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Research Article

**STUDY TO DETERMINE THE KNOWLEDGE OF
INTEGRATED MANAGEMENT OF NEONATAL AND CHILD
ILLNESS (IMNCI) AMONG FINAL YEAR MEDICAL
STUDENTS**¹Dr Farwa Sarwar, ²Dr Fatima Tariq, ³Dr Muhammad Rizwan¹Multan Medical & Dental College, Multan²Sheikh Zaid Medical College, Rahim Yar Khan³Quaid.e.Azam Medical College, Bahawalpur**Article Received:** October 2020 **Accepted:** November 2020 **Published:** December 2020**Abstract:**

Objective: To assess and compare the knowledge of the Integrated Disease Management of Newborns and Children (IMNCI) of final year medical students from Nishtar Medical University, Multan.

Method: A cross-sectional survey of knowledge, attitudes and practice (KAP) was conducted at Nishtar Medical University, Multan using a self-filled questionnaire with 20 questions. 240 were selected for the sample, of which 184 students responded positively. The mean age of the students was $M = 22.9$ ($SD = 0.88$). Basic knowledge was defined when students answered correctly to at least half of the questions, and partial knowledge - as those who can correctly answer at least one option. The data was analyzed using SPSS 17. The study started in November 2018 and was completed by November 2019.

Result: Among the respondents, 80.4% of students had basic knowledge (the ability to correctly answer 50% or more questions) about IMNCI. The basic substantive knowledge was greater in public sector universities than in private sector universities.

Conclusions: The hypothesis that over 50% of students will have basic knowledge about IMNCI has been confirmed. It was shown that students had relatively greater knowledge; however, more students have partial knowledge than complete knowledge. Although the basic knowledge was found to be greater in students.

Keywords: students, medicine; Child; Child, kindergarten; Knowledge, skills,

Corresponding author:**Dr. Farwa Sarwar,**

Multan Medical & Dental College, Multan

QR code



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INTRODUCTION:

Worldwide, about 10 million children die each year, including 4 million newborns. Most preventable child deaths occur in low-income developing countries. Pakistan, a low-income country with persistently low infant and child health rates, ranked 43rd among countries with high child mortality. Pakistan is responsible for seven percent of global newborn deaths, and infant mortality is 57 per 1,000 live births⁹. While Pakistan ranked third in Asia for under-five mortality with 1,100 deaths a day, more than six out of ten were in the neonatal period. A child is said to die every minute of EPI disease, diarrhea, and acute respiratory infection. Millennium Development Goal 4 (MDG-4) is a commitment to reduce the mortality rate of children under 5 by two-thirds between 1990 and 2015. To achieve MDG-4, a significant reduction in child mortality, especially neonates (38% of all deaths of children under five) in high-mortality countries. Significant reductions in under-five mortality can be achieved by providing personalized clinical care, especially for neonates. While individual intervention and enhanced medical care, such as immunization, oral rehydration, and antibiotics have been hugely successful, most children present with overlapping signs and symptoms of disease, and final diagnosis can be difficult to establish and treat. Evidence shows that more integrated support is needed to be successful. To improve conditions, WHO and UNICEF introduced the Integrated Child Disease Management Strategy (IMCI) in 1992, followed by the IMNCI program, which aims to improve the survival of children and newborns through the provision of personalized care. Since 1998, the Government of Pakistan has adopted these strategies as national guidelines to improve the health of infants and children nationwide. Healthcare personnel, especially those serving in the rural primary care sector, have been trained in IMNCI clinical case management, but there have been minor changes to this. No studies have been conducted on IMNCI in Pakistan in the last few years. We conducted this research on fifth-year medical students who are future doctors in our country. Knowledge of IMNCI is essential as children under the age of 5 make up a large proportion of the population and are most susceptible to disease. There is a high burden of disease in this age group. Therefore, we need an integrated approach to managing such cases. Assessing the knowledge of final year medical students will help us identify areas for improvement in the medical curriculum and its implementation.

METHOD:

The survey questionnaire was developed to assess aspects of Integrated Infant Disease Management (IMNCI) that are important for diagnosis and treatment by GPs. Awareness of the major causes of child mortality under 5 years of age was considered important for the assessment as they include major child killings such as acute respiratory infections, diarrhea, measles, malaria and malnutrition (options included in the questionnaire are SIDS, ARI, measles, brain) and pneumonia). These causes are again divided into 2 broad groups, infants under 2 months of age and children from 2 months to 5 years of age. The main symptoms seen in infants younger than 2 months of age are bacterial infection, jaundice, dehydration and diarrhea. In contrast, symptoms checked in children 2 months to 5 years of age include fever, pneumonia, ear infection, sore throat, diarrhea, anemia and malnutrition. The questionnaire also attempted to assess knowledge of an important component of IMNCI protocols for deficiency checking, laboratory testing and counseling. The deficiency checked in the 2 months to 5 years age group was vitamin A, which was included in the survey which also included other abnormal options (calcium, iron, sodium, and vitamin D). Under the IMNCI protocol, the order doctors follow when assessing infants up to 2 months of age includes history taking, checking for bacterial infection / jaundice, checking for diarrhea, assessing any feeding / malnutrition problems, vaccinations, and finally assessing other problems. Knowledge of the laboratory tests assessed in the questionnaire included those that were routinely checked, including hemoglobin and packed cell volume, blood glucose, blood smear for malaria, microscopy for cerebrospinal fluid and urine, blood grouping, and cross-comparison (options listed on the questionnaire included hemoglobin and clustered cell volume, blood glucose, blood grouping and cross-matching, detailed urine report (DR), and complete blood count). The number of 240 samples was calculated using the online sampling calculator. The purpose of the study was explained to the students. Persons agreeing to participate were asked to complete a questionnaire for self-completion. The students were allowed to remain anonymous. The questionnaire consisted of 20 questions, the first of which was intended to identify those who had never heard of IMNCI and therefore could not be expected to answer further details on the subject. Participants included both those who answered yes and no to the question regarding any IMNCI knowledge. Eleven questions related to the assessment of awareness of basic knowledge about IMNCI, and seven questions

related to detailed content on IMNCI and childhood diseases. Data were analyzed using SPSS 17.0.

RESULTS:

In the sample of 240; 225 questionnaires were completed (93.7% response rate). Among the respondents, the percentage of men was 36.9% (N = 83), and of women 63.1% (N = 142). The age ranged

from 20 to 26 years, the mean age was 22.9 (SD + 0.88), and the mode was 23 years. A wise analysis of the questions is presented below, with a summary of the responses to the awareness of the basic knowledge and specific content of public and private sector students, presented in Tables 1 and 2 respectively.

TABLE 1: Awareness of Basic Knowledge Regarding IMNCI

	Public (%)	Private (%)
Full form of IMNCI (Q2)	77.8	77.6
Practised IMNCI in clinical rotations (Q4)	39.3	55.2
Opinion about age group (Q7)	82.1	82.1
Arrange IMNCI protocol in order (Q13)	82.1	76.1
Lab investigations (Q14)	63.2	43.3
Is counselling the mother a part of IMNCI (Q15)	97.4	95.5
Does IMNCI add anything new to management of childhood illness (Q16)	75.2	70.1
Does it reduce childhood mortality (Q17)	96.6	86.6

TABLE 2: Questions Assessing Imnci Content

Content Areas	Public		Private	
	CK*	PK**	CK*	PK**
diseases included in IMNCI(Q5)	0.85	94.9	0	95.5
age groups included in IMNCI (Q6)	59.8	37.6	53.7	38.8
diseases in infants upto 2months (Q8)	14.5	57.3	10.4	61.2
symptoms inquired is infants upto 2 months (Q9)	3.41	44.4	1.5	50.7
danger signs (10)	38.5	50.4	26.9	58.2
symptoms inquired is children between 2 months and 5 year (Q11)	9.4	52.1	3	56.7
deficiencies most commonly checked for (Q12)	16.2	52.1	7.5	46.3

DISCUSSION:

This study aimed to assess the awareness of integrated disease management in newborns and children among fifth-year medical students and to compare IMNCI knowledge. Indirectly, this study aimed to identify the need to improve IMNCI teaching and training at the university level. The results of this survey showed that 80.4% (N = 181) of students had basic knowledge of IMNCI, which was assessed as to whether each student was able to answer 50% or more of the survey questions. It was shown that students of public sector universities had relatively greater knowledge, but more students had partial knowledge (they were able to answer at least one option correctly) than full knowledge. Although the basic knowledge was found to be greater in students of public sector institutes, the knowledge of IMNCI practice was correct for more students at two private universities. Overall, more than 77% of participants knew the full IMNCI form. 39.8% of participants from public sector universities believe that IMNCI is practiced in their associated clinical

hospitals, where as many as 55.2% of respondents from private institutes believe that IMNCI is practiced in their hospitals. This statement can be attributed to the lack of facilities in government hospitals compared to private hospitals. Private hospitals are also more likely to provide qualified teachers who are able to help their students practice IMNCI during pediatric rotation. The study also showed that the partial knowledge of IMNCI basics was greater in students from public universities. Aspects included the age group to which the IMNCI was applied, signs of danger, symptoms to look for, laboratory tests performed, and the most frequently tested deficiencies. Of all respondents, 158 (86.8%) named their source of knowledge as teachers (including curriculum and books), 42 (23.1%) as friends, and the rest (17.5%) through medical / scientific journals or newspapers. This is most likely due to the fact that IMNCI is only taught in medical schools. It has not yet been published as a method of practice in Pakistan. We expected over 50% of students to have basic knowledge of IMNCI; whose

result was correct. In addition, we expected students from private sector universities to have greater knowledge of IMNCI; our results show greater knowledge of students from public sector institutes. This disproportion may be due to the fact that the curriculum of public-sector universities places greater emphasis on IMNCI than private universities. One explanation may also be that public sector universities use didactic teaching methods and the teacher provides most of the information, while two private sector universities emphasize independent learning with problem-based learning. Pakistan has poor health reforms which, combined with low socioeconomic conditions, results in high incidence and mortality in newborns and children (the most vulnerable age group). Increased knowledge among students will lead to a better implementation of the IMNCI protocol, which will directly reduce morbidity and mortality in the future. In short, implementing IMNCI can improve the knowledge and practice of healthcare professionals. In order to achieve the desired health benefits of the child, all its elements must be implemented simultaneously with adequate protection.

CONCLUSION:

The study showed that students of public sector universities had relatively greater knowledge, but more students had partial knowledge (were able to correctly answer at least one option) than full knowledge. Although the basic knowledge was found to be greater in students of public sector institutes.

REFERENCES:

1. Ishaq, Fouzia, Summaira Naveed Hasnain Abid, Asma Anwar, Tayyaba Rahat, Rashid Mahmood, and Muhammad Rafique. "Assessment of Knowledge Regarding IMNCI among Final Year Medical Students of Fatima Jinnah Medical University."
2. Kartikeyan, Sundaram, and Aniruddha A. Malgaonkar. "Case-based learning in integrated management of neonatal and childhood illness." *International Journal of Contemporary Pediatrics* 6, no. 3 (2019): 1163.
3. Abebe, Ayele Mamo, Mesfin Wudu Kassaw, and Fikir Alebachew Mengistu. "Assessment of Factors Affecting the Implementation of Integrated Management of Neonatal and Childhood Illness for Treatment of under Five Children by Health Professional in Health Care Facilities in Yifat Cluster in North Shewa Zone, Amhara Region, Ethiopia." *International journal of pediatrics* 2019 (2019).
4. Meaney, Peter Andrew, Christine Lynn Joyce, Segolame Setlhare, Hannah E. Smith, Janell L. Mensinger, Bingqing Zhang, Kitenge Kalenga et al. "Knowledge acquisition and retention following Saving Children's Lives course for healthcare providers in Botswana: a longitudinal cohort study." *BMJ open* 9, no. 8 (2019): e029575.
5. Reñosa, Mark Donald, Sarah DalGLISH, Kate Bärnighausen, and Shannon McMahon. "Key challenges of health care workers in implementing the integrated management of childhood illnesses (IMCI) program: a scoping review." *Global health action* 13, no. 1 (2020): 1732669.
6. Gintamo, Binyam, Mohammed Azhar Khan, Henok Gulilat, Zeleke Mekonnen, Rakesh Kumar Shukla, and Tabarak Malik. "A Facility-Based Cross-Sectional Study on the Implementation of the IMNCI Program in Public Health Centers of Soro District, Hadiya Zone, Southern Ethiopia." *Pediatric Health, Medicine and Therapeutics* 11 (2020): 399.
7. Chaturvedi, Gargi, K. M. Adhikari, and Rony Chakravarty. "Assessment of Maternal awareness on danger signs in neonates and infants." *Praxis Undergraduate Medical Research Journal* 2, no. 1 (2019): 33-36.
8. Hailemariam, Solomon, Yabibal Gebeyehu, Eskindir Loha, Kjell Arne Johansson, and Bernt Lindtjørn. "Inadequate management
9. Seid, S. S., E. G. Sendo, T. K. Haso, and S. Amme. "Utilization of Integrated Management of Neonatal and Childhood Illness (IMNCI) Guidelines and Associated Factors among Nurse at Public Health Institutions in West Arsi Zone, South East Ethiopia." *Clinics Mother Child Health* 16, no. 313 (2019): 2.
10. Bessat, Cécile, Noël Adannou Zonon, and Valérie D'Acremont. "Large-Scale implementation of electronic integrated management of childhood illness (eIMCI) at the primary care level in Burkina Faso: a qualitative study on health worker perception of its medical content, usability and impact on antibiotic prescription and resistance." *BMC public health* 19, no. 1 (2019): 449.
11. Tawfiq, Essa, Sayed Ali Shah Alawi, and Kayhan Natiq. "Effects of training health workers in integrated management of childhood illness on quality of care for under-5 children in primary healthcare facilities in Afghanistan." *International Journal of Health Policy and Management* 9, no. 1 (2020): 17.
12. Abu-Shaheen, Amani, Isamme AlFayyad, Muhammad Riaz, Abdullah Nofal, Abdulrahman AlMatary, Anas Khan, and Humariya Heena. "Mothers' and caregivers' knowledge and

- experience of neonatal danger signs: a cross-sectional survey in Saudi Arabia." *BioMed research international* 2019 (2019).
13. Mathur, Manu Raj, and K. Srinath Reddy. "Child health policies in India: moving from a discernible past to a promising future." (2019): 520-522.
 14. Bazie, Getaw Walle, Nebat Seid, and Bitiya Admassu. "Determinants of community acquired pneumonia among 2 to 59 months of age children in Northeast Ethiopia: a case-control study." *Pneumonia* 12, no. 1 (2020): 1-10.
 15. Ramachandra, Geethanjali, Ellen S. Deutsch, and Vinay M. Nadkarni. "A Road Map for Simulation Based Medical Students Training in Pediatrics: Preparing the Next Generation of Doctors." *Indian Pediatrics* 57, no. 10 (2020): 950-956.