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Patients' Perceptions of Their Learning Needs Post Percutaneous Coronary Intervention (PCI) In Saudi Arabia

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This study describes the demographic profile of post-Percutaneous Coronary Intervention (PCI) patients in Ha'il, Saudi Arabia, their learning needs, and the difference between their learning needs and their demographic profile. This study utilized a descriptive- cross-sectional research design, and total enumeration was employed with 118 respondents. A survey was the primary data-gathering tool, and data collection started in April 2020 up to May 2020. This study's statistical test is frequency, percentage, mean, t-test, and one-way ANOVA. Descriptive statistics revealed that the respondents are 61% male, 34.75% are less than 47 years old, 93.23% of the respondents are married, 52.24% had primary education, and 54.24% are not working. The grand mean (SD) score on the CPLNI is 4.45. Regarding sex t-test scored ($t(116)= 1.04$, $p=0.87$); regarding age, one-way ANOVA scored ($F(2)=1.47$, $p=0.24$); regarding marital status, t-test scored ($t(116)= 1.12$, $p=0.27$); regarding educational attainment, one-way scored ($F(2)=0.87$, $p=0.42$); regarding employment status, t-test scored ($t(116)=1.04$, $p=0.30$).The respondents who had undergone PCI in the Ha'il Region in Saudi Arabia are male-dominated, who are less than 47 years old, and are married who have primary education, and currently not working. To the respondents, their learning needs are essential, especially their current physical status. Generally, there is no variation in the views of the respondents in their learning needs. However, there are certain areas or topics that should be emphasized for specific demographic groups.

Keywords: Learning Needs, Post PCI Patients, Saudi Arabia

INTRODUCTION

According to the WHO (2020), cardiovascular disease is the leading cause of death worldwide, taking its toll to 17.9 million people every year. In the Eastern Mediterranean Region, cardiovascular disease accounts for 54% of deaths; in Saudi Arabia, cardiovascular disease's prevalence is 5.5% (WHO, 2020; Aljefree and Ahmed, 2015).

One of the core competencies of Nurses is health education. It is one of the significant roles of nurses to empower patients. Denehy (2001) claimed that health education is vital in all health settings. A patient who underwent percutaneous coronary intervention (PCI) needs much care since it is necessary. Nursing care for these patients includes comparative assessment, pain management, sheath removal, preventing possible complications, ambulation, ambulation, and health education. Patient education programs are considered vital strategies that can contribute to better health outcomes in cardiac diseases. (Sharma, Ghai, Rohit, Dutta, 2018).

Many factors can affect patients' learning; one-factor accessibility of information, medical knowledge is growing exponentially because of the internet- patients can reach information through their fingertips. This information is helpful, and some are stagnant or confusing if patients cannot utilize it. In addition, patients' learning needs are often incongruent with the interventions of nurses, which may lead to not meeting the learning needs of the patient (Alsaqri, Alkwiese, Shafie, Aldalaykey, Alboliteeh, 2020).

In Ha'il, Saudi Arabia there is no known organized education program for post PCI patients to empower them. In addition, there is little literature regarding the learning needs of post PCI patients in Saudi Arabia. This study hopes to add to that dearth of literature. In addition, learning needs assessment is crucial in developing and giving health education to post PCI patients. This study aims to assess the learning need of post PCI patients.

MATERIALS AND METHODS

Research Design

This study employed descriptive- cross-sectional research design. This study describes the demographic profile of the respondents and their learning needs. In addition, this study looks at the similarities and differences between the learning needs of the respondents (Polit and Beck, 2010). Hence, the mentioned research design was used.

Population and Sampling Scheme

This study is focused on the patients in post PCI in a specialized hospital in Ha'il, Saudi Arabia. The researchers made criteria for the respondents who can participate in this study, which includes the following: (1) 20 years or older. (2) Had undergone PCI. (3) Finished the instrument before discharge from the hospital; (4) used the Arabic or English language for verbal communication; (5) and were fully conscious. Exclusion to participate in this study includes (1) patients who did not undergo PCI. (2) Mental and cognitive problems. (3) Unable to communicate in Arabic or English. (4) Unconscious patients.

This study used total enumeration sampling for all patients post PCI for April 2020- May 2020 to adequately represent the population (Plitcha, and Garzon, 2009).

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, which includes sex, age, marital status, educational attainment, and employment status. 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.

Further, the CPLNI was translated into Arabic according to the techniques proposed by Cha, Kim, Erlin (2007). The instrument had undergone face validity through five experts in the clinical practice and academe. It yielded a 4.25 mean score among the experts, which means that it has relatively high face validity. Furthermore, content validity was also established for the modified Arabic version of the CPLNI through a pilot testing to patients in the Coronary Care Unit in a hospital in Ha'il, Saudi Arabia. It showed a relatively high internal consistency reliability (Cronbach's alpha = 0.91).

Ethical considerations

Standing Committee for Research Ethics (SCRE) – the University of Hail has reviewed and granted ethical permission. Before conducting the actual data collection, the researchers sought 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.

Data collection

Before discharge from the hospital, the final Arabic CPLNI instrument was given to five MI patients. Using a structured interview, data were collected from patients. The author offered a verbal explanation of the study's purpose, read each question, and wrote the answer based on the patient's response. Data collection commenced from April 2020 up to May 2020.

Data analysis

The Statistic Package for Social Sciences (SPSS) software package for Windows, version 25,

was used to analyze it. Descriptive and inferential statistics were used to answer questions of the study. For all tests, levels of statistically significant were established at (α) alpha < 0.05. The study sample's description and its demographic and patient perception made use frequency, percentage, and mean. An independent sample t-test was used to check the difference between the respondents' perceived learning needs and their sex, marital status, and employment status. In addition, one-way ANOVA was used to check the difference between the perceived learning needs of the respondents and their age and educational attainment.

RESULTS AND DISCUSSION

Table 1 summarizes the demographic profile of the respondents; it shows that the great majority (61%) are male. The highest percentage of the respondents' age group is from less than 47 years old (34.75%). Almost all (93.23%) of the respondents are married. The majority of the respondents had primary education (52.24%). Finally, the majority (54.24%) of the respondents are not working.

Table 2 shows the mean (SD) score of the learning need of the respondents. The subscale that garnered the highest score is medication information with a mean SD score (4.94, ±0.34). However, the lowest subscale mean (SD) score is psychological (3.83, ±0.82). The grand mean (SD) is 4.45, which is equivalent to very important.

Table 3 reveals the difference between the learning of the respondents when grouped according to profile. Regarding sex, the t-test revealed no significant difference in the overall learning needs of both sexes (t(116)= 1.04, p=0.87). Regarding age, one-way ANOVA revealed no significant difference in the learning needs of the three age groups (F(2)=1.47, p=0.24). Regarding marital status, the t-test revealed no significant difference between the learning needs married and not married respondents (t(116)= 1.12, p=0.27). One-way ANOVA revealed no significant difference between the three levels of education (F(2)=0.87, p=0.42). Regarding employment status, the t-test revealed that there is no significant difference between the learning needs on=f the working and not working respondents (t(116)=1.04, p=0.30).

Table 4 reveals the difference in the subscale of learning needs assessment when the group, according to the respondents' profile. Regarding sex, the t-test reveals that male respondents need more learning on physical activity (t(116)=2.01, p=0.04). Regarding age, one-way ANOVA revealed that less than 47 years old and 56 years old and above need more learning on physical activity (F(2)=5.00, p= 0.01). Regarding marital status t-test revealed that married respondents needs more learning on risk factors (t(116)=4.57, p=<0.001), and other pertinent information (t(116)=3.32, p= 0.001). Regarding educational attainment, one-way ANOVA revealed that those patients who had secondary education need more education on physical activity (F(2)=0.87, p=0.03). Finally, the t-test revealed that those not working need more learning on other pertinent information (t(116)=2.44, p= 0.02).

Table 1: The Distribution of Respondents according to Profile

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
Educational Attainment	No school education	18	15.25
	Primary school education	62	52.54
	Secondary school education	38	32.21
Employment Status	Not Working	64	54.24
	Working	54	45.76

Table 2: The Mean Score of the Learning Needs of the Patient

Components of Learning Needs	Mean	SD
Anatomy Physiology	4.64	±0.51
Psychological	3.83	±0.82
Risk Factors	4.85	±0.34
Medication Information	4.94	±0.34
Diet Information	4.14	±0.56
Physical Activity	3.93	±0.74
Other Pertinent Information	4.89	±0.35
Grand Mean	4.45	±0.33

Table 3: The Difference between the Total Learning Needs of the Respondents When Group according to Profile

Variable		Mean	SD	Test Value	df	p
Sex	Male	4.45	±0.34	(t) 0.17	116	0.87
	Female	4.44	±0.30			
Age	< 47 years old	4.50	±0.35	(F) 1.47	2	0.24
	48-56 years old	4.38	±0.28			
	more than 56 years old	4.46	±0.34			
Marital Status	Not Married	4.57	±0.27	(t) 1.12	116	0.27
	Married	4.44	±0.33			
Educational Attainment	No school education	4.46	±0.27	(F) 0.87	2	0.42
	Primary school education	4.41	±0.36			
	Secondary school education	4.50	±0.28			
Employment Status	Not Working	4.48	±0.28	(t) 1.04	116	**0.30**
	Working	4.41	±0.37			

Table 4: The Significant Difference on the Subscale of Learning Needs Assessment when Group according to Respondents Profile

Variable		Test Value	df	p
Profile	**Subscale**			
Sex	**Physical activity**	(t) 2.01	116	0.04
Age	**Physical activity**	(F) 5.00	2	0.01
Marital Status	**Risk factors**	(t) 4.57	116	<0.001
Marital Status	**Other pertinent information**	(t) 3.32	116	0.001
Educational Attainment	**Physical activity**	(F) 0.87	2	0.03
Employment Status	**Other pertinent information**	(t) 2.44	116	0.02

DISCUSSION

Regarding the respondents' profile, male respondents who underwent PCI outnumbered the female; this is congruent with the claim of Milcent, Dormont, Zaleski, and Steg (2007), which is, male dominates the occurrence of patients undergoing

PCI. Regarding age, the summed number of the respondents who are 47 years old and above constitutes the great majority who had undergone PCI; this trend is also seen around the world (Shanmugam, Harper, Meredith, Malaiapan, Psaltis, 2015). There is also a relationship between the age and the risk for vascular complications; as age advances, the risk also increases (Bauer & Zeymer, 2010; Vandermolen, Abbott, De Silva, 2015). Regarding marital status, the study's findings oppose the claims Swaby, Tan, Bagai, Yan, et al. (2018), who claim that unmarried people have an increased risk for adverse cardiovascular events. Regarding educational attainment, it shows that the respondents have minimum to low education level; further, no school education and primary school education constitute almost 75% of the respondents. This study's findings support the claim of Huo, Khera, Zhang, Herrin, et al. (2019), wherein they claim that low education level persons put them at higher risk in developing cardiovascular adverse events. Regarding employment status, according to Biering, Torsten, Nielsen, Rasmussen, Niemann, & Hjollund (2012), people with coronary disease leave their work faster than those who do not have the disease, which is evident with the findings of this study.

Regarding the learning needs of the post PCI patients, it shows that the patients are more concerned on their current physical state rather than their psychological state; this finding supports the claims of Kilonzo and O'Connell (2011) that patients with PCI care more on their physical health rather than their psychological state. Many factors could contribute about this finding one factor is masculinity since the great majority of the respondents are male; it is known that male does not want to talk about their feelings (McDonald, 2018).

Regarding the difference in the respondents' learning needs, generally, there is no variation needed in the programs for the different demographic profiles. Instead, the educational program for this group of patients should be tailor-fit to focus on physical activity, risk factors, and other pertinent information for specific demographic groups. A tailored educational program will address the needs of the patient, and it also shows that it is more effective than a non-tailored educational program (Kreuter, Oswald, Bull, and Clark, (2000); Emmert, Kast, Sander, (2019)). Also, people cannot deny that it is educating patients to empower them; this will also help them make informed decisions, thus preventing regrets in healthcare (O'Connor, 2020).

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CONCLUSION

The respondents who had undergone PCI in the Ha'il Region in Saudi Arabia are male-dominated, less than 47 years old, married, have primary education, and are currently not working. To the respondents, their learning needs are essential, especially their current physical status. Generally, there is no variation in the views of the respondents in their learning needs. However, there are certain areas or topics that should be emphasized for specific demographic groups.

CONFLICT OF INTEREST

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

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AUTHOR CONTRIBUTIONS

MJ and JH wrote the manuscript. SH, ZM, and EP performed data analysis. MJ and SH reviewed the manuscript. All authors read and approved the final version.

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