## A study to assess the effectiveness of structured teaching program knowledge and practice of post natal mothers regarding essential new born care at Bheemunipatnam, Visakhapatnam

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**Abstract:** The aim of the study was '.To assess the effectiveness of structured teaching program knowledge and practice of postnatal mothers regarding essential newborn care at selected areas in Bheemunipatnam, Visakhapatnam.

**Objective** to assess the knowledge and practice of postnatal mothers on essential new born care. To deliver teaching program with regard to essential new born care To evaluate the effectiveness of teaching program on essential new born care To find out the association between knowledge and practice with selected demographic variables.

**METHODOLOGY** A quasi experimental design one group pre- test , post- test was adopted. Two hundred postnatal mothers were selected by using purposive sampling technique.

**RESULTS** the effectiveness of structured teaching program on essential new born care was significant at P<0.01 level.

**CONCLUSION** the data proved that the structured teaching program was primary measured which markedly improve the knowledge and practice on essential newborn care. Irrespective of demographic variables postnatal mothers improved their knowledge and practice on essential newborn care

**Keywords**: Essential new born care, knowledge and practice, selected community areas, postnatal mothers, structured teaching program

## I. INTRODUCTION

*"A newborn baby is like the beginning of all things – Wonder, hope, a dream of possibilities"*

*-- Eda.Leshas*

"Birth", means the bestowing of some form of life by the nature, to this world. Being born is the purest virtues that can be held by a living being as after that one is exposed to life, where one can breathe, feel, have emotions, i.e. it's in this world that these one is exposed to all such virtues. This is a state in which we consider the achievement of a new form of life (Karlson 2007).

The birth of an infant is one of the most awe-inspiring and emotional events that can occur in one's lifetime. After 9 months of anticipation and preparation, the neonate arrives amid of flurry of excitement. Immediately after birth the newborn must make rapid adjustment to successfully adapt to life outside the womb.

The birth of a baby is one of life's most wondrous moments, babies have amazing abilities. Yet they are completely depended on others for feeding, warmth and comfort. Newborn is a continuum of the fetal life and very important transient time to adopt extra uterine life. The physical and mental wellbeing of every individual depends on the correct management of events in perinatal period. (Stephon W Elizabeth, 2004).

Before birth the fetus is fully dependent upon the mother for all vital needs such as oxygen, nutrition, waste removal. The most profound physiologic change required of the newborn is transition from fetal or placental circulation to independent respiration. The loss of placental connection means the loss of complete metabolic support, especially the supply of oxygen and the removal of carbon dioxide. The normal stresses of labor and delivery produce alterations of placental gas exchange patterns, acid base balance in the blood and cardiovascular activity in the neonate.

Newborn period encompasses the first 4 weeks of extra-uterine life. It is an important link in the chain of events from conception to adulthood. The physical and mental wellbeing of

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an individual depends on the correct management of events in perinatal period.

The newborn's body is the most super sensitive, delicate and susceptible from which can easily harmed if not taken care of. To ensure that the body has the best possible start in life there are critical aspects of newborn care, which all birth attendants and families should be aware of.

The principles of essential newborn care is simple, requiring no expensive high technology equipment resuscitation, warmth to avoid hypothermia, early breast feeding, hygiene, support for the mother [infant] relationship and early treatment for low birth weight or sick infants (Hocken Berry and Wilson, 2005).

Environmental temperature should be maintained according to baby weight and age to avoid hypothermia. It is necessary to dry up the baby and wrap the baby with clothes make sure the baby head is covered (Dutta. P, 2008).

Newborn or neonatal period include the time from birth to 28 days of life. This is the crucial period in laying the foundation of good health. At this time specific biological and psychological needs must be met to ensure the survival and health development of the child into a future adult. (Hocken Berry & Wilson 2005).

Neonatal outcomes are affected by maternal health and other factors such as care during pregnancy, childbirth and immediately after birth. Globally, about three-fourths of all neonatal deaths occur during the early neonatal period (0-7days). Further, 25-45% of all neonatal deaths occur in the first 24 hours after birth. Maternal complications carry a high risk of neonatal death, particularly in the early neonatal period. Newborns can become seriously ill and any sort of infections may be dangerous, so illness at this age requires immediate attention. Health of children has been considered of vital importance to all societies because children are the basic resources for the future of mankind.

Proper care of the newborn babies forms the foundation for the subsequent life not only in terms of longevity or survival but also in terms of qualitative outcome without any mental and physical abilities.

The first week of life is the most crucial period in the life of an infant. This is because the newborn has to adapt itself rapidly and successfully to an alien external environment. The risk of death is greatest during the first 24-48 hours after birth. Newborn morality is one of the most neglected health problems in the developing world, there are estimated 4 million neonatal deaths worldwide each year. Moreover, it is

estimated to account for 40% of under five deaths and two-third of infant deaths. The proportion is generally higher in rural areas. According to World Health Report 2005, global neonatal mortalities rate is 36/1000, while in developing counties, the rate is 39/10006.(Belsey M 2000).

Newborn mortality is one of the World's most neglected health problems. In our World 140 million children are born every year. Whereas 8 million infants die out of which 4 million infants die during the neonatal period, 98% of them do so in developing countries. Neonatal Mortality Rate is higher in Rural area i.e. 49 per 1000 live birth and 27 per 1000 live birth in Urban area.

The global burden of neonatal death is estimated to be 5 million of which 3.2 million death occur during the first week of like. Global under five and infant mortality rate have declined over the past four decades but high neonatal mortality rate have remained relatively unchanged. The primary causes of neonatal death [all over the World] are believed to be complications of prematurity [28%], Sepsis and Pneumonia [26%], birth asphyxia and injuries [23%], Congenital anomalies [7%], Diarrhea [3%] with low birth weight to a large proportion of death. To reduce neonatal mortality strategies must be developed, many of life threatening conditions can be prevented with improved labor and delivery care and attention to the physiological needs of newborn. In India nearly 26 million babies born in each year, accounts for 20% of global birth in which 1.2 million of these nearly die before completing 4 weeks of life. India thus contributes 30% of total 3.9 million death Worldwide and accounts for one quarter of all neonatal deaths in World.

Current neonatal mortality rate is 44 per 1000 live birth, accounts for nearly 30% of total 39 million neonatal deaths Worldwide and it accounts for 2/3 of infant mortality rate and half of under 5 mortality rate. Two newborns death occur every minute in this vast country. India contributes to 25% of the over 10 million under 5 death occurring Worldwide each year. Nearly half of the under 5 death occur in neonatal period.

Poor perinatal and neonatal care is responsible for many deaths even during later childhood. They also account for mental retardation and other neurological handicaps of later life which are largely preventable. Improved neonatal care lead a better and intact infant survival, which will pave the way for better acceptance of small family norm. Mother plays a key role in identifying minor developmental deviations and early evidence of disease process because she is constantly and closely watching her baby. Participation of mother in the nursing care of baby infuses self confidence in her and reduces demands on nursing personnel. So she needs the basic

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knowledge and skills pertaining to child feeding, personal hygiene, immunization and other common problems in children.

Nearly 26 million babies are born in India each year, this account for 20% of global birth, of these, 1.2 million die before completing the first four weeks of life. This accounts for nearly 30 percent of the total 3.9 million neonatal deaths worldwide.

The current neonatal mortality rate in India is 44/1000 live births, it accounts for nearly two-third of infant mortality and half of under-five mortality; Over one-third of all neonatal deaths occur on the first day of life. Almost half within three days and nearly three fourth in the first week. The rate of neonatal mortality varies widely among the different states ranging from 10 per 1000 live births in Kerala to around 60 in Orissa and Madhya Pradesh. The states of Uttar Pradesh, Madhya Pradesh and Bihar together contributed to over half of all newborn tests in India in 2000 (Park. K, 2007).

The major causes of neonatal deaths globally were estimated to be due to complications of pre-maturity, (28%) sepsis, pneumonia (26%), birth asphyxia, injuries (23%), tetanus (7%), congenital anomalies (7%) and diarrhea (3%). A study done by Baqui et al, (2006) in rural Uttar Pradesh showed that out of 618 neonatal deaths, 32% deaths were on the day of birth, 50% occurred during the first 3 days of life and 71% were during the first week of life. (Indian Institute of population 2010).

India's current neonatal mortality is higher in rural areas at 49/1000 live births than in urban area at 27/1000 live births. Orissa have the highest neonatal mortality rate of 61/1000 live births. Karnataka, Uttar Pradesh, Madhya Pradesh, West Bengal, Punjab have the neonatal mortality rate of 54/1000, 53/1000, 51/1000, 31/1000, 29/1000 live births respectively. Kerala have the lowest neonatal mortality of 10/1000 live births respectively. It is necessary together to meet both national and the millennium development goal to reduce Neonatal Mortality rate by two thirds between 1990 and 2015. In India, Andhra Pradesh stands 6 place in neonatal mortality rate of 30/1000 live births. (WHO 2011).

The risk of neonatal mortality is more acute in rural areas where expert obstetric care is scarce, and the home environmental conditions in which the baby is born, are usually unsatisfactory. Roughly 60% of birth in less developed counties occurred at home, so parents need to be educated about what they can do to save their newborn lives. Families need to adapt better nutritional practices, including breastfeeding ; learn how to dry and warm their newborns; and better understand the danger signs of maternal and neonatal

complication saving newborn lives depends on a broad based condition that include donors and international organizations that can provide policy focus and finding, governments that are willing to expand their commitment to national and local health care services, and NGOs and gross roots organizations that can work with communities to pass on information on saving newborns (Park. K, 2007).

The challenges of reducing neonatal mortality require solutions through research to inform program innovation and action-oriented policies designed to improve newborn health. In all these above programs, the mother plays a vital role. The community health nurse can educate the mothers regarding essential new born care and regarding antenatal care and postnatal care and regarding importance of institutional deliveries and through proper guidance and education regarding essential newborn care (Benny. W. Elizabeth, 2004).

Since mothers are the primary care takers of the newborns round the clock, it is the most important priority to improve their knowledge and competency. If a mother is educated, she can educate the entire family and the community as well.

## II. BACKGROUND

Newborn or neonatal period include the time from birth to 28 days of life. This is the crucial period in laying the foundation of good health. At this time specific biological and psychological needs must be met to ensure the survival and health development of the child into a future adult (Hocken Berry and Wilson, 2005).

The major causes of neonatal deaths globally were estimated to be due to complications of pre-maturity, (28%) sepsis, pneumonia (26%), birth asphyxia, injuries (23%), tetanus (7%), congenital anomalies (7%) and diarrhoea (3%). A study done by Baqui, et.al., (2006) in rural Uttar Pradesh showed that out of 618 neonatal deaths, 32% deaths were on the day of birth, 50% occurred during the first 3 days of life and 71% were during the first week of life. (Indian Institute of population 2010)

Care practices immediately after delivery play a major role in causing neonatal morbidities and mortalities. Essential newborn care practices were outlined to decrease the neonatal morbidity and mortalities. These practices include clean cord care, thermal care, and initiating breast feeding immediately after birth. The traditional practices like applying cow dung on the umbilical stump, oil instillation into nose, eyes also contribute to newborns risk of morbidity and mortality (Kesterten, A. J, 2010).

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WHO reported that each year about 4 million newborns die before they are four weeks of life. Ninety eight percent of these deaths occurring in developing countries. Mortality rates are high in Sub-Saharan Africa and Asia. Two thirds of newborn deaths occur in the WHO regions of Africa (28%) and East Asia (36%). Neonatal mortality rate is now 6.5 times lower in the high income countries than other countries. The lifetime risk for a newborn baby is 1 in 5 in Africa compared with 1 in 125 in more developed countries.

India's current neonatal mortality is higher in rural areas at 49/1000 live births than in urban area at 27/1000 live births. Orissa have the highest neonatal mortality rate of 61/1000 live births. Karnataka, Uttar Pradesh, Madhya Pradesh, West Bengal, Punjab have the neonatal mortality rate of 54/1000, 53/1000, 51/1000, 31/1000, 29/1000 live births respectively. Kerala have the lowest neonatal mortality of 10/1000 live births respectively. It is necessary together to meet both national and the millennium development goal to reduce Neonatal Mortality rate by two thirds between 1990 and 2015. In India, Andhra Pradesh stands 6 place in neonatal mortality rate of 30/1000 live births (WHO, 2011).

Still traditional practices of newborn care are seen among the mothers which are harmful to the newborn. Such as practice of pre-lacteal feeds like feeding sugar water or honey, castor oil, application of oil and powder to the umbilical cord, application of Kajal, instillation of oil in babies eye, ear and nose, baby being exposed and not covered well, lack of hygienic practices these are all contributes to the increased rate of neonatal morbidity and mortality.

Best practices of newborn care that includes maintenance of temperature, exclusive breastfeeding, skin care, eye care, cord care, prevention of infection, immunization (Mathur, N. B, 2010).      Hence as a first step, the researcher felt the need for assessing the knowledge and practices of postnatal mothers with regard to essential newborn care at Bheemunipatnam, Vishakhapatnam.

## III.    METHODOLOGY

The researcher has developed a structure questionnaire after reviewing the literature and considering the opinion of paediatric nursing experts, to assess the knowledge regarding selected aspects on essential new born care.
The tools used for the study were categorized into 3 sections.

### Section-1 Description of Demographic variables
➢ It includes age of the mothers, educational status, occupation, income, religion, type of delivery, parity.

### Section-2:  knowledge questionnaire
➢ It consists of 25 multiple choice questions to assess the knowledge regarding essential new born care. Each question has 4 options in which one option correct and other 3 options are wrong. Each correct answer carries one mark, wrong answer carries zero mark.

### Section -3; Practice questionnaire
➢ It consists of 15 questions to assess the practice of essential new born care among postnatal mothers. Both positive and negative questions are formed based on observational check list

The scores were interpreted in the following manner.
< 50%   - Inadequate knowledge.
50-75% - Moderately adequate knowledge
> 75%   - Adequate knowledge
The pilot study was conducted and the findings of the study revealed that tool was reliable, feasible to conduct the main study. The reliability score 'r'=.82.
The data was analyzed by using descriptive statistics such as frequency and percentage distribution and inferential statistics such as Chi-square test for the strength of the association between two categorical variables and T –test for difference between two variables.

### Content validity
The tool was given to five aspects in the field of paediatric nursing and medicine for content validity. All comments and suggestions given by the experts were duly considered and corrections were made after discussion with the research guide.

### Reliability
The reliability of knowledge questionnaire was r = .86 and knowledge questionnaire on practices was r = .82.
Reliability of the tool was established by using spearmen's brown prophecy formula.

$$R = \frac{2r}{1+r}$$

Where   R = Reliability co-efficient of the whole test
r = correlation co-efficient

## IV.    EXPERIMENTS AND RESULTS

- *Among 200 postnatal mothers, majority 176(88%), 164(82%)   had inadequate knowledge, 20 (10%), 32 (16%) had moderate knowledge and 4 (2%),4 (2%) had adequate knowledge the pre assessment of level of knowledge  and practice on essential new born care.*

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- After the administration of structured teaching program. *majority 16(8%),20(10%) had inadequate knowledge, 104(52%)100,(50%) had moderate knowledge and 80 (40%),80 (40%) had adequate knowledge in the post assessment of level of knowledge and practice on essential new born care* It represents that structured teaching program was effective to improved knowledge and practice on essential newborn care among postnatal mothers.

- The present study also revealed that there was no statistically significant association between post assessment of level of knowledge and practice and the demographic variables such as age of postnatal mothers, religion, education , parity, type of delivery . *There was statistically significant association between post assessment of essential level of knowledge on essential new born care and the demographic variables such as education and parity at p<0.01 level of significance.*

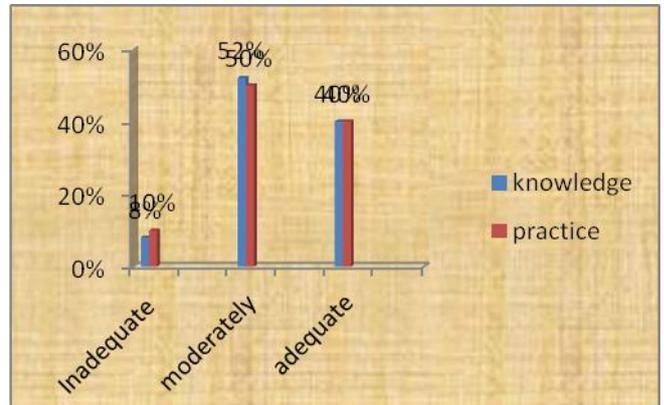| Table – 1 Level of knowledge and practice in Pre-test | | | | | |
|---|---|---|---|---|---|
| Inadequate (<50%) | | Moderate (50%-75%) | | Adequate (>50%) | |
| F | % | F | % | F | % |
| 176 | 88% | 20 | 10% | 4 | 2% |
| 164 | 82% | 32 | 16% | 4 | 2% |

The data presented in the Table –1 shows the level knowledge and practice among elderly postnatal mothers *176(88%), 164(82%) had inadequate knowledge, 20 (10%), 32 (16%) had moderate knowledge and 4 (2%),4 (2%) had adequate knowledge the pre assessment of level of knowledge on essential new born care.*



| Table – 2 Level of knowledge and practice in Post-Test | | | | | |
|---|---|---|---|---|---|
| Inadequate (<50%) | | Moderate (50%-75%) | | Adequate (>50%) | |
| F | % | F | % | F | % |
| 16 | 8% | 104 | 52% | 80 | 40% |
| 20 | 10% | 100 | 50% | 80 | 40% |

- The data presented in the Table 2 shows that the stress levels among elderly are majority*16(8%),20(10%) had inadequate knowledge, 104(52%)100,(50%) had moderate knowledge and 80 (40%),80 (40%) had adequate knowledge in the post assessment of level of knowledge and practice on essential new born care*. It represents that structured teaching program was effective to improved knowledge and practice on essential newborn care among postnatal mothers.
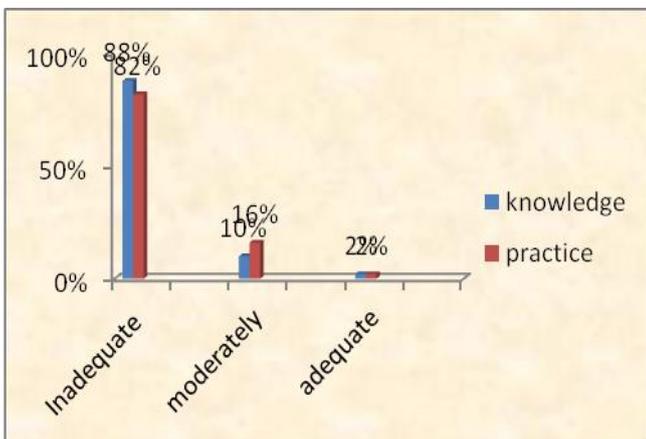


The mean score 12.72 ,5.62and standard deviation 2.303,1.723 obtained in the pre- test and a mean score 19.06, 9.18and standard deviation 3.363,2.19 were obtained in the post test for the level of knowledge and practice among postnatal mothers showed that there was a increases in mean and standard deviation after the administration of structured teaching program for postnatal mothers

| | Mean | Standard deviation | T value |
|---|---|---|---|
| **Pre-test scores of level knowledge and practice** | 12.72,5.62 | 2.303,1.723 | **21.475, 14.98** |
| **Post-test scores of level knowledge and practice** | 19.06,9.16 | 3.363,2.19 | |
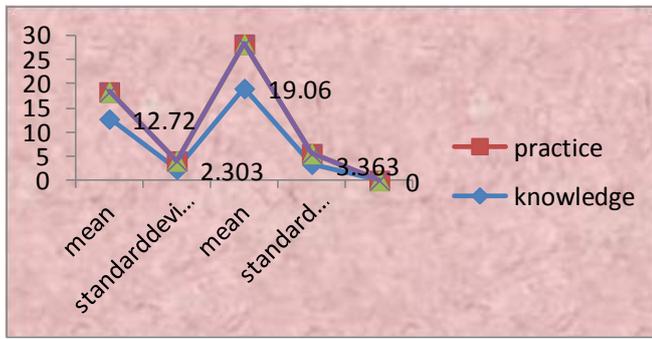
## V. CONCLUSION

The research study was done to assess the effectiveness of structured teaching program of knowledge and practice postnatal mothers regarding essential newborn care at bheemunipatnam Visakhapatnam.

About two hundred postnatal mothers were selected by purposive sampling technique. A structured questionnaire and observation checklist was used to assess the level of knowledge and level of knowledge on practice regarding essential new born care among postnatal mothers, before and after the structured teaching program.

**The first objective** of the study was to assess the knowledge and knowledge on practices regarding essential new born care among postnatal mothers.

The pre-test was conducted by using the structured questionnaire, Table 3 revealed that out of 200 postnatal mother ,88% (176) had in adequate knowledge, 2o% (10) had moderately adequate knowledge, 4% (2) had adequate knowledge. Regarding the knowledge on practices related to essential newborn care, 88% (164) had inadequate knowledge, 32% (16) had moderately adequate knowledge and 4% (2) had adequate knowledge.

Post-test was conducted by using the same pre-test questionnaire; 7 days after the Health education to the postnatal mothers  Table 4 revealed that out of 200 postnatal mothers 16% (8) had inadequate knowledge, 52% (104) had moderately adequate knowledge and 40% (80) had adequate knowledge on essential newborncare. Regarding knowledge on practices, 20% (10) had inadequate knowledge, 100% (50) had moderately adequate knowledge and 40% (80) had adequate knowledge on prevention of Burns and Scalds complications.

This study was supported by Vidhya. K (2011) conducted a pre-experimental study to assess the effectiveness of innovative teaching program on new born care among postnatal mothers in Raja Muthaiah Hospital in North India. They had selected 30 postnatal mothers by convenient

sampling technique. Data were collected by using a structured questionnaire. The pre-test results showed that 97% of the post natal  mothers had inadequate knowledge on new born care and post test results showed that 70% of the postnatal mothers gained adequate knowledge on new born care and 30% of postnatal mothers gained moderately adequate knowledge on new born care. This study demonstrated that video teaching program was effective in imparting knowledge to the postnatal mothers.

**The second objective** of the study was to evaluate the effectiveness of the Health education on essential new born care among post natal mothers . Table 5 revealed the effectiveness of the Health education. The paired 't' test values showed that there was a significant improvement in the level of knowledge and level of knowledge on practices related to essential new born care at $P<0.0001$ level.

The present study revealed improvement in the level of knowledge and level of knowledge on practices related to essential new born care after administering the health education program. It was proved that direct education can lead to increase in the level of knowledge and level of knowledge on practices related to essential new born care.

**The third objective** was to associate the relationship between selected demographic variables and the level of knowledge and knowledge on practices among postnatal mothers related to essential new born care.

Table 6 represents in the post test, the association between demographic variables with level of knowledge on essential new born care. The association between the level of knowledge education and parity was significant at $p<0.05$. Table 7 represents in the post test , the association between level of knowledge on practice  age , education and parity was significant at $p<0.05$

Still some of the demographic variables are not significant with the mother's knowledge.  Irrespective of demographic variables, the post natal mothers improved their knowledge after receiving structured teaching program. Hence, direct education has a bearing and can bring about improvement of their knowledge and change in a desirable behaviour.

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