Knowledge Regarding Care of Low Birth Weight Babies Among Final Year GNM Students of a Selected Nursing College in Belgaum, Karnataka

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Abstract
A descriptive study was conducted among 30 final year GNM students who met the inclusion criteria. The objectives of the study were to assess the knowledge of final year GNM students regarding care of low birth weight babies by using structured knowledge questionnaire and to find the association between knowledge score and selected demographic variables. Convenient sampling technique was used for selecting the sample and a descriptive design was adopted. Data was collected by using structured knowledge questionnaire. The findings revealed that the knowledge of majority of the students was average. Only a few of them had good knowledge regarding care of low birth weight babies and there was no statistically significant association between and knowledge scores and demographic variables like age, sex, religion, source of information.

Keywords: demographic variables, GNM students, knowledge score, low birth weight babies

Abbreviations: GNM, general nursing and midwifery; **IMR**, infant mortality rate; **LBW,** low birth weight; **NMR,** neonatal mortality rate; **SFD,** small for dates; **SGA**, small for gestational age; **SIDS,** sudden infant death syndrome; **WHO,** World Health Organization

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INTRODUCTION
Children are the wealth of a country. They are a valuable asset to society and are the future of a nation.[1] A healthy child is a blessing for the country. Any country's progress and development is dependent upon the health of its citizens. For a mother, her motherhood is the most beautiful and joyous experience. A mother's health during her pregnancy term is essential so that she gives birth to a healthy baby. The most essential and valuable gift a mother can give her baby is the gift of their health.[2] So apart from taking care of the mother during her pregnancy, providing information to her regarding the care of her newborn baby is also an important step in a health care delivery system.[3]

A new born child needs special care from their mother and other family members, which includes providing them with love, affection, warmth, protection and nutrition for good health. The birth weight of an infant is the single most important factor that determines its chances of survival, health, growth and development. The average weight of a newborn varies from 2.8 to 3.5 kg. World Health Organization (WHO) has categorized low birth weight (LBW) babies as those who weigh less than 2500 g at birth, irrespective of their gestational age.[4]

LBW infants are generally too weak to be fed and face numerous other problems, including hypothermia, which is caused due to a larger surface area that loses heat, decreased muscular activity and deficiency of brown fat in infants; decreased heart rate, which is because of immature lungs; hypoglycemia, etc. They also have a poor resistance to fight infectious diseases, as their immune system is compromised and not yet fully developed.[5]

The terms "very low birth weight" refers to the birth weight being less than 1500 g; "extremely low birth weight" refers to the birth weight being less than 1000 g; and "micro-preemie" refers to the birth weight being below than 500 g. The magnitude of low birth weight infants in developing countries is enormous.

Low birth weight babies can be broadly categorized into 2 clinical types:
a) Babies born before 37 weeks of gestation period (preterm). A "preterm baby" is expected to have less weight.
b) Babies who have intra-uterine growth retardations. These babies are undernourished (or small) for a given gestation (date) so they are also called "Small for Gestational Age" (SGA) or "Small for Dates" (SFD) babies.[6]

LBW is closely associated with fetal mortality and morbidity, delayed growth and cognitive development and chronic diseases later in life. It is an important predictor of new born health and survival and is associated with higher risk of infant and childhood mortality.[7] LBW can either be due to the premature birth of the baby, i.e., it has a low gestational age at birth, or in other words, the gestation period is less than 37 weeks, or when the infant has a slow prenatal growth rate, or a combination of both. In general, risk factors in the mother that might contribute to low birth weight includes pregnancy at a young age, multiple pregnancies, previous LBW infant births, inadequate nutrition, heart disease or hypertension, drug addiction, alcohol abuse, and insufficient prenatal care. Environmental risk factors could be smoking, exposure to lead, and other types of air pollution.[8] So by giving importance to mother and improving her knowledge regarding home based care of LBW babies, we can prevent the complications that such babies might come across.

NEED FOR THE STUDY
LBW babies are at a higher risk of developing health complications, difficulties during development, and death, as compared to babies born with a normal weight. LBW babies are usually weaker than infants with normal weight, of their age. Other health-related complications faced by LBW babies include respiratory problems, underdeveloped organs (such as lungs), eye or ear complications, digestive problems, neurological problems, and sudden infant death syndrome (SIDS). They also often face difficulties in eating, gaining weight, staying warm, and have low immunity towards illness and infections. The less the weight of the baby is during their birth, the greater are the risk of developing such complications. The switch from intrauterine to extra uterine life poses a number of challenges for a new born baby. The neonatal mortality rate (NMR) worldwide is 44/1.000 live births. In Asia, 34.9 in India 30% of live births, the world's 19.6% live births, and in Karnataka 43% live births.

The infant mortality rate (IMR) is one of the world's major problems. Globally, the IMR is 49.4 for 1000 live births. In India, the IMR is 54/1000 and NMR is 30/1000. In Karnataka, the IMR is 43/1000. For neighboring states, followed by Maharashtra, it is 38/1000 and for Tamil Nadu, it is 30/1, 0006. Worldwide, over 20 million babies are born each year, who weigh less than 2500 g. In India, 27 million babies are born each year, which accounts for 20% of the global births. One

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million amongst them die before completing the first four weeks of their life. This accounts for nearly 25% of the total 3.9 million neonatal deaths worldwide.[9]

Other leading problem worldwide is that of the LBW newborns. In India, about 30–40% of neonates are born with a low birth weight.

Approximately 80% of all neonatal deaths and 50% of infant death are related to their LBW. The incidence of LBW newborns in the K. L. E. S. Prabhakar Kore Hospital, Belgaum and specifically those who attend Child Development Clinic in the same hospital in 2010 was 15–20 in one month, amounting to approximately 160–220 in a year.

Based on the above statistics and personal experience during practice in the field of nursing services, the investigator felt the need to assess the knowledge of GNM students so as to evaluate whether they are adequately trained to provide health education to the mothers regarding LBW or not.

OBJECTIVES
1. To assess the knowledge of final year GNM students regarding care of low birth weight babies by using structured knowledge questionnaire.
2. To find the association between knowledge score and selected demographic variables.

METHODOLOGY
Research Approach
A descriptive approach was used in the study since the purpose of the study was to assess the knowledge regarding care of low birth weight babies among final year GNM students of a selected nursing college in Belgaum, Karnataka.

Research Design
The research design used for the study was descriptive design.

Research Setting
The study was conducted in KLEU's Institute of Nursing Sciences, Belagavi, Karnataka.

Sample
In the study, population consisted of final year GNM students studying in KLEU's Institute of Nursing Sciences, Belagavi, Karnataka.

Sample Size and Sampling Technique
The sample size of the study was 30 final year GNM students studying in KLEU's Institute of Nursing Sciences, Belagavi, Karnataka.

The sample for the present study was selected by a non-probability convenience sampling technique.

Data Collection Procedure
Formal permission was obtained from the Principal of KLEU's Institute of Nursing Sciences, Belagavi, Karnataka, regarding the collection of data for the project. The project was conducted at KLEU's Institute of Nursing Sciences, Belagavi, Karnataka on 24/05/2013.

Steps Used for Data Collection
➢ The investigator introduced self and explained purpose of the study to the principal of KLEU's Institute of Nursing Sciences, Belagavi, Karnataka.
➢ The investigator explained purpose of the study to the subjects and obtained written consent from them.
➢ The investigator assessed the knowledge regarding care of LBW babies among final year GNM students using structured knowledge

questionnaire. Data was collected, tabulated and analysed.

RESULTS

Section I: Distribution of sample characteristics according to socio-demographic variables of respondents.

Table 1 reveals that, majority of the final year GNM students, which is, 18/30 (60%) belonged to the age group of 20–22 years, while remaining 6/30 (20%) belonged to the age group of 22–24 years, 3/30 (10%) belonged to the age group of 18–20 years and the remaining 3 (10%) belonged to the age group of 25 years and above.

Majority, i.e., 18 (60%) of the final year GNM students, were females, while remaining 12(40%) were males. 21 (70 %) of the final year GNM students belonged to Hindu religion, 4 (13.3%) belonged to Christianity, 4 (13.33%) belonged to other religion and remaining 1 (3.33%) belonged to Muslim religion.

According to the table, 15 (50%) of the students had got information from hospital postings, 8 (26.66%) had got the information from textbooks, 6 (20%) had got it from their teachers, while the remaining 1 (3.33%) had got it from other sources.

**Table 1.** *Frequency and Percentage Distribution of Subjects According to Demographic Variables*

n=30

| S. No.	Variable	Frequency (f)	Percentage (%)
1.	Age		
a.	18–20 years	3	10
b.	20–22 years	18	60
c.	22-24 years	6	20
d.	25 years and above	3	10
2.	Sex		
a.	Male	12	40
b.	Female	18	60
3.	Religion		
a.	Hindu	21	70
b.	Muslim	1	3.33
c.	Christian	4	13.33
d.	Other	4	13.33
4.	Source of information		
a.	Text books	8	26.6
b.	Hospital posting	15	50
c.	Teachers	6	20
d.	Others	1	3.33

Graph 1. *Graph Showing Percentage Distribution of Final Year GNM Students According to Age*
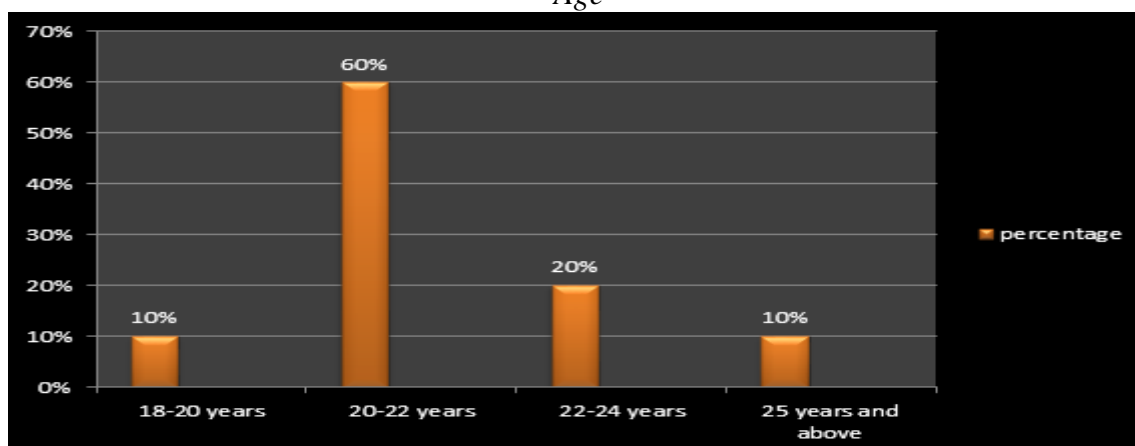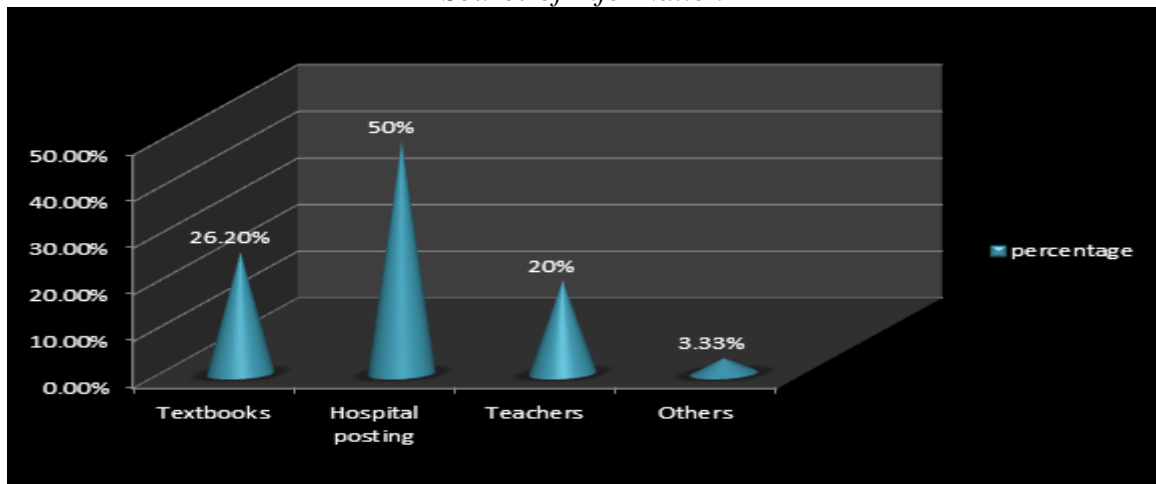
Graph 2. Graph Showing Percentage Distribution of Final Year GNM Students According to Sex
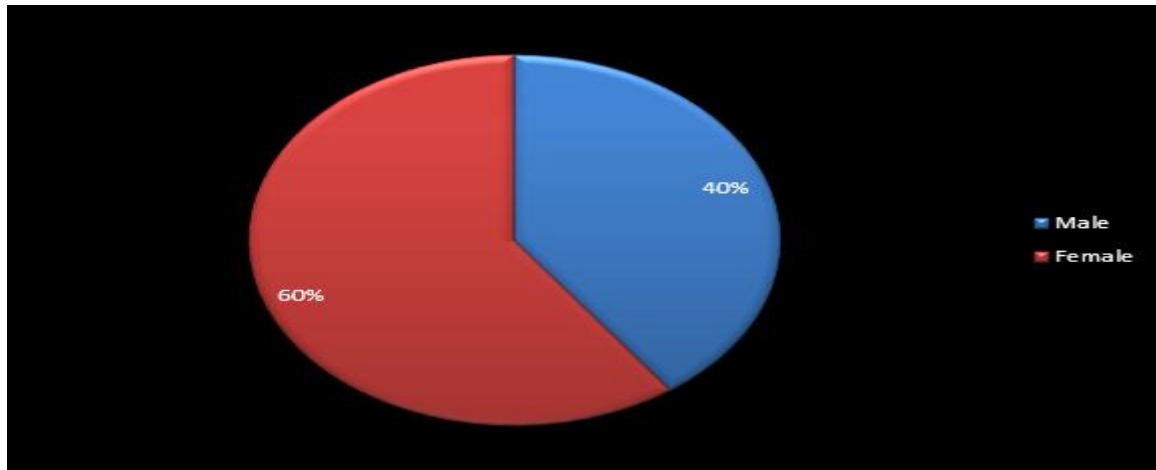
Graph 3. Graph Showing Percentage Distribution of Final Year GNM Students According to Religion
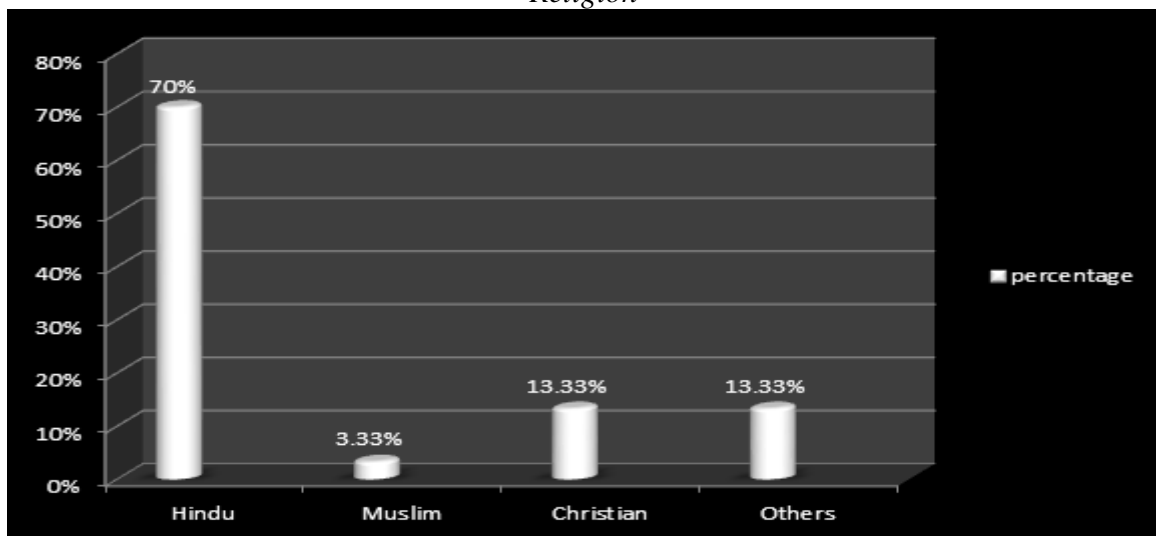
Graph 4. Graph Showing Percentage Distribution of Final Year GNM Students According to Source of Information

Section II: Findings on knowledge regarding care of LBW babies among final year GNM students.

Table 2 reveals that majority of the final year GNM students, i.e., 18 of them (60%) have average knowledge, 5(16.66%) have good knowledge and 7 (23.33%) have poor knowledge, regarding the care of LBW babies.

Table 2. *Frequency (f) and Percentage (%) Distribution of Knowledge Scores Among Final Year GNM Students*

Knowledge	Frequency	Percentage (%)
Good (>20) (X + SD)	5	16.66
Average (15–19) (X– SD) to (X+SD)	18	60
Poor (<14)(X – SD)	7	23.33

Graph 5. *Graph Showing Percentage Distribution of Final Year GNM Students According to their Knowledge Scores.*
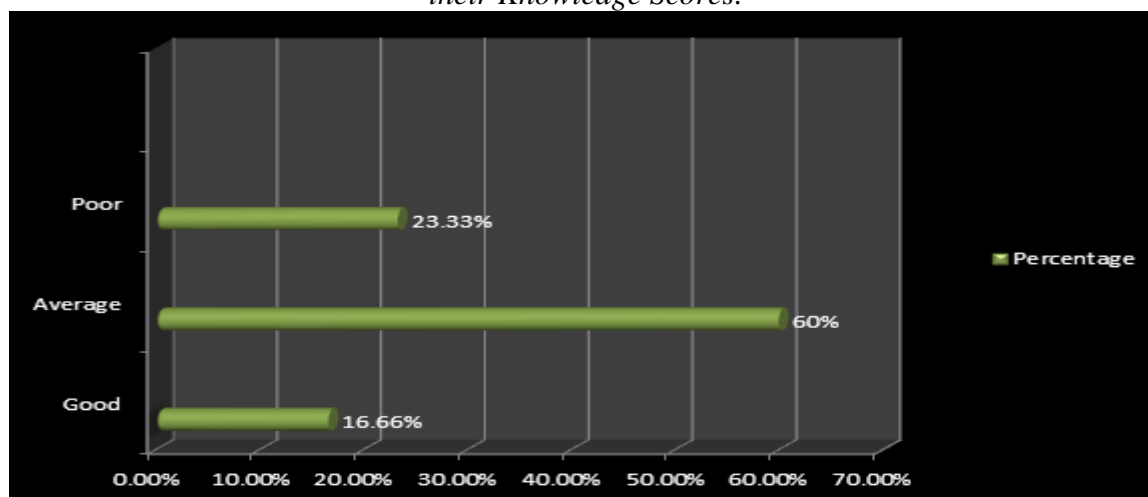
Section III: Data describing association between knowledge scores and selected demographic variables among final year GNM students.

Table 3. *Association Between Knowledge Scores and Selected Demographic Variables*

S.No.	Socio Demographic Variables	Knowledge Scores			Chi-Square	
		Good	Average	Poor	Calculated Value	Table Value
1.	Age					
a.	18–20 years	1	2	0	2.633(NS)	12.59
b.	20–22 years	3	10	5		
c.	22–24 years	1	3	2		
d.	25 years and above	1	2	0		
2.	Sex					
a.	Male	3	5	4	1.901(NS)	5.991
b.	Female	3	12	3		
3.	Religion					
a.	Hindu	4	11	6	9.434(NS)	12.59
b.	Muslim	0	0	1		
c.	Christian	0	4	0		
d.	Other	2	2	0		
4.	Source of Information					
a.	Text books	2	4	2	1.375(NS)	12.59
b.	Hospital posting	3	9	3		
c.	Teachers	1	3	2		
d.	Others	0	1	0		

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NS = not significant, S = significant, df(2) = 5.99, df(6) = 12.59.

Table 3 reveals that the computed chi square values, for age was 2.633, for sex was 1.901, for religion was 9.434, and for source of information was 1.375.

Hence there was no statistically significant association between knowledge scores and demographic variables like age, sex, religion and source of information.

NURSING IMPLICATIONS
The study findings have several implications in nursing. They can be categorized under nursing services, nursing education, nursing research and nursing administration.

Nursing Services
As India is a developing country where in many places the availability of all facilities required to protect a new born's health is not available, therefore, it is essential to educate the students so that they can teach postnatal mothers and their family members the less costly way of taking care of their new born child even with little knowledge.

Nursing Education
Findings of the study can be used by a nurse educator for giving in-service education on care of LBW babies to the students. It is essential for all the students to have adequate knowledge on the same topic. The structured knowledge questionnaire used in the study should be employed by the nurse educators and students to refine the knowledge on the topic from time to time so that they can render effective patient care.

Nursing Research
Nurses play a key role in providing health care to patients. They can conduct project and research studies in the hospital. The findings of this study can be used by the future research investigators. The nurse researchers can take up researches on different teaching strategies to improve the knowledge on home based care of LBW babies.

Nursing Administration
Nurse administrators are the back bone of providing effective nursing care. The study finding can be used by the hospital administrators to convince the hospital staff and educate them so that they in-turn can educate the mothers of LBW babies on how to employ various other methods in taking care of such babies.

RECOMMENDATIONS
Keeping in view the findings of the study, the following recommendations can be made for future studies:
1. A similar study can be replicated with a large sample in order to generalize the data.
2. A comparative study can be conducted in different settings.
3. A similar study can be conducted with different teaching strategies.

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