Original Article

Educational Program on Patients' Knowledge of Medication Therapy after Percutaneous Coronary Intervention

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ABSTRACT

Objective: To evaluate an education program to improve patient knowledge of their prescribed medications after they have had a percutaneous coronary intervention

Study Design: Quasi-experiment study

Place and Duration of Study: This study was conducted at the Al-Nasiriyah Heart Center in Thi-Qar Iraq, from 19th March 2025 to 25th May 2026.

Methodology: Randomly chosen from the population of 100 patients, 50 were assigned to the Study Group and 50 to the Control Group. The study group and control group each had 50 participants. Data were collected using a standardized survey with two components; demographics & section, medication knowledge post percutaneous coronary intervention (n=16 items).

Results: Majority of the study group participants were aged 54 to 60 years, with males comprising 64%. Primary school education was the most frequent level (28%), Worker constituted 56% of the occupational distribution, and 90% were married. Pre-test assessments indicated a poor baseline knowledge level (82%) among the study group, whereas post-test evaluations demonstrated a 100% good knowledge level, reflecting statistically significant improvements.

Conclusion: Implementation of the educational program substantially enhanced patient awareness regarding medication management after percutaneous coronary intervention.

Key Words: Knowledge, Medication, Percutaneous coronary intervention.

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INTRODUCTION

Percutaneous Coronary Intervention (PCI) stands as a globally prevalent medical intervention.[1] This revascularization technique serves elective purposes for managing angina in stable coronary artery disease or urgent interventions for acute coronary syndromes.[2] A primary advantage of successful PCI involves enhancing myocardial perfusion while circumventing the extended recovery associated with coronary artery bypass surgery. Although major complications remain uncommon, mortality risks persist.[3] Post-procedural ischemic events primarily stem from platelet-driven mechanisms that cause thrombus development at sites of mechanical plaque rupture, alongside distal embolization into the coronary microvasculature.[4] Furthermore, the long-term efficacy of endovascular procedures can be constrained by subsequent reinfarction, stent thrombosis, and restenosis. Nevertheless, administering proper dosages of antiplatelet agents successfully mitigates these complications.[5] Antiplatelet management serves as a crucial adjunctive treatment for minimizing ischemic complications following PCI.[6] As an oral thienopyridine antiplatelet medication, clopidogrel selectively and permanently blocks platelet ADP receptors. Utilizing clopidogrel post-intervention has evolved into standard practice for secondary cardiovascular risk reduction. The therapeutic efficacy of clopidogrel in PCI patients, with prevailing guidelines advocating its use for a minimum duration of 12 months.[4]

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METHODOLOGY

This quasi-experiment study was carried out at Al-Nasiriyah Heart Center in Thi-Qar Iraq from 19th March 2025 to 25th May 2026. The total number of

participants sampled for the study was 100 patients that were randomly assigned into one of two sample groups with an equal distribution of fifty (50) participants in each sample group (control group and study group). A structured data collection instrument with two sections was used to collect information from the study participants. The first section gathered demographic variables encompassing six items (age, gender, educational level, occupational status, marital status and monthly income, while the second section evaluated patient comprehension regarding post-percutaneous coronary intervention medication therapy through 16 questions. Content validity was established through expert review, and instrument reliability was assessed via a pilot study. Statistical evaluation of the data was conducted using SPSS-26, applying both descriptive and inferential analytical methods.

RESULTS

The analysis of demographic data indicated that the largest percentage of participants in the study group ranged in age from 54 to 60 years. Males constituted the largest share of the sample at 64%. Regarding educational attainment, primary school education was most prevalent, accounting for 28% of the cohort. Occupational distribution indicated that 56% of the patients were laborers, while the vast majority, 90%, reported being married (Table 1).

Overall knowledge assessments demonstrated that study group participants exhibited a deficient baseline level of understanding during the pre-test phase at 82%, which shifted entirely to a proficient level at 100% during the post-test evaluation, signaling a substantial transformation in cognitive awareness. Conversely, the control group maintained predominantly poor knowledge levels across both the pre-test (84%) and post-test (94%) periods (Table 2).

Comparative statistical evaluations confirmed that the educational program exerted a highly significant positive impact on participants' medication comprehension following percutaneous coronary intervention, as demonstrated by a strong statistical significance at a p-value of 0.001 within the study cohort. In contrast, the control group displayed no significant differences between evaluation periods (Table 3).

Table No. 1: Distribution of patients according to their demographic variables (n=100)

Variable	Study Group (n=50)		Control Group (n=50)	
	No.	%	No.	%
Age (years)				
28 – 35	1	2.0	-	-
36 – 43	4	8.0	7	14.0
44 – 51	22	44.0	16	32.0
52 – 59	21	42.0	24	48.0
Gender				
Male	32	64.0	30	60.0
Female	18	36.0	20	40.0
Level of education				
Read & write	11	22.0	8	16.0
Primary school	14	28.0	22	44.0
Intermediate school	10	20.0	9	18.0
Secondary school	5	10.0	5	10.0
Diploma	3	6.0	4	8.0
University	7	14.0	2	4.0
Occupation				
Unemployed	9	18.0	11	22.0
Worker	28	56.0	24	48.0
Employee	13	26.0	10	20.0
Retired	-	-	5	10.0
Marital status				
Single	-	-	-	-
Married	45	90.0	49	98.0
Widowed/er	5	10.0	-	-
Divorced	-	-	1	2.0
Monthly income				
Insufficient	31	62.0	32	64.0
Barely sufficient	15	30.0	15	30.0
Sufficient	4	8.0	3	6.0

Table No. 2: Overall assessment of patients' knowledge about medication therapy post percutaneous coronary intervention

Levels of knowledge	Study Group (n=50)						Control Group (n=50)					
	Pre-test			Post-test			Pre-test			Post-test		
	No.	%	Mean±SD	No.	%	Mean±SD	No.	%	Mean±SD	No.	%	Mean±SD
Poor	41	82.0	2.98±2.83	-	-	15.18±089	42	84.0	3.42±2.58	47	94.0	3.59±2.57
Fair	8	16.0		-	-		7	14.0		3	6.0	
Good	1	2.0		50	100.0		1	2.0		-	-	

Table No. 3: Educational program on patients' knowledge about medication therapy post percutaneous coronary intervention

Knowledge	Study Group (n=50)					Control Group (n=50)				
	Mean±SD	t	df	P value	Sig.	Mean±SD	t	df	P value	Sig.
Pre-test	2.98±2.83	31.419	49	0.001	HS	3.42±2.58	2.428	49	0.124	NS
Post-test	15.18±0.89					2.59±2.57				

DISCUSSION

Analysis of the demographic variables indicated that the largest age cohort within the study group ranged between 44 and 60 years, representing 44% of the participants - a finding consistent with Oliveira-Filho et al[7], who observed a prominent age group around 52 years. Males predominated the sample at 64%, which aligns with the gender distribution reported by Saleem et al.[8] Regarding education, individuals with primary school education formed the largest segment at 28%, corroborating the results of Bisiriyu.[9] Occupationally, laborers constituted 56% of the cohort, supporting observations by Hajialibeigloo et al[10] concerning working demographics. Additionally, married individuals accounted for 90% of the sample, matching patterns noted by Bisiriyu[9] while 62% reported insufficient monthly income, reinforcing findings by Abd-Ali and Al-Rubaiyee[11] regarding low-income patient populations.

Baseline evaluations revealed that participants initially exhibited a deficient level of medication comprehension during the pre-test phase. Conversely, post-test assessments demonstrated a proficient standard of knowledge, indicating a substantial cognitive improvement. These results correspond with Saud and Hassan[12] and Al-Najjar[13] who similarly noted poor pre-intervention drug awareness followed by significant post-test enhancements.

A statistically significant difference was observed in patients' medication knowledge before and after the implementation of the instructional program within the study group.. This upward shift underscores the clear efficacy of the structured educational intervention. These findings parallel those of Windecker et al[14], who recorded improved post-test scores following educational training, and Magadza et al[15], who documented a marked increase in medication-related understanding upon completion of a targeted teaching program.

CONCLUSION

Implementation of the educational program substantially enhanced patient awareness regarding medication management after percutaneous coronary intervention.

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Author's Contribution:

Concept & Design or acquisition of analysis or interpretation of data:	Zainab R. Lafta
Drafting or Revising Critically:	Zainab R. Lafta
Final Approval of version:	The above author
Agreement to accountable for all aspects of work:	The above author

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