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ASSESSING PROFICIENCY AND IMPLEMENTATION OF INTEGRATED NEONATAL & CHILDHOOD ILLNESS MANAGEMENT AMONG STAFF NURSES

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ABSTRACT

The World Health Organization (WHO) has established the Integrated Management of Newborn and Childhood Illness (IMNCI) method as a cornerstone in the effort to significantly reduce morbidity and mortality rates among newborns and children. The successful implementation of IMNCI is contingent upon having skilled healthcare professionals who can provide critical referrals and high-quality care to sick infants and children. A recent study conducted at SRM MCH and RC Kattankulathur. assessed the understanding of IMNCI among staff nurses. Utilizing a structured knowledge questionnaire, data were collected from 100 nurses selected through convenience sampling in a quantitative descriptive cross-sectional design. The results revealed alarming deficiencies in knowledge: 78% of the nurses demonstrated poor understanding, 22% had intermediate knowledge, and not a single nurse achieved an adequate level of comprehension. This stark reality highlights a profound knowledge gap that can no longer be ignored. Given the pivotal role that IMNCI plays in enhancing child healthcare, it is imperative that nursing staff receive urgent and targeted training as well as capacity-building programs. Furthermore, statistical analysis indicated no significant correlation between knowledge levels and demographic characteristics ($p<0.05$), emphasizing that the need for improvement transcends background factors. To bridge this critical knowledge gap, the study underscores the necessity for ongoing professional development and proactive policy measures. Strengthening IMNCI training for healthcare professionals is not just beneficial—it is essential for improving survival rates and health outcomes for our most vulnerable population: newborns and children. It's time to prioritize this urgent need and invest in the future of child health.

INTRODUCTION

Child mortality is a critical global health crisis, with approximately ten million children, including four million newborns, losing their lives each year. This alarming statistic highlights the urgent need to prioritize reducing newborn and neonatal mortality, a goal that has fueled international initiatives like the Millennium Development Goals. Among these initiatives, the fourth MDG, as noted by Joshi P. and Vatsa M. (2014), aimed to achieve a two-thirds reduction in under-five mortality rates between 1990 and 2015.Despite significant efforts, infant mortality rates remain unacceptably high, signaling an urgent call for more effective interventions.

Tackling childhood illnesses requires a holistic and integrated approach, rather than merely addressing individual diseases. According to Thakur N, Litt M, & David D. A. (2020), children frequently arrive at healthcare facilities presenting with overlapping symptoms, making it challenging to achieve accurate diagnoses and effective care. To overcome these obstacles, child health programs must emphasize comprehensive well-being for children rather than isolating individual ailments. In response to this pressing need, the World Health Organization (WHO) and UNICEF developed the Integrated Management of Neonatal and Childhood Illness (IMNCI) strategy in the mid-1990s.

IMNCI is designed to empower healthcare providers, particularly staff nurses, to enhance the quality of care for sick infants and children across both primary and secondary healthcare levels. Research by Thakur N, Litt M, and David D. A. (2007, 2020) has shown that increased IMNCI training for healthcare professionals has led to improved referral systems and healthcare delivery at first-level institutions. Given the pivotal role staff nurses play in the care of ill children, it is essential that we thoroughly assess their knowledge and application of IMNCI protocols to drive better pediatric health outcomes.

The prevalence of preventable childhood illnesses starkly emphasizes the need for the IMNCI approach. For instance, Mishra (2008) reported that pneumonia was the second leading cause of death among children under five in India in 2017, accounting for 14% of all child deaths. Similarly, Patwari (2002) indicated that diarrhea was responsible for 13% of annual pediatric fatalities in India, making it the third-leading cause of child mortality. These figures highlight the critical necessity for enhancing IMNCI implementation among healthcare workers, especially the staff nurses who tirelessly care for our most vulnerable population.

The impetus for this study is derived from the rising demand for skilled healthcare providers who can adeptly apply IMNCI standards. By evaluating the knowledge and implementation of IMNCI among staff nurses, we can pinpoint training gaps and devise more effective interventions and evidence-based policy decisions. Understanding the impact of IMNCI training within clinical settings is paramount for elevating the overall quality of newborn and childhood disease management.

In conclusion, this study is essential for examining the readiness of staff nurses to adopt IMNCI protocols effectively and ensuring their capacity for managing neonatal and childhood illnesses. By identifying areas that need improvement, this research holds the potential to bolster healthcare systems and, ultimately, reduce child mortality rates. Strengthening IMNCI implementation among healthcare practitioners is not just necessary—it is a crucial step towards achieving sustainable reductions in childhood morbidity and mortality on a global scale. Let's invest in our healthcare workforce and secure a healthier future for our children.

OBJECTIVES

1. To evaluate the proficiency of staff nurses in the comprehensive management of neonatal and pediatric illnesses and analyze their understanding of IMNCI protocols.
2. To examine the correlation between staff nurses' knowledge of Integrated Management of Neonatal and Childhood Illnesses (IMNCI) and their demographic characteristics.

HYPOTHESIS

H1: There is a significant difference in the proficiency and understanding of Integrated Management of Neonatal and Childhood Illnesses (IMNCI) among staff nurses.

H2: There is a significant correlation between staff nurses' knowledge of Integrated Management of Neonatal and Childhood Illnesses (IMNCI) and their demographic characteristics.

MATERIALS AND METHODS

A quantitative, descriptive research design was employed to evaluate staff nurses' understanding of the Integrated Management of Neonatal and Childhood Illnesses (IMNCI) at SRM General Hospital in Kattankulathur, Chennai. A total of 100 staff nurses were selected through non-probability convenience sampling. Data collection was structured into two sections: Section A gathered important demographic information, while Section B consisted of 21 multiple-choice questions designed to assess knowledge of IMNCI. Standardized questionnaires were used to ensure reliability,

and ethical approval was secured prior to initiating data collection.This research aims to identify knowledge gaps and inform targeted training, ultimately enhancing care for our most vulnerable pediatric patients.

DATA COLLECTION PROCEDURE:

The Dean of SRM College of Nursing, as well as the Medical Superintendent of SRM General Hospital, both formally granted their consent and formal authorization. 100 staff nurse were chosen for the study using convenient non-probabilistic sampling approaches. The participants gave their consent. There was a guarantee of answer confidentiality.a structured questionnaire was used Based on the objectives of the questionnaire, the gathered data was categorized, arranged, tabulated, and examined.

TOOL DESCRIPTION

The tool was created by incorporating a variety of sources, including books, journals, periodicals, and the internet.

PART 1: Demographi information encompasses the following: age, gender, area of working, religion, education, type of family, previous source of information.

PART 2: A survey that is organized to assess the knowledge of IMNCI. It consisted of 21 Questionnaire. correct answer was given "1" mark and wrong answer was given "0" mark. The total score will be

SCORING

S.No	Members	Percentage	Level of knowledge
1	35	<50%	Inadequate knowledge
2	50	51-75%	Moderately adequate knowledge
3	5	>75%	Adequate knowledge

ETHICAL CONSIDERATION

The research was approved by the SRM College of Nursing's Institutional Ethics Committee. Prior to collecting any data, we made sure to get the staff nurse' consent. No staff nurse who took part in the study suffered any negative effects. The staff nurse were informed of the study's findings.

DATA COLLECTION PROCEDURE:

The Dean of SRM College of Nursing, as well as the Medical Superintendent of SRM General Hospital, both formally granted their consent and formal authorization. 100 staff nurse were chosen for the study using convenient non-probabilistic sampling approaches. The participants gave their consent. There was a guarantee of answer confidentiality.a structured questionnaire was used Based on the objectives of the questionnaire, the gathered data was categorized, arranged, tabulated, and examined.

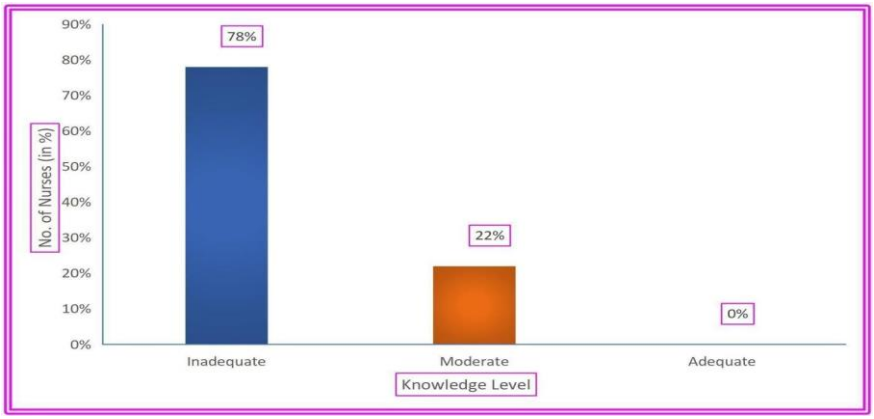
RESULT

Table 1: Distribution of demographic factors in terms of frequency and percentage of staff nurse.

S. No.	Demographic Variables	Class	No. of Nurses	Percenta ge
		21-25	17	17%

1	Age (in years)	26-30	21	21%
		31-35	38	38%
		35 and above	24	24%
2	Gender	Male	55	55%
		Female	45	45%
3	Area of working	Ward	15	15%
		OT	16	16%
		ICU	32	32%
		OPD	20	20%
		Emergency/ Casualty	17	17%
4	Religion	Hindu	33	33%
		Muslim	28	28%
		Christian	39	39%
		Others	0	0%
5	Education	DGNM	39	39%
		B.Sc. Nursing	28	28%
		M.Sc. Nursing	33	33%
6	Type of Family	Nuclear	54	54%
		Joint	46	46%
7	Previous source of information regarding IMNCI	Friends & Peer	50	50%
		Health Personnel	50	50%

From the table 1 it can be inferred that The age distribution indicated that 17% of the nurses fell within the 21-25 year range, 21% were in the 26-30 year range, 38% were aged 31-35 years, and 24% were 35 years or older. The sample exhibited a nearly balanced gender distribution, comprising 55% males and 45% females.



The nurses worked in various areas, including wards (15%), operation theaters (16%), intensive care units (32%), outpatient departments (20%), and emergency/casualty departments (17%). The majority of the nurses (39%) were Christians, followed by Hindus (33%) and Muslims (28%). In terms of education, 39% of the nurses held a Diploma in General Nursing and Midwifery (DGNM), 28% held a BSc. Nursing and 33% held a MSc. Nursing. The nurses came from both nuclear (54%) and joint families (46%). Regarding their previous information about Integrated Management of Neonatal and Childhood Illnesses (IMNCI), 50% of nurses reported friends and peers as their primary source, while another 50% reported health personnel as their primary source.

Fig -1 illustrates that the assessment of the staff nurses' knowledge level regarding integrated management of neonatal and childhood illnesses (IMNCI) revealed that A significant majority, 78%, of the staff nurses demonstrated inadequate knowledge, while 22% showed moderate knowledge. Notably, none of the staff nurses, 0%, possessed adequate knowledge regarding IMNCI, highlighting a significant knowledge gap.

Table:2 Association Between The Demographic Variables And The Level Of Knowledge

S. No.	Demographic Variables	Class	Knowledge Level		Chi-Squre Value	Df	P Value
			Inadequate	Moderate			
1	Age (in years)	21-25	15	2	2.961	3	0.398
		26-30	17	4			
		31-35	30	8			
		35 and above	16	8			
		Male	44	11			

2	Gender	Female	34	11	0.285	1	0.594
3	Area of working	Ward	14	1	4.042	4	0.400
		OT	13	3			
		ICU	22	10			
		OPD	15	5			
		Emergency/ Casualty	14	3			
4	Religion	Hindu	26	7	1.090	2	0.580
		Muslim	20	8			
		Christian	32	7			
5	Education	DGNM	32	7	3.814	2	0.149
		B.Sc. Nursing	24	4			
		M.Sc. Nursing	22	11			
6	Type of Family	Nuclear	41	13	0.294	1	0.587
		Joint	37	9			
7	Previous source of information regarding IMNCI	Friends & Peer	40	10	0.233	1	0.629
		Health Personnel	38	12			

The study found a significant knowledge gap among staff nurses addressing Integrated Management of Neonatal and Childhood Illnesses (IMNCI), with 78% exhibiting inadequate knowledge, 22% demonstrating intermediate knowledge, and none (0%) holding adequate knowledge. This emphasizes the urgent need for focused training and educational interventions to enhance IMNCI expertise. A statistical study of demographic characteristics,

including age, gender, area of work, religion, education, type of family, and past sources of IMNCI information, revealed p-values ≥ 0.05, indicating no significant association at the 5% level. This implies that knowledge deficits are unaffected by demographic characteristics, highlighting the importance of a structured and universal IMNCI training approach for all staff nurses. The lack of correlation emphasizes the significance of adopting comprehensive educational programs to close this important gap and improve neonatal and pediatric healthcare delivery.

DISCUSSION AND JUSTIFICATION:

The findings of this study indicate a considerable knowledge gap among staff nurses regarding Integrated Management of Neonatal and Childhood Illnesses (IMNCI), which is consistent with the study's goal of evaluating their proficiency in neonatal and pediatric care. The data revealed that 78% of staff nurses lacked appropriate understanding, 22% had intermediate knowledge, and none (0%) had adequate knowledge, highlighting the critical need for improved IMNCI training and awareness programs. This is consistent with Nkosi Z. (2007)'s findings, which claimed that despite significant efforts to reduce infant mortality, healthcare staff, particularly nurses, frequently lack adequate IMNCI competence, limiting the effectiveness of neonatal and pediatric care initiatives.

The study found no significant relationship ($p > 0.05$) between IMNCI knowledge and demographic variables such as age, gender, occupation, education, religion, family type, and prior information sources. This demonstrates that knowledge deficits are not the result of individual backgrounds, but rather of systematic deficiencies in training and professional growth. Thakur N., Litt M., and David D. A. (2020) found similar results, suggesting that rigorous IMNCI training greatly enhances nurses' clinical decision-making, but in its absence, healthcare practitioners struggle with the early detection and management of newborn and childhood disorders.

Given that pneumonia and diarrhea remain leading causes of childhood death, as highlighted by Mishra (2008) and Patwari (2002), staff nurses' lack of understanding is a serious public health concern. According to research, effective IMNCI training can reduce child mortality by 30%-50%, highlighting the necessity of hospital-based capacity-building programs to improve nurses' competency in neonatal and pediatric care. Joshi P. and Vatsa M. (2014) discovered that healthcare staff who are trained in IMNCI have better patient outcomes, decreased referral rates, and better case management.

The study stresses the need of systematic IMNCI training programs in helping staff nurses recognize, diagnose, and manage newborn and pediatric diseases successfully. As WHO and UNICEF advocate for the widespread use of IMNCI approaches, healthcare institutions must combine continuous education, skill-based training, and frequent assessments to close the current knowledge gap. Improving nurses' proficiency in IMNCI will not only boost child survival rates, but will also contribute to long-term reductions in neonatal and pediatric mortality.

The goal of this study was to examine the connection between the demographic characteristics of staff nurses and their understanding of Integrated Management of Neonatal and Childhood Illnesses (IMNCI). The findings revealed a striking gap in IMNCI proficiency: 78% of staff nurses possessed inadequate knowledge, 22% had an intermediate level of understanding, and alarmingly, none demonstrated adequate knowledge. Furthermore, statistical analysis indicated that IMNCI knowledge did not significantly correlate with demographic factors such as age, gender, occupation, education, religion, family type, or previous sources of information ($p > 0.05$). This underscores a pressing concern that knowledge gaps are widespread and not influenced by specific demographic characteristics, highlighting the urgent need for structured training programs for all nursing personnel.

These findings align with the research of Thakur N., Litt M., and David D. A. (2020), which concluded that formal training is the primary driver of healthcare workers' understanding and application of IMNCI, rather than demographic factors. Additionally, Nkosi Z. (2007) found that many nurses lack standardized IMNCI training, leading to significant gaps in disease management and detection, despite advancements in newborn and pediatric healthcare. The absence of a meaningful relationship between knowledge levels and demographic traits indicates a critical need for organized learning interventions to boost IMNCI awareness—knowledge that cannot be gained solely through formal education or experience.

Further supporting this need, research by Mishra (2008) and Patwari (2002) highlights that diarrhea and pneumonia remain leading causes of infant mortality in India. A lack of awareness regarding IMNCI among healthcare professionals contributes to inadequate case management and delays in crucial interventions. In contrast, Joshi P. and Vatsa M. (2014) reported that nurses trained in IMNCI demonstrate significantly better skills in early diagnosis and intervention, effectively reducing child mortality rates.

LIMITATIONS

i)Study period is limited to one week only. ii)Limited time to conduct the study might result in less in-depth data collection. iii)Sample size is limited to 100 (single group). iv) Only staff nurses who is in SRMGH. v) Staff nurses who can understand and speak Tamil or English.

RECOMMENDATION

The study's conclusions prompt the following recommendations. ii)You can conduct a comparable study in a different setting and with a different demographic. iii)Comparative research can assess healthcare professionals' understanding of integrated management of newborn and childhood illness. iv)Replicating the study is possible with a large sample size. v) It is possible to conduct an experimental study or a similar study using a time series design

CONCLUSION

The study highlights a critical knowledge gap among staff nurses regarding Integrated Management of Neonatal and Childhood Illnesses (IMNCI), with a majority (78%) exhibiting inadequate knowledge and none demonstrating adequate proficiency. Furthermore, the absence of a significant correlation ($p \geq 0.05$) between IMNCI knowledge and demographic variables reinforces that knowledge levels are not inherently influenced by age, gender, education, or experience, but rather by the availability of structured training programs. These findings underscore the urgent need for standardized, hospital-based IMNCI education initiatives, ensuring that all nurses, regardless of their background, acquire the essential competencies to manage neonatal and pediatric illnesses effectively. Given that preventable childhood diseases such as pneumonia and diarrhea remain leading causes of mortality, strengthening IMNCI training is imperative for enhancing child survival rates and improving overall healthcare outcomes. By integrating continuous education, skill-based workshops, and periodic assessments, healthcare institutions can bridge this knowledge gap, empowering nurses to deliver high-quality, evidence-based neonatal and pediatric care that aligns with global child health priorities.

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