

# A Study To Assess The Effectiveness Of Structured Teaching Program On Knowledge, Attitude And Practice Regarding Thermal Protection Of Neonate Among ASHA Workers In Selected Rural Areas Of Belgaum, Karnataka State

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**Abstract:** "Children's health Tomorrows wealth" children are priceless resources. Hypothermia is defined by the World Health Organization as a core temperature  $< 36.5^{\circ} \text{C}$  ( $97.7^{\circ} \text{F}$ ). In premature infants, hypothermia increases morbidity and mortality. Newborn undergoes profound physiological changes at the moment of birth. The temperature of the environment during delivery and the postnatal period has a significant effect on the risk to the newborn developing hypothermia. In general, newborn need a much warmer environment than an adult. The smaller the newborn, the higher the temperature needs to be.

**Objectives:** To assess knowledge, attitude and practice regarding thermal protection of Neonate among ASHA workers. To assess the effectiveness of structured teaching programme in terms of Knowledge, attitude and practice regarding thermal protection of neonate among ASHA workers. To find out the correlation between knowledge, attitude and practice regarding Thermal protection of neonate among ASHA workers. To find out the association between knowledge, attitude and practice with selected demographic variables of the ASHA workers.

**Materials And Methods:** A Pre experimental one group pre-test-post-test study was conducted to evaluate the effectiveness of structured teaching programme regarding Thermal Protection of Neonate among ASHA workers in Selected Rural Areas of Belgaum" were selected by non probability convenient sampling technique. The knowledge, attitude, practice was assessed by structured knowledge questionnaire, Attitude scale and structured Practice Questionnaire.

**Results:** The study result reveals that, the post -test mean knowledge, Attitude, practice score was found higher (17.6, 38.5, 29.7) when compared with mean pre test knowledge, Attitude, Practice scores (10.9, 29.2, 42). The statistical paired 't' Value of knowledge, attitude and practice is 14.79\*, 9.18\* and 6.85\*. Multiple Correlation between knowledge, attitude and practice among ASHA workers is 01, 0.063, 0.03 \*significant ( $P < 0.005$ ). There was a significant association with other demographic variables like Age in year, Educational status of ASHA worker, Religion, Number of children, Income of family (monthly), Number of labour women brought to hospital for delivery ASHA workers, Number of postnatal mothers and newborns cared by ASHA workers, source of information regarding thermal protection of neonate among ASHA worker. The statistical paired test indicates that enhancement in the overall levels of knowledge, attitude and Practice of ASHA workers regarding prevention of Hypothermia in neonates is found to be statistically significant at 0.05 levels only with their age.

**Conclusion:** structured teaching programme was effective in increasing the knowledge, Attitude, and Practice score of ASHA workers about thermal protection of Neonates. The ASHA worker should take active role in Prevention of Neonatal Hypothermia.

**Keywords:** Structured teaching programme, Thermal Protection, Neonate, ASHA Worker, Knowledge, Attitude, Practice.

## I. INTRODUCTION

"A newborn baby has only three demands. They are warmth in the arms of its mother, Food from her breasts, and security in the knowledge of her presence. Breastfeeding satisfies all three."

- Grantly Dick Read [1]

Birth of healthy newborn baby is one of the finest gifts of nature. Newborn undergoes profound physiological changes at the moment of birth. Although it is normal during the process of birth the baby has to face many physiological and environmental changes. Before the birth the fetus experiences thermo constant protective, comfortable, aquatic and life sustaining environment. It is safe in the amniotic fluid.[2]

At birth the baby enters to the extra uterine environment that is lower in temperature, humidity and the variable atmospheric pressure than intra uterine environment. In such an environment the neonate is required to struggle for physiological adjustments for survival independently. Neonatal period is the period until 28 days after birth. The neonate needs to adjust to extra uterine life to maintain normal physiological activity. [3]

Warmth is one of the basic needs of a newborn baby. It is critical to the baby's survival and well being. Newborns body is not able to adjust itself, if environmental temperature changes which will results in the alteration of the newborns body temperature. ( i.e. either it may be hypothermia or hyperthermia).The newborn regulates body temperature much less efficiently than an adult and loses heat easily. The smaller and more premature the baby, greater is the risk. After birth, the wet newborn immediately starts losing heat and unless heat loss is prevented, hypothermia will develop.

Thermal protection of newborn is the series of measures taken at birth and during first day of life to ensure that the baby doesn't become either too cold (hypothermia) or too hot (hyperthermia) and maintains a normal body temperature of 36.5-37.50c (97.7 - 99.50F).

The common causes for hypothermia includes the too cold room, baby soaked with amniotic fluid, uncovered baby even for short time and (poorly fed up baby), infection, birth asphyxia and separated baby from the mother. The baby with hypothermia is presented with the following indicators like: Acrocyanosis, cool extremities, lethargy, bradycardia, apnea, poor feeding, hypoglycemia, hypoxia and chronic signs like weight loss, poor weight gain.

Baby's temperature can be assessed with reasonable precision by touching his/her abdomen, hands and, feet with the dorsum of your hand. When feet are cold and abdomen is warm, it indicates that the baby is in cold stress. In hypothermia, both feet and abdomens are cold to touch.

Baby must be kept warm at the place of birth (home or hospital) and during transportation for special care either from home to hospital or within the hospital. Satisfactory control, demands both prevention of heat loss and promotion of heat gain. The "warm chain" is a set of following ten interlinked procedures carried out at birth and later: warm delivery room, immediate drying, skin-to-skin contact, breast-feeding, bathing and weighing postponed, appropriate clothing and bedding, mother and baby together, warm transportation, warm resuscitation and training/awareness raising; aids minimizing the likelihood of hypothermia in all Newborns.

The villages are most important part of India where health facilities are found to be very poorer. As under five children are more concentrated in villages there health needs to assessed and actively taken care, so as to do this under National Rural Health Mission (NRHM) scheme, Government of India has appointed one Accredited Social Health Activist (ASHA) workers for 1000 population in village setup. The candidates selected as ASHA workers will be given training in all preventive healthcare aspects of pregnancy, antenatal care, delivery care, postnatal care, Newborn care, neonatal care, diarrhea, acute respiratory infections, first aid and treatment of 30 minor ailments The overall organization, monitoring and coordination of the ASHA training is entrusted to a Non-

government Organization. It helps at the grass root level to prevent child mortality and morbidity rate at the earliest level.

## II. NEED FOR STUDY

*Every minute, somewhere in the world...  
...8 babies die in the first month of life  
...6 babies die in the first week  
...8 babies are stillborn.*

-ANNE TINKER

Annually, there are approximately 3.7 million neonatal deaths and 3.3 million stillbirths' occur worldwide.[10] Approximately 38% of deaths among children younger than 5 years of age occur during the first 28 days of life, and 75% of the neonatal deaths occur within the first 7 days.

WHO estimates that over 4 million babies die every year in first 4 weeks of life. 3 million of these deaths occur in the early neonatal period. In India alone among the 25 million babies who are born every year one million die, accounting for 25% of the mortality around the world. This is so even though India has managed to cut the under-five mortality rate from 117/1,000 live births in 1990 to 72 in 2007.

The current Neonatal Mortality Rate (NMR) is approximately 44/1000 live births, accounting for almost 2/3 of infant mortality and 1/2 of under-5 years Mortality. The current Infant mortality rate in India is 47/1000 live births and in Karnataka is 45/1000 live births. The NMR is also one and a half times higher in rural areas than in urban areas. The rate of neonatal mortality varies widely among the different states of India ranging from 11/1000 live births in Kerala to about 48 in Uttar Pradesh. The states of Uttar Pradesh, Madhya Pradesh and Bihar together contributed to over half of all newborn deaths in 2000.

Gandhi Medical College, Shimla, reports as follows: Among 4575 consecutive births were studied over a two year period and found PNMR was 50.4/1000 and births while extended PNMR was 57.3/1000 and births. Perinatal hypoxia (35.5%), immaturity (11.5%), infections (9.9%), congenital malformations (8.1%) and hypothermia (3.4%) accounted for most perinatal deaths. Low birth weight (LBW) babies contributed to 87% of all perinatal deaths. NMR was 32.5/1000 live births and nearly 83% of neonatal deaths were contributed by LBW babies. The ranking of causes of neonatal deaths were birth asphyxia (31.3%), infections (28.5%), immaturity (15.3%), hypothermia (6.3%) and congenital malformations (4.9%). The neonatal mortality among LBW and preterm babies was 9.4% and 19.7%, respectively, being 10 to 20 times higher than normal birth weight and term babies, respectively [p < 0.001].

Even though India is one among the top listed country in global under five deaths it is in 49th place for child mortality rate, 61/1000 live births in 2011. Sierra Leone has the highest child mortality rate of 185/1000. To address the world's major development challenges with health and its related areas as the prime focus, 189 countries and the United Nations in the year 2000 set goals for the millennium. The MDGs (Millennium Development Goals),” are eight international development goals that all member states of the UN agreed to achieve by

2015. One of the MDGs is to reduce under-five mortality rate of 42/1,000 live births by 2015.

ASHA training, reviews and above all findings made researcher to witness the knowledge, attitude and practice regarding the thermal protection of neonate among ASHA workers and provide a structured teaching programme. Since hypothermia occurs mainly because of lack of knowledge rather than lack of facilities, the researcher aims to give ASHA workers all the information and advice needed to take appropriate action, whether to prevent hypothermia in the first place or to save an endangered life.

**OBJECTIVES**

- ✓ To assess knowledge, attitude and practice regarding thermal protection of Neonate among ASHA workers.
- ✓ To assess the effectiveness of Structured teaching programme in terms of Knowledge, attitude and practice regarding thermal protection of neonate among ASHA workers.
- ✓ To find out the correlation between knowledge, attitude and practice regarding Thermal protection of neonate among ASHA workers.
- ✓ To find out the association between knowledge, attitude and practice with selected demographic variables of the ASHA workers.

**HYPOTHESIS OF THE STUDY**

- ✓ H1- The mean post-test score of subject exposed to structured teaching programme on knowledge, attitude and practice will be significantly higher than their mean pre-test scores regarding thermal protection of neonates among ASHA workers.
- ✓ H2- There will be significant correlation of knowledge, attitude and practice regarding thermal protection of neonates among ASHA workers.
- ✓ H3- There will be significant association of knowledge, attitude and practice scores on thermal protection with selected demographic variables among ASHA workers.

**INCLUSION CRITERIA**

*ASHA WORKERS*

- ✓ Belongs to Hirebhagewadi community health centre, Belgaum.
- ✓ Who can understand, read and write Kannada.
- ✓ Willing to participate in the study.
- ✓ Available at the time of data collection.
- ✓ Who completed ASHA training and now in service.

*EXCLUSION CRITERIA*

- ✓ ASHA trainee under training at the time of data collection
- ✓ ASHA with additional training in health field
- ✓ ASHA workers but dropout candidates from health related courses.

*DELIMITATIONS*

- ✓ 30 samples of ASHA workers in Hirebhagewadi, community health centre, Belgaum.
- ✓ Study design is limited to Pre- Experimental design.
- ✓ The data collection period limited to 4- 6 weeks.

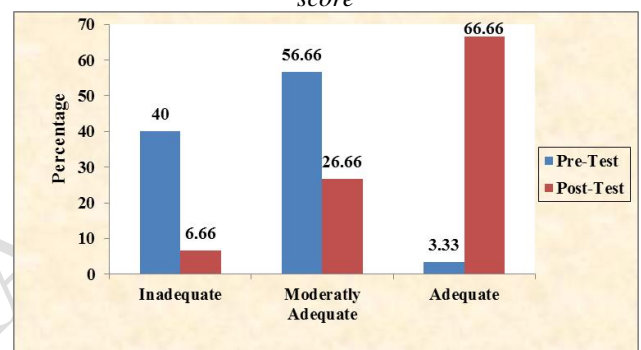
**III. METHODOLOGY**

*Part A- Assessment of Knowledge, Attitude and Practice among ASHA workers*

(N=30)

Variables	Inadequate (0- 35 %)		Moderately Adequate (36- 70 %)		Adequate (71 – 100 %)		
	F	%	F	%	F	%	
<b>Knowledge</b>	Pre	12	40	17	57	1	3
	Post	2	6.66	8	26.66	20	66.66

*Table 1: Frequency and percentage distribution of knowledge score*



*Figure 1: Percentage Distribution of Knowledge Scores of ASHA workers*

In pre test, 40% ASHA workers had inadequate knowledge, 56.66% had moderate knowledge and 3.33% had adequate knowledge. In post test 6.66% ASHA workers had inadequate knowledge, 26.66% had moderate knowledge and 66.66% had adequate knowledge. (Fig.1).

(N=30)

Variables	Low positive (0- 50 %)		Positive (51- 75 %)		High positive (76 – 100 %)		
	F	%	F	%	F	%	
<b>Attitude</b>	Pre	5	17	24	80	1	3
	Post	2	6.66	8	26.66	20	66.66

*Table 2: Frequency and Percentage Distribution of Attitude Scores*

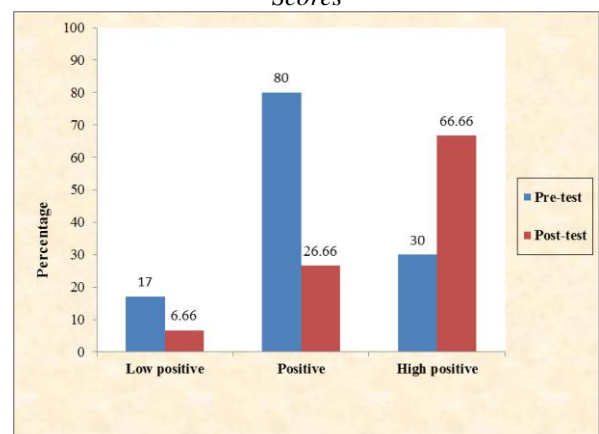


Figure 2: Percentage Distribution of Attitude Scores of ASHA workers

In pre test 17% ASHA workers had low positive attitude, 80% had moderately positive attitude and 3% had highly positive attitude. In post test 6.66% low positive attitude, 26.66% had moderately positive attitude and 66.66% had highly positive attitude. (Fig.2).

(N=30)

Variables	Poor (0- 50 %)		Fair (51- 75 %)		Good (76 – 100 %)	
	F	%	F	%	F	%
	Practice Pre	14	46.66	15	50	1
Post	3	10	13	43.33	14	46.66

Table 3: Frequency and Percentage Distribution of Practice Scores

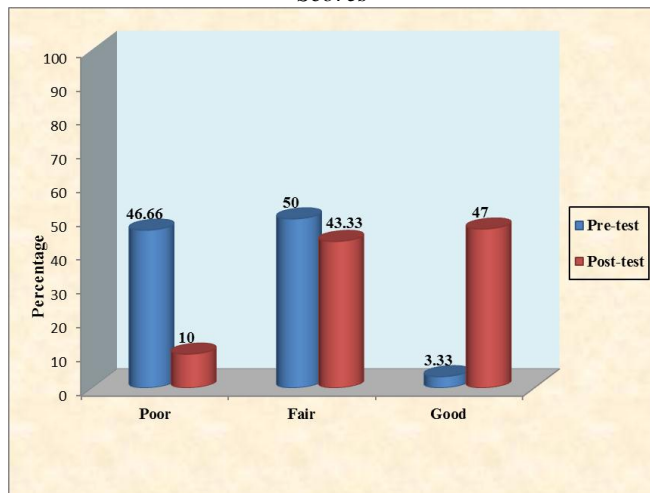


Figure 3: Percentage Distribution of Practice Scores of ASHA workers

In pre test 46.66% ASHA workers had poor practice techniques, 50% had fair practice techniques and 3.33% had good practice techniques. In post test 10% mothers had poor practice techniques, 43.33% had fair practice techniques and 46.66% had good practice techniques.(Fig.3).

PART WISE ANALYSIS OF PRE-TEST SCORES

(N=30)

Areas	Max. score	Mean	Mean%	SD
Part A- Knowledge	25	10.9	43.6	12.62
Part B- Attitude	50	29.2	58.4	9.62
Part C- Practice	42	22.4	53.3	10.72

Table 4: Part-Wise Mean, S.D. and Mean Percentage of Knowledge, Attitude and Practices Score

The mean percentage of knowledge scores was (43.6%) with a mean  $\pm$ SD of  $10.9 \pm 12.62$ . Part C the mean percentage of attitude (58.4%) with a mean  $\pm$ SD of  $29.2 \pm 9.62$ .Part D the mean percentage of practice was 53.3% with a mean  $\pm$ SD of  $22.4 \pm 10.72$ .

The findings reveal that the knowledge of ASHA workers on thermal protection of neonate is moderately inadequate (56.66%), attitude is moderately positive (80%) and practice is fair (50%).

Part Wise Analysis of Post-Test Scores.

(N= 30)

Areas	Max. score	STATISTICS		
		Mean	Mean%	SD
Part A-Knowledge	25	17.6	70.4	10.93
Part B-Attitude	50	38.5	70	8.66
Part C-Practice	42	29.76	70.87	8.48

Table 5: Part-Wise Mean, SD and Mean Percentage of Knowledge, Attitude and Practice Scores

The mean percentage of knowledge score was 70.4% with a mean  $\pm$ SD of  $17.6 \pm 10.93$ . Part C the mean percentage of attitude was 70% with a mean  $\pm$ SD of  $38.5 \pm 8.66$ .Part D the mean percentage of practice was 70.87% with a mean  $\pm$ SD of  $29.76 \pm 8.48$ . The findings revealed that the knowledge of ASHA workers on thermal protection of neonate was adequate (66.66%), attitude was highly positive (66.66%) and practice was good (47%).

Part B: Effectiveness of STP on Knowledge, Attitude & Practice of ASHA workers.

(N=30)

Knowledge	Mean	Mean %	SD $\pm$	Minimum score	Maximum score
Pre-test	10.9	43.6	12.62	6	18
Post-test	17.6	70.4	10.93	8	23

Table 6: Comparison of pre-test with post test Knowledge scores

The pre-test mean percentage of knowledge was 43.6% with a mean  $\pm$  SD of  $10.9 \pm 12.62$  with minimum and maximum scores 6 and 18 respectively. The post test mean percentage of knowledge was 70.4% with a mean  $\pm$  SD of  $17.6 \pm 10.93$  with minimum and maximum scores 8 and 23 respectively.

(N=30)

Attitude	Mean	Mean %	SD $\pm$	Minimum score	Maximum score
Pre-test	29.2	58.4	9.62	14	38
Post-test	38.5	70	8.66	25	44

Table 7: Comparison of pre-test with post test Attitude scores.

The pre-test mean percentage of attitude was 58.4% with a mean  $\pm$  SD of  $29.2 \pm 9.62$  with minimum and maximum scores 14 and 38 respectively. The post test mean percentage of attitude was 70% with a mean  $\pm$  SD of  $38.5 \pm 8.66$  with minimum and maximum scores 25 and 44 respectively.

(N=30)

Practice	Mean	Mean %	SD $\pm$	Minimum score	Maximum score
Pre-test	22.4	53.4	10.72	14	32
Post-test	29.76	70.87	8.48	21	37

Table 8: Comparison of pre-test with post test Practice scores.

The pre-test mean percentage of practice was 53.4% with a mean  $\pm$  SD of  $22.4 \pm 10.72$  with minimum and maximum scores 14 and 32 respectively. The post test mean percentage of practice was 70.87% with a mean  $\pm$  SD of  $29.76 \pm 8.48$  with minimum and maximum scores 21 and 37 respectively.

(N= 30)

Areas	Pre test			Post test			Effectiveness of STP			Paired 't' value
	Mean	Mean %	SD±	Mean	Mean%	SD±	Mean	Mean%	SD±	
Part A Knowledge	10.9	43.6	12.62	17.6	70.4	10.93	6.7	26.8	1.69	14.79*
Part B Attitude	29.2	58.4	9.62	38.5	70	8.66	9.3	11.6	0.96	9.18*
Part C Practice	22.4	53.3	10.72	29.6	70.87	8.48	7.36	17.57	2.24	6.85*

t<sub>(29)</sub> 3.66 p<0.001 \* significant

Table 9: Effectiveness of STP on thermal protection of neonate

The data presented in the above table shows that the total mean knowledge score is increased by 26.8% with mean ±SD of 6.7±1.69, the total mean attitude score is increased by 11.6% with mean ±SD of 9.3±0.96 and the total mean practice score is increased by 17.57% with mean ±SD of 4.36±2.24 after the administration of STP. The 't' value of knowledge (14.79), attitude (9.18) and practice (6.85) scores were found more than the table value 3.66, p< 0.001 with degree of freedom 29. Hence the STP was found to be effective in terms of knowledge, attitude and practice.

Part C: Correlation between knowledge, attitude and practice regarding thermal protection of neonate among ASHA workers.

In order to find out the relationship between knowledge, attitude and practice towards thermal protection of neonate, Karl-Pearson co-efficient of correlation formula was used and computed. The data is presented in table 13.

(N=30)

Variables	Knowledge	Attitude	Practice
Knowledge	1	0.063	0.003
Attitude	0.063	1	0.362*
Practice	0.003	0.362*	1

\*Significant (p< 0.05)

Table 10: Multiple Correlation between knowledge, attitude and practice among ASHA workers

Data in above table shows that there is positive correlation between knowledge along with attitude and practice and attitude along with practice in post test conducted among ASHA workers towards thermal protection of neonate. Hence the second research hypothesis is accepted.

Part D: Association between knowledge, attitude and practices scores of the ASHA workers on thermal protection of neonate with selected demographic variables.

There was a significant association with other demographic variables like Age in year, Educational status of ASHA worker, Religion, Number of children, Income of family (monthly), Number of labour women brought to hospital for delivery ASHA workers, Number of postnatal

mothers and newborns cared by ASHA workers, source of information regarding thermal protection of neonate among ASHA worker.

#### IV. DISCUSSION

This chapter deals with the analysis and interpretation of the findings of the study. The data gathered were summarized in the master sheet and both descriptive and inferential statistics were used for analysis. Findings revealed that the total mean knowledge score is increased by 26.8% with mean ±SD of 6.7±1.69, the total mean attitude score is increased by 11.6% with mean ±SD of 9.3±0.96 and the total mean practice score is increased by 17.57% with mean ±SD of 7.36±2.24 after the administration of NIP. Paired 't' test was used to find the effectiveness of STP. The calculated 't' value in knowledge (14.79, p<0.001), attitude (9.18 p<0.001) and practice (6.85, p<0.001) was greater than the table value. This showed that the gain in the knowledge, attitude and practice was significant after administering STP.

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