Salari, et al. (2018), non-adherence can result in adverse treatment outcomes. Regarding physical activity which ranked the least, nurses and especially the patients should be educated regarding its importance because proper physical activity helps to improve cardiac functional status and delay or prevent atherosclerosis of the coronary artery after PCI (Cui, et al. 2012).

In table 4, more analytical results show the differences and similarities in the perception of the learning needs of the respondents. Their view on anatomy and physiology and risk factors did not vary. They value these factors with the same importance. On the other hand, patients' view that medication information and other pertinent information is more important than the views of nurses; this shows that patients are more concerned about their immediate condition after PCI; this finding is congruent to the finding of Ong, et al. (2018).

While the nurses' views that psychological well-being, diet information, and physical activity is more important than the views of the patients. This finding is a good indication that nurses are treating their patients holistically they are not only concerned on the immediate care but they are

also looking forward to the benefit of other factors related to the care of patients post PCI, this finding is consistent with the claims of Kilonzo and O'neil (2011).

The major limitation of this study is that it only looks at the quantitative data, therefore, the researchers strongly recommend making a follow-up study to make a qualitative analysis to explore deeper the other factors involving the perception of the two population groups. Further, the researchers also recommend the inclusion of the family members or significant others of the patients post PCI, since they also play a vital role in the care of the patients.

CONCLUSION

In light with findings of the study the researchers concludes that both patient and nurses perceive that medication information should be prioritize first, while physical activity is the least concern. Moreover, the nurses perceive that a patient under care needs more learning than the perception of the patients.

CONFLICT OF INTEREST

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

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AUTHOR CONTRIBUTIONS

SH wrote the manuscript, and performed data analysis. The author read and approved the final version.

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