

Research Article

A Study to Assess the Effectiveness of Educational Package on Cardiac Assessment Regarding Knowledge and Practice among BSc Nursing Students of Kheda, Anand Distric

Jinal Patel¹, Virendra Jain²

¹Final Year M.Sc. Nursing Student, Dinsha Patel College of Nursing, Nadiad.

²Principal, Dinsha Patel college of nursing & HOD of Medical surgical Nursing Department, Dinsha Patel College of Nursing, Nadiad.

DOI: <https://doi.org/10.24321/2348.2141.202302>

I N F O

Corresponding Author:

Virendra Jain, Dinsha Patel college of nursing & HOD of Medical surgical Nursing Department, Dinsha Patel College of Nursing, Nadiad.

E-mail Id:

principaldpcn@gmail.com

How to cite this article:

Patel J, Jain V. A Study to Assess the Effectiveness of Educational Package on Cardiac Assessment Regarding Knowledge and Practice among BSc Nursing Students of Kheda, Anand Distric. Trends Nurs Adm Edu. 2023;12(2):1-6.

Date of Submission: 2023-08-08

Date of Acceptance: 2023-09-12

A B S T R A C T

Background: Cardiovascular disease is the world's leading reason for death. In 2019, 17.9 million individuals passed on from CVDs, containing 32% of worldwide mortality. (World health Association, 2021) An exhaustive, deliberate patient evaluation is vital in the administration and care of a patient with cardiovascular illness. Evaluation can be portrayed as 'an organized assortment of data concerning the patient's wellbeing status which plans to recognize the patient's ongoing wellbeing status, genuine and potential medical conditions and regions for wellbeing improvement.

AIM: The current study is aimed to assess the effectiveness of educational package on knowledge and practice regarding cardiac assessment among selected BSc nursing students.

Objective:

1. To Assess the Pre-Post Test Level of Knowledge Regarding Cardiac Assessment among Selected BSc Nursing Students of Kheda and Anand District.
2. To Assess the Pre-Post Test Level Practice Regarding Cardiac Assessment among BSc Nursing Students of Kheda and Anand District
3. To Assess the Effectiveness of Educational Package Regarding Cardiac Assessment of Selected BSc Nursing Students of Kheda and Anand District.
4. To Find out Association of Demographical Variable Between Knowledge and Practice Regarding Cardiac Assessment among Selected BSc Nursing Students of Kheda and Anand District.

Methodology Design and Setting: A Quasi-Experimental research design were used and convenient sampling method was used to drawn

samples. The tool validation from various subject experts, all questions were given to the students and informed consent form also has been conducted for data collection from the samples. Prior to data collection written setting permission obtained from Principals of various college, for the data collection researcher were selected colleges at Nadiad, Anand district. The total sample size was 100 students.

The tool consists of following

Section A: Sociodemographic variables.,

Section B: Knowledge questionnaire related to cardiac assessment.

Section C: Practice checklist related to cardiac assessment.

Result: Information uncovers that the pre-test knowledge mean score of samples was 15.79 and SD was 3.790, post-test knowledge mean score was 22.06 and SD 2.915. The pre-test Practice mean score of samples was 15.12 and SD was 3.406 and post-test practice mean score was 21.38 and SD was 2.915. The comparison between pre interventional knowledge and practice among BSc nursing students had significant difference with the 't' value. The paired t test value knowledge (20.68) and practice (22.03). hence there exists significance effectiveness on level of knowledge and practice before and after administration of education package among nursing students.

Conclusion: The study concluded that educational package was effective in increasing the knowledge and practice regarding cardiac health assessment among selected nursing students. The choice of learning strategies in nursing education seems to have great impact on nursing students use of cardiac assessment skills while in clinical rotation. There is a need to explore nursing students learning processes related to the use of cardiac assessment.

Keywords: Cardiac assessment, Knowledge, Practice, Nursing students, Educational Package Effectiveness

Introduction

The biggest cause of death worldwide is cardiovascular disease. 17.9 million persons worldwide died from CVDs in 2019, accounting for 32% of all deaths. (WHO, 2021)¹ One-fifth of these deaths worldwide, particularly among the younger population, occur in India. According to the findings of the Global Burden of Disease study, India has an age-standardized CVD death rate of 272 per 100,000 people, significantly higher than the global average of 235. Indians are affected by CVDs ten years earlier than people in the west. Early age of beginning, quick progression, and high death rate are particularly concerning factors for us Indians with regard to CVD. The highest rates of coronary artery disease (CAD) are known to occur in Indians, yet the usual risk factors are unable to account for this elevated risk.²

The physical examination must include a cardiac assessment.³ Given the advancement of new technology, there appears to be a decline in the general level of competency in cardiac assessment diagnostic abilities.⁴ In order to effectively treat and care for a patient with heart illness, a thorough, methodical patient assessment is required. An organized gathering of data regarding the issues and potential areas for health improvement can be referred to as assessment.

According to the NHS Management Executive (1991) and the United Kingdom Central Council of Nursing, Midwifery, and Health Visiting (UKCC) (1992), there is an increasing expectation that nurses with the necessary training and experience will be able to conduct assessments that were previously done by doctors.⁵ A comprehensive cardiac examination can help a doctor improve the next step in the clinical diagnosis, save pointless diagnostic tests, and help the patient develop trust through touch. Nurses are in charge of determining patients' overall health by ongoing medical evaluation and fast, appropriate intervention in response to changes or deterioration in general health. Even though cardiac examination is an important part of the nursing curriculum, past research indicates that only 11–29% of evaluation procedures taught in nursing schools are actually employed on a daily basis.⁶

The ability to do a cardiac examination has always been regarded as one of the most important skills taught throughout medical school, resulting in a more economical use of diagnostic services. The therapeutic effect of human touch cannot be measured, but these abilities increase direct interaction with patients as well.⁷

Objective:

1. To Assess the Pre-Post Test Level of Knowledge Regarding Cardiac Assessment among Selected BSc Nursing Students of Kheda and Anand District.
2. To Assess the Pre-Post Test Level Practice Regarding Cardiac Assessment among BSc Nursing Students of Kheda and Anand District
3. To Assess the Effectiveness of Educational Package Regarding Cardiac Assessment of Selected BSc Nursing Students of Kheda and Anand District.
4. To Find out Association of Demographical Variable Between Knowledge and Practice Regarding Cardiac Assessment among Selected BSc Nursing Students of Kheda and Anand District.

Materials And Methods

Research Approach: Quantitative Research approach was used for the current study.

Research Design: Quasi Experimental Research Design One group pre-test post-test was used to draw the study participants in the study.

Research Variables: There are two types of variables considered under the study as follows

Independent variable: Educational package which is provided to the study participants to enhance their knowledge and Practice toward cardiac assessment.

Dependent variable: Knowledge and practice of the college students.

Demographic variable: Age, Gender, Place of residence, residential status, previous exposure of cardiac assessment class etc.

Sampling method: In this research study, non-Probability sampling technique (convenient sampling technique) was used for data collection from the study population. For drawing the final samples from the population research has used Computerised tabulation method under simple random technique.

Study population: It considered all the College Students who were study under the study setting area.

Study Sample: Students who are studying in second year of BSc nursing.

Study Setting: Dinsha Patel college of nursing (Nadiad), Knowledge nursing institute (Anand) college has been selected for the main study setting and data collect from the students.

Sample Size: 100 students

Sample Criteria**Inclusion Criteria**

- Students Those Studying In 2nd Year BSc Nursing.
- Both Male and Female Students of Nursing.
- Students Who are Present During the Time of Data Collection.

Exclusive Criteria

- Students who will not be available at the time of data collection.

Tool for Data Collection

Section A: Sociodemographic variables.

Section B: Knowledge questionnaire related to cardiac assessment. Section C: Practice checklist related to cardiac assessment.

Result

Section I: Distribution of Sample Characteristics According To Socio Demographic Variables of Participants

Table 1. Frequency and percentage distribution of selected demographic variable of nursing students such as Age, Gender, Residential status, place of residence, have you ever attended cardiac assessment

S. No.	Demographic Data	Frequency N=100	Percentage
1.	Age in years 18-20	81	81%
	Years 21-23 Years	19	19%
	24 or Above 24 Yr.	0	0%
2.	Gender Male	27	27%
	Female	73	73%
	Transgender	0	0%
3.	Place of residence Urban	70	70%
	Rural	30	30%
4.	Residential status Hostel	7	7%
	PG	12	12%
	Home	81	81%
5.	Previous exposure of cardiac assessment Yes	28	28%
	No	72	72%

Section 2: Assessment of Pretest and Posttest Knowledge and Practice Regarding Cardiac Assessment among BSc Nursing Students.

Table 2.Frequency and percentage distribution of nursing students according to pre-test and post-test level of knowledge regarding cardiac assessment

S. No.	Level of Knowledge	Pre-test Knowledge	Post-test Knowledge
1	Inadequate Knowledge (<50%)	45 (45%)	1 (1%)
2	Moderate Knowledge (50-75%)	49 (49%)	37 (37%)
3	Adequate Knowledge (>75%)	6 (6%)	62 (62%)
Total		100	100

The above table 2.1 shows in the pre-test and post-test level of knowledge regarding cardiac assessment in the pre-test 45 (45.0%) of nursing student had inadequate knowledge, 49 (49.0%) had moderate knowledge and only 06 (6%) had adequate knowledge. After intervention of educational package in the Post-test 1 (1.0%) of nursing students had inadequate knowledge, 37(37.0%) had moderate knowledge and majority of students had adequate knowledge 62 (62%).

The above table 2.3 shows in the pre-test and post-test level of practice regarding cardiac assessment in the pre-test 48 (48.0%) of nursing student had poor practice, 52 (52.0%) had average practice and none of them having

Table 3.Paired t-test analysis for the significance of pre-test and post-test knowledge and practice regarding cardiac assessment among B.Sc. Nursing student

Knowl- edge	Max Score	Enhancement score		Paired t test	P-value
		Mean	SD		
Overall Knowl- edge	30	6.27	3.03	20.68**S df= 99	P<0.05 Sig.= 0.00
Overall Practice	30	6.26	2.84	22.03**S df= 99	P<0.05 Sig.= 0.00

good practice. After intervention of educational package in the Post-test 44(44.0%) had average practice and majority of students had good practice 56 (56%) and none of them having poor practice level.

Section 3: Effectiveness of Education Package on Knowledge and Practice Regarding Cardiac Assessment Among B.sc. Nursing Students Before and After Administartion of Educational Package.

Section 4: Association between pre test knowledges core regarding cardiac assessment among b.sc. nursing students with their selectd emographicvariables.

Table 3.Frequency and percentage distribution of nursing students according to pre-test and post- test level of practice regarding cardiac assessment

S. No.	Level of Practice	Pre-testPractice	Post-testPractice
1	Poor (<50%)	48 (48%)	0 (0%)
2	Average (50-75%)	52 (52%)	44 (44%)
3	Good (>75%)	0 (0%)	56 (56%)
Total		100	100

Table 4.Association between Pre-test Knowledge score regarding cardiac assessment among B.Sc. Nursing student with their select demographic variables

(n=100)							
Demographic Data	F	%	Level of Practice			χ^2 - Value	Tabulated Value P-Value
			Poor	Average	Good		
Age in years							
18-20 Years	81	81%	44	37	0	0.920 df=1NS	P>0.05 Sig 0.337 3.84
21-23Years	19	19%	8	11	0		
24 or Above 24 Yr	0	0%	0	0	0		

Gender							
Male Female Transgender	27	27%	14	13	0	0.001 df=1NS	P>0.05 Sig 0.986 3.84
	73	73%	38	35	0		
	0	0%	0	0	0		
Place of residence							
UrbanRural	70	70%	35	35	0	0.374 df=1NS	P>0.05 Sig 0.541 3.84
	30	30%	17	13	0		
					0		
Residential status							
HostelPG Home	7	7%	6	1	0	6.73 df=2S	P<0.05 Sig 0.035 5.99
	12	12%	3	9	0		
	81	81%	43	38	0		
Previous exposure of cardiac Yes No	28	28%	18	10	0	4.35 df=1S	P<0.05 Sig 0.031 3.84
	72	72%	34	38	0		

Table 6. Association between pre-test Practice score regarding cardiac assessment among B.Sc.Nursing student with their select demographic variables

(n=100)

Demographic Data	F	%	Level of Knowledge			χ^2 - Value	Tabulated Value P-Value
			Ina- dequate	Mo- derate	Ad- equate		
Age in years							
18-20	81	81%	36	39	6	1.500 df=2NS	P>0.05 Sig 0.472 5.99
Years 21-23	19	19%	9	10	0		
24 or Above 24 Yr.	0	0%	0	0	0		
Gender							
Male	27	27%	20	7	0	13.18 df=2S	P<0.05 Sig 0.001 5.99
Female	73	73%	25	42	6		
Transgender	0	0%	0	0	0		
Place of residence							
Urban	70	70%	22	43	5	17.41 df=2S	P<0.05 Sig 0.000 5.99
Rural	30	30%	23	6	1		
Residential status							
Hostel	7	7%	4	3	0	9.72 df=4S	P<0.05 Sig 0.041 9.48
PG	12	12%	10	2	0		
Home	81	81%	31	44	0		
Previous exposure of cardiac							
Yes	28	28%	11	16	1	0.551 df=2NS	P>0.05 Sig 0.551 5.99
No	72	72%	34	33	5		

Conclusion

The following conclusion was reached after analysing this study:

There is significant evidence that more clinical skill training and evaluation are required during medical school. The goal of the current study, which used 100 samples, is to evaluate students' knowledge of and practice with cardiac evaluation among those attending particular institutions in Kheda, Anand District. The implementation of the teaching package about cardiac examination will aid students in understanding, develop their abilities, and prepare them to be responsible nurses, improving the quality of healthcare in the hospital setting. Teachers also need to emphasize these abilities in clinical settings, model their use, and highlight their usefulness in providing high-quality patient care in order to reinforce and preserve the development in clinic skills that could not be stored by a systematic curriculum. Finally, studies are required to determine whether faster diagnosis, less wasteful resource utilization, and higher patient satisfaction are all outcomes of increased clinical abilities.

Acknowledgement

We would especially want to thank all of the study participants and the presidents of the institutions we chose for granting us permission to collect data.

Source of Funding: None

Conflict of Interest: None

References

1. "Cardiovascular diseases World Health Organization (WHO)." 09 Dec. 2020, <https://www.who.int/health-topics/cardiovascular-diseases/>
2. Sreeniwas Kumar A, Sinha N. Cardiovascular disease in India: A 360-degree overview. *Med J Armed Forces India*. 2020 Jan;76(1):1-3 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6994761/>
3. Vukanovic-Criley JM, Criley S, Warde CM, Boker JR, Guevara-Matheus L, Churchill WH, Nelson WP, Criley JM. Competency in cardiac examination skills in medical students, trainees, physicians, and faculty: a multicenter study. *Arch Intern Med*. 2006 Mar 27;166(6):610-6. Competency in cardiac examination skills in medical students, trainees, physicians, and faculty: a multicenter study - PubMed (nih.gov)
4. Favrat, B., Pécoud, A. & Jaussi, A. Teaching cardiac auscultation to trainees in internal medicine and family practice: Does it work? (2004) *BMC Med Educ* 4,5 <https://doi.org/10.1186/1472-6920-4-5>
5. Scott, Curie & Macinnes, Julie. (2006). Cardiac patient assessment: putting the patient first. *British journal of nursing* (Mark Allen Publishing). 15. 502-8. https://www.researchgate.net/publication/7058813_Cardiac_patient_assessment_putting_the_patient_first
6. Beshar Gharaibeh, Sawzan Abuhammad, Laila Akhu-Zaheya, Attitudes Toward Physical Examination Skills among registered nurses in clinical settings in Jordan, *Informatics in Medicine Unlocked*, Volume 32, 2022, 101027 <https://www.sciencedirect.com/science/article/pii/S2352914822001691#:~:text=In%20general%2C%20nurses%20had%20negative,range%20was%2055%E2%80%93275%5D>.
7. Ramani S, Ring BN, Lowe R, Hunter D. A pilot study assessing knowledge of clinical signs and physical examination skills in incoming medicine residents. *J Grad Med Educ*. 2010 Jun;2(2):232-5 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2930313/>
8. Institute of Medicine (US) Committee on Preventing the Global Epidemic of Cardiovascular Disease: Meeting the Challenges in Developing Countries; Fuster V, Kelly BB, editors. *Promoting Cardiovascular Health in the Developing World: A Critical Challenge to Achieve Global Health*. Washington (DC): National Academies Press (US); 2010.2, *Epidemiology of Cardiovascular Disease*. available from: <https://www.ncbi.nlm.nih.gov/books/NBK45688/>
9. Alawani SS, Raj M, Sudhakar A, et al. Accuracy of physical examination of cardiovascular system in the diagnosis of common congenital heart diseases in children. *BMJ Paediatrics Open* 2022;6:Open access Original research Accuracy of ... - BMJ Paediatrics Open
10. Mangione S, Nieman LZ, Gracely E, Kaye D. The teaching and practice of cardiac auscultation during internal medicine and cardiology training. A nationwide survey. *Ann Intern Med*. 1993 Jul 1;119(1):47-54. <https://pubmed.ncbi.nlm.nih.gov/8498764/>