A Pre- Experimental Study to Assess the Effectiveness of the Structured Teaching Programme on Knowledge and Attitude Regarding Integrated Management of Neonatal and Childhood Illness (IMNCI) among Health Care Providers at Selected Primary Health Centers, Guntur, Andhra Pradesh, India

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Abstract: *Integrated Management of Neonatal and Childhood Illness (IMNCI) was first developed in 1992, by UNICEF and the World Health Organization (WHO) as a new strategy aimed at reducing the continuing high morbidity and mortality in children under the age of five years. It was based on the rationale that decline in child mortality rates was not necessarily dependent on the use of sophisticated and expensive technologies but rather on a holistic approach that combines the use of strategies that were cheap and can be made universally available and accessible to all. A Pre- experimental study to assess the effectiveness of the Structured Teaching Programme on knowledge and attitude regarding Integrated Management of Neonatal and Childhood Illness (IMNCI) among Health Care Providers at selected Primary Health Centers, Guntur, Andhra Pradesh, India. Objectives of the study were to assess the Pre and Post test level of knowledge and attitude regarding IMNCI among Health Care Providers, to compare the effectiveness of Structured Teaching Programme on knowledge and attitude IMNCI among Health Care Providers between Pre and Post test scores, to correlate the level of knowledge and attitude regarding IMNCI among Health Care Providers, to find out the association between post test level of knowledge and attitude regarding IMNCI among Health Care Providers with their selected Demographic Variables. Methods and approach used in the study were Pre- experimental design with one group Pre and Post-test design. Which was conducted on Thirty (30) Health Care Providers in selected Primary Health Centers at Guntur and sample was selected from Purposive Sampling Technique. Structured questionnaires were used. Data was processed by using Chi-square and Paired t-test. Majority of Health Care Providers 26 (86.66%) were Inadequate Knowledge whereas in Post-test majority 22 (73.3 %) were Adequate Knowledge. In relation to Attitude majority of Health Care Providers 22 (73.3 %) were Unfavorable Attitude whereas in Post- test majority 26 (86.66%) were Favorable Attitude. The Paired 't' test value for Knowledge between Pre and Post-test was 18.293, when compare to table value 2.05, it was high. There was highly significant effectiveness on Knowledge regarding IMNCI among Health Care Providers. This study was concluded that Structured Teaching Programme was effective method to improve IMNCI among Health Care Providers in selected Primary Health Centers.*

Key words: IMNCI, Health Care Providers, Primary Health Centers

1. Introduction

Children are blessing from the Lord. Children are our future and our most precious resources. Today's children are the citizen's of tomorrow's world. Children have begun to be recognized not only for who they are today but for their future roles in creating families, powering the workforce, and making work. Mounting evidence that health during childhood sets the stage for adult health not only reinforces this perspective, but also creates an important ethical, social, and economic imperative to ensure that all children are as healthy.

Healthy children are not only assets but also the stepping stone to build a strong and prosperous nation. Their survival and protection is prerequisite for the future development of humanity. Every child represents the unit of human capital. He/she has the potential to grow into a productive adult and contribute to the economic and social development of the country. Further, every child has a right to grow and realize his/her full potential. It is therefore a moral obligation of every society to make provisions for the holistic development for its children. Nations all over the world/universe have come to recognize that the most effective strategy for building human resource is to improve the conditions of children, ensuring and safe guarding the development of children has thus become an important national goal of all countries.

Early childhood development is considered to be the most important phase in life which determines the quality of health, well-being, learning and behavior across the life span. It is a period of great opportunity, but also of great v1ulnerability to negative influences and constitutes a unique phase for capitalizing on developmental forces to prevent or minimize disabilities and potential secondary conditions.

The majority of the children suffering from childhood illnesses like diarrhea, measles, pneumonia, chicken pox, whooping cough, fever, rubella, mumps, even though, children are more susceptible to diseases for a number of reasons. The major reason for children's increased susceptibility is that they have had limited exposure to diseases and therefore haven't yet built the immunologic defenses required to free off certain diseases. The environment plays an important role as well. Children in day care centers and in school pass infections around and then take them home and pass them to siblings and parents. It could be managed effectively and scientifically by the mothers at home in the early stage of onset of self care activities. Thus the disease and death rate can be reduced by efficient health care professionals.

Childhood diseases are leading cause of child mortality and morbidity in the world, and mostly results from contaminated food and water sources. Worldwide, 780 million individuals lack access to improved drinking-water and 2.5 billion lack improved sanitation. This is an innovative approach which was started in 1995 by WHO and UNICEF with the aim of introducing a comprehensive and timely management of the 5 most common causes of ill health and death among the under-fives. These illnesses are: Pneumonia, Diarrhea, Malaria, Measles, and Malnutrition.
Diarrhea is a leading killer of children, accounting for 9 percent of all deaths among children under age 5 worldwide. In 2013, this translated into 1,600 young children dying each day, or about 580,000 children a year. Most deaths from diarrhea occur among children less than 5 years of age living in South Asia and India. According to IMNCI the treatment for severe dehydration, refer urgently to hospital and giving frequent sips Oral Rehydration Solution on the way. Advise the mother to continue breast feeding. If no dehydration, give fluid and food to treat diarrhea at home.

Pneumonia is one of the infectious killer diseases among under five children globally: Every year nearly 1 million children die of pneumonia worldwide, Pneumonia accounts for 15 percent of all under-five deaths and killed about 940,000 children in 2013. Most of its victims were less than 2 years old. According to IMNCI the treatment for severe Pneumonia, give first dose of appropriate antibiotic and refer urgently to hospital. If Pneumonia, give appropriate antibiotic for 5 days; soothe the throat and relieve the cough with a safe remedy and advise mother when to return immediately. For no Pneumonia, if coughing is more than 30 days, refer for assessment: soothe the throat and relieve the cough with a safe remedy. Follow-up in 5 days if not improving.

About 3.2 billion people – almost half of the world's population are at risk of malaria. In 2013, malaria led to 584,000 deaths of which 78 percent were children under five years of age. This translates into a daily toll of more than 1,200 children under age 5, a total of over 450,000 children a year.

 Measles is another major leading cause of death among young children even though a safe and cost-effective vaccine is available. In 2013, there were 145 700 measles deaths globally – about 400 deaths every day or 16 deaths every hour. According to IMNCI the treatment for severe complicated measles, give vitamin A and also first dose of antibiotic. If clouding of the cornea or pus draining from the eye, apply tetracycline eye ointment. For measles with eye or mouth complications, if mouth ulcers, treat with gentian violet.

Nearly half of all deaths in children under 5 are attributable to Malnutrition. This translates into the unnecessary loss of about 3 million young lives a year. In 2013, stunting prevalence globally declined from 33 per cent to 25 per cent, and the number of children affected fell from 199 million to 161 million. The World Health Organization recognized the need to strengthen child-health activities in the country and decided to launch IMNCI.

Integrated Management of Neonatal and Childhood Illness was first developed in 1992 by UNICEF and the World Health Organization (WHO) as a new strategy aiming at reducing the continuing high morbidity and mortality in children under the age of five years. This integrated strategy led to the formation of "The Integrated Management of Childhood Illness (IMCI)" in 1992 by UNICEF and WHO. It was based on the rationale that decline in child mortality rates is not necessarily dependent on the use of sophisticated and expensive technologies but rather on a holistic approach that combines the use of strategies that are cheap and can be made universally available and accessible to all. According to the World Bank Report 1993, for situations where laboratory support and clinical resources are limited, such an approach is more realistic and cost-effective, and therefore, has the potential to make the greatest impact on the global burden of disease.

IMNCI has three (3) components, each of which is adapted in countries on the basis of local epidemiology, health system characteristics, and culture. **One component** focuses on improving the skills of health workers through training and reinforcement of correct performance. A **Second component** of Integrated Management of Childhood Illness aims to improve health system supports for child health service delivery. The **Third component** focuses on a set of family practices that are important for child health to increase the proportions of children exposed to these practices.

IMNCI improves health worker performance in five domains selected based on known survival benefits: Classifying illnesses, Prescribing appropriate medications, Providing vaccinations, Counseling caregivers on adequate nutrition, and Instructing caregivers on administering oral therapies. Antibiotic treatment for pneumonia, Oral rehydration therapy for diarrhea, Anti-malarial, immunization, breastfeeding counseling, anemia diagnosis and treatment, and vitamin A supplementation.

Structured Teaching Programme regarding IMNCI to Health Care Providers will helps to improve their case management skills and quality of care through classroom work and hands on clinical practices. This will improve family and community practices. It will help, to give particular attention to the most common childhood illness like acute respiratory infections. Strengthening care in Primary Health Centers for

sick children. It is useful to develop support mechanisms within communities for preventing disease, for helping families to care of sick children, and for getting children to clinics when needed. They can reduce Under Five mortality and improve nutritional status, if implemented well.

2. Problem Statement

A Pre- experimental study to assess the effectiveness of the Structured Teaching Programme on knowledge and attitude regarding Integrated Management of Neonatal and Childhood Illness (IMNCI) among Health Care Providers at selected Primary Health Centers, Guntur, Andhra Pradesh, India.

Objectives
- To assess the Pre and Post test level of knowledge and attitude regarding IMNCI among health care providers.
- To compare the effectiveness Structured Teaching Programme on knowledge and attitude regarding IMNCI among Health Care Providers between Pre and Post test scores.
- To correlate the level of knowledge and attitude regarding IMNCI among Health Care Providers.
- To find the association between post test level of knowledge and attitude regarding IMNCI among Health Care Providers with their selected demographic Variables.

3. Materials and Methodology

a) **Study Design-** Pre- experimental design with One group Pre and Post-test design.
b) **Setting of the Study-** Selected Primary Health Centers of Guntur, Andhra Pradesh, India.
c) **Sample-** Health Care Providers in the selected Primary Health Centers of Guntur, Andhra Pradesh, India.
d) **Sample size-** The total sample size was thirty (30) Health Care Providers.
e) **Sampling technique-** Purposive sampling technique.
f) **Criteria for selection of sample-**

The study includes Health Care Providers who were
- Working in selected Primary Health Centers of Guntur, Andhra Pradesh.
- Available at the time of data collection.
- Willing to participate in the study.

4. Description of the Tool

The tool was prepared based on review of research, non-research literature, and opinion of experts. The tool consists of three sections.

Section – I   Demographic variables
Demographic Variables include age, gender, professional qualification, total years of experience, and Sources of information about IMNCI and worked in children ward.

Section – II   Knowledge Questionnaire.
Structured questionnaire consists of thirty (30) multiple choice questions. Each question consists of four (4) options in that one option was correct and each correct answer carries one (1) mark and each wrong answer carries zero (0). Total score was thirty (30). The score were interpreted as follows.

Scoring Interpretation

Level of Knowledge	Scores	%
Inadequate Knowledge	0-10	33.3%
Moderate adequate Knowledge	11-20	33.4 - 66.6%
Adequate Knowledge	21-30	66.7 - 100%

Section – III   Attitude Scale
Likert scale to assess the attitude regarding IMNCI among Health Care Providers. It consists of twenty (20) statements. Each statement contains five (5) points such as Strongly Disagree (SD) it gives one (1) point, Disagree (DA) it gives score of two (2) points, Not Sure (NS) it gives three (3) points, Agree (A) it gives four (4) points, and Strongly Agree (SA) it gives five (5) points.

Scoring Interpretation

Level of Attitude	Scores	%
Unfavorable Attitude	0-40	40%
Neutral Attitude	41-60	41 - 60%
Favorable Attitude	61-100	61 - 100%

Ethical Consideration
Permission was obtained from District Medical and Health Officer of Guntur, Medical Officers of selected Primary Health Center and Research Committee.

5. Data Analysis

The data obtained was analyzed by using Descriptive and Inferential Statistical test.

6. Results

Section- I
Frequency and Percentage distribution of demographic variables knowledge regarding IMNCI among Health Care Providers.
- Out of 30 Health Care Providers in study group majority 15(50%) were in the age group of 31-40 years, 15 (50%) were in the age group of 41-50 years.
- With regards to Gender in study group 30 (100%) were females.
- Regarding professional Qualification 12 (40%) were ANMs, 17 (56.6%) were GNMs and 1 (3.33%) BSc.
- In relation to total years of experience 8 (26.6%) were having experience from 0-4 years, 7 (23.3%) were having experience from 5-8 years, 6 (20%) were having experience from 9-12 years and 9 (30%) were having experience from 13 years and above.
- When we look into Sources of information about IMNCI, 24 (80%) were known the information through Training and 6 (20%) were known the information through Clinical Practice.

- Out of 30 Health Care Providers, majority 25 (83.3%) were worked in Children ward and 5 (16.6 %) were not worked in Children ward.

Section-II
Frequency and Percentage distribution of Pre and Post test level of knowledge regarding IMNCI among Health Care Providers, **(n = 30)**

S.NO.	Level of knowledge	Pre Test		Post Test	
		N	%	N	%
1	Inadequate knowledge	26	86.66%	0	0
2	Moderate adequate knowledge	4	13.33%	8	26.66%
3	Adequate knowledge	0	0%	22	73.30%

Table reveals that frequency and percentage distribution of pre and post test level of Knowledge regarding IMNCI among Health Care Providers.
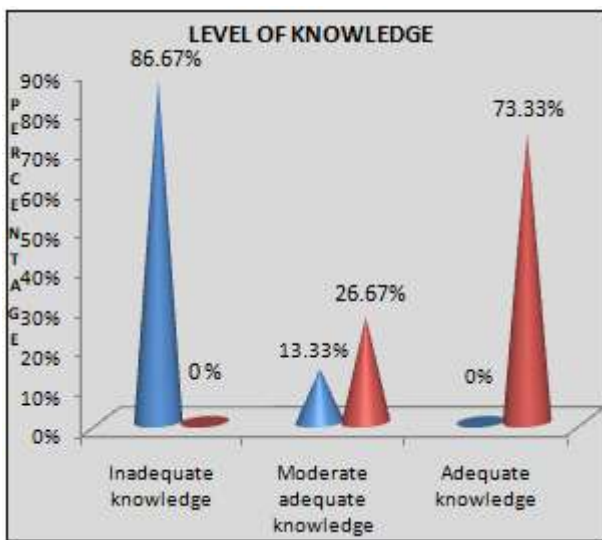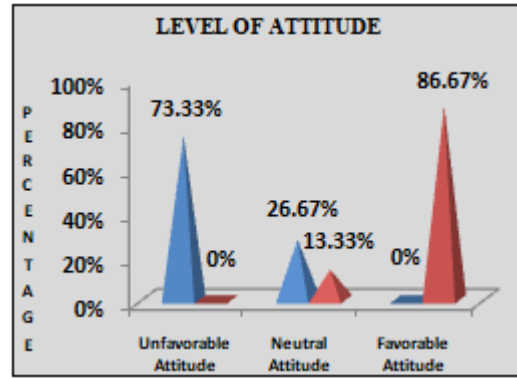

Section- III
Frequency and percentage distribution of Pre and Post test level of attitude regarding IMNCI among Health Care Providers **(n=30)**

S.NO.	Level of Attitude	PRE TEST		POST TEST	
		N	%	N	%
1.	Unfavorable Attitude	22	73.33 %	0	0
2.	Neutral Attitude	08	26.66 %	04	13.33%
3.	Favorable Attitude	0	0 %	26	86.66%

Table reveals that frequency and percentage distribution of pre and post test level of attitude regarding IMNCI among Health Care Providers. In pre test 22 (73.33%) of the participants had Unfavorable attitude. 8 (26.66%) of the samples had Neutral attitude and none of them had Favorable attitude. In post test majority 26 (86.66%) had Favorable attitude and less number 4 (13.33%) had Neutral attitude.

Section- IV
Mean, Standard deviation and Paired 't' test values of pretest and posttest level of knowledge on IMNCI among Health Care Providers. The result depicts Mean and Standard deviation for knowledge in Pre test among Health Care Providers was +8.9 and 1.422 respectively. The Mean and Standard deviation for knowledge in post test among health care providers were +23.66 and 2.68 respectively. The standard error for knowledge between pre and post test were 0.259 and 0.489 respectively. The Paired 't' test value for knowledge between pre and post test was 29.959, when compare to table value 2.05, it is high.

Section- V
Mean, Standard deviation and Paired 't' test values of pretest and posttest level of Attitude regarding IMNCI among Health Care Providers. The result depicts Mean and Standard deviation for Attitude in Pre test among study group was +35.30 and 8.22 respectively. The Mean and Standard deviation for knowledge in post test among health care providers were +74.83 and 9.82 respectively. The standard errors for knowledge between pre and post test were 1.501 and 1.793 respectively. The Paired 't' test value for knowledge between pre and post test was 18.293, when compare to table value 2.05, it is high.

Section- VI
Correlation between knowledge and attitude regarding IMNCI among Health Care Providers. The Mean value of knowledge and attitude in post test was 14.766 and 39.533 respectively. The correlation of knowledge and attitude in pre test was 0.970 which were statistically significant at p<0.05. The above results concluded that knowledge and attitude among health care providers were having highly positive correlation.

Section-VII
Association between post test level of Knowledge scores regarding IMNCI among Health Care Providers with their Demographic Variables. The association between the knowledge scores of Age in years **(X² =0.655)**, Gender **(X² = 0)**, Professional Qualification **(X² = 0.377)**, Total years of Experience **(X² = 5.682)**, Sources of Information **(X² = 0.545)**, Worked in Children ward **(X² =0.545)** except Age, Gender and Professional qualification all were statistically significant at the level p<0.05.

Section-VIII
Association between the post test level of Attitude scores regarding IMNCI among Health Care Providers with their Demographic Variables. The association between the

Attitude scores of Age in years ($X^2 = 1.285$), Gender ($X^2 = 0$), Professional Qualification ($X^2 = 2.384$), Total years of Experience ($X^2 = 4.038$), Sources of Information ($X^2 = 5.370$), Worked in Children ward ($X^2 = 3.692$) except Sources of information and Worked in children ward all were statistically not significant at the level $p > 0.05$.

7. Discussion

The purpose of the study was to assess the Pre and Post test level of knowledge and attitude regarding IMNCI among Health Care Providers, to compare the effectiveness of Structured Teaching Programme on knowledge and attitude regarding IMNCI among Health Care Providers between Pre and Post test scores, to correlate the level of knowledge and attitude IMNCI among Health Care Providers and to find the association between post test level of knowledge and attitude regarding IMNCI among Health Care Providers with their selected demographic Variables.

The study was Quantitative research study and thirty (30) samples were selected by using Purposive sampling technique. Demographic Variables include age, gender, professional qualification, total years of experience, and Sources of information about IMNCI and worked in children ward. The study was conducted in selected Primary Health Centers, Guntur, Andhra Pradesh. The tool used for data collection was Structured Questionnaire which contains thirty (30) multiple choice questions for assessing knowledge and Likert five (5) point rating scale which includes twenty (20) statements were used for assessing attitude of Health Care Providers in selected Primary Health Centers.

Under-five deaths are increasingly concentrated in sub-Saharan Africa and Southern Asia, while the proportion in the rest of the world dropped from 32% in 1990 to 18% in 2013. Children in sub-Saharan Africa are more than 15 times more likely to die before the age of five than children in developed regions. About half of under-five deaths occur in only five countries: China, Democratic Republic of the Congo, India, Nigeria and Pakistan. India (21%) and Nigeria (13%) together account for more than a third of all under-five deaths.

In India, common illnesses in children under 3 years of age include 27% of children suffering from fever, 17% of acute respiratory infections, 13% of diarrhea and 43% of malnutrition. The Infant Mortality Rate continues to be high at 68/1000 live births and Under Five Mortality Rate at 95/1000 live births per year -National Family Health Survey IInd. Neonatal mortality contributes to over 64% of infant deaths and most of these deaths occur during the first week of life[11.] The current level of immunization according to health survey 2000 for infants are for measles - 56, DPT - 64, polio -72, BCG -73 and the target to achieve according to national population policy (2000 - 2010) is NIL. To achieve this target there is a great need to use Integrated Management of Neonatal and Childhood Illness and utilize it carefully.

Community Health Care Providers are an integral part of many healthcare systems. Their roles vary and include both the socially oriented tasks of natural helpers and specific constrained tasks of health extenders. As natural helpers, community health workers play an important role in connecting public and primary care to the communities that they serve. The awareness of health care provider about health, disease and preventive services is a barometer by which we can measure the progress of the family, the community and the country. Lack of awareness can lead to improper utilization of health services which are available in the society.

Based on research studies, the researcher felt that, though the government has initiated many health programmes in order to reduce the illnesses related to Under five (5) age group, still the cases are being reported. Health care worker having significant health awareness will take up the responsibility in increasing the standards of living in terms of individual, family, community, society, country. Healthy practices adopted by the individual can raise the healthy living condition thereby lessens the morbidity and mortality of under five children. The Researcher is interested to bring forth a difference at least among the lives of handful of children by providing relevant teaching to the health care providers which brings down the incidence of severe diseases among the under five children.

8. Conclusion

The overall findings of the study shown that in pre test majority 26 (86.66%) were had Inadequate Knowledge, 4 (13.33%) were had moderate adequate knowledge but none of them had adequate knowledge. Where as in post test majority 22(73.3%) were had adequate knowledge and 8(26.66%) were had moderate adequate knowledge. Regarding level of attitude, the study shown that in pre test majority 22 (73.33%) were had Unfavorable attitude, 8 (26.66%) were had Neutral attitude and none of them had Favorable attitude. Where as in post test majority 26 (86.66%) were had Favorable attitude and 4 (13.33%) were had Neutral attitude.

9. Recommendations

- Same study can be conducted for a large sample.
- Similar study can be conducted in various settings.
- Other experimental studies can be conducted to improve Integrated Management of Neonatal and Childhood Illness.
- Comparative studies can be conducted regarding IMNCI among Health Care Providers.

10. Limitations

- The findings of the study cannot be generalized to entire Guntur.
- The self report information given by the participants was assumed to be accurate.

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