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"A Pre-Experimental Study To Assess The Effectiveness Structural Teaching Program On Knowledge And Practice Regarding Neonatal Resuscitation Among Nursing Students In Selected College, Ratia, Distt. Fatehabad."

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ABSTRACT
Neonatal resuscitation is a procedure to support and maintain breathing and circulation for a neonatewho has stopped breathing and or whose heart has stopped. In newborns, the most common cause of cardiopulmonaryarrest is respiratory failure caused by fetal distress, meconium-stained liquor, placental insufficiency, premature onset of labor, ante-partum hemorrhage, mal-presentation, operative delivery, cord prolapse, rhesus isoimmunization and multiple gestations. Resuscitation must be performed if a neonate is unconscious and not breathing, by a trained healthcare professional within four to six minutes after cessationof breathing to prevent brain damage or death.

Aim of the study
The aim of the study is to assess the effectiveness of structural teaching program on knowledge and practice regarding neonatal resuscitation among nursing students in selected college, Ratia, Distt. Fatehabad.

Methodology
A descriptive study conducted to assess the effectiveness of structural teaching program on knowledge and practice regarding neonatal resuscitation among nursing students in selected college, Ratia, Distt. Fatehabaad. 80 samples were selected by convenient sampling and structured demographic variables for the nursing students.

Results
*According to questionnaire and checklist for the return demonstration from nursing students.In **pre-test**, Level of knowledge of nursing students in the pretest showed that **95%** of the nursing students were having **inadequate knowledge** regarding Neonatal resuscitation and**5%** of the nursing students were having **moderate knowledge**. No one **nursing students** were having **adequate knowledge** regarding neonatal resuscitation.*
*In **post-test**, Level of knowledge of nursing students in the post test showed that **50%** of the nursing students were having **adequate knowledge** regarding Neonatal resuscitation and40% of the nursing students were having **moderate knowledge** and **10%**nursing studentswere having **inadequate knowledge** regarding neonatal resuscitation.*

Conclusion
80 samples were selected and structured demographic variables for the nursing students of S.B.D.S College of nursing were observed. The study findings revealed that there was no association of demographic variables age,Residence, Religion, 12th board, Parents education, Parents' occupation. There is significant association of Source of information and professional qualification. The results showed that structural teaching program regarding neonatal resuscitation is very effective and will improve their knowledge and practice.

Recommendations
1. *A teaching and demonstration program can be given as a teaching aid among the nursing students.*
2. *A similar study can be done for knowledge as well as for practice also.*

I. INTRODUCTION:

"A Man who dares to waste one hour of time, has not discovered the value of life"
Charles Darwin

1.1Background of the study

Birth of a newborn is a special moment of joy with lot of expectations. However the first minute after birth is full of anxious moments and rapid physiological adjustments. Most babies go through the transition successfully as a matter of routine; 10% however may need varying degrees of assistance. Opportunity lost to

provide needed assistance at this time would be a crucial impediment for saving these babies. Millennium Development Goal targets reduction of under-five child death by two-thirds between 1990 and 2015. For this to happen, it is obvious that interventions directed towards neonatal resuscitation should receive priority.[1]

Neonatal resuscitation is a procedure to support and maintain breathing and circulation for a neonatewho has stopped breathing and or whose heart has stopped. In newborns, the most common cause of cardiopulmonaryarrest is respiratory failure caused by fetal distress, meconium-stained liquor, placental insufficiency, premature onset of labor, ante-partum hemorrhage, mal-presentation, operative delivery, cord prolapse, rhesus isoimmunization and multiple gestations. Resuscitation must be performed if a neonate is unconscious and not breathing, by a trained healthcare professional within four to six minutes after cessationof breathing to prevent brain damage or death.[2]

The American Academy of Pediatrics (AAP) and American Heart Association (AHA) developed Neonatal Resuscitation Program (NRP) in 1987 to provide resuscitation training to all delivery health care personnel. Since introduction of Neonatal Resuscitation Program (NRP), training programs for instructors and providers have been launched in India, under the aegis of the National Neonatology Forum (NNF) since 1990. The National Neonatology Forum (NNF), created a national faculty of 150 pediatricians and nurses for Neonatal Resuscitation Program (NRP) by conducting certification courses in various regions of the country. Though National Resuscitation Program (NRP) has been widely used in the developed world it had limited dissemination in developing countries, where it has great potential. Neonatal resuscitation training in facilities reduces term intra-partum related deaths by 30%. Yet, coverage of this intervention remains low in countries where most neonatal deaths occur and is definitely a missed opportunity to save lives. [3]

The Neonatal mortality rates have often been used as an indicator of the standard of a country's social, educational and healthcare systems. Strategies, which address inequalities both within a country and between countries, are necessary if there is going to be further improvement in global perinatal health. Timely and appropriate resuscitation at birth by trained health professionals like nurses can mean the difference between death, survival with neurological impairment and intact survival. In no other areas, are the benefits of training and correct action more immediate and more rewarding.[4]

The birth of baby is a wonderful yet very complex process. Many physical and emotional changes occur for mother and baby. A baby must make many physical adjustments of life outside the mother's body. The baby's body systems must work together in a new way. Sometimes, a baby has difficulty making the transition to the world. Being born prematurely having a difficult or birth defects can make changes more challenging. Fortunately for these babies special newborn care with resuscitation is required.[5]

Perinatal Asphyxia and extreme prematurity are the two complications of pregnancy that most frequently require complex resuscitation by skilled personnel. However only 60% of asphyxiated newborn can be predicted antepartum. The remaining newborns are identified until time of birth.[6]

Approximately 80% of low birth weight infants require resuscitation and stabilization at delivery. About 5-10% of newborns need resuscitation nearly 1 million newborns die because of birth asphyxia the world over? In our role as a health provider, recognizing when a baby has breathing problems and using resuscitation skills, when needed are essential to newborn.[7]

Birth and death are the two natural phenomena. Death can occur at any time due to any cause. However death in some incidence can be prevented. Death due to cardiac arrest can be prevented by giving neonatal resuscitation in time. Resuscitation is a life saving measure, which was started by God himself when he created 1st man in the world Adam. The act of blowing his breath into Adam's mouth is an example for exhaled air resuscitation. Resuscitation is a technique used in cardiac arrest to establish heart and lung function until more advanced life support is available.[8]

The air we breathe travels to our lungs where oxygen is picked up by the blood and then pumped by the heart to the body tissue and organs. When a is not responding, not breathing and getting heart rate below than 60 bpm either due to meconium aspiration, birth asphyxia eventually the heart ceases to beat altogether. This prevents oxygen from circulating throughout the body, rapidly killing cells and tissues. The importance of neonatal resuscitation serves as an artificial respirator.[9]

Neonatal resuscitation may not save the victim even when performed properly, but if started within minutes of birth after early recognition is provided then the baby has a 40percent chances of survival. Neonatal resuscitation is the first treatment for a baby who is asphyxiated and has stopped breathing. Effective neonatal resuscitation enables enough oxygen to reach the brain to delay brain death, and allows the heart to remain responsive to the administered drugs. [10]

Neonatal resuscitation is the artificial substitution of heart – lung action as indicated for birth asphyxia, meconium aspirationand other causes. The neonatal advanced life support (NALS) Algorithm is a conceptual framework for all level of rescuer can and should perform. When encountering, a baby has experienced aunresponsiveness, bradycardia and lack of normal breathing. After recognition the rescuer should immediately activate the emergency response system and should start resuscitation.[11]

History of coping with death backs to human civilization and neonatal resuscitation has been used as one of invaluable emergency operations in case of birth asphyxia or to survive babies, either in pre-hospitalor inter-hospital conditions. Continuous unresponsiveness and bradycardia includes sudden stop of pumping function of heart may be recursive by an immediate interference, otherwise is fatal. Following heart arrest, pulmonaryarrest or vice versa may happen, too. Resuscitation, in fact, consists of a series of operations are taken by the present rescues in order to return the function of three vital heart, lung and brain functions besides preventing from brain death that is the ultimate goal of any neonatal resuscitation operation.The main problem in neonatal resuscitation babies are dearth ofsufficient professional knowledge and skill of nurses, or even physiciansresponsible for primary health care (PHC) and emergency actions for the babies (Omidi far et al,2010). If neonatal resuscitation operation occurs fast 40 to 60 per cent of occasions will save the babies. However, anysuccessful operation requires the competence and performance of the rescuer that is dependent to rate of knowledge and awareness of the present rescuers (Cheraghi et al, 2011). Since education plays a principal role in performing neonatal resuscitationmore correctly, several studies have indicated that not only in field of performance, but also in having enough knowledge and awareness about neonatal resuscitation, nurses display many malfunctions (Cheraghi et al, 2011). The present researcher, also as a result of his personal experiences about heart arrest and pulmonary arrest encountered with lack of sufficient knowledge and improper performance among the rescue team like physicians, nurses and anesthesia experts.Accordingly, due to significance of effective training of neonatal resuscitationoperation through active procedures like problem solving, and training workshops can be some suitable and influential solutions for removing this weakness. It is hopeful; the obtained results from the current study can make considerable changes in medical education system from training and teaching viewpoints. Moreover, the obtained results can be used in educational planning of medical higher education. Consequently, the rate of deaths has been happening as a result of heart and pulmonary arrestwill decrease in Iran.[12]

Numerous studies have established that all healthcare professionals involved in direct patient care have to receive compulsory training and resuscitation equipment should be always readily available for resuscitation care. A previous study demonstrated that neonatal resuscitation performances improved when all nurses were certified in the relevant life support training courses. Clinical area nurses also need to be trained in the resuscitation procedure and should have access to such devices, as it will prevent delays in basic life support care in resuscitation. Early defibrillation in cardiac arrest with VF should take priority in resuscitation, and the probability of survival progressively decreases when defibrillation is delayed for more than 10 minutes. A study suggested that such skills as cannulation, drug administration, intubation, and ventilation could subsequently be developed in order to enhance care.It is suggested that whenever neonatal resuscitation is initiated, it should be performed within the accepted clinical guidelines. Studies recommended that the use of international standards in cardiopulmonary resuscitation care and effective training and assessment will result in better basic life support knowledge and skills during actual procedures. As per the AHA's recommendations, nurses in healthcare settings should be certified in Basic Life Support, and nursery critical care nurses need NALS status along with Basic. The nurses should be re-certified every two years. Resuscitation skills in cardiopulmonary resuscitation can be gained through mannequin training and assessment can be performed with an observational check list. Frequent refresher trainings are needed to maintain such skills. Resuscitation training methods should be evaluated frequently in order to improve the resuscitation practice. Recent literature identified that resuscitation skills and knowledge can decline over time even after effective training and retention can be achieved by regular training every 6 months. Across the world, learners are failing to reach the required standards in resuscitation care and are unable to achieve the chain of survival for saving lives. Standardized teaching methods may result in retention of resuscitation skills among nurses and the use of standardized teaching styles may facilitate the retention of resuscitation skills. Standardized equipment and its familiarity are preferred in the clinical areas. The AHA 2010 guidelines are available now and emphasize that any attempt at resuscitation is better than no attempt at all. In order to remove any barriers, such as wrong techniques and fear of exposure to infectious diseases, the guidelines recommend only applying compression techniques, and the responder should not wait for any equipment in the initial steps of resuscitation. The requirements are to perform the action with chest compressions, which was re-emphasized in the guidelines. These practices can achieve the objectives of resuscitation care. Nurses in student time itself should have desireto , as they are aware that early neonatal resuscitation can save lives. These nurses have the ability to improve the survival rate of a patient, and they are also committed to provide such care Most of the time nurses are the first responder who witnesses the arrest in the hospital and as a first responder in a cardiac arrest situation, she or he needs to take appropriate actions, such as recognition, shouting for help, initiation of resuscitation, so for the purpose of maintaining resuscitation knowledge and skills, we must pay attention to the training quality, recognizing the need for increasing the monitoring of adherence to recommended guidelines and also identifying areas for improvement, including the quality of clinical resuscitation equipment. Therefore, this study will explore the

current practices in the studied hospital and examine the effectiveness of the training and support provided to the nursing students.[13]

An important fact is that nurses were significantly more likely to decline neonatal resuscitation efforts. Nurses are generally the first responders to an in-hospital to initiate neonatal resuscitation. In a study by Dwyer and associates, the attitudes of individual nurses influenced the speed and level of involvement in true emergency situations. Resuscitation is an important lifesaving skill taught to hospital staff throughout the world. There is a marked and rising demand for neonatal resuscitation training from professional healthcare groups and from public.These training programs involve considerable operational and opportunity costs and must be repeated annually for mandatory recertification. Millions of people are being trained each year but the efficacy of this training and the subsequent performance of the skills learnt has come into question. In emergency situationeven a one minute also is critical so resuscitation provided must be performed properly in order to prevent further complications and potentially save Lives. With the need for effective initiation of intervention being known, Health care professionals often face criticisms for inadequate basic life saving skills. Insufficient skills of basic life support are caused by a lack of training and inappropriate instruction, limited practice, lack of self efficacy and poor skill. Hence the researcher felt that a Quasi experimental study will be undertaken on the following topic.

The American Heart Association urges the public to be prepared for cardiac emergencies, so they should know the following.[13]

1.2NEED FOR STUDY:

- Warning signs of cardiac arrest are loss of responsiveness, hypothermia, absence of normal breathing, continuous bradycardia.
- Immediately start initial steps of resuscitation if baby is having hypothermia, poor muscle tone and lack of breathing.
- Maintain and clear airway by gentle suctioning firstly mouth then nose while resuscitation.

"Upsand downs in life are very important to keep us going, because a straight line even in an ECG means we are not alive."

Ratan Tata

Neonatal resuscitation which consist of artificial ventilation accompanied by external cardiac massage, is now considered an emergency procedure. All nurses should be certified by the American Heart Association to perform neonatal resuscitation.

Globally, the neonatal mortality rate is 5.1 million annual neonatal deaths. Of these, five million annual neonatal deaths (98% of the world's total) occur in developing countries. In other words, of 136 million babies born annually, around 10 million require assistance to breathe. Each year 814,000 neonatal deaths result from intra-partum related events in term babies and 1.03 million from complications of prematurity. Still no systematic assessment of mortality reduction or resuscitation has been done.[14]

The current state of neonatal health in India is indeed dismal to state the least. Three neonates are dying every minute in India and every 4th baby born is low birth weight! India contributes 30% of the global burden of neonatal deaths. In India, the number is estimated to be about 1 million, highest for any country. Current neonatal mortality rate in India is 47/1000 live births accounting for almost two thirds of the infant deaths. Neonatal Mortality Rate (NMR) shows a wide variation in different states being the lowest in Kerala (11.5) with highest rates seen in Chhattisgarh (51.1), Jharkhand (48.6), Uttar Pradesh (47.6) and Madhya Pradesh (44.9). Surveys in Karnataka, depicts a neonatal mortality rate of 28.9.The World Health Organization (WHO) reports that between 4 and 9 million newborns have birth asphyxia, of whom an estimated 1.2 million die from birth asphyxia. Approximately 3.2 million stillbirths occur in the developing countries. Birth asphyxia results from events in the ante-partum (50%), intra-partum (40%), and post-partum (10%) periods.[15]

Neonatal resuscitation has the potential of altering the outcome of intra-partum and post-partum events. But, preventive strategies can be severely hampered by the lack of qualified health professionals. Neonatal resuscitation is an important starting-point in the scaled-up neonatal programs that are required to ensure that the world's youngest citizens get the best possible start in life. Given the distribution of the burden of asphyxia, and the limitations of access, Nurses must be prepared to target preventive and management strategies in various settings.[16]

A study was conducted to assess the impact of a neonatal resuscitation program on the incidence, management and outcome of birth asphyxia in 14 teaching hospitals in India. Two faculty members from each institution attended a neonatal resuscitation certification course and afterwards trained staff in their respective hospitals. Each institution provided 3 months' pre-intervention and 12 months post-intervention data. Introduction of the Neonatal Resuscitation Program significantly increased awareness and documentation of birth asphyxia, as

judged by an increased incidence of asphyxia based on apnea or gasping at 1 and 5 minutes ($p < 0.001$ and < 0.01, respectively). A significant shift towards more rational resuscitation practices was indicated by a decline in the use of chest compression and medication ($p < 0.001$ for each) and an increase in the use of bag and mask ventilation ($p < 0.001$). Although overall neonatal mortality did not decrease, asphyxia-related deaths declined significantly ($p < 0.01$).[17]

A study was conducted to evaluate the impact of a neonatal resuscitation course on the theoretical knowledge and practical skills of birthing room personnel and to evaluate the performance of skills at different times after the course. About seven hundred thirty-seven individuals, medical staff, nurses and respiratory technologists were identified through a random sampling method. A course in neonatal resuscitation was presented to the identified samples. A cohort of 108 (15%) participants received testing before and after the course; the theoretical knowledge and practical performance of 62 of these participants were retested after six and 12 months. The study findings revealed that significant improvement in both theoretical knowledge and practical skills was seen immediately after the course. The researchers concluded that neonatal resuscitation should be an integral part of continuing education. Practical skills appear to decline faster than theoretical knowledge. Therefore, in-service instruction is required, at least, every six months.[18]

A study was done to determine the effect of a team dedicated to basic neonatal resuscitation on the outcome of the neonates delivered in a teaching hospital. The study sample consisted of a 5 member team of nurses trained in basic neonatal resuscitation who attended 1046 deliveries over a 31 day pilot period. The results revealed that stillbirth rate and admission rate to the special care baby unit were unchanged. Basic neonatal resuscitation in this setting decreased the incidence of asphyxia, improved APGARS and a decrease in the mortality of babies weighing more than 2 kg. The researchers concluded that resuscitation team reduced the incidence of and mortality from asphyxia and improved the outcome of babies greater than 2 kg. This pilot study provides evidence of the beneficial effect of basic neonatal resuscitation.[19]

An investigative study was conducted to ascertain the reasons why qualified nurses are unable or unwilling to appraise themselves realistically with regard to neonatal resuscitation skills. The investigation employed both quantitative and qualitative methods to establish the existence of the phenomenon and facilitate its analysis. The findings of the study suggest that unrealistic self-appraisal arises out of poor and infrequent resuscitation training, nurses' attempts to identify with roles which they perceive they should fulfill. The data suggest that current resuscitation training is inadequate, inappropriate and inconsistent for the needs of practicing nurses.[20]

From the available literature reviewed, it is evident that the success rate and overall quality of resuscitation performed by neonatal and pediatric staff nurses is not up to Neonatal Resuscitation Program standards; in particular, the knowledge regarding resuscitation, the time to intubate and lack of confidence in performing resuscitation is concerning. Resuscitation helps to reduce neonatal mortality rate by about 30%. But resuscitation is effective only if commenced within 6 minutes after the blood flow stops, because permanent brain cell damage occurs in an oxygen deprived environment. Recent studies have indicated that significant numbers of nurses are ineffective in performing neonatal resuscitation. Furthermore, these studies indicate that many nurses are unable to appraise realistically their own neonatal resuscitation performance. Therefore, the researcher found it relevant to evaluate the effectiveness of a Structured Teaching Program on knowledge and practice of nursing students regarding neonatal resuscitation.[20]

Hassan Zaheer& group from Karachi, Pakistan analyzed under graduate medical students and found around 60% of them had no knowledge of neonatal resuscitation and concluded that inclusion of neonatal resuscitation course will increase awareness and application of this valuable lifesaving maneuver . [21]

PS Phillips and group from Royal hospital Bath (UK) analyzed the junior doctors in medical schools of U K and found many junior doctors were not competent in carrying out effective resuscitation even though medical schools in U K provided them some form of life support training .[22]

The investigator is aware with his experience abroad that, unlike the nurses here, our counterparts in the middle East & Western countries who work in wards and ICU's compulsorily undergo a period of rigorous training and equip them – selves so well that they are highly competent in neonatal resuscitation.

This was a questionnaire based study conducted in the **Kasturba medical college, Manipal,** Karnataka India after obtaining approval from the Institutional ethics committee. It was conducted among the students who were pursuing second, third, fourth year of GNM nursing course. The questions have been reviewed and validated by the experienced anesthetists and certified trained professionals. The students were explained about the aims and objectives of the study and were invited to participate. Student feedback was obtained using a questionnaire administered in English, the medium of instruction. The questionnaire comprised of three parts, first one dealing with general questions to know the importance ofneonatal resuscitation in clinical practice, second one consisted of the main goal and accuracy of neonatal resuscitation intervention and the last segment comprised of questions targeting the indications, methods and effectiveness ofneonatal resuscitation. To understand the knowledge in depth and avoid bias certain statements were deliberately reframed as negative questions.[23]

A total of 250 students participated. Among three categories of questionnaire survey, students were excellent (>97% reciprocated with positive response) in first one regarding importance of neonatal resuscitationhere they gave more collective positive response on knowledge and need of neonatal resuscitation. Negatively framed question "neonatal resuscitationwas harmful" was intelligently understated by 89.6% of students. However, 7.2% of them differed by saying 'did not know'. In second category, questions chosen were about the main goal and accuracy of neonatal resuscitation(in terms of scores rewarded, 20% of them graded as excellent, 36% scored as good and 44% gave poor response). Third one with respect to indications, methods and effectiveness of neonatal resuscitation, most of them had sound knowledge (in terms of scores rewarded, >47.2% scored with excellent grade, 30% good and 22.8% gave poor response). Only 20% students rightly answered as all the options under 'purpose of neonatal resuscitation' question as correct. When we asked about the 'universal compression to ventilation ratio' in different age groups, only 84% of students partially answered in a correct manner and only 20.4% were aware of the current upgraded order neonatal resuscitation intervention, being T-A-B-C from previous A-B-C. Regarding the depth of chest compression only 7-8% of them answered all the options as correct.[23]

A study was conducted to describe the knowledge, attitudes/ beliefs, and care practices of neonatal ICU nurses concerning do not resuscitate status for hospitalized neonates and to assess differences based on years of neonatal intensive care unit experience and educational background. This study was conducted in 3 neonatal ICU of northeastern united states. This study included 66 neonatal intensive care unit nurses. There was much ambiguity concerning the legal meaning of the term "do not resuscitate." A variety of attitudes / beliefs and care practices related to do not resuscitate designation was reported. Nurses with increased year of experience were less supportive of initiating certain care modalities for do not resuscitate patients. Responses did not appear to be influenced by the educational background of NICU nurses. NICU nurses need further education regarding the legal definition and scope of do not resuscitate orders in the clinical care of terminally sick newborns.[24]

Herrick CA,JenkinsTB,Carlson JH reported that self-directed learning modules design to educate staff to work more effectively with special populations, such as children and elderly patients. Encompassing more than 40 years of literature, this review identifies the best modular designs, the cost benefits and various studies about the effectiveness of self-directed learning modules.[25]

The above studies suggest that majority of staff nurses working in labor room are unaware of newborn resuscitation skills. There is a need to anticipate high risk deliveries and transfer those babies in utero to specialties where neonatal services are available. The necessary equipment must be available and in working order before the delivery. Each one of the staff nurses posted in the labor room must learn the skill of basic resuscitation. The outcome in most of the cases is good, if the steps are followed in the correct sequence. Data suggests that the morbidity and mortality can be reduced by 80% just by learning and following the steps of basic resuscitation correctly. Keeping in view the above fact, the investigator planned to assess the knowledge and practice regarding new born resuscitation among staff nurses working in labor room. So, the investigator made an attempt to assess the effectiveness of self-instructional module on knowledge and practice regarding new born resuscitation among staff nurses working in laborroom. The investigator also found that this study will help the staff nurses working in labor room to increase the knowledge and skills in performing newborn resuscitation.[26]

In view of the above needs the Investigator strongly felt that every hospital nurse working in the hospital should have adequate knowledge on the neonatal resuscitation, and it should be started from "root point of nurses" means "nursing students" so that our future staff nurses must be get trained in providing neonatal resuscitationand precious lives could be saved, so structural teaching program is a logical solution for this problem and would greatly help these nurses to equip themselves in correct procedure of neonatal resuscitation.

1.3 RESEARCH PROBLEM: -

"A pre-experimental study to assess the effectiveness of structural teaching program on knowledge and practice regarding neonatal resuscitation among nursing students in selected college,Ratia, Distt. Fatehabad, Haryana."

1.4 OBJECTIVES:

1. To assess pretest &posttestknowledge and practice scores among nursing students regarding neonatal resuscitation.
2. To assess the effectiveness of structural teaching program among nursing students regarding neonatal resuscitation.
3. To find out the association between posttest knowledge and practice scores with demographic variables.

1.5 OPERATIONAL DEFINITIONS*:*

- **Assess:** - It is the organized systematic continuous process of collecting data from nursing students regarding neonatal resuscitation.
- **Effectiveness:** In this study effectiveness refers to the extent to which training program helps to improve the knowledge on neonatal resuscitationamong nursing students.
- **Structural teaching program:** Structural teachingprogram refers to the teaching of specific verbal and non-verbalbehaviors and practicing of these behaviors by the nursing students.
- **Knowledge**: In this study knowledge is defined as awareness of the college students regarding the neonatal resuscitationas measured by structured knowledge questionnaire on neonatal resuscitation.
- **Practice**: To do or perform habitually and repeatedly in order to acquire or polish a skill.
- **Neonatal resuscitation:**Neonatal resuscitationcombines compression of chest with rescue breathing to keep blood flowing through the body and brain while delivering oxygen to the bloodstream.
- **Nursing Student**: In these study nursing students refers to studying individuals in college of Nursing.

1.6 ASSUMPTIONS: -

1. Students may have little knowledge regarding neonatal resuscitation.
2. Structural teaching program will increase the knowledge& practice and improve the resuscitation practice of students.

1.7 HYPOTHESIS: -

H_0-> There will be significant difference between pre-andpost-test knowledge and practice scores regarding neonatal resuscitation.

H_1-> There will be significant association between knowledge and practice scores of nursing students with selected demographic variables.

1.8 DELIMITATIONS :-

1. The nursing students who are studying in College of Nursing.
2. The study is limited to the students who can understand English.
3. The sample size is limited to 80 nursing students.

II. CONCEPTUAL FRAMEWORK

A conceptual framework of the present study is based on general system theory with input, process, output, and feedback. This was first introduced by Ludwig Von Bertalanffyln 1968.

According to this theory, a system is a group of elements that interact with one another in order to achieve the goal. An individual is a system because he/she receives input from the environment. This input when processed provides an output. All living system are open. There is a continual exchange of matter, energy, and information. The system is cyclical in nature, and continuous to be so as long as the four parts- input, process, output and feedback-keeping interacting with each other. If there are changes in any of the parts, there will be alterations in all the parts. Feedback from within the system or from the environment provides information, which helps the system to determine its effectiveness.

Input

It consists of information, material or energy that enters the system. In this study nursing student is a system which inputs from self and that acquired from the environment. The input includes learner's background like professional qualifications, age, and existing knowledge regarding neonatal resuscitation. The input also includes administration of structured teaching program regardingIntroduction and definition of neonatal resuscitation, Steps of resuscitation, indications, complications etc.

Process

After the input is absorbed by the system, it is processed in a way useful to the system. Here it refers to structured teaching program regarding introduction and definition of neonatal resuscitation, techniques and indicationsof neonatal resuscitation, complications etc.

Output

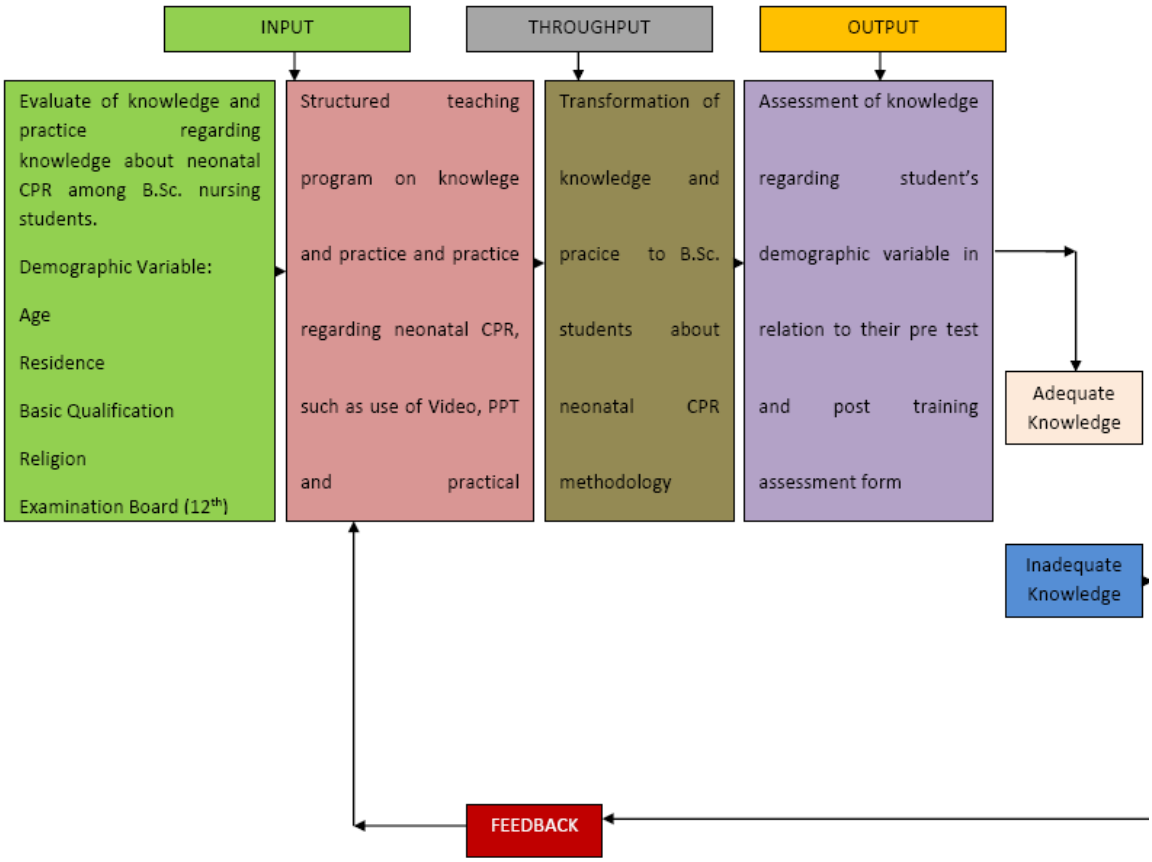
It refers to the energy, matter or information disposed by the system as a result of its process. In the present study, it refers to increase in knowledge of nursing students regarding regarding introduction and definition of neonatal resuscitation, techniques and indications of neonatal resuscitation, complications etc.

Feedback

It is the process that enables a system to regulate itself and provides information about the system's output and its feedback as input. Accordingly, highly knowledge scores obtained by the subjects in the post test indicate that the planned teaching and technique ofneonatal resuscitation, indications and complications is effective.

Environment

The individual's environment is fixed constraint that may create interest for nursing students to gain knowledge regarding neonatal resuscitation, indications and complications etc.



III. REVIEW OF LITERATURE

Review of literature is a key step in research process. Nursing research may be considered a continuous process in which knowledge gained from earlier studies is an integral part of research in general. One of the most satisfying aspects of the literature review is the contribution it makes to the new knowledge, insight and general scholarship of the researchers. A literature review is a complication of resources that provide the ground work for future study. Review of literature is defined as a broad, comprehensive, in depth, systematic and critical review of scholarly publications, unpublished scholarly print materials, audio visual materials and personal communications.

1. Literature related to the effectiveness of structured teaching program

Literature can be reports of theories some of which underline reports research as well as non-research material. By my view review of literature is the material which we are collecting for research work it may in the form of book review, journals, research studies, articles etc. we can collect review by direct interview method also. The literature reviewed under following headings:-

2. Literature related to knowledge & practice regarding cardio pulmonary resuscitation.

I. Literature related to the effectiveness of structural teaching program :-

Endale Gabreegziabher et al (2014) conducted a study in department of anesthesia , schools of medicine, Gondar college of medicine and health sciences, university of Gondar, Ethiopia. All nurses, midwives and residents from obstetrics, gynecology and pediatrics departments included. 150 participants included in the study. Overall mean scores of knowledge and skills of midwives, nurses and residents were 19.9 (SD: 3.1) and 6.8 (SD: 3.9) respectively. The mean knowledge scores of midwives, nurses and pediatric residents and obstetrics &gynecology residents were 19.7 (SD: 3.03) and 20.2 (SD: 2.94), 19.7 (SD: 4.4) and 19.6 (SD: 3.3) respectively, whereas the mean scores of skills of midwives, nurses and pediatric and obstetrics and gynecology residents were 7.1 (SD: 4.17), 6.7 (SD: 3.75), 5.7 (SD: 4.12) and 6.6 (SD: 3.97) respectively. Conclusion ruled

out that the knowledge and the skills of midwives, nurses and residents about neonatal resuscitation were sub standardized. [27]

LucaszSzarpalz (2012) conducted a study to investigate the knowledge on resuscitating newborn infants among medical rescue staff in Warsaw, Poland. Research was conducted among 482 people working in emergency medical services in Poland. The method used was a randomized questionnaire requiring knowledge on a neonatal resuscitation. All of the responders had knowledge on the resuscitation process (64%-96%) and the compression to ventilation ratio in resuscitating new born infants (60% - 99%). The group of nurses in comparison to doctors and medical rescue workers had significantly poorer knowledge.[28]

King et.al (2011) conducteda study to compare the effectiveness of static simulation to high-fidelity simulation when teaching advanced neonatal life support guidelines. Using a quasi-experimental design, 49 BSN students were randomly assigned to 2 groups of either static or high fidelity simulation. There were no significant differences between the static and high fidelity simulation groups on the written examination. The high-fidelity simulation group outperformed the static simulation group on mega code performance.[29]

Roppolo P. L et. al (2010), conducted a study about effectiveness andretention of training for neonatal resuscitation. The result of the study is like thatPerformance following 30-min training was either equivalent or superior(p < 0.007) to the multi-hourtraining in all measurements, both immediately and 6 months after training.Although retention of certain skills deteriorated over the 6 months among asignificant number of participants from both groups, 84% of the 30-min traininggroup still was judged, overall, to perform neonatal resuscitationadequately. Moreover, 93% still were performing chest compressions adequately. The study concluded that Using innovative learning techniques, 30-min neonatalresuscitation and automated external defibrillatortraining is as effective as traditional multi-hour courses, even after 6 months.[29]

Rodgers et.al (2010),conducted a study whether there was a correlationbetween written and practical evaluations in an NALS course. The method of thestudy is by 34 nursing students from four nursing programs participated intwo separate NALS classes, completing both the written and practicalevaluations. Immediately following the courses, all participants served as teamleader for a video recorded simulated resuscitation event. A panel of expertNALS instructors who did not participate as instructors in the courses reviewedeach video and independently scored team leaders'performances. The result ofthe study was Spearman's correlation coefficient between the written testscores and practical skills performance was 0.194 (2tailedsignificance =0.272).the study reached a conclusion that The NALS written evaluations wasnot a predictor of participant skills in managing assimilated cardiac arrest eventimmediately following an NALS course[30]

R.Rajaram and R.E Rajagopalan(2009) conducted a quasi-experimental to evaluate the effectiveness of STP on neonatal resuscitation technique among staff nurses in selected hospital in Bangalore city. Data was collected from sixty staff nurses. The study result showed that total mean percentage of post- test knowledge score was 97.10% with enhancement of 46.9% which shows gain in knowledge after implementation of STP and 't' value was 29.06 at p<0.01 level. The mean post test skill score was 95.18% with enhancement of 44.20% and't' value was 6.46 at p<0.01 level. It was concluded that the structured teaching programme on neonatal resuscitation has enhanced the knowledge of staff nurses regarding neonatal resuscitation.[31]

Marzooq& Lyneham (2009) Bahrainrevealed that neonatal resuscitation knowledge and skills were lacking amongst nurses in these developed countries. A systematic review on resuscitation training in developing countries highlighted that cognitive knowledge was higher amongst physicians than amongst nurses or students.The target population comprised all 370 registered nurses working in the 2 selected hospitals.During the pretest phase each registered nurse's neonatal resuscitationskills were assessed for three minutes.Neonatal resuscitationknowledge and skills of the participants were assessed immediately after the training and a retest was conducted three months later to evaluate the retention of their neonatal resuscitation knowledge and skills.The pretest mean score achieved by participants in the tests that assessed their average neonatal resuscitation knowledge was 55.09%, compared to the pass standard of 85% set by the RCSA (2005:2) and the AHA (2005:112). Although the participants' scores increased after the training session, the post training mean score was 80.63%.[32]

Ric Mellor et al (2009) A study conducted in Sweden concluded that theoretical knowledge increased with the training of the neonatal resuscitation, the nurses reached relatively at higher level after resuscitation training. As per the survey conducted by AHA on emergency awareness in the year 2008 it was found out through 1,132 adults who gave the following results; 89%of respondents were willing to do something if they witnessed a medical emergency,21%were confident that they could perform neonatal resuscitationand 15% believed that they could bag and mask ventilation in an emergency.[33]

M.Devline (2008)conducted aquasi experimental study to evaluate the effectiveness of Structural teaching program on neonatal resuscitationtechnique among nursing students in selected hospital in Bangalore city. The sample size was sixty students. The result showed that total mean percentage of post- test knowledge score was 97.10% with enhancement of 46.9% [SD=3.7] which shows gain in knowledge after implementation of STP and't' value was 29.06 at p<0.01 level. The mean post test skill score was 95.18% with enhancement of 44.20%

and't' value was 6.46 at p<0.01 level. From the analysis of data it is found that the structured teaching program onneonatal resuscitation and it has enhanced the knowledge of students.[34]

Robert James and Akashdeep Singh(2008) conducted a study to effectiveness of a planned teaching module on knowledge and practice of neonatal resuscitationamong staff nurses in Punjab. Data was collected from 40 subjects by using Purposive convenient sample techniques. The results showed that the mean post-test knowledge score [40.68] was found to be significantly higher than the mean pre-test score [29.53] similarly the mean post-test score [26.75] was found to be significantly higher than the mean pre-test practice score [18.53].the co-efficient of correlation between the pre-test knowledge and practice score was found to be 0.11 at 0.05 level indicating low positive correlation between the knowledge and practice. But a high positive correlation [r=0.59] was found between post-test knowledge and practice of nurses regarding neonatal resuscitation.[35]

II. Literature related to knowledge regarding cardiopulmonary resuscitation

Siddhartha Koonwar et al (2016). A hospital based cross sectional prospective study was conducted in tertiary care of hospital Lucknow Results were analyzed by using 'pointed' test and chi square to see the association. 50 nursing personnel participated in the study. The overall mean scores of knowledge and skills of subjects were (11+- 4.18, 5.98 +- 1.68) respectively. Effectiveness of teaching program regarding standardized neonatal resuscitation protocol in relation to sill were effective as the 't' value 32.27 and 'p' value <0.00001 was highly significant and effectiveness of teaching program, regarding standardized neonatal resuscitation protocol in relation to knowledge was effective as the value 27.27 and P value <0.0001 was highly significant. Knowledge and skill levels of nursing personnel were standardized. There was significant difference in knowledge.[36]

Shanta Chandrasekaran et al (2015)conducted a study and also concluded that awareness of Basic Life Support (BLS) among students, Doctors and Nurses is very poor and needs to be improved. According to recent estimates cases of cardiovascular disease may increase from about 2.9 crores in 2000 to as many as 6.4 crores in 2015. Deaths from CVD will also more than double. Most of this increase will occur on account of coronary heart disease – AMI, Angina, CHF and inflammatory disease. Data also suggest that of CVD in rural populations will remain lower than that of urban populations, they will continue to increase, reaching around 13.5 % of the rural population in the age group of 60-69 years by 2015.The prevalence rates among younger adults(age group 40 years and above) are also likely to increase.[37]

Gavrin. Et al (2013),conducted a study to determine whether mothers in an obstetric unit could learn infant CPR. The experimental group included mothers without prior CPR training watched a 22 minutes instructional DVD and practiced on a mannequin A total 126 mothers were enrolled in the study, 79 in the experimental group, 25 in the central group and 22 who withdraw from the study, written and practical examinations were used to determine proficiency and composite scores were statistically significantly higher in the experimental group than in the central group with median scores of 10 and 7 respectively (P<.001), 22 mothers (21%) had been periodically offered CPR training. In the experimental group, 76 mothers (96%) felt more confident as caregivers after learning CPR. Before training in both groups 84 mothers (81%), stated that learning CPR was extremely important, compared with 100 mothers (96%) after training, (p-value:.001). It is an effective method of teaching.[38]

NavyaraiBasu (2013) conducted a study in the department of pediatrics of University College of medicine and JNM hospital, Kalyani, West Bengal. The study was consisted of 116 nursing staff of primary health centers and hospital with secondary level neonatal care in and around Kalyani Town. A theory and a practical session. In written Level 2-0 questionnaires. The participants who had scored .85% undergone practices, so that it is informed that nursing staff has average knowledge of the theory & in practical test result was different in initial steps of resuscitation some personnel had done something. However there was very poor performance in the last 2 steps i.e. PPV, and chest compressions, rest have done incorrectly, only 1 or 2 participants knows correctly. So in resource prone areas, in difficult territories, participants are rarely available to attend emergencies. Therefore nursing staff have done resuscitation in the presence medical personnel. [39]

Tooba Noor et al (2013), The cross-sectional study was conducted at the Department of Gynecology and Obstetrics, CivilHospital, Karachi, from January to March 2013 and comprised House Officers and Postgraduate trainees. Only 19(18.6%) subjects cleared the test; 8(42.1%) of them were HouseOfficers and 11(57.9%) were Postgraduate trainees. The result did not show any significant difference between thosewho had previous training or those who had performed neonatal resuscitation and those who had no suchexposure. Majority, 92(90.2%) considered their knowledge inadequate and 99(97%) favored that updated neonatalresuscitation programs should be periodically arranged.The study showed inadequate level of knowledge on neonatal resuscitation amongst obstetricaltrainees. There is urgent need of formal training programs which can make doctors skilful enough to face anyadverse neonatal outcome professionally.[40]

Broomfield (2012) conducted a study. The objective of the study was to investigate the speed with which retention of neonatal resuscitation skills and knowledge deteriorates, and to investigate the need for regular

updating in neonatal resuscitation. The latest guidelines issued by the Resuscitation Council were used, which also aided in the design and use of the two research tools, namely an eight-point skills-testing observation tool and a 26-point knowledge-testing questionnaire While a 3-hour update in neonatal resuscitation skills revealed an initial improvement, the decrease in retention of skills 10 weeks later was significant (*P*= 0.01)The findings of the research reflect that retention of skills and knowledge quickly deteriorates if not used or updated regularly.Therefore this research supports the importance of neonatal resuscitation refresher courses on a regular basis. [41]

B. Spencer et.al (2011) conducted a study about The 2010 American heartassociation guidelines for neonatal resuscitation and emergency cardiac care: an overview of the changes to pediatric basic and neonatal advanced life support. This article presents the 2010 AHA major guideline changes to neonatal advanced life support (NALS) and pediatric advanced life support (PALS) and the rationale for the changes. The following topics are covered in this article: (1) current understanding of cardiac arrest in the pediatric population, (2) neonatal advanced life support (NALS) , and (3) major changes in PALS.[42]

Chandrasekaran *et al.* (2010) carried out a study to find out level of neonatal resuscitation awareness in medicine, pharmacy, nursing and dentistry. The study concluded that none of the students had adequate knowledge of the neonatal resuscitation and most of them (84.82%) had less than 50% score, indicating a poor knowledge in majority of the students studying different disciplines of health sciences. Studies have shown that even trained health professionals have little knowledge about neonatal resuscitation, probably due to insufficient neonatal resuscitationtraining or lack to interest to practice it. In United States, neonatal resuscitationtraining has been recommended for all health-care professionals since fiftyyears.[43]

Christina et.al (2010) conducted a study to assess and compare thetheoretical knowledge onNALS in nurses and doctors. A total of 82nurses and 134 doctors agreed to respond to a questionnaire containingdemographic questions, resuscitation experience questions and 15 theoretical knowledge questions. Our study demonstrated that nurses and doctors working inGreece have knowledge gaps in current NALS and ALS guidelines. However,resuscitation training had a positive effect on theoretical neonatal advanced life support (NALS) knowledge. Furthermore, nurses and doctors who worked in high-risk areas for cardiac arrest, scored significantly higher than those who worked in low-risk areas.[44]

Christabel Enweronu et al (2009) conducted a study to evaluate effectiveness of teaching neonatal resuscitation in West Africa. All groups of the271 professionals (18 nurse anesthetists, 55 nurses, 68 physicians, and 130 midwives) who completedthe course showed significant improvement ($p < 0.001$) in median post-training test scores. Midwivesat primary health care facilities were less likely to achieve passing post-test scores than midwives atsecondary and tertiary facilities [35/53 vs. 24/26 vs. 45/51 ($p = 0.004$)] respectively. Further modification of trainingfor midwives working at primary level health facilities and incorporation of neonatal resuscitation incontinuing education and professional training programs are recommended.[44]

Florence Munila et al(2009), University of Nairobi, Kenya conducted a study among 192 health providers drawn from all parts of Kenya. All the participants were aged 23 years and above with at least a certificate training. Most medical providers had heard of neonatal resuscitation (85.4%) with only 23 receiving formal training. The average duration of neonatal training was 3 hrs with 50% having missed out on practical exposure. When asked on steps of resuscitations, only 68 (35.4%) of participants scored above 85%. More than 70% of them considered their knowledge about neonatal resuscitation inadequately and blamed it on inadequate medical training programs. [45]

Josipovic et al (2009) conducted a study on 'neonatal advanced life support (NALS)knowledge of undergraduate nursing students and chiropractic students' The aim of this study was to examine retention of neonatal advanced life support (NALS)knowledge of third year nursing and fourth year chiropractic students following instruction and assessment of neonatal advanced life support (NALS)skills and knowledge as part of their undergraduate degree program. It was a non-experimental exploratory survey to determine perceived ability and knowledge of neonatal advanced life support (NALS).[46]

Jensen L.M et.al (2009),conducted a study about significance of clinicalexperience and knowledge on learning outcome from resuscitation. The controlgroup participated in anneonatal resuscitationcourse immediately following graduation. Therewas no difference between the intervention and control groups with regard to theimmediate learning outcome. The intervention group had significantly higherretention of learning compared to the control group, intervention group mean 82% , control group mean 78% , $P = 0.002$. The magnitudeof this difference was medium (effect size = 0.57). The study concluded that halfa year of clinical experience, before participation in anneonatal resuscitation course had a small but statistically significant impact on the retention of learning, but not on theimmediate learning outcome.[47]

Nagashimaet.al (2008) conducted a survey on knowledge of and experience in neonatal resuscitationand on knowledge of theGuidelines for neonatal resuscitationand Emergency CardiovascularCare (ECC) established in

2000 Three hundred and four nurses at AsahikawaMedical College Hospital were asked to fill in questionnaires is the method ofstudy. The results show that more than 80% of the nurses are much interested inneonatal resuscitation. However, cases of neonatal resuscitationwereexperienced by only about 40% of the nurses. Most of the nurses had never heardof the Guidelines for neonatal resuscitation.The researchers concluded that thereis a need to provide more education to nursing staff.[48]

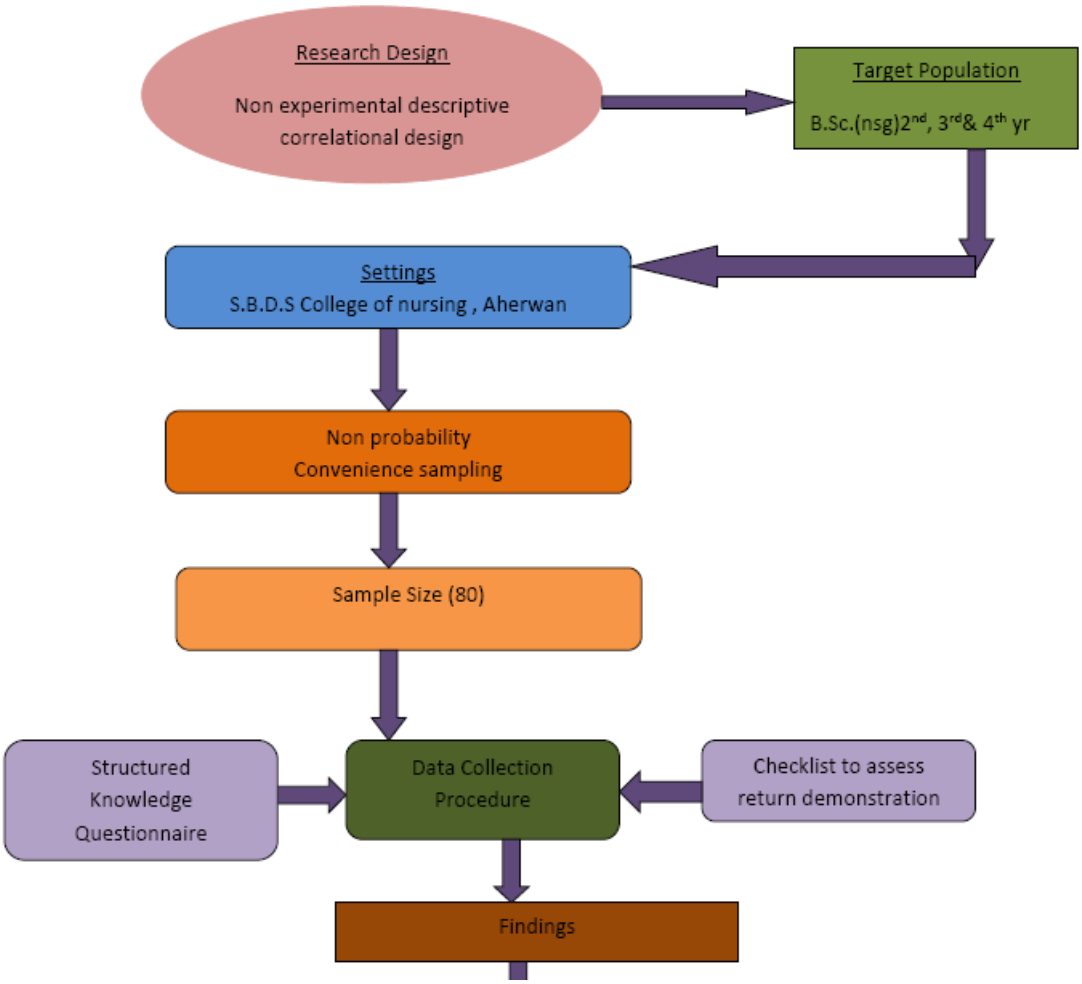
Graham, Crouch (2008) conducted a study. The study includes neonatal resuscitationskills arefundamental to the function of health professionals, but studies have shown themto be inadequate and outdated. The series begins with a survey in a district general hospital which aimed to establishnurses' levels of awareness on the current recommendations for neonatal resuscitationlaid downby the Resuscitation Council of the UK. The results show a poor knowledgelevel and recommendations are offered.[49]

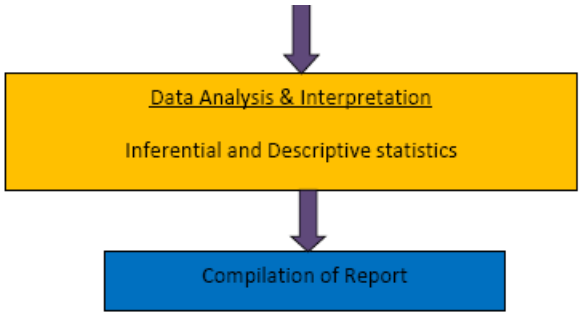
A study conducted to assess the knowledge, attitude and practice of community health center staff on birth asphyxia. Most of newborn deaths are associated with birth asphyxia (40%), low birth weight and prematurity (25%) and infections (20%) in the community centers. This study took place in September 2008. In this survey the prolonged labor (63.7%), infection (60.7%) and dystocia delivery (45.5%) were the mostly reported causes of birth asphyxia. In this study they have observed some good practices as aspirating with the bulb (69.7%) and clearing upper way with a finger covered with gauze (30.3%) doing the mouth to mouth (51.5%) stimulating the newborn (66.7%). The improvement of the neonatal mortality requires the training of the staff and the equipment's of the centers in small simple materials of resuscitation.[50]

III. METHODOLOGY

Research methodology is a way to systematically solve research problems.Research methodology includes steps, procedures and strategies for gathering andanalyzing the data in a research investigation.

This chapter deals with the type of sample size, research design,setting of the study, population, sample and sampling technique, inclusion criteria, exclusioncriteria, development and description of tool, pilot study, data collection procedureand plan for data analysis.





SYSTEMATIC REPRESENTATION OF RESEARCH DESIGN

RESEARCH DESIGN.

Research design is a set of logical steps taken by the researcher to assess the methods used to obtain samples, collect data, analyze and interpret the results. It is the researcher's overall plan for obtaining answers to the research questions for testing the research hypothesis. The essential question that research design is concerned with how the subjects will be brought into research and how they will be employed with in the research design.

The research design is the plan, structure and strategy of investigator to answer the research questions and control variance. The research design provides answers to research questions and variance. The research design provides an explicit blue print of how research activities will be carried out.

The research design which is used to achieve objectives of this study is non experimental descriptive correlational design was to assess the knowledge of the nursing students regarding neonatal resuscitation.

RESEARCH APPROACH

Research approach is the most significant part of any research. The appropriate choice of the research approach depends upon the purpose of the research study which has been undertaken in order to accomplish the main objectives of the study. In this study descriptive approach was used to assess the knowledge of nursing students regarding neonatal resuscitation.

Descriptive studies are undertaken to describe what exists in terms of frequency of occurrence rather than to describe the relation between variables. In this study, knowledge of nursing students regarding neonatal resuscitation was assessed after administration of structured questionnaire for knowledge.

VARIABLES UNDERSTUDY

Variables are concepts at various levels of abstraction that are measured,manipulated or controlled in the study

Research variables: In this study the study research variable refers to knowledge and practice of nursing students regarding neonatal resuscitation.

Demographic variables: In the present study demographic variables refers to student's age, class, residence, religion, basic education, 12th board, parents education and previous knowledge.

SETTING OF THE STUDY

Setting refers to the area where the study is conducted. It is the physicallocation and condition in which data collection takes place in a study. Based on thegeographical proximity, feasibility and availability of samples the study was conducted in Shaheed Baba Deep Singh College of Nursing Aherwan, Distt.Fatehabaad

TARGET POPULATION

The target populations for the study was students of B.Sc nursing 2nd , 3rd year and 4th year from Shaheed Baba Deep Singh College of Nursing .

SAMPLE AND SAMPLING TECHNIQUE

Sample size of the study is 80 .

1. 24 from B.Sc nursing 2nd year.
2. 28 from B.Sc nursing 3rd year.
3. 28 from B.Sc nursing 4thyear.

SAMPLING TECHNIQUE

Sampling technique is an important step in research process. It the process of selecting a group of people or otherelements with which to conduct a study. Non-probability convenience sampling technique was used to select the sample. The investigator has selected the samples i.e. nursing students from the Shaheed Baba Deep Singh College of Nursing, Aherwan,

CRITERIA FOR SAMPLE SELECTION.

Inclusion criteria.

1. Students who are studying in college of nursing.
2. Students who are willing to participate.
3. The students who are present at the time of sampling.
4. Students who knows to read and understand English.

Exclusion criteria.

1. The students who are not willing to participate.
2. The students who are not present at the time of sampling.
3. Who don't understand English language

SELECTION AND DEVELOPMENT OF RESEARCH TOOLS

Data collection tool was selected and prepared on the basis of objectives of study.

SELECTION OF RESEARCH TOOL

A structured knowledge questionnaire was selected to assess the knowledge and checklist for practice for the study, as it is the appropriate tool to reveal the response of the study subjects regarding various aspects and steps of neonatal resuscitation.

DEVELOPMENT OF THE TOOL

A structured knowledge questionnaire was prepared to assess the level of knowledgeand checklist developed to assess the practiceof nursingstudents regarding neonatal resuscitation.The tools of the study was developed after review of literature, exiting tools, discussion with the guide and the various experts in the field of nursing and based on the investigator's personalexperience.

Following steps were carried out in preparation of tools;

i. Literature review was done.
ii. Prepared the blue print
iii. Final tool.

DESCRIPTION OF THE TOOL

The structured self administered questionnaire comprised of three sections:-

Section A: Socio-Demographic data

The first part of the tool consisted of 8 items describing the socio-demographicvariables of students age, Residence, Religion, professional education, 12th board, Parents education, parents occupation,Source of information.

Scoring procedure: The informationcollected in section A was not scored but coded so as to use effectively in the statistical analysis.

Section B: Questionnaire on knowledge regarding neonatal resuscitation.

This section consisted of 30 items on the level of knowledge of child regarding definition of neonatal resuscitation, indications and contraindications of resuscitation, sequence of TABCs, steps of neonatal resuscitation and complications of neonatal resuscitation. Each question has 1 correct response and 3 incorrect responses.Each correct response is awarded with score one and incorrect response with score zero. Maximum score was 30, to interpret level of knowledge the scores was distributed as follows: -

Adequate knowledge >75%
Moderate knowledge 50-75%
Inadequate knowledge <50%

Section C: checklist to evaluate the practice regarding neonatal resuscitation.

Checklist contains 10 particular involving each step of resuscitation. Each step scores 1 mark. The total scoring is as following.

Scorings:

0 - 3 = Below average
3 - 6 = Average
Above 6 = Good

Areas of Knowledge:

Area 1: Introduction and definition of neonatal resuscitation.
Area 2: Indications of neonatal resuscitation.
Area 3: Contraindication of neonatal resuscitation.
Area4: Preparation for resuscitation.
Area5: TABCs of resuscitation.
Area6: Initial steps of resuscitation.
Area7: Complications of resuscitation.

Content validity of the tool

Validity refers to the degree to which an instrument measures what it is supposed to be measured. Content validity refers to the degree to which the items in an instrument adequately represent the universe of content. Content validity has a special relevance to individual designing a test to measure the level of knowledge in a specific content area. To ensure content validity of the tools which includes demographic data, Structured knowledge questionnaire regarding the regarding the neonatal resuscitation among nursing students were submitted to one medical expert (Neonatologist), five nursing experts and one language expert. Their suggestions were taken in to consideration and modifications were incorporated in the final preparation of the tool.

Reliability of the tool:

Reliability of research instrument is defined as the extent to which the instrument yields the same results on repeated measures. It is then concerned with consistency, precision, stability, equivalence and homogeneity. The tool was tried on 8 nursing students of Shaheed Udham Singh college of nursing in Ratia area. The reliability of the tool was established by using Test and Re-test method for knowledge.

Ethical consideration:

Formal permission obtained from the principal of Shaheed Baba Deep Singh College of nursing, Ratia, Distt. Fatehabaad. Informed consent was obtained from all the participants after explaining the purpose of study and assuring confidentiality of collected data. No ethical issues were raised during the data collection period.

Pilot study:

Pilot study is a small-scale version or a trial run for the main study to test the practicability, appropriateness and feasibility of both the study and the tool. Formal approval was obtained from the principals of S.U.S College of nursing for pilot study. The pilot study was conducted in the month of February for a period of one week.

The investigator selected 8 nursing students who fulfill the inclusion criteria as samples for the study by using non-probability convenience sampling technique. After a brief self-introduction, the investigator explained the purpose of the study and obtained consent from them. Structured questionnaire and checklist was distributed to every student to assess the knowledge level and practice regarding neonatal resuscitation. Data collected were analyzed and results indicated that there was moderate level of knowledge and practice. The subjects were comfortable and cooperated well during the study.

Procedure for data collection:

Data collection is the gathering of information needed to address research problem. Formal written permission was obtained from the principal of S.B.D.S college of nursing, Aherwan. The investigator conducted the main study in month of march first week from 21stfeb to 21stmarch.

The samples of 80 nursing students were selected on the basis of inclusion criteria by using non-probability convenience sampling technique. The investigator introduced herself and and developed rapport with the subjects. The investigator explained the purpose of the study and reassured that the data collected would be kept confidential. The investigator obtained consent from the subjects prior to the study. The data collection was done in three phases.

Phase 1: After obtaining the permission from the significant authorities' structured interview schedule for demographic data of nursingstudents age, Residence, Religion, professional education, 12th board, Parents education, parents occupation,Source of information.

Phase 2: Structured questionnaire was administered for 30 minutes to assess the knowledge of students regarding neonatal resuscitation. Duration of the study is 4 weeks.

Phase 3: Structured checklist prepared to check the practice regarding neonatal resuscitation.

Processing of data

Data collected was processed every day. Missed out data identified and immediately next day it was rectified. During the data collection subjects were cooperative and the investigator was able to collect all the necessary information from the subjects without any problems.

Plan for data analysis:

The data obtained was analyzed on the basis of the objectives of the study using descriptive and inferential statistic

Descriptive statistics

Frequency and percentage distribution were used to study the demographic variables of students such as

- Students age, Residence, Religion, professional education, 12th board, Parents education, parent's occupation,Source of information.
- Mean and standard deviation were used to determine the knowledge of nursing student regarding neonatal resuscitation.
- Distribution of scores of pretest and post test of knowledge regarding neonatal resuscitation by summarizing into three categories such as adequate, moderate and inadequate.

IV. DATA ANALYSIS

This chapter deals with analysis and interpretation of data collected from nursing students in selected college, Ratia, Distt. Fatehabad, Haryana. The purpose of analysis is to reduce the data to an interpretable form, So that the relations of research studies can studied and tested.

OBJECTIVES:

1. To assess pretest &posttest knowledge and practice scores among nursing students regarding neonatal resuscitation.
2. To assess the effectiveness of structural teaching program among nursing students regarding neonatal resuscitation.
3. To find out the association between posttest knowledge and practice scores with demographic variables.

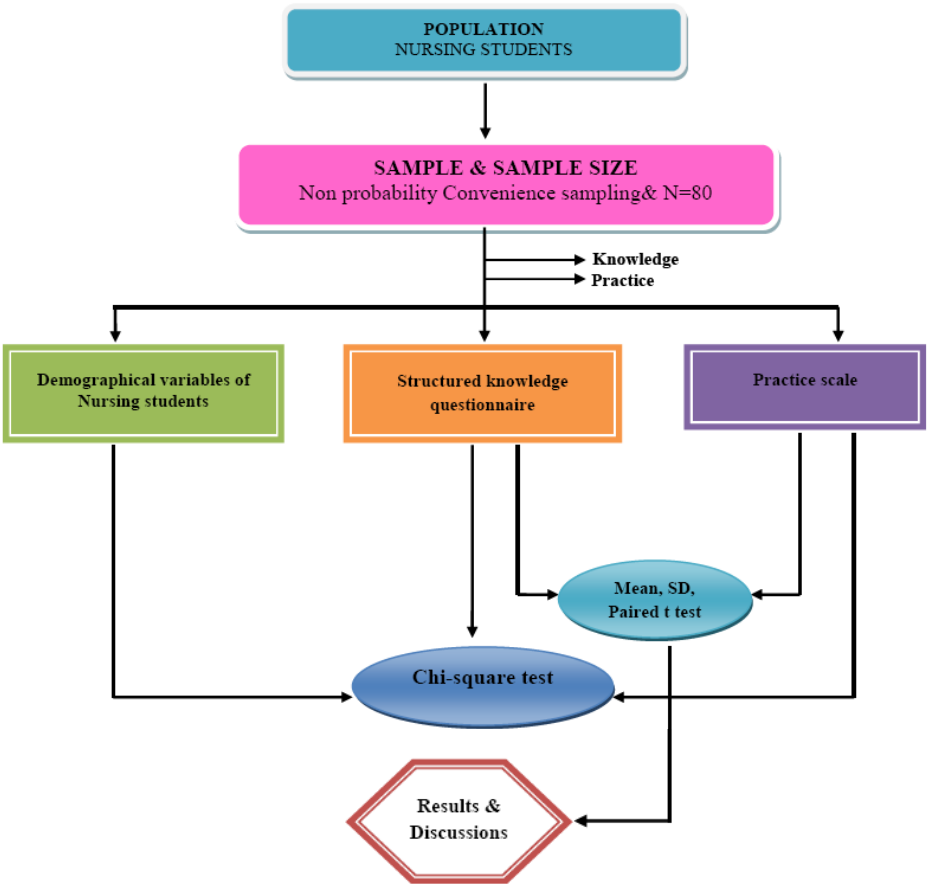


Figure 5.1 SYSTEMATIC PATTERN OF RESEARCH

➢ **ORGANIZATION OF DATA:**

The raw data was entered in a master sheet and analyzed and interpreted by using descriptive and inferential statistics. The data was organized and presented under the following sections:

- **Section A:**Description of Demographic Variables
- **Section B:**Evaluate the level of knowledge& practice regarding neonatal resuscitation among nursing students.
- **Section C:**Assess area wise knowledge score regarding neonatal resuscitation among nursing students.
- **Section D:** Evaluate the effectiveness of structured planned teaching program on knowledge& practice regarding neonatal resuscitation among nursing students.
- **Section E:**Knowledgeand practice score of nursing students on neonatal resuscitation in association with selected demographic variables.

SECTION A
DEMOGRAPHIC CHARACTERISTICS
Table 5.1- Frequency and Percentage Distribution of Sample Characteristics

N=80

S. NO.	Demographic Variables		Frequency (F)	Percentage (%)
1.	AGE (in years)	18-20 Years	24	30
		21-23 Years	52	65
		Above 23 Years	04	5
2.	PROFESSIONAL EDUCATION	B.Sc. Nursing 2nd year	24	30
		B.Sc. Nursing 3rd year	28	35
		B.Sc. Nursing 4th year	28	35
3.	RESIDENCE	Urban	48	60
		Rural	32	40
4.	RELIGION	Hindu	52	65
		Sikh	20	30
		Christian	04	5
		Muslim	04	5
5.	12th BOARD	C.B.S.E.	56	70
		H.S.E.B.	16	20
		P.S.E.B.	04	5
		H.P.B.E.	04	5
6.	PARENTS' EDUCATION	Illiterate	04	5
		Senior Secondary	24	30
		Graduate & above	52	65
7.	PARENTS' OCCUPATION	Medical	20	25
		Non-medical	08	10
		Others	52	60
8.	SOURCE OF INFORMATION	Books& pamphlets	48	60
		Internet videos	30	25
		Journal	12	15

This table shows that the percentage distribution of sample according to socio-demographic variables. According to **age**, **majority** of nursing students were in the **age 21-23 years (65%)** followed by the **age 18-20 years (30%)** and least **(5%)** were in the age **above 23 years (12%)**.According to **professional qualification**, **30%B. Sc. Nursing 2nd year, 35% B. Sc. Nursing 3rd year** and **35% from B. Sc. Nursing 4thyear**.According to **residence** of nursing students, **60%** were live in **urban area** whereas **40%** were lives in **rural area.**According to **religion** of nursing students, **60%** were **Hindu** whereas**30%**were **Sikh** followed by **5%** were **Christen & Muslim.** According to **12th board** of nursing students, **70%** were educated by **CBSE board** followed by HSEB **(20%), PNSEB & HPSE board (5%).**Distribution according to **parents' education** of

nursing students, **65%**was **graduate &above** followed by **30%** was **senior secondary** & least were **(5%) Illiterate.**Distribution according to **parents' occupation** of nursing students, **65%**were doing **other** where jobs, followed by **25%**were doing **medical job** and **10%** were at **non-medical job.**According to **source of information**, nursing students got **60%** from **Books& pamphlet** whereas **25%**from **internet & videos** and **15%** from **Journal**.

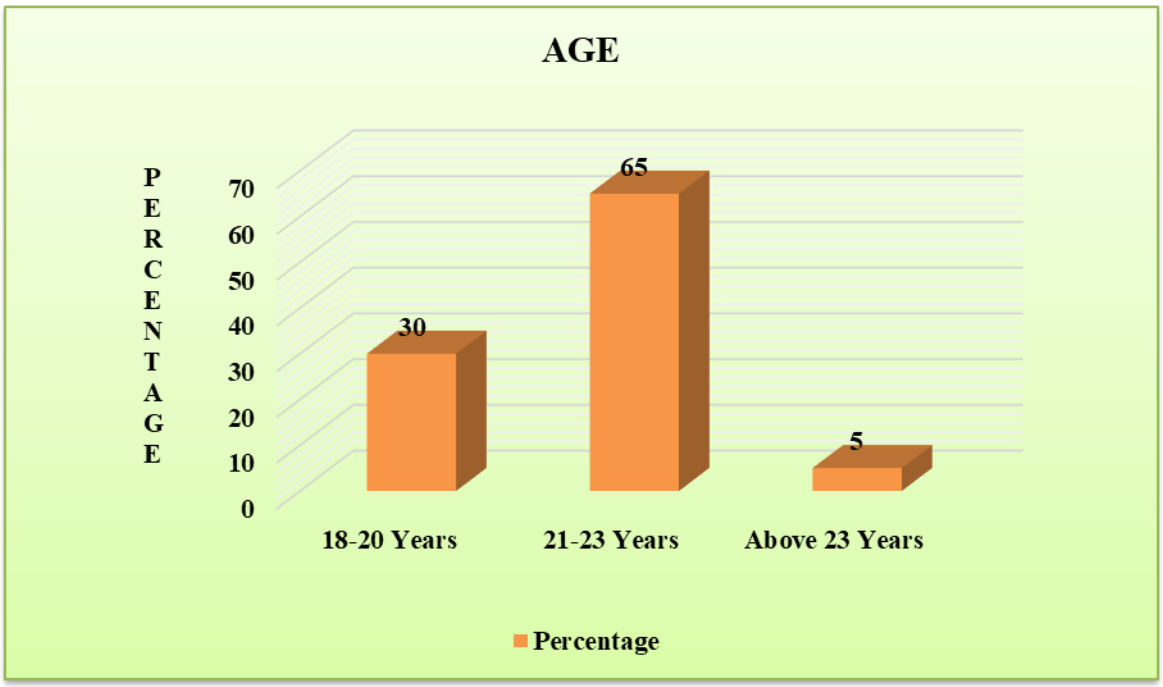


Figure-5.2. Distribution of Age (in years) of Nursing students

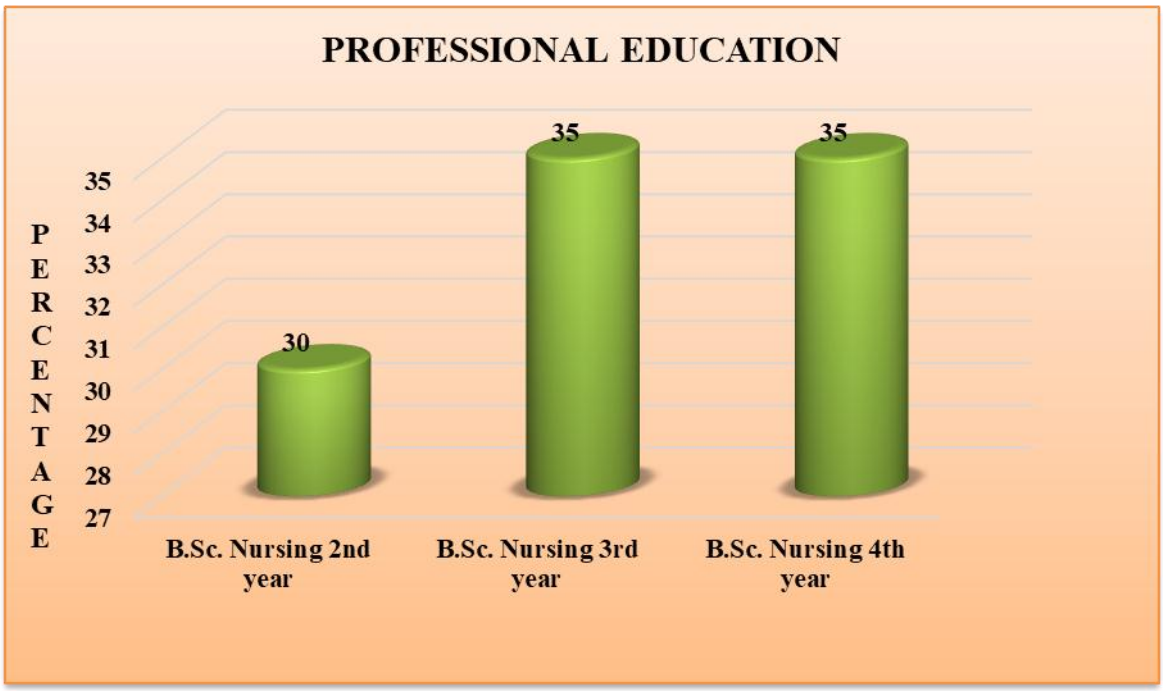


Figure-5.3. Distribution of Professional Education of Nursing students

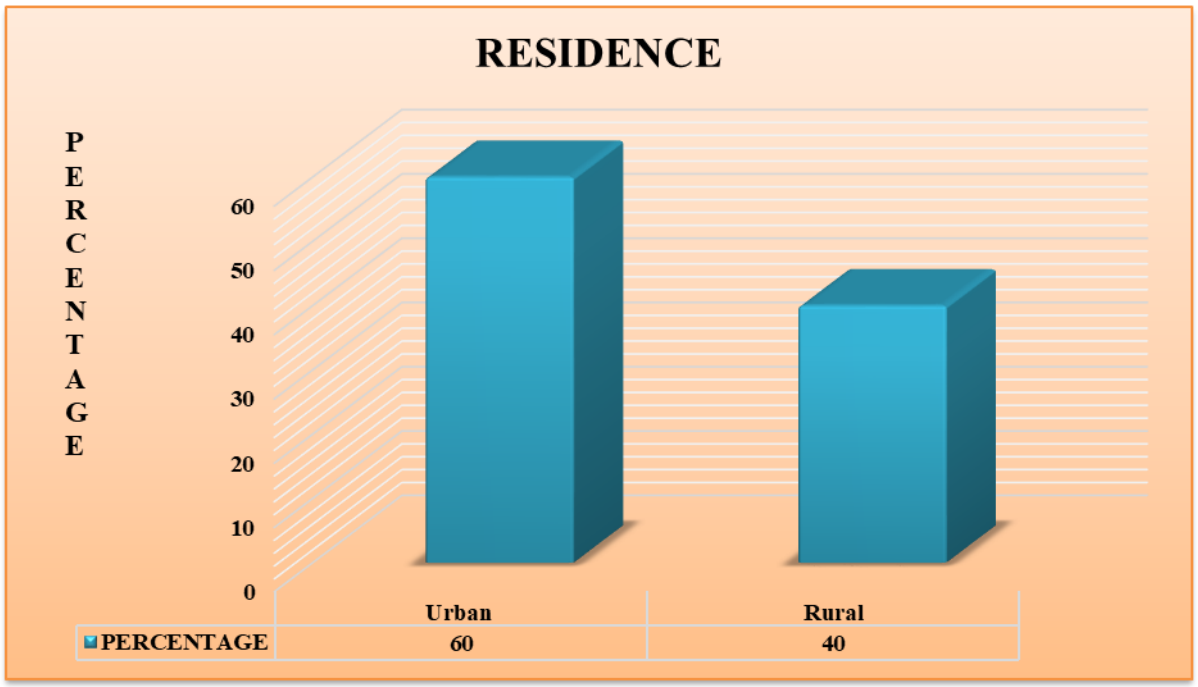


Figure-5.4.Distribution of Residence of Nursing students

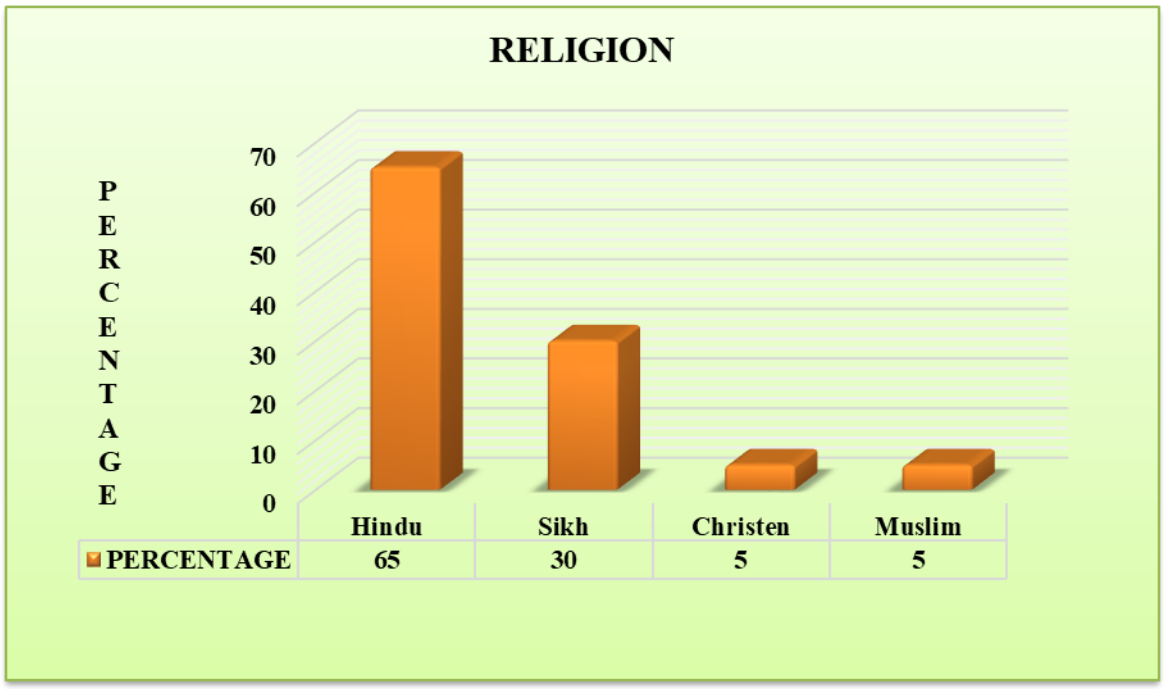


Figure-5.5. Distribution of Religion of Nursing students

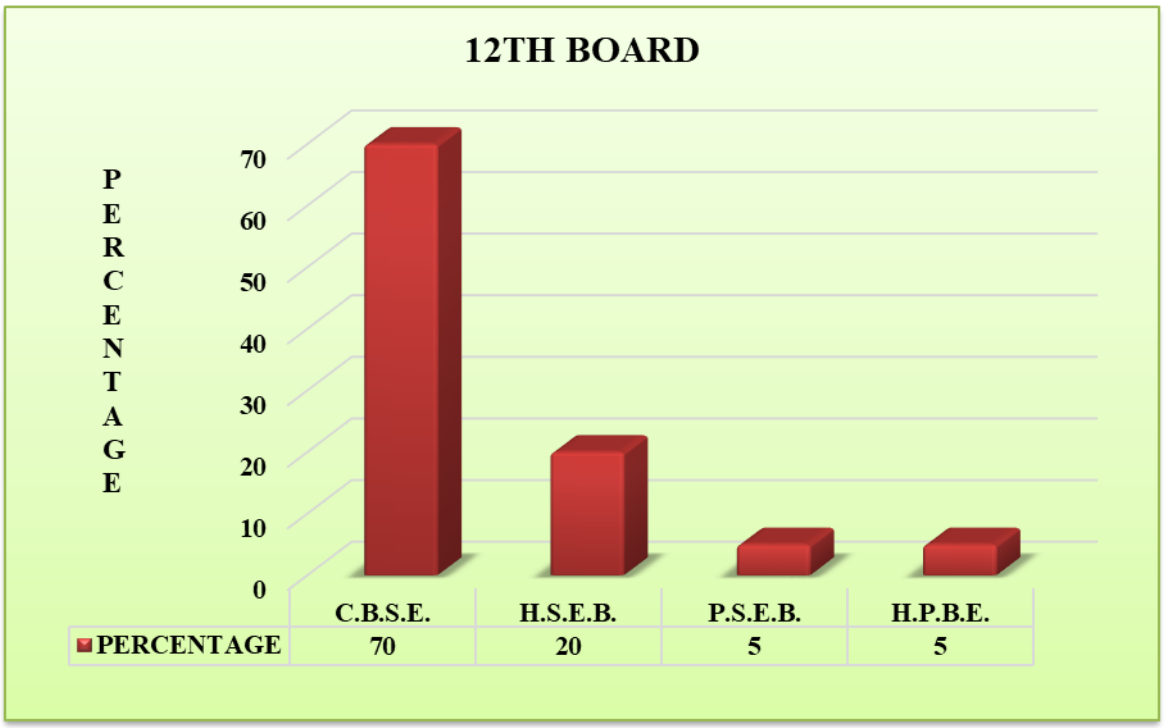


Figure-5.6.Distribution of 12TH Board of Nursing students

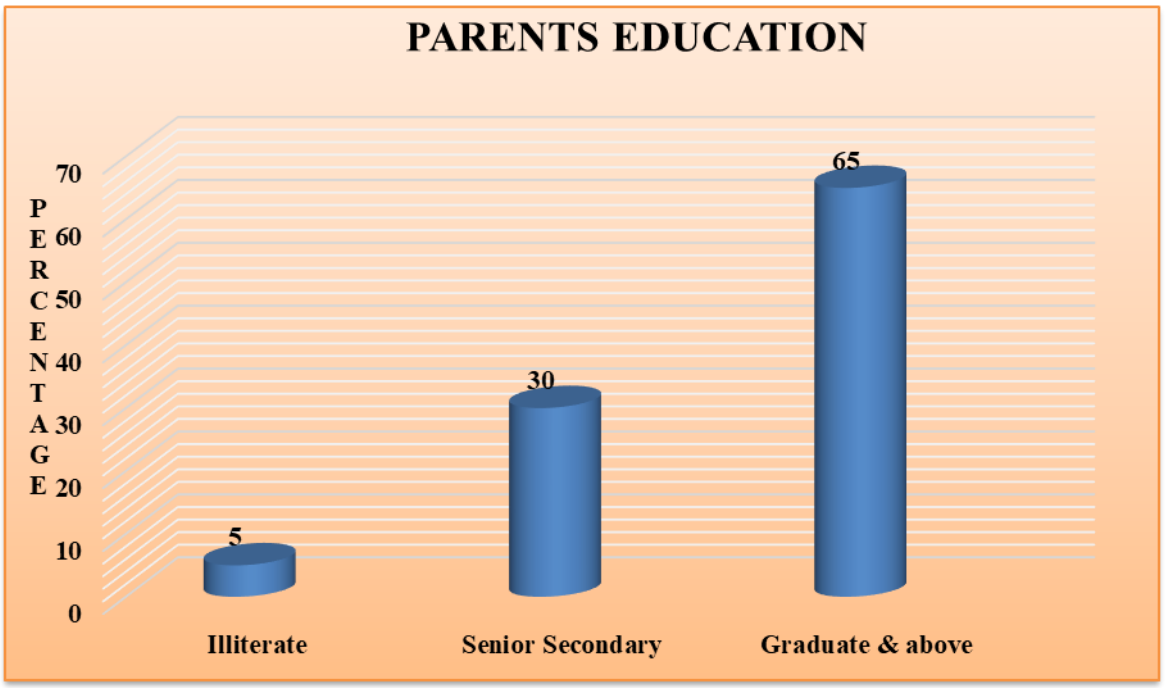


Figure-5.7. Distribution of Parents Education of Nursing students

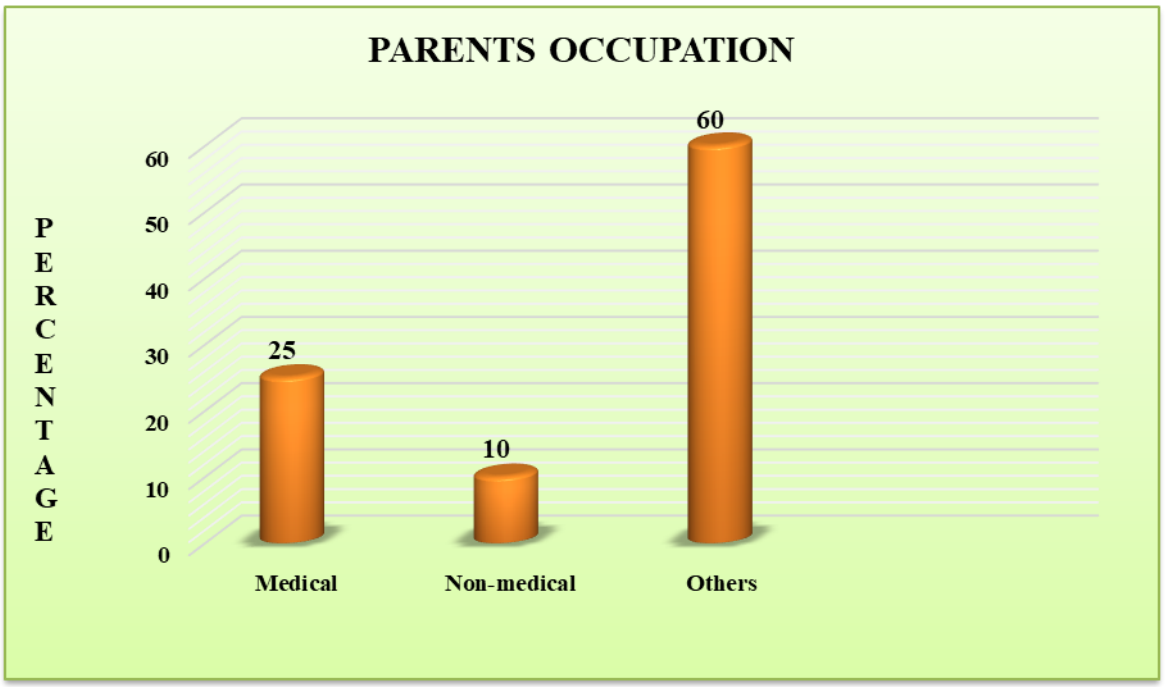


Figure-5.8. Distribution of Parents' Occupation of Nursing Students

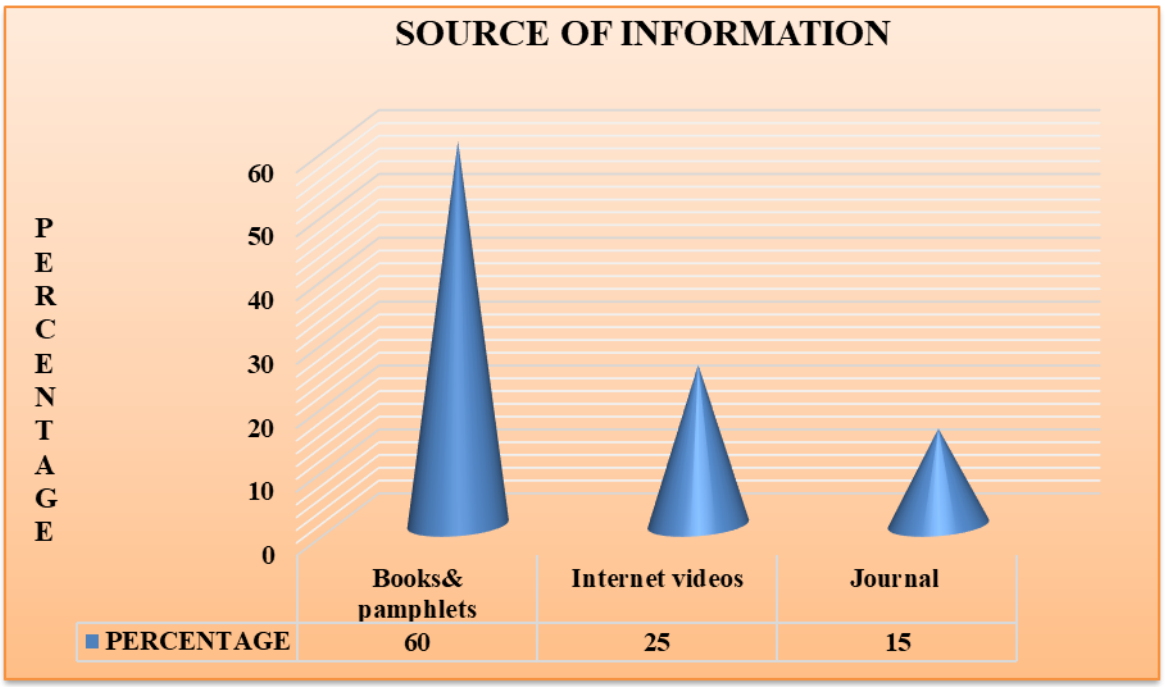


Figure-5.9. Distribution of Source of Information of Nursing students

Section B: Evaluate the level of knowledge& practice regarding neonatal resuscitation among nursing students.

Table 5.2Level of knowledge and practice regarding neonatal resuscitation among the nursing students

N=80

Level of Knowledge	Range of percentage of score	Pretest		Post test	
		K	**%**	**K**	**%**
Inadequate	<50%	76	95	8	10

Moderate	50-75%	4	5	32	40
Adequate	>75%	00	00	40	50

Maximum Score: 30 Minimum Score: 0

The above tablestates that,In **pre-test**, Level of knowledge of nursing students in the pre - test showed that **95%** of the nursing students were having **inadequate knowledge** regarding Neonatal resuscitation and**5%** of the nursing students were having **moderate knowledge**. No one **nursing students** were having **adequate knowledge** regarding neonatal resuscitation.
In **post-test**, Level of knowledge of nursing students in the post test showed that **50%** of the nursing students were having **adequate knowledge** regarding Neonatal resuscitation and40**%** of the nursing students were having **moderate knowledge** and **10%**nursing studentswere having **inadequate knowledge** regarding neonatal resuscitation.

Section C: Assess area wise knowledge score regarding neonatal resuscitation among nursing students.

Table – 5.3Area wise knowledge score regarding neonatal resuscitation among the nursing students

N=80

S. No.	Knowledge &Practice Aspects	Max Score (30)	PRE-TEST			POST-TEST		
			Mean	**SD**	**Mean %**	**Mean**	**SD**	**Mean %**
1.	Introduction and definition of neonatal resuscitation	5	2.2	0.48	44	3.7	0.44	74.5
2.	Indications	1	0.36	0.47	36	0.74	0.44	73.8
3.	Contraindication	1	0.4	0.49	40	0.69	0.47	68.8
4.	Preparation for resuscitation	1	0.3	0.46	30	0.74	0.44	73.8
5.	TABCs of resuscitation	6	1.8	0.48	29.5	4.4	0.44	73.3
6.	Initial steps of resuscitation	15	5.11	0.48	34.1	10.8	0.45	72.2
7.	Complications of resuscitation	1	0.31	0.47	31.3	0.75	0.44	75

Above table indicates that in **pre-test** the lowest nursing students mean percentage score (29.5%) was in the area of TABCs of resuscitation. It represents that maximum knowledge deficit existed in this area followed by Preparation for resuscitation (30%), regarding Complications of resuscitation (31.3%), regarding Initial steps of resuscitation (34.1%), regarding contraindication (40%) and regarding Introduction and definition of neonatal resuscitation (44%) which is the minimum knowledge deficit area.In **post-test,** the lowest nursing students mean percentage score (72.2%) was in the area of Initial steps of resuscitation. It represents that maximum knowledge deficit existed in this area followed by TABCs of resuscitation (73.3%), regarding Preparation for resuscitation &Indications (73.8%), regarding Introduction and definition of neonatal resuscitation (74.5%) and Complications of resuscitation (75%) which is the minimum knowledge deficit area.

Section D :- Evaluate the effectiveness of structured planned teaching program on knowledge & practice regarding neonatal resuscitation among nursing students.

Table 5.4Mean, Range, SD, t-test of knowledge (K) and practice (P) scores regarding Neonatal resuscitation

COMPONENTS	MAX. SCORE	RANGE	MEAN	SD	T_{cal}	DF
Pretest scores (K)	**30**	**17-5 = 12**	**10.21**	**2.51**	**17.19***	**158**
Post test scores (K)	**30**	**29-9 =20**	**21.89**	**5.53**		
Pre-test scores (P)	**10**	**8-1 = 7**	**5.3**	**1.5**	**10.61***	**158**
Post test scores (P)	**10**	**10-6 = 4**	**7.6**	**1.04**		

The above tableshows that the **Mean Pretest Knowledge Score** was **(10.21)** and **Mean Post Test Knowledge score** is **(21.89)** and **Mean Pretest Practice Score** was **(5.3)**and **Mean Post Test Practice score** is**(7.6).**The **'t'Value calculated** is **greater** than **'t' Value tabulated.** Therefore, it is concluded that there was *significant difference in knowledge and practice level in pre-test and post-test among nursing students regarding neonatal resuscitation. Hence, **planned structured teaching program** was found to be **effective**.

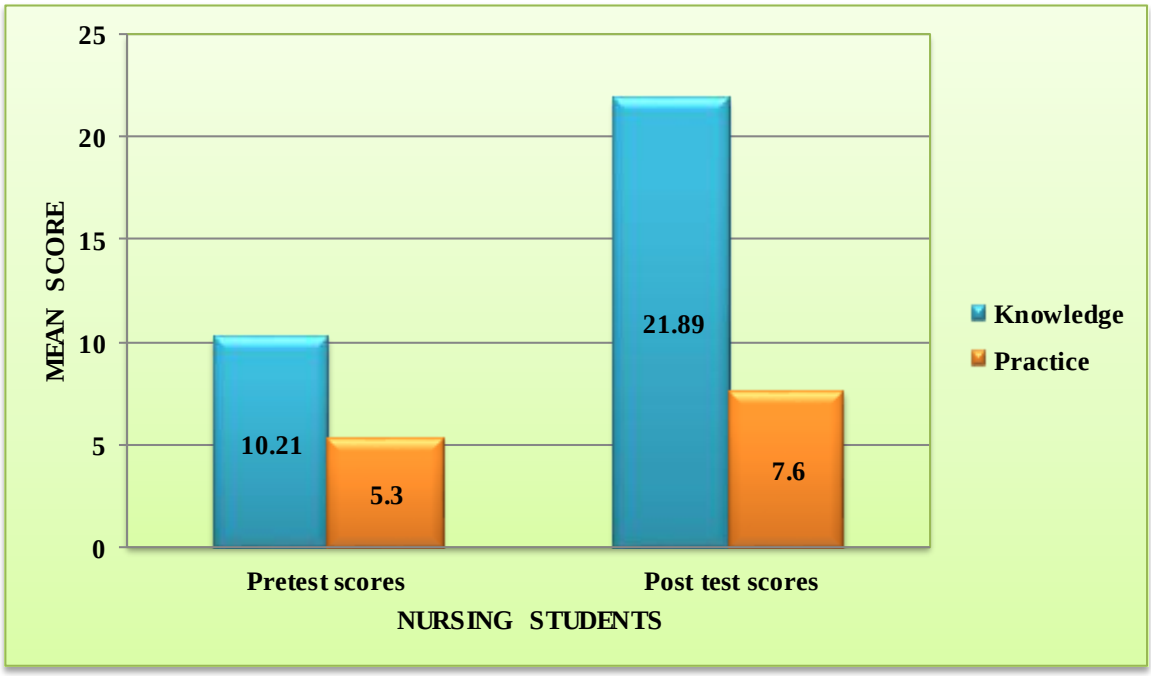


Figure 5.10. Represents the **Mean Scores of knowledge & practice** of study subjects

Section E: Knowledge and practice score of nursing students on neonatal resuscitation in association with selected demographic variables.

Table 5.5 (Part a)Mean and Chi Square of the knowledge& practice score of nursing students regarding neonatal resuscitation in associationwith selected demographic variables

CATEGORY	FREQUENCY	POST SCORE		MEAN		DF	χ^2	P values
		Knowledge	**Practice**	**Knowledge**	**Practice**			
AGE (in years)								
18-20 Years	24	568	182	23.7	7.6	4	3.07^{NS}	0.5
21-23 Years	52	1082	397	20.8	7.6			
Above 23 Years	04	101	28	25.3	7			
PROFESSIONAL EDUCATION								
B. Sc. Nursing 2nd yr	24	609	184	25.4	7.7	4	18.14*	0.004
B. Sc. Nursing 3rd yr	28	707	208	25.3	7.4			
B. Sc. Nursing 4th yr	28	435	215	15.5	7.4			
RESIDENCE								
Rural	60	1159	386	19.3	6.4	2	18.48^{*}	0.001
Urban	20	592	251	26.9	12.5			
RELIGION								
Hindu	52	1063	386	20.4	7.4	6	2.35^{NS}	0.88
Sikh	20	484	157	24.2	7.9			
Christian	4	107	31	26.8	7.8			
Muslim	4	97	33	24.3	8.3			

Above table **(Part a)** depicts that the tabled χ^2 value for 2, 4 & 6 degree of freedom were 5.99, 9.49 & 12.59 at $p<0.05$ level of significance and the calculated 'χ^2' value is less than the tabled value among allselected demographic variables EXCEPT in two variable i.e. professional education & residence and knowledge and practice scores of nursing students regarding neonatal resuscitation. The difference was found to be statistically **significant in two cases**.

So, it can be concluded that –

↳ Age had no significant relationship with the knowledge and practice scores of nursing students regarding neonatal resuscitation.

- **Professional education** of subjects had **significant relationship** with the knowledge and practice scores of nursing students regarding neonatal resuscitation.
- **Residence** had **significant relationship** with the knowledge and practice scores of nursing students regarding neonatal resuscitation.
- Religion had no significant relationship with the knowledge and practice scores of nursing students regarding neonatal resuscitation.

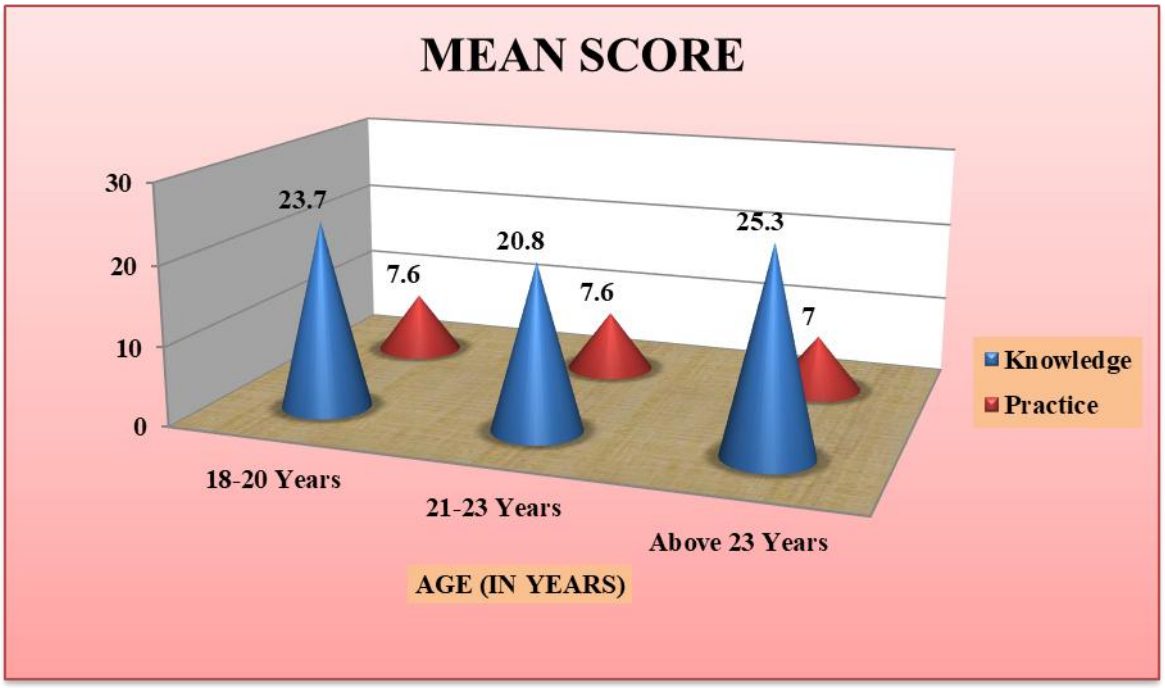


Figure 5.10. Represents the Mean of Knowledge and Practice Scores of Study Subjects with Age

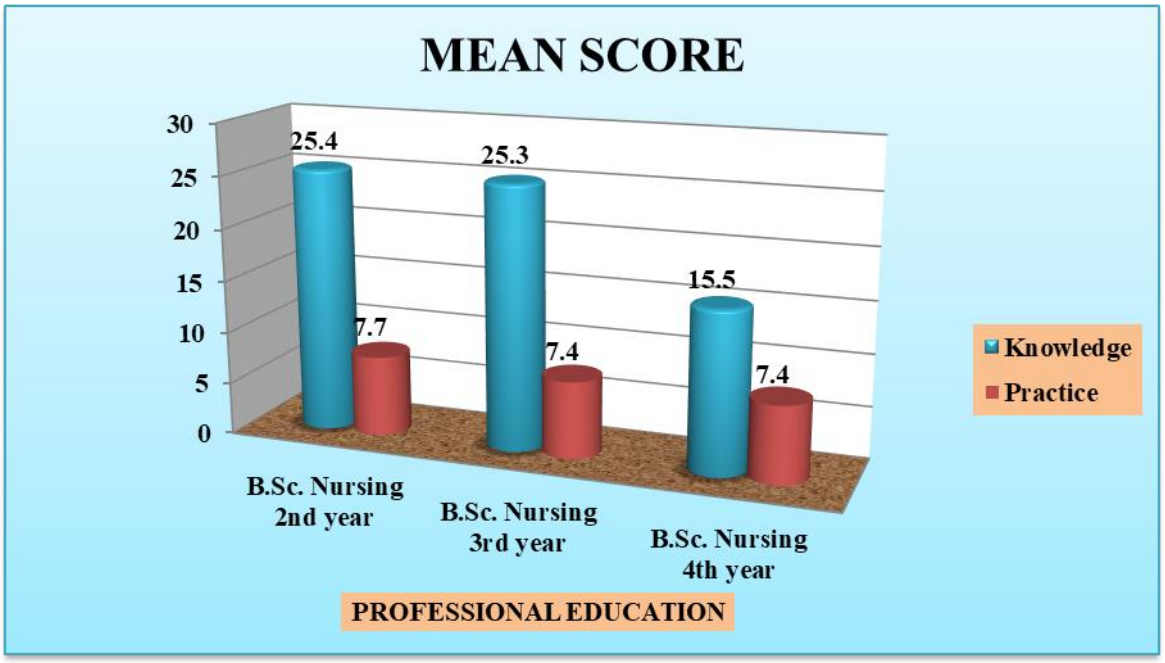


Figure 5.11 Represents the Mean of Knowledge and Practice Scores of Study Subjects with professional education

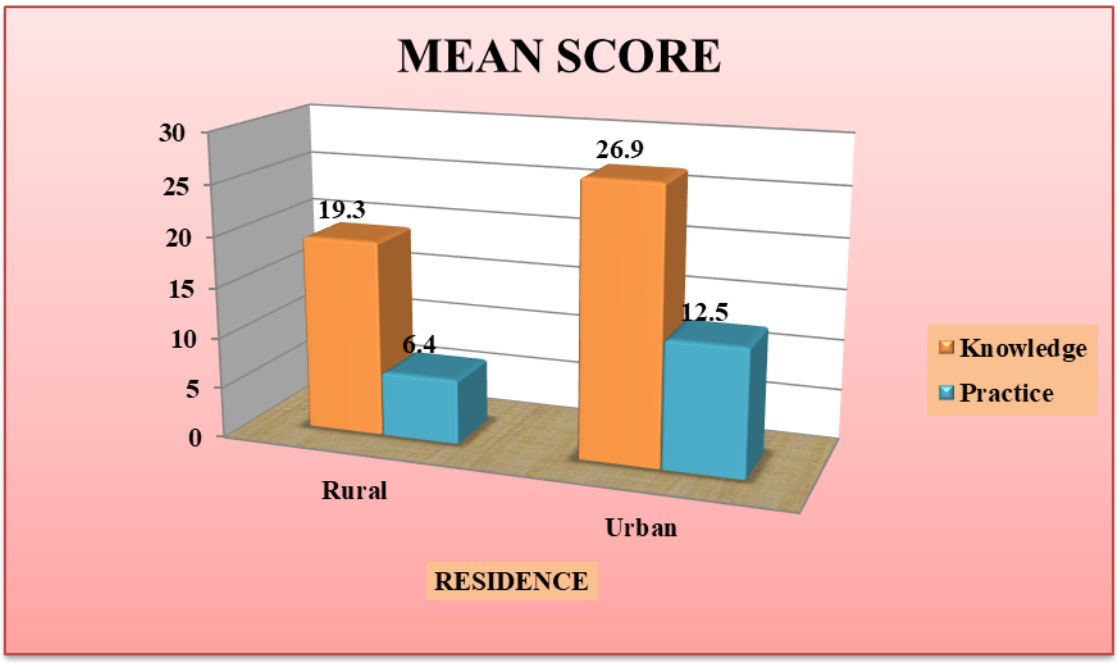


Figure 5.12 Represents the Mean of Knowledge and Practice Scores of Study Subjects with RESIDENCE

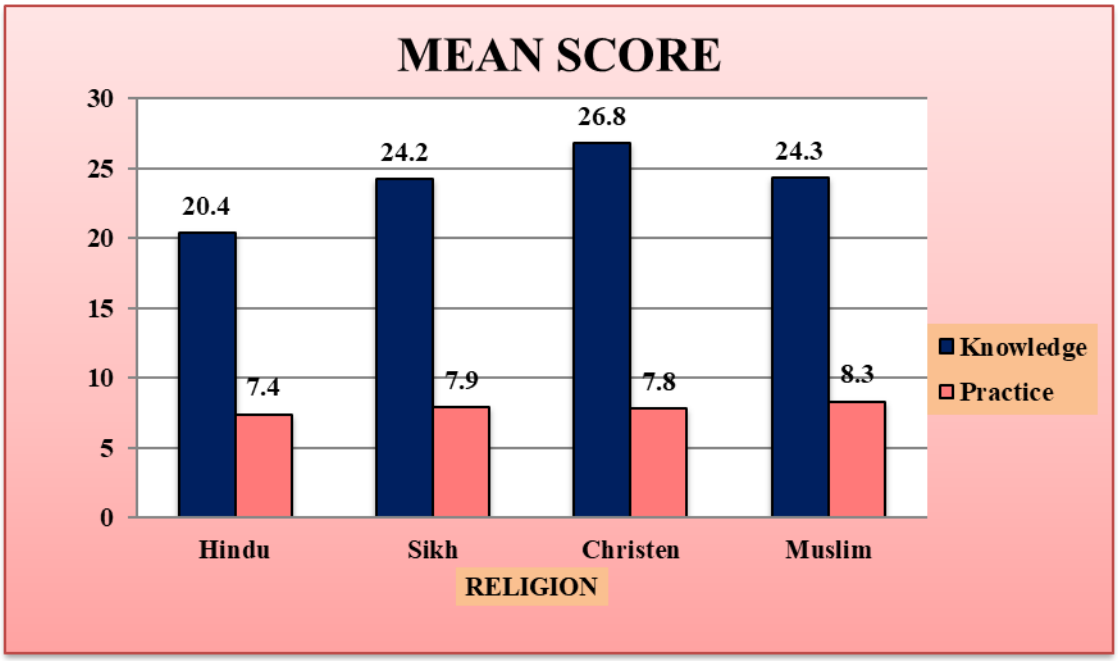


Figure 5.13 Represents the Mean of Knowledge and Practice Scores of Study Subjects with RELIGION

Table 5.6 (Part b) Mean and Chi Square of the knowledge score of nursing students regarding neonatal resuscitation in association with selected demographic variables

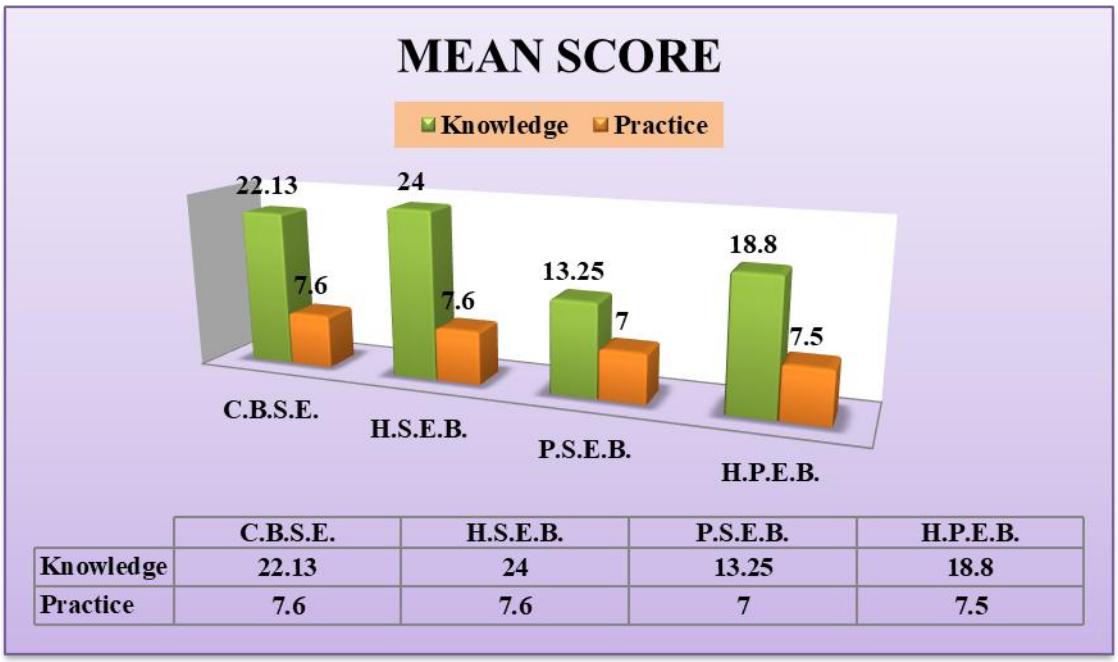
CATEGORY	FREQUENCY	SCORE		MEAN		DF	χ^2	P values
		Knowledge	**Practice**	**Knowledge**	**Practice**			
12th BOARD								
C.B.S.E.	56	1239	427	22.13	7.6	6	5.08 NS	0.53
H.S.E.B.	16	384	122	24	7.6			
P.S.E.B.	4	53	28	13.25	7			
H.P.E.B.	4	75	30	18.8	7.5			
PARENTS' EDUCATION								
Illiterate	4	96	37	24	9.3	4	1.92 NS	0.75
Senior Secondary	24	590	189	24.6	7.9			
Graduate & above	52	1065	381	20.5	7.3			

PARENTS' OCCUPATION								
Medical	20	374	148	18.7	7.4	4	5.87^{NS}	0.21
Non-medical	8	148	63	18.5	7.9			
Others	52	1229	396	23.6	7.6			
SOURCE OF INFORMATION								
Books & pamphlet	48	944	323	19.7	6.7	4	12.54^{8}	0.14
Internet & videos	30	366	121	12.2	4.03			
Journal	12	441	163	36.8	13.6			

Table 5.5 (Part b) depicts that the tabled χ^2 value for 4 & 6 degree of freedom were 9.49 & 12.59 at $p<0.05$ level of significance and the calculated 'χ^2' value is less than the tabled value among allselected demographic variables EXCEPT in one variable i.e. Source of information and knowledge and practice scores of nursing students regarding neonatal resuscitation. The difference was found to be statistically **non-significant in all cases except one case**.

So, it can be concluded that –

- 12^{th} board had no significant relationship with the knowledge and practice scores of nursing students regarding neonatal resuscitation.
- Parents' Education had no significant relationship with the knowledge and practice scores of nursing students regarding neonatal resuscitation.
- Parents' Occupation had no significant relationship with the knowledge and practice scores of nursing students regarding neonatal resuscitation.
- **Source of information** had **significant** relationship with knowledge and practice scores of nursing students regarding neonatal resuscitation.



	C.B.S.E.	H.S.E.B.	P.S.E.B.	H.P.E.B.
Knowledge	22.13	24	13.25	18.8
Practice	7.6	7.6	7	7.5

Figure 5.14 Represents the Mean of Knowledge and Practice Scores of Study Subjects with 12th BOARD

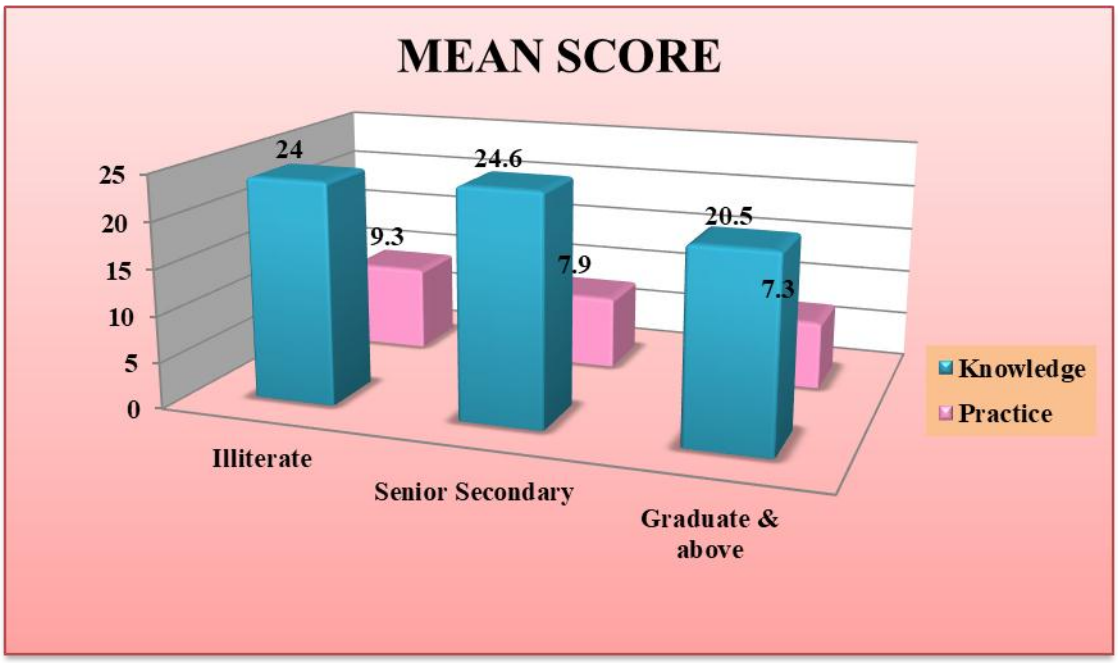


Figure 5.15 Represents the Mean of Knowledge and Practice Scores of Study Subjects with PARENTS' EDUCATION

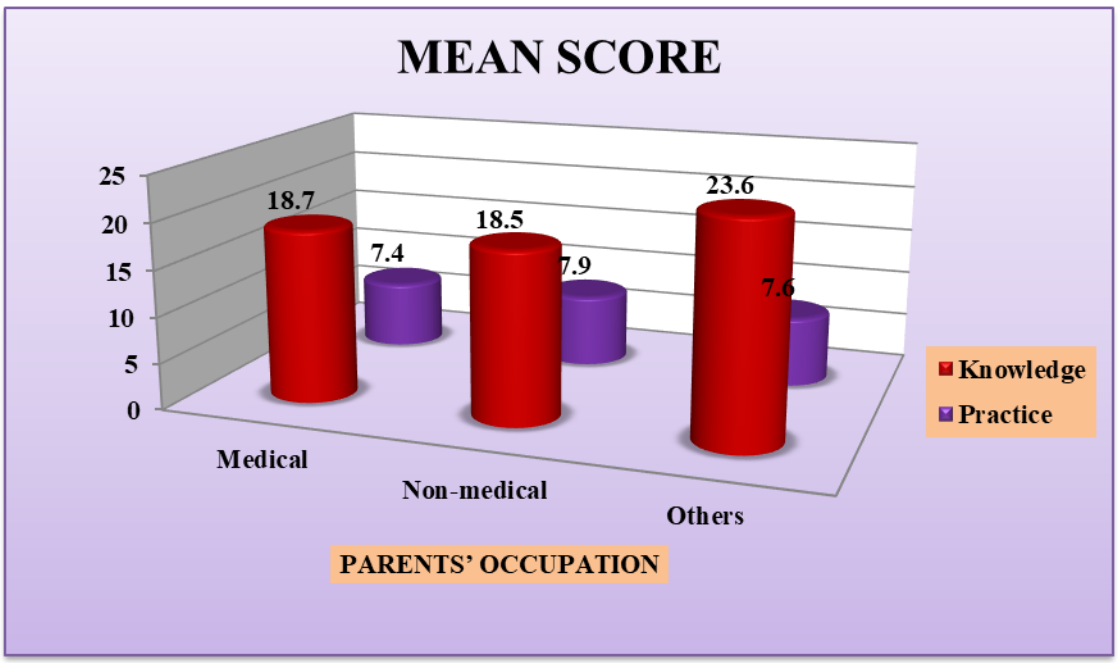


Figure 5.16 Represents the Mean of Knowledge and Practice Scores of Study Subjectswith Type of Family

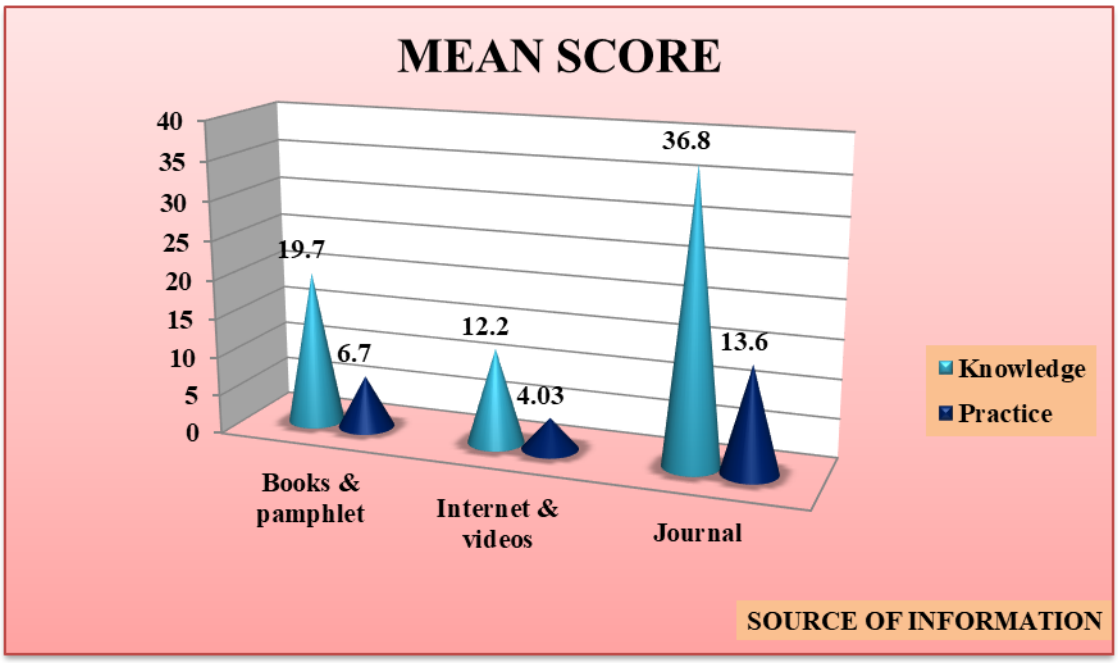


Figure 5.17 Represents the Mean of Knowledge and Practice Scores of Study Subjectswith Source of Information

V. DISCUSSION

This chapter deals with the discussion of the findings of present study in accordance with the objectives of the research problem. The findings of the study have been discussed with reference to the results obtained by the investigator. The knowledge & practice of nursing students regarding neonatal resuscitation was assessed in relation to age, professional education, residence, religion, 12th board, , parents education, parents occupation and source of information.

OBJECTIVES:

1. To assess pretest & post test knowledge and practice scores among nursing students regarding neonatal resuscitation.

2. To assess the effectiveness of structural teaching program among nursing students regarding neonatal resuscitation.

3. To find out the association between post test knowledge and practice scores with demographic variables.

❍ ***Major Findings:***

Findings related to Socio-demographic variables of sample

Majority of nursing students were in the age 21-23 years were belongs to B. Sc. (N) 3rd Year were lives in rural areawere Hinduwere complete their 12th by CBSE board their parents were graduate & above and doing others category of job and the students have previous knowledge through Books & pamphlets.

Findings related to level of knowledge &practice regarding neonatal resuscitation among the nursing students.

In **pre-test**, Level of knowledge of nursing students in the pretest showed that **95%** of the nursing students were having **inadequate knowledge** regarding Neonatal resuscitation and**5%** of the nursing students were having **moderate knowledge**. No one **nursing students** were having **adequate knowledge** regarding neonatal resuscitation.

In **post-test**, Level of knowledge of nursing students in the post test showed that **50%** of the nursing students were having **adequate knowledge** regarding Neonatal resuscitation and40**%** of the nursing students were having **moderate knowledge** and **10%**nursing studentswere having **inadequate knowledge** regarding neonatal resuscitation.

Findings related to knowledge regarding neonatal resuscitation among the nursing students according to areas distribution

In **assessment**, **pre-test** the lowest nursing students mean percentage score (29.5%) was in the area of TABCs of resuscitation. It represents that maximum knowledge deficit existed in this area followed by Preparation for

resuscitation (30%), regarding Complications of resuscitation (31.3%), regarding Initial steps of resuscitation (34.1%), regarding contraindication (40%) and regarding Introduction and definition of neonatal resuscitation (44%) which is the minimum knowledge deficit area.

In **post-test,** the lowest nursing students mean percentage score (72.2%) was in the area of Initial steps of resuscitation. It represents that maximum knowledge deficit existed in this area followed by TABCs of resuscitation (73.3%), regarding Preparation for resuscitation & Indications (73.8%), regarding Introduction and definition of neonatal resuscitation (74.5%) and Complications of resuscitation (75%) which is the minimum knowledge deficit area.

Findings related to comparison of knowledge and practice regarding neonatal resuscitation among nursing students.

Mean Pretest Knowledge Score was **(10.21)** and **Mean Post Test Knowledge score** is **(21.89)** and **Mean Pretest Practice Score** was **(5.3)** and **Mean Post Test Practice score** is **(7.6).**The **'t'Value calculated** is **greater** than **'t' Value tabulated.** Therefore, it is concluded that there was *significant difference in knowledge and practice level in pre-test and post-test among nursing students regarding neonatal resuscitation. Hence, **planned structured teaching program** was found to be **effective**.

Findings related to association between knowledge& practicescore of nursing students regarding neonatal resuscitation with selected demographic variables.

The statistical outcome of association between demographic variables of nursing students with their knowledge & practice score regarding neonatal resuscitation. In order to examine the association between these variables the chi-square test was worked out. Some characters were found to be statistically significant atP>0.05 i.e., **Professional education, Residence and source of information**. The evidenced that the knowledge is not influenced age, religion, 12th board, parents' education, andparents' occupation except professional education, residence and source of information.

VI. SUMMARY AND CONCLUSION

SUMMARY:

The present study was conducted to assess the knowledge of nursing students regarding neonatal resuscitation in selected college, Rania, Distt. Fatehabad, Haryana. Non-Experimental descriptive research design was used in the study using Systematic convenience sampling technique and sample size was 80. Data was collected by self-structured questionnaire regarding knowledge and checklist for practice of neonatal resuscitation of nursing students. Conceptual framework of the present study was based on General System Theory by Ludwig Von Bertalanfy-1968. Literature related to neonatal resuscitation,knowledge and practice of neonatal resuscitation. The tool was prepared and pretested for validity and reliability. Pilot study was conducted on 8nursing students to check feasibility and practicability of the study in different setting. Final study was carried out in selected college, Ratia, Distt. Fatehabad, Haryana, Haryana in the month of February 2017. Descriptive and inferential statistics were employed to analyze the data.

CONCLUSION:

In the present study majority of the nursing student had inadequate level of knowledge and practice regarding neonatal resuscitation in pretest. After implementing planned teaching program majority of the nursing student had adequate level of knowledge and practice. Maximum knowledge was regarding Initial steps of and minimum knowledge regarding resuscitation Complications of resuscitation.

VII. RECOMMENDATIONS& IMPLICATIONS

RECOMMENDATIONS:

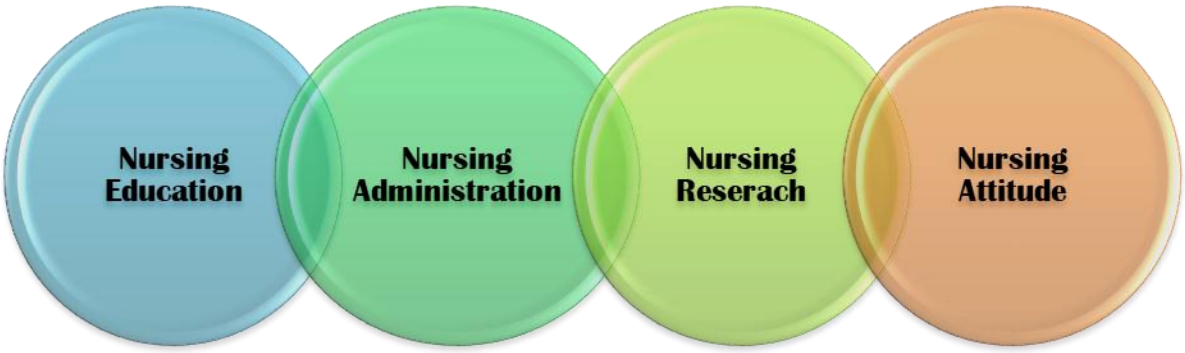
Based on the findings, the following recommendations were offered for future research.

- The study can be replicated on a large sample to validate and generalize its findings.
- Similar study can be conducted in a different setting like community areas.
- A video-assisted study can be conducted to assess the effectiveness on knowledge and practice of nursing students regarding neonatal resuscitation.
- The Descriptive study can be conducted among community health worker regarding neonatal resuscitation.

IMPLICATIONS:

The findings of this study are important for the nursing profession i.e. clinical practice, nursing education, nursing administration, nursing research. This will help student nurses to improve their knowledge by providing them information about neonatal resuscitation. Nurses should have knowledge and practice of neonatal resuscitation.

In the view of the results obtained from the study, several implications are made



✦ **Nursing Education**

❑ Students of Nursing can be taught about the role of nursing students in neonatal resuscitation.

❑ Formal and informal teaching can be conducted for the student nurses in the clinical &community areas so as to build and strengthen knowledge and practice of nursing students regarding neonatal resuscitation.

❑ Exhibition/ Quiz contest for nurses in the clinical areas can be put up to improve their knowledge and practice.

✦ **Nursing Practice**

❑ As the study reveals that majority of the**95%** of the nursing students were having **inadequate knowledge** regarding Neonatal resuscitation and (5%) had moderate knowledge regarding Neonatal resuscitation, therefore it has its implication for enhancement of communication skills of the staff nurses, so that they can communicate with the other professionals and improve their knowledge and practice in today's world.

❑ Nurses working in clinical &community nursing areas must arrange informal and formal teaching programs e.g. continue teaching education, seminars, conferences, Role play, counseling sessions for nursing students neonatal resuscitation.

✦ **Nursing Administration**

❑ Nursing Administration is the organization and direction of nursing personnel and material resources to achieve desired ends and also, focuses on formulating interventions directed towards practice neonatal resuscitation and its importance.

❑ Nursing has become a complex and highly practice discipline with a rapidly growing, well developed, well documented and humanistic knowledge base.

❑ Literature in the form of booklet can be provided to the nurses regarding neonatal resuscitation for building and strengthening their knowledge.

✦ **Nursing Research**

❑ The findings of the study will act as catalyst to carry out more extensive research on a large population sample in different setting.

❑ The findings of the study can serve as basis for the professional and student nurses for further studies on knowledge of nursing students and the information contained in the study can be source of data for future researches.

❑ Nursing personnel can take initiatives in conducting the research as well as discussing the findings of the research study among nurses and to encourage them to implement the findings.

❑ Through publication of research findings, inadequate level of knowledge can be promoted to adequate level of knowledge and practice towards neonatal resuscitation by the nurse researcher.

LIMITATIONS

- The size of the sample was 80; hence it was difficult to make broad generalizations.
- Limited only to the nursing students present during the period of data collection
- Restricted to only nursing students for data collection.
- Busy schedule of nursing students made it difficult for them to devote time to fill the questionnaires.

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