

## THE EFFECTIVENESS OF VIDEO ASSISTED TEACHING PROGRAMME ON KNOWLEDGE REGARDING PERCUTANEOUS TRANSLUMINAL CORONARY ANGIOPLASTY AMONG NURSING STAFF

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### ABSTRACT

### INTRODUCTION

Percutaneous Transluminal coronary Angioplasty (PTCA) is an increasingly important revascularization strategy in coronary artery disease management and can be an emergent planned or rescue procedure. Nurses play a critical role in delivering care both in the independent and collaborative contexts of PTCA management. To improve the care given to patients, it is important to base practice on high level evidence. The study was carried out to assess the knowledge regarding percutaneous transluminal coronary angioplasty among nursing staff and to evaluate the effectiveness of video assisted teaching programme.

### MATERIAL AND METHODS

Quasi experimental one group pre-test post-test research was done. The target population for the study were nursing staff working in Universal College of Medical Sciences (UCMS), Bhairahawa and those who were willing to participate were included in the study and non-willing staff were excluded. The total duration of study was three months from 25/07/2018 to 22/10/2018. Convenient sampling technique was used for the study. Among 102 nursing staffs, 62 nursing staff were participated in the study. The time taken to complete the demographic data and questionnaire was 20-30 minutes. On the same day after the pre-test video assisted teaching programme was administered to the subject to assess the knowledge regarding Percutaneous Transluminal coronary angioplasty. Post-test was conducted with the same questionnaire on the seventh day of pre-test. Data was collected using structured questionnaire. Statistical analysis was done using SPSS version 20.0.

### RESULTS

The findings of the study revealed that only 1.6% of the nurses had adequate level of knowledge before video assisted teaching programme which increased to 64.5% in post-test.

### CONCLUSION

The knowledge score of most of the nurses on PTCA was moderate before the administration of video assisted teaching programme whereas as most of the nurses had adequate knowledge score after the teaching. There was overall gain in knowledge score following the video assisted teaching programme.

**KEYWORDS** Knowledge, Nurses, PTCA, Video assisted teaching

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## INTRODUCTION

An estimate 17.5 million people died from CVD in 2012 representing 31% of all global death of these death an estimated 7.4 million were due to coronary heart disease.<sup>1</sup> Cardiovascular diseases are major and growing contributors to mortality and disability in South Asia. Cardiovascular disease refers to any disease that affects the cardiovascular system, principally cardiac disease, vascular diseases of the brain and kidney, and peripheral arterial disease. The causes of cardiovascular disease are diverse but atherosclerosis and hypertension are the most common. Coronary heart disease is one of them, as well as there is many treatment for coronary heart disease, Percutaneous Transluminal Coronary Angioplasty (PTCA) is one of the treatment of this problem.<sup>2,3</sup> PTCA is an increasingly important revascularization strategy in coronary artery disease management and can be an emergent, planned or rescue procedure.<sup>4</sup> Nurses play a critical role in delivering care both in the independent and collaborative contexts of PTCA management. To improve the care given to patients, it is important to base practice on high level evidence. Over recent decades, technological individuals undergoing advances adjuvant therapies and new indications for stenting have increased the use of this vascularisation modality.<sup>5</sup>

The process of caring for the patient population has changed dramatically over the past years, with many of the changes being driven by an evolution in the knowledge base underlying nursing practice.<sup>6</sup> As a Nurse who will work in the cardiac catheterization laboratory of a tertiary level hospital in performing emergent, planned and rescue procedures; this study is much needed to improve the standard of care given to patients undergoing PTCA. So, this study was done to assess the knowledge regarding percutaneous transluminal coronary angioplasty among nursing staff and to evaluate the effectiveness of video assisted teaching on knowledge regarding percutaneous transluminal coronary angioplasty among nursing staff.

## MATERIAL AND METHODS

Quasi experimental one group pre-test post-test research was carried out at UCMS, Bhairahawa. Post-test was carried out one week after video assisted teaching. Ethical clearance was obtained from research committee of UCMS, Bhairahawa and written informed consent was obtained from all the participants. The target population for the study is comprised of the nursing staff working in UCMS, Bhairahawa. Nursing staffs working in UCMS, Bhairahawa were included in the study and non-willing staff were excluded. Sixty two participants were selected using convenient sampling. Data was collected using structured questionnaire. Statistical

analysis was done using SPSS version 20.0.

## RESULTS

**Table 1. Nurses' score on pre and post-test** n=62

Score	Statement	Range	S.D.	Mean
Pre-test	28	6-21	3.96	13.63(48.7%)
Post-test	28	7-26	5.21	19.77 (70.6%)
Effectiveness				6.14 (21.9%)

Table 1 shows there was significant association between video assisted teaching programme and improvement in mean score ( $p < 0.001$ )

**Table 2. Nurses' level of knowledge regarding PTCA** n=62

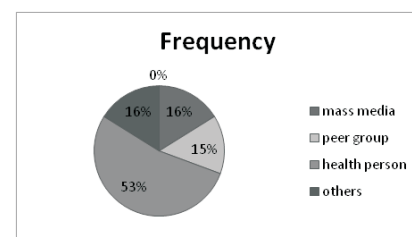
Level of knowledge	Number of participants		Number of participants		P value
	Pre-test	(percent)	Post-test	(percent)	
Inadequate (score <10)	16	25.8%	5	8.1%	0.001
Moderate (score 10-19)	45	72.6%	17	27.4%	
Adequate (score $\geq 20$ )	1	1.6%	40	64.5%	
Total	62	100%	62	100%	

Table 2 shows 1.6% had adequate level of knowledge, 72.6% had moderate and 25.8% had inadequate level of knowledge regarding PTCA before video assisted teaching programme while 64.5% had adequate level of knowledge, 27.4% had moderate and 8.1 % had inadequate level of knowledge regarding PTCA before video assisted teaching programme. There was statistically significant improvement in the mean score of after video assisted teaching programme.

**Table 3. Duration of nurses' experience and pre-test** n=62

Experience in years	N	Mean pre-test score
<1	13	11.69
1-3	20	14.10
>3	29	14.17

Table 3 shows there was no significant association between duration of experience and pre-test score ( $P=0.14$ )



**Figure 1. Source of information regarding PTCA**

As shown in Figure 1, 53% of participants had information of PTCA from health persons, 16% had information of PTCA from mass media and others and 15% had information of PTCA from peer group.

## DISCUSSION

Finding of the study showed that most of the nurses (72.6%) had intermediate level of knowledge and only one participant (1.6%) had adequate knowledge regarding PTCA before video assisted teaching programme while 25.8% had inadequate knowledge. The mean pre-test score was 48.7%-13.63 (SD 3.96) and the mean post-test score was 70.6%-19.77 (SD 5.21). There was statistically significant improvement in the mean score of after video assisted teaching programme. Improvement of 21.9% was achieved in mean score in this study. This finding was consistent with study by Mishra M et al<sup>7</sup> where pre-test score was 40% that improved to 83.31%. Though both studies showed improvement in post-test knowledge score, the latter had marked improvement in the mean score percentage of 43.31%, which may be due to the fact that the participants in their study were nurses working in cardiac unit. Similar to this study most of the participants had intermediate knowledge, none had adequate knowledge in pre-test and none had inadequate knowledge in post-test after intervention.

The effectiveness of video assisted teaching programme was also consistent with study by Lukose BS et al<sup>8</sup> where the knowledge scores of staff nurses regarding the pre and post procedural nursing care of PTCA had revealed that, post-test mean knowledge score was found higher 23.58 (78.6%) and SD of 2.52 when compared with pre-test mean knowledge score which was 13.28 (44.27%) with SD of 2.48. The mean effectiveness score was 10.3 (34.33%) with SD of 2.53. The results of these studies indicate the effectiveness of video assisted teaching programme in improving knowledge of the staff nurses.

In this study most of the nurses were experienced for more than three years where as only 13 had experience of less than one year and 20 had experience in between. Mean pre-test score achieved by nurses experienced for more than three years was 14.17 (50.6%), and that of nurses with less experience (<1 year) was only 11.69 (41.75%). Though this finding was statistically not significant, was consistent with study by Chanu LS et al<sup>9</sup> which showed more experienced nurses had more knowledge regarding PTCA as compared to less experienced nurses. Not having a control group and small sample size were the main limitations of the study.

## CONCLUSION

The knowledge score of most of the nurses on PTCA was

moderate before the administration of video assisted teaching programme whereas most of the nurses had adequate knowledge score after the teaching. There was overall gain in knowledge score following the video assisted teaching programme. Though nurses with more experience had higher mean pre-test score it was not significant statistically. Video assisted teaching programme was beneficial in improving the knowledge of nurses regarding PTCA.

## ACKNOWLEDGEMENTS

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