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A study to assess the effectiveness of structured teaching program on knowledge of nursing students about integrated management of neonatal and childhood illnesses (IMNCI) at selected nursing college Dhamangaon, Nasik

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Abstract
Backgrounds: IMCI is an integrated approach that focuses on the health and well-being of the child. IMCI aims to reduce preventable mortality, minimize illness and disability, and promote healthy growth and development of children under five years of age.
Aim: The main aim of study was evaluation of Effectiveness of Structured Teaching Program on Knowledge of Nursing Students about Integrated Management of Neonatal and Childhood Illnesses (IMNCI) At Selected Nursing College Dhamangaon, Nasik.
Methods: Results were representing at mean + standard deviation (SD). Participant's demographic details were analyzed. Improvement of pretest & posttest knowledge was assessed as per paired t- test. The mean pretest knowledge score was improved significantly ($p<0.05$). The test statistical value of the paired t test was 22.11with p value0.000. The 45 minutes of structured knowledge questionnaire on IMNCI showed significant improvement in mean knowledge score of IMCI in selected nursing college.
Conclusion: The finding of the study indicated that the structured knowledge questionnaire was effective in improve the knowledge level of Nursing students.

Keywords: Structured knowledge questionnaire, IMNCI, nursing students

Introduction
IMCI is an integrated approach that focuses on the health and well-being of the child. IMCI aims to reduce preventable mortality, minimize illness and disability, and promote healthy growth and development of children under five years of age. IMCI includes both preventive and curative elements that can be implemented by families, in communities and in health facilities. The strategy includes three main components were Improving case management skills of healthcare providers, improving health systems to provide quality care, Improving family and community health practices for health, growth and development.
In health facilities, the IMCI strategy promotes the accurate identification of childhood illnesses in outpatient settings, ensures appropriate combined treatment of all major conditions that affect a young child, strengthens the counseling of caretakers, and speeds up the referral of severely ill newborns and children. In the home setting, it promotes appropriate care seeking behaviors, improved nutrition and support for early childhood development, prevention of illness, and correct implementation and adherence to treatment.[1]

Need of The Study
Every day, millions of children with potentially fatal illness are taken by their caregivers to be seen by health workers. In countries with a high burden of child mortality, a handful of conditions are responsible for these visits. Globally, over 80% of the under five deaths are due to neonatal conditions and infectious diseases like pneumonia, diarrhea, malaria, measles and meningitis, often compounded by malnutrition. Most childhood deaths can be prevented with effective interventions that are feasible for implementation, even in resource constrained settings.

Children brought for medical treatment, especially in the low and middle-income countries, are often suffering from more than one condition. At the first level of primary health care services, diagnostic supports such as laboratory and radiology services are commonly limited or non-existent. Health care providers therefore benefit when they can use evidence-based algorithms using history, signs and symptoms to determine the course of management. This enables them to provide quality care and make the best use of the available resources.

To improve access and quality of care for newborns and children in primary health care services, WHO and UNICEF designed the Integrated Management of Childhood Illness (IMCI) strategy. The IMCI strategy aims at improving health worker skills, improving the health system and improving family and community practices. The aim is to strengthen prevention and management of common childhood illnesses, including in the newborn period, and support children's healthy growth and development.[1]

Thus, in consideration of effect of IMNCI module among nursing students is useful. We put an additional step to extend to which the effectiveness IMNCI Module among nursing student can yield the desired outcome in improving the level of knowledge as evidenced by gain of knowledge measured by structured knowledge questionnaire.

Problem Statement

A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge of Nursing Students About Integrated Management of Neonatal and Childhood Illnesses (IMNCI) At Selected Nursing College Dhamangaon, Nasik.

Objectives

1. To assess the pretest knowledge of Nursing students about integrated management of neonatal and childhood illnesses (IMNCI) at selected Nursing college Dhamangaon, Nasik
2. To assess the effectiveness of structured teaching program on knowledge of nursing students about integrated management of neonatal and childhood illnesses (IMNCI) at selected nursing college Dhamangaon, Nasik.
3. To find out the association between the pre-test &posttest knowledge score about integrated management of neonatal and childhood illnesses (IMNCI) at selected nursing college with selected demographic variables.

Hypothesis

H_0: There is no significant difference between pretest and post test Knowledge of Nursing Students about Integrated Management of Neonatal and Childhood Illnesses (IMNCI) At Selected Nursing College Dhamangaon, Nasik.

H_1: There is significant difference between pretest and post test Knowledge of Nursing Students about Integrated Management of Neonatal and Childhood Illnesses (IMNCI) At Selected Nursing College Dhamangaon, Nasik.

Material and Methods

Ethical aspect: Permission to conduct research study was obtained from concerned authority i.e. principal of selected nursing college. Written consent was taken from the student for their willingness to participate in the study. The confidential of the data was maintained.

Sample size: The sample size of present study was 60 nursing students.

Sampling selection criteria: As per eligibility criteria, nursing students age between 20 to 23 years, who were studying in 3rdyear B.sc Nursing of selected nursing college were included in the study. The nursing student, who were not willing to participate in this study, who were not present at the time of data collection, and who underwent IMNCI module previously were excluded from the study.

Study procedure: After informed consent process, the Nursing students were included in the study as per as per the inclusion criteria. After inclusion, the demographic data variables of nursing students such as age, sex, Class, area of residence, any previous knowledge about IMNCI you have were noted. On 24 September 2024, researcher interacts with nursing students of selected nursing college, and explained about IMNCI. On next day researcher, researcher assesses the knowledge of nursing students about IMNCI using structured knowledge questionnaire. This assessment day was considered as day 1 of the study. On same day intervention was delivered to nursing students as IMNCI. The post test was analysis was conducted with same sample of nursing students by using same structured knowledge questionnaire on day 7 after administering intervention regarding IMNCI.

Structured knowledge questionnaire was used as an instrument which consisted of two sections. First section (section A) consisted of 5 items regarding demographic variables and second section (section B) consisted of questionnaire related to IMNCI. The score of the questionnaire were based on worth of the correct answer. The correct response was given '1'score, and the incorrect response was given '0' score. The highest score of self-structured knowledge questionnaire was 15. Student knowledge was grade as poor (1-5 marks), average (6-10 marks), and good (11-15 marks) knowledge scale. In self-structured knowledge questionnaire for each question, 4 options were given out of 3 were distracter and with only one correct response.

In this study construct validity of the tool was established in consultation with expert. Experts were requested to give their opinion and suggestion regarding relevant, not relevant and need to modify in each item of tool. After receiving the opinion and recommendation for change from the expert, and consultation with guide, some modification, were done in demographic variables, opinion of some questions and wording were reconstructed.

Results

Section I: Frequency and percentage distribution of socio-demographic variables of Nursing students about integrated management of neonatal and childhood illnesses (IMNCI) n=60

Table 1: (I) Frequency and percentage distribution of socio-demographic variables of Nursing students about integrated management of neonatal and childhood illnesses (IMNCI) n-60

Frequency Distribution Table				
Sr. No.	**Variable**	**Groups**	**Frequency**	**Percentage**
1	Age	20	22	36.67
		21	29	48.33
		22	8	13.33
		23	1	1.67
2	Sex	Male	25	41.67
		Female	35	58.33
3	Class (BSc Nursing)	1 st year	0	0.00
		2 nd year	0	0.00
		3 rd year	60	100.00
4	Area of Residence	Urban	0	0.00
		Rural	60	100.00
5	Any previous Knowledge about IMNCI you have	Yes	24	40.00
		No	36	60.00

n-60

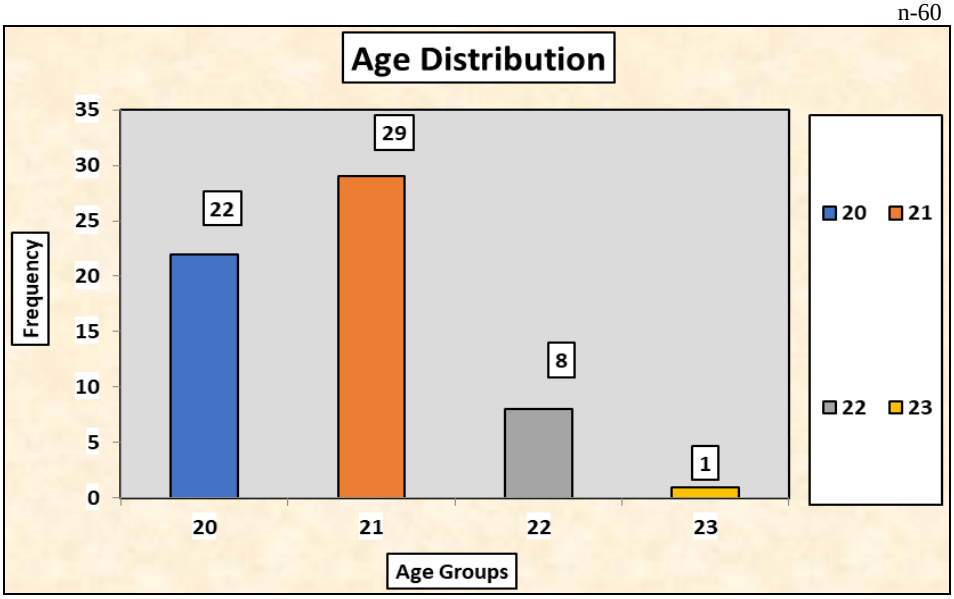

Fig 1: Clustered column in distribution of participants according to age

Finding shows the age distribution of the study subject where majority i.e. 22(36.67%) of 20 year of age, 29 (48.33%) 21 years of age, 8 (13.33 %) 51- 56 years of age, and last 1 (1.67 %) in 23 years of age.

n-60

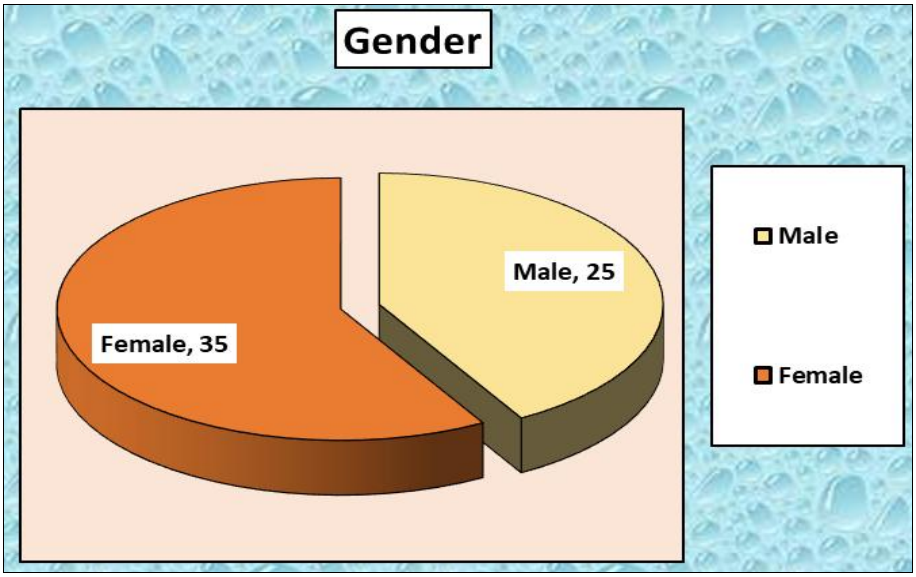

Fig 2: Showing the distribution of participant according to their Gender

Finding shows the gender distribution of the study subject were 25(41.67%) participants are male, 35 (58.33%) 0f participants are Female.

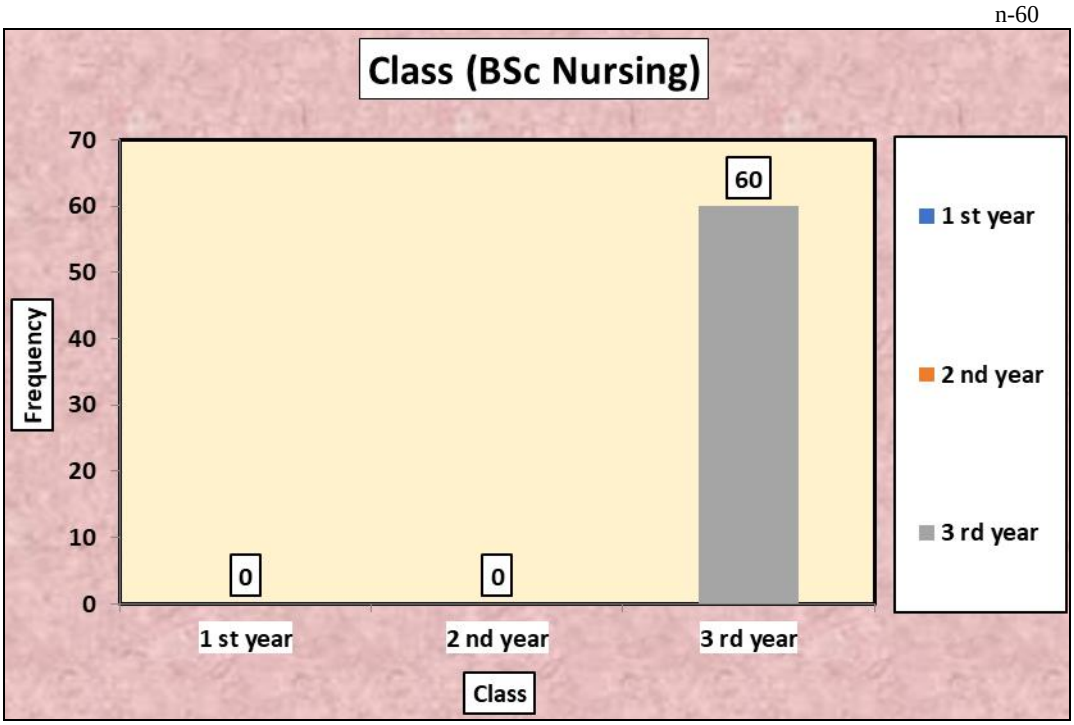

FIGURE No. 3: (I) : Clustered bar column in distribution of participant according to education

Finding shows the Class (BSc Nursing) distribution of the study subject were 1st Year are 0 (0 %) 2ndYear were0 (0%) participants, 3rd Year Education are 60 (100 %)

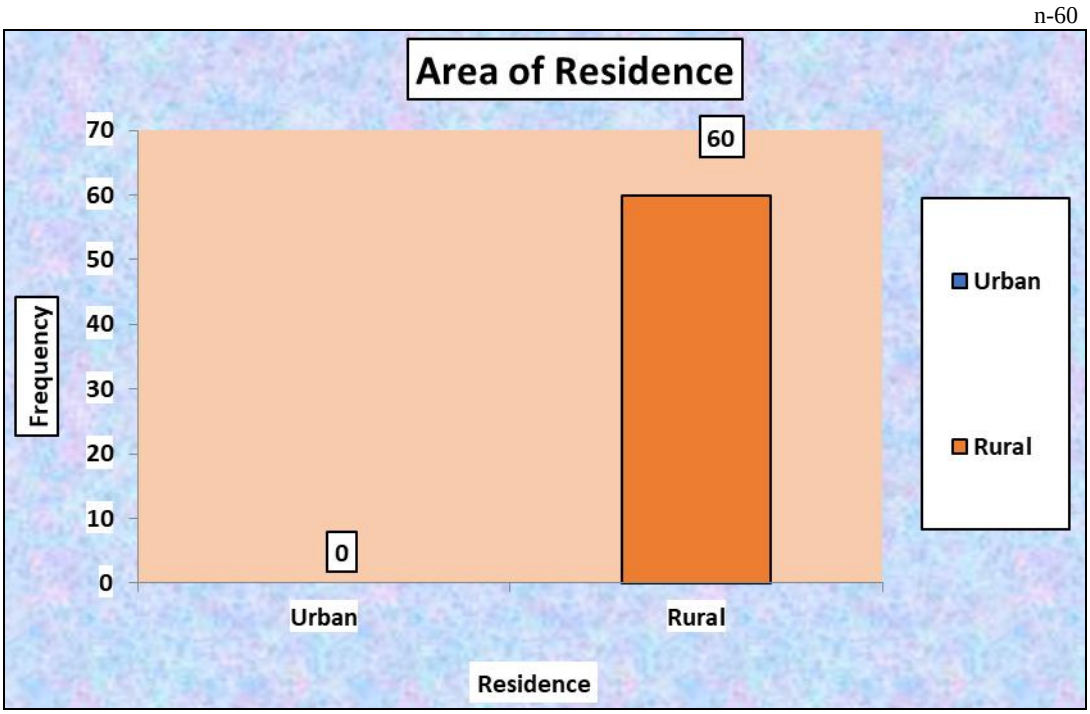

Fig 4: Clustered column in distribution of participants according to Area of Residence

Finding shows the area of residence distribution of the study subject where urban are 0 (0.00 %) participants, Rural are 60(100%) participants.

n-60

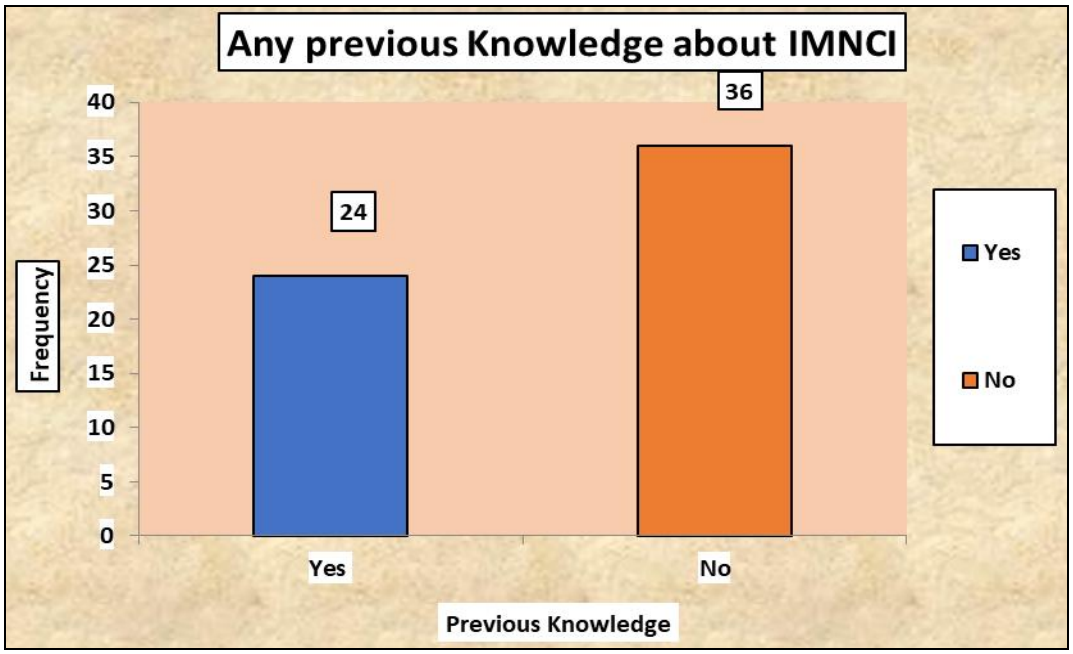

Fig 5: Clustered column in distribution of participants according to Any previous Knowledge about IMNCI

Finding shows that Any Previous Knowledge about IMNCI were area of residence distribution of the study subject where yes were 24 (40 %) participants, no was36 (60%) participants

Section II: frequency and percentage distribution of Knowledge score Of Nursing Students about Integrated Management of Neonatal and Childhood Illnesses (IMNCI) Assessment of knowledge - Pre-Test

Table 2: frequency and percentage distribution of Knowledge score of Nursing Students about Integrated Management of Neonatal and Childhood Illnesses (IMNCI) n=60

Variable	Groups	Score	Pre-Test	
			Frequency	Percentage
KNOWLEDGE	Poor	0-5	0	0.00
	Average	6-10.	29	48.33
	Good	11-15.	31	51.67
KNOWLEDGE	Minimum		8	
	Maximum		13	
	Average (SD)		10.45 (1.56)	

n=60

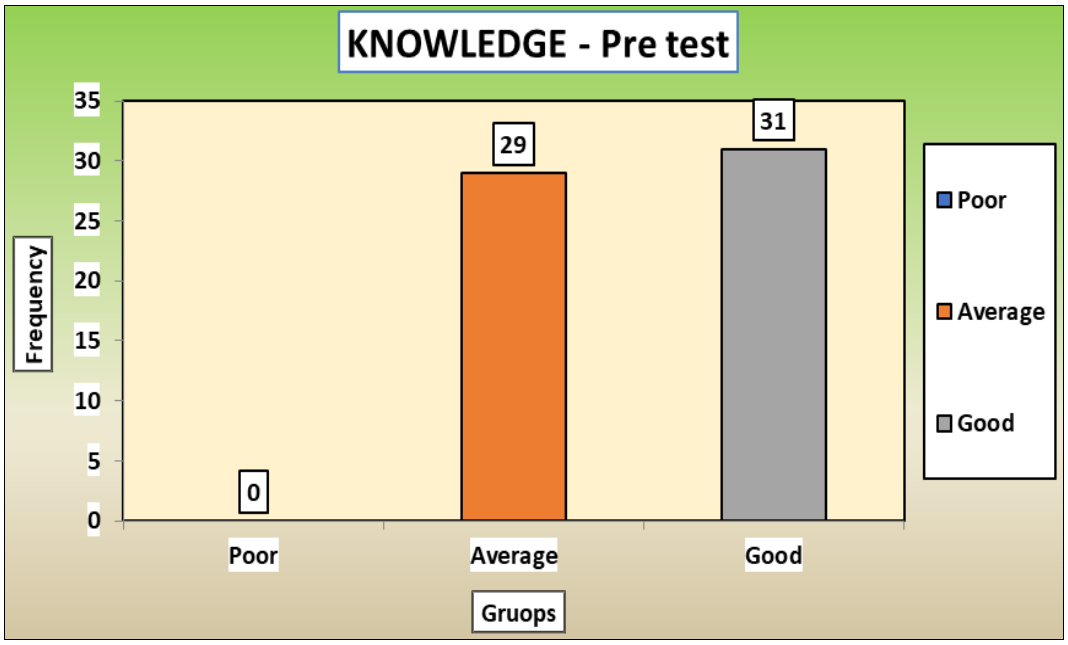

Fig 6: frequency and percentage distribution of Knowledge score of Nursing Students about Integrated Management of Neonatal and Childhood Illnesses (IMNCI)

Finding shows that the pretest knowledge score poor 0, 29 were average & 31 were good.

Table 3: frequency and percentage distribution of Knowledge score Of Nursing Students about Integrated Management of Neonatal and Childhood Illnesses (IMNCI) n-60

Assessment of Knowledge - Post Test				
Variable	**Groups**	**Score**	**Post Test**	
			Frequency	**Percentage**
Knowledge	Poor	0-5	0	0.00
	Average	6-10.	0	0.00
	Good	11-15.	60	100.00
Knowledge	Minimum		13	
	Maximum		15	
	Average (SD)		14.76 (0.53)	

n=60

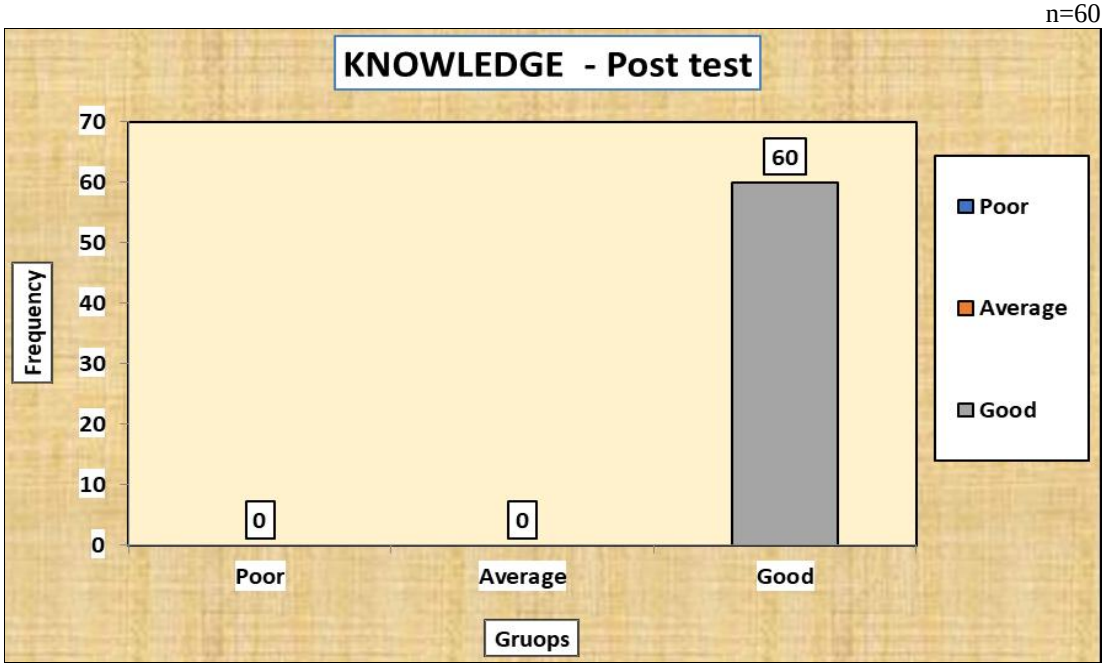

Fig7: frequency and percentage distribution of Knowledge score of Nursing Students About Integrated Management of Neonatal and Childhood Illnesses (IMNCI)

Finding shows that no one were in poor and average knowledge score. In the post test the knowledge score were good.

Section 3: Frequency and percentage distribution of pretest & post test knowledge score of Nursing students about integrated management of neonatal and childhood illnesses (IMNCI)

Table 4: (III) Assessment of knowledge - Pre vs. Post Test **(**n-60)

Variable	**Groups**	**Score**	**Pre Test**		**Post Test**	
			Frequency	**Percentage**	**Frequency**	**Percentage**
Knowledge	Poor	0-5	0	0.00	0	0.00
	Average	6-10.	29	48.33	0	0.00
	Good	11-15.	31	51.67	60	100.00
Knowledge	Minimum		8		13	
	Maximum		13		15	
	Average (SD)		10.45 (1.56)		14.76 (0.53)	

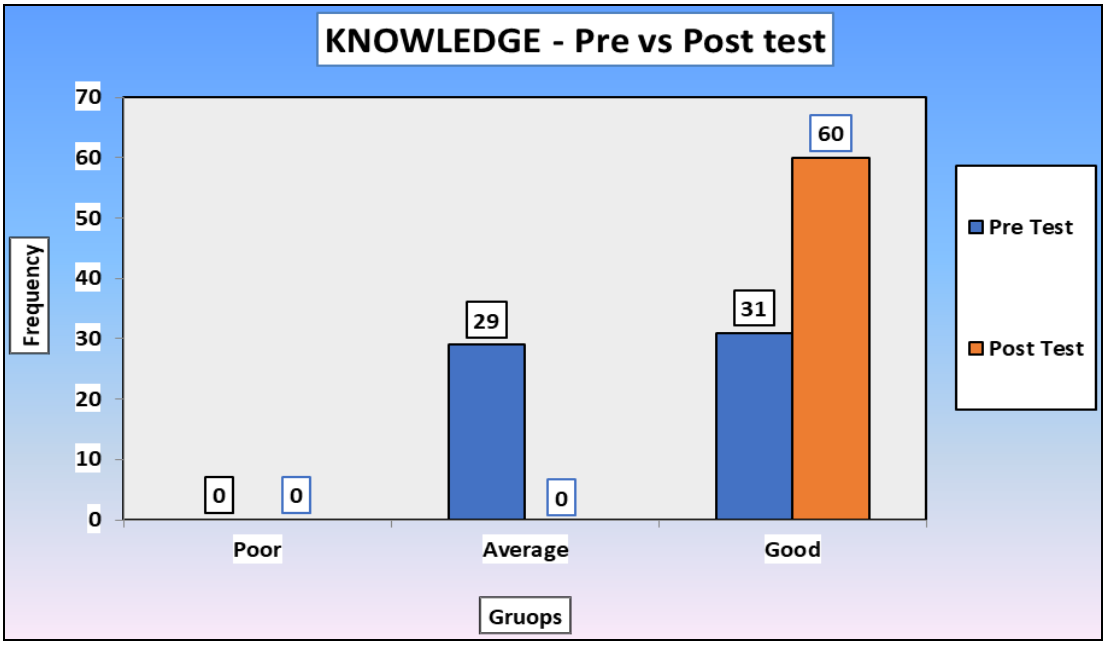

Fig 8: Comparison between pretest & post test knowledge

Finding shows that the knowledge score of pre test & post test were no one was poor, in average 29 in pretest & 0 in post test, in good knowledge score pretest score were 31 & post test knowledge score were 60.

Table 5: comparisons of knowledge score

Comparison of Knowledge					
Group	**Frequency**	**Mean**	**S.D.**	**t value**	**P value**
Pre Test	60	10.45	1.56	22.11	0.000
Post Test	60	14.76	0.53		

*p<0.05 i.e. significant difference in the average

n-60

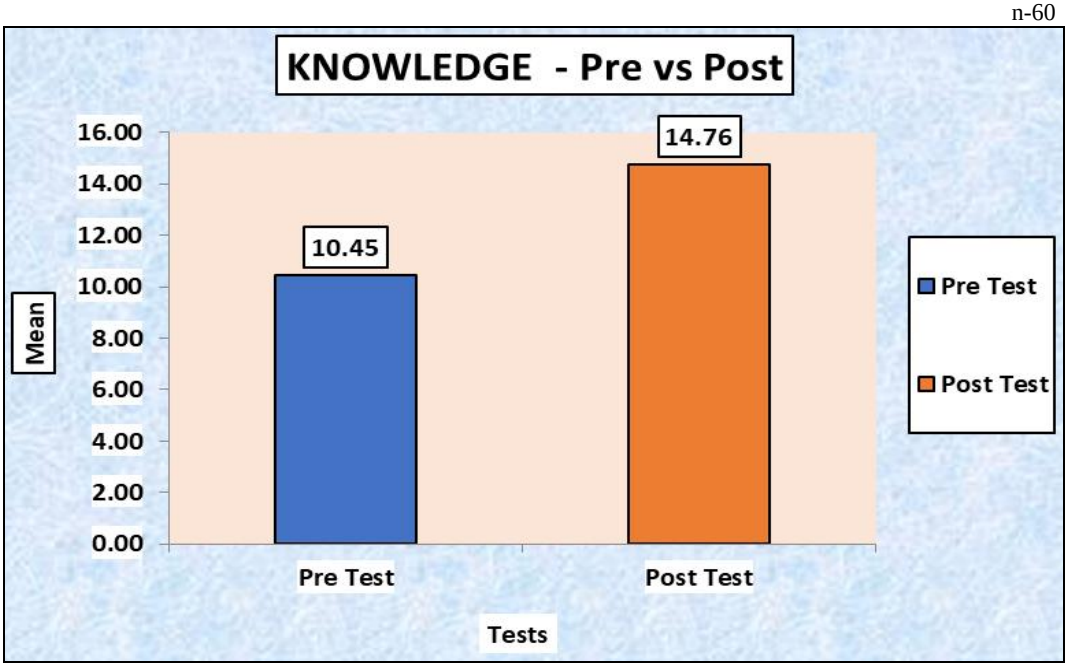

Fig 9: comparisons of knowledge score of pretest & post test

Finding shows that comparison of pretest vs. post test were the pretest knowledge score 10.45 & in the post test 14.76

Section 4: Frequency and percentage distribution of association of knowledge score with demographic variables of Nursing students about integrated management of neonatal and childhood illnesses (IMNCI) (pretest)

Table 5: Frequency and percentage distribution of association of knowledge score with demographic variables of Nursing students about integrated management of neonatal and childhood illnesses (IMNCI)

Association of Knowledge with Demographic variables - Pre Test								
Sr. no.	Variable	Groups	Knowledge - Pre		Chi Square	D.F	p value	Significance
			below Md	Above Md				
1	Age	20	18	4	2.11	3	0.55	Not Significant
		21	20	9				
		22	7	1				
		23	1	0				
2	Sex	Male	20	5	0.27	1	0.61	Not Significant
		Female	26	9				
3	Class (BSc Nursing)	1 st year	0	0	* can't conduct test			
		2 nd year	0	0				
		3 rd year	46	14				
4	Area of Residence	Urban	0	0	* can't conduct test			
		Rural	46	14				
5	Any previous Knowledge about IMNCI you have	Yes	15	9	4.48	1	0.034	Significant
		No	31	5				

Table 6: Frequency and percentage distribution of association of knowledge score with demographic variables of Nursing students about integrated management of neonatal and childhood illnesses (IMNCI)

	Association of Knowledge with Demographic variables - POST Test							
Sr. No.	Variable	Groups	Knowledge - Post		Chi Square	D.F	p value	Significance
			below Md	Above Md				
1	Age	20	4	18	2.58	3	0.46	Not Significant
		21	4	25				
		22	3	5				
		23	0	1				
2	Sex	Male	8	17	5.35	1	0.021	Significant
		Female	3	32				
3	Class (BSc Nursing)	1 st year	0	0	* can't conduct test			
		2 nd year	0	0				
		3 rd year	11	49				
4	Area of Recidence	Urban	0	0	* can't conduct test			
		Rural	11	49				
5	Any previous Knowledge about IMNCI you have	Yes	5	19	0.17	1	0.68	Not Significant
		No	6	30				

Discussion

In the present study, to assess the Effectiveness of Structured Teaching Program on Knowledge of Nursing Students about Integrated Management of Neonatal and Childhood Illnesses (IMNCI) At Selected Nursing College Dhamangaon, Nasik was assessed. The researcher thought that Integrated Management of Neonatal and Childhood Illnesses (IMNCI) is very important to categorized the illness and treat the child in an emergency situation.

Hence, a pre-experimental one group pretest post-test research design was used. Total 60 samples were selected by probability simple random technique as per the inclusive criteria. Prior to the collection of data, researcher obtained permission from the authority of the selected Nursing College. Informed consent was taken from the participant. Pretest was conducted to assess the actual knowledge of Integrated Management of Neonatal and Childhood Illnesses (IMNCI) on day 0 &on the same day Structured Teaching Program was also administered. On the 7th day post test was conducted to assess gain in knowledge using the same structured knowledge questionnaire on the same sample.

The Finding shows the age distribution of the study subject where majority i.e. 22(36.67%) of 20 year of age, 29 (48.33%) 21 years of age, 8 (13.33 %) 51- 56 years of age, and last 1 (1.67 %) in 23 years of age. The gender distributions of the study subject were 25(41.67%) participants are male, 35 (58.33%) 0f participants are Female.all participants from 3rd year B. Sc Nursing, the area of residence distribution of the study subject where urban are 0 (0.00 %) participants, Rural are 60(100%) participants. any previous knowledge about IMNCI were area of residence distribution of the study subject where yes were 24 (40 %) participants, no was36 (60%) participants.

In this study, finding showed that pretest knowledge 0% of them had poor, 48.33% average knowledge and 51.67% of them had good knowledge. Average knowledge score at the time of pretest was 48.33 with standard deviation of 10.45. The minimum score of knowledge was 8 with maximum score of 13. Post test knowledge no one of them had poor, no one of them had average knowledge and 100% of them had good knowledge. Average knowledge of post test was 14.76. With standard deviation t 0.53.

The minimum score of knowledge was 8 with maximum score of 15. The comparisons of the pretest and posttest means of the knowledge were done by the paired t test. The test was conducted at 5% level of significance. The pretest average score was 10.45 with standard deviation of 1.56. The posttest average score was 14.76 with standard deviation of 0.53. The test statistics value of the paired t test was 22.11 with p value 0.00. The p value less than 0.05, hence reject the null hypothesis. That means there is

significant difference in pre-test and posttest knowledge.
From the findings, this study had provided affirmative evidence in support of effectiveness of Structured Teaching Program On Knowledge of Nursing Students About Integrated Management of Neonatal and Childhood Illnesses (IMNCI) At Selected Nursing College Dhamangaon, Nasik.

Conclusion

From the study findings it concluded that the structured teaching program was effective regarding integrated management of neonatal and childhood illnesses (IMNCI) improving the knowledge of 3rd year B.Sc. Nursing Students.

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