KAP STUDY

Appraisal of Knowledge, Attitude and Practices of Trained Doctors Regarding IMNCI

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ABSTRACT

Background: It is estimated that more than 6 million children die in the developing world at the hands of preventable conditions; primarily pneumonia and diarrhea. WHO in 1992 initiated the Integrated Management of Childhood Illness (IMCI) program as a strategy to provide an integrated approach for the management of major causes of childhood morbidity and mortality.

Objective: To assess if IMNCI workshops that are held in hospitals that have post graduate training program in field of pediatrics are effective in enhancing knowledge; hence skills for improving health care delivery in limited resources.

Methods: A KAP survey was conducted in 2013 among IMNCI trained doctors working in 5 tertiary care hospitals of Karachi. N=57 doctors were identified and administered a structured questionnaire based on recall questions and scenarios. Questionnaire was developed from a similar study conducted elsewhere. Data entry and analysis was done on SPSS version 20.

Results: A total of n=57 doctors were included in the study, out of them resident medical officers (RMO) were n=10, postgraduate trainees (PG) n=38 and Medical Officers (MO) were n=9. Mean score of correct answers was 14 (3). No significant difference was observed when mean scores of PGs was compared with RMO and MO combined through application of Independent sample t test.

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Conclusion: The study revealed gaps in knowledge and practices of trained doctors regarding management according to IMNCI guidelines.

KEY WORDS: *IMNCI, Vaccination, WHO, Training Programs.*

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INTRODUCTION

The efforts of the world have been directed at the control of infant and child mortality for the past few decades. The main focus in this regard has been to control the burden of infectious disease as it accounts for over two thirds of childhood mortality in developing countries.[1] It is estimated that more than 6 million children die in the developing world at the hands of preventable conditions; primarily pneumonia and diarrhea.[2] Pakistan ranks third in under-five mortality among Asian countries, with a significant portion of neonatal deaths.[3] The millennium development goals (MDG 4) set by the United Nations also called for a two third reduction in infant and childhood mortality by 2015.[4] Although most countries are progressing in this regard still the achievement of this goal may take much longer than expected. Pakistan has reduced its under-five mortality from 130 in 1990 to 89 in 2008[5]; but to achieve the MDG 4 it needs a more aggressive approach at addressing the needs of neonates and children.

WHO in 1992 initiated the Integrated Management of Childhood Illness (IMCI) program as a strategy to provide an integrated approach for the management of major causes of childhood morbidity and mortality.[6] The program was built upon successful experiences gained from effective child health interventions like immunization, oral rehydration therapy, management of acute respiratory infections and improved infant feeding. Goal of the IMNCI is to treat the patient with a comprehensive approach; incorporating preventive medicine and promotion of health in to child care and not just limiting to curative aspects of disease[7]; in this manner not only the morbidity and mortality but the frequency of disease can also be controlled.[8] The key components of IMCI are improvement of clinical case management skills of health care personnel, strengthening of health care delivery system for effective management of childhood illness and improving the family and community practices.[9]

Integrated management of Neonatal and Childhood Illness (IMNCI) is a program adapted from the IMCI program incorporating neonatal care along with child care. This adaptation was started in India and then adopted by Pakistan, keeping in mind both countries' high fraction of neonatal deaths this was a necessary step to achieve the target of reducing childhood mortality. The two additional pillars of the IMNCI program are skilled birth attendance and immunization.[10] In 1998, Pakistan started the piloting of IMCI strategy in two districts of Abbottabad and Multan. By 2012 all districts have started implementing IMCI program.[11]

Keeping in mind the aforementioned significance of IMNCI program in achieving MDG 4, we assessed the impact of IMNCI training on practicing doctors. A study by Khan R A, "Knowledge of clinical case management of IMNCI among trained and untrained health care personnel in two districts of province Punjab in Pakistan" showed knowledge difference between trained and untrained health personnel's working at Basic Health Units and Rural health centers is almost twice.[9] We conducted this study to assess if IMNCI workshops that are held in hospitals that have post graduate training program in field of pediatrics are effective in enhancing knowledge; hence skills for improving health care delivery in limited resources. Literature revealed that very little work has been done in Pakistan regarding assessment of IMNCI training and its impact on doctors. Results from this research may help in highlighting the practices of doctors in this regard and any gap between knowledge and practice.

METHODOLOGY

This cross sectional study was conducted in Karachi. The target population for our descriptive cross sectional study was doctors in Karachi who had under taken IMNCI training and were working in Pediatric departments of tertiary care setting. A total of n=57 doctors were identified from three public sector and two private sector hospitals. The study was conducted for three months. Working experience of less than 3 months in Pediatric ward was taken as the exclusion criteria. All 57 doctors were included in the study through convenience sampling technique as they fulfilled over criteria for selection. Data was collected through self administered questionnaires after taking verbal consent. Questionnaires were administered one by one and participants were requested to answer on basis of recall of previous knowledge. The questionnaire was developed after modification of an existing questionnaire from a previous study on IMCI. The questionnaire comprised of different potions i.e.; knowledge and practices regarding management of diarrhea, ARI, ear infection, malnutrition and Immunization were assessed separately using different scenarios and recall questions. Data entry and analysis was done on SPSS version 20. Descriptive analysis for categorical variables was done in frequencies and percentages. Chi square as test of significance was applied for finding association between Job title and knowledge. Independent sample t test was used to find difference in the mean scores of correct answers of postgraduate trainees and RMO and MO combined. P value less than 0.05 was taken as significant.

RESULTS

A total of n=57 doctors were included in the study, out of them resident medical officers (RMO) were n=10, postgraduate trainees n=38 and Medical Officers (MO) were n=9. Questionnaire comprised of different portions pertaining to knowledge related to diarrhea and other diseases. Mean score of correct answers was 14 (3). No significant difference was observed when mean scores of PGs was compared with RMO and MO combined through application of Independent sample t test.

When knowledge regarding diagnosis of pneumonia among children was assessed it was seen that 58% (n=33) correctly responded to it. Similar number of participants (n=33) correctly reckoned symptoms for which sick child should be evaluated. Surprisingly only 37% (n=21) participants were able to correctly identify diarrhea according to its classification. Another scenario on treatment of diarrhea revealed that 40% (n=23) had knowledge of improper management. Regarding acute ear infection 84% (n=48) correctly identified the scenario while few characterized it as Mastoiditis or chronic ear infections.

When assessed on knowledge regarding urgent referral to hospital; factors like convulsions, severe vomiting, lethargy and inability to feed got the maximum votes by the participants. In another question respondents were asked about urgency of referrals through different scenarios, most cases were correctly identified except a case of mastoiditis with no danger signs, where 51% failed to identify the case for referral. When asked if in a scenario if DPT vaccination is missed, majority 89.5% respondents (n=51) answered that it should be given as soon as the child comes in contact before age of 2 years. Persistent diarrhea was appropriately answered by 69% participants (n=33) as condition requiring revisit after 5 days according to IMNCI guidelines whereas acute ear infection (n=24) and pneumonia (n=27) were the diseases which respondents wrongly perceived demand revisits. Most participants 69% (n=39) were familiar with cut off rate for breathing among 11 month child whereas remaining 31% (n=18) had different ideas.

When information was judged on initiation of complimentary foods it was alarming to see that only 54.4% (n=31) knew the correct answer. When practices were observed regarding child presenting with cough most were correctly assessing the child for general danger signs (n=50), 32 %(n=18) immunization status, 19 %(n=11) feeding problems while milestones were seen by 16% (n=8) doctors. When asked about a case of measles respondents 75% (n=43) were more clear in identifying it correctly. Signs of severe malnutrition, severe wasting and oedema in both feet were correctly answered by n=41 (71.9%) and n=42 (73.7%) respectively. When respondents were asked to identify the dehydration status of a child with diarrhoea, n=48 (84.2%) identified lethargy, by sunken

eyes n=49 (86%) and if child is able to drink eagerly or poorly n=40 (70.2%). Regarding malnutrition and anaemia 70% (n=40) respondents were knowledgeable and affirmed that all children brought to the clinic should be checked for malnutrition and anaemia.

Respondents were given a scenario and asked what you will do if a caretaker brings an 18-month-old child with a cough to a health facility. It was correctly answered by n=50 (87.7%) asking duration of cough, n=49 (78.9%) counting breaths per min, n=49 (86%) checking for chest in drawing, n=18 (31.6%) checking for malnutrition and anaemia, n=25 (43.9%) checking for immunization status, and n=45 (78.9%) look and listen for other problems.

When knowledge regarding protocols of exclusive breast feeding according to IMNCI guidelines were assessed, 93% (n=53) said that a 3-month-old child should be exclusively breastfed, 66.5% (n=38) said that a 5-month-old child should be breastfed as often as s/he wants, day and night and 5.3% (n=3) said that children suffering from any illness should be given fewer feeds.

When given a scenario to identify acute ear infection, out of the total respondents, 65% (n=37) were able to correctly identify the case.

Table 1. Knowledge regarding the utility of IMNCI.

			RMO		PG		MO		P value
			N=10	**%**	**N=38**	**%**	**N=9**	**%**	
IMNCI guidelines are for management of	**Chronic problem**	Yes	4	40	13	34.2	4	44.4	0.827
		No	6	60	25	65.8	5	55.6	
	Malnutrition	Yes	4	40	19	50	7	77.8	0.659
		No	6	60	19	50	2	22.2	
	Acute illness	Yes	8	80	31	81.6	7	77.8	0.965
		No	2	20	7	18.4	2	22.2	
	Injury	Yes	2	20	5	13.2	4	44.4	0.101
		No	8	80	33	86.8	5	55.6	
IMNCI guidelines are used for	**IPD**	Yes	1	10	6	15.8	0	0	0.165
		No	9	90	32	84.2	9	100	
	First level facility	Yes	4	40	27	71.1	8	88.9	0.064
		No	6	60	11	28.9	1	11.1	
	Neonatal ward	Yes	9	90	38	100	9	100	0.091

		No	1	10	0	0	0	0	
	Community clinic	Yes	8	80	26	68.4	7	77.8	0.173
		No	2	20	12	31.6	2	22.2	

Figure 1. Assessment of practices of respondents with respect to counselling of mother of a sick child.

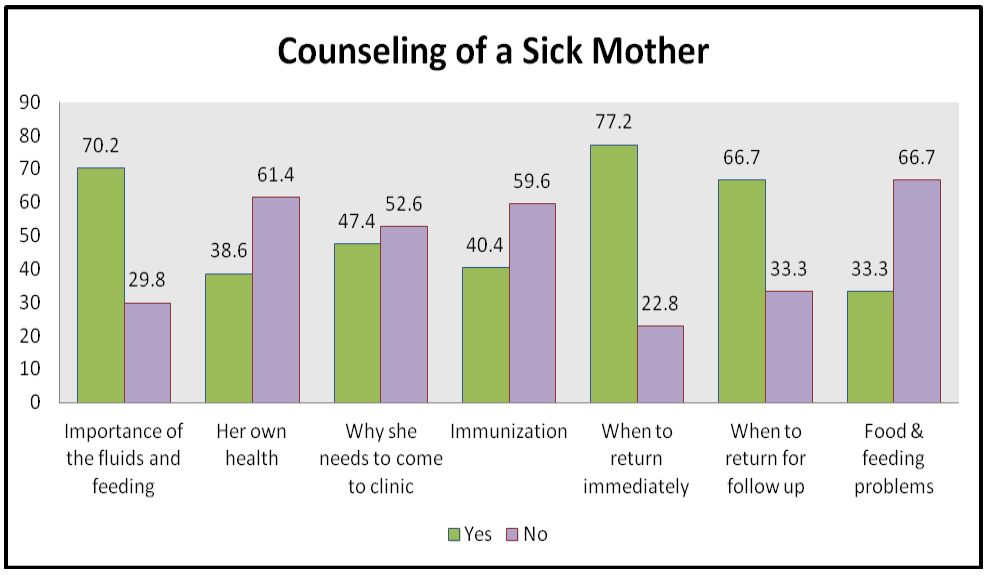
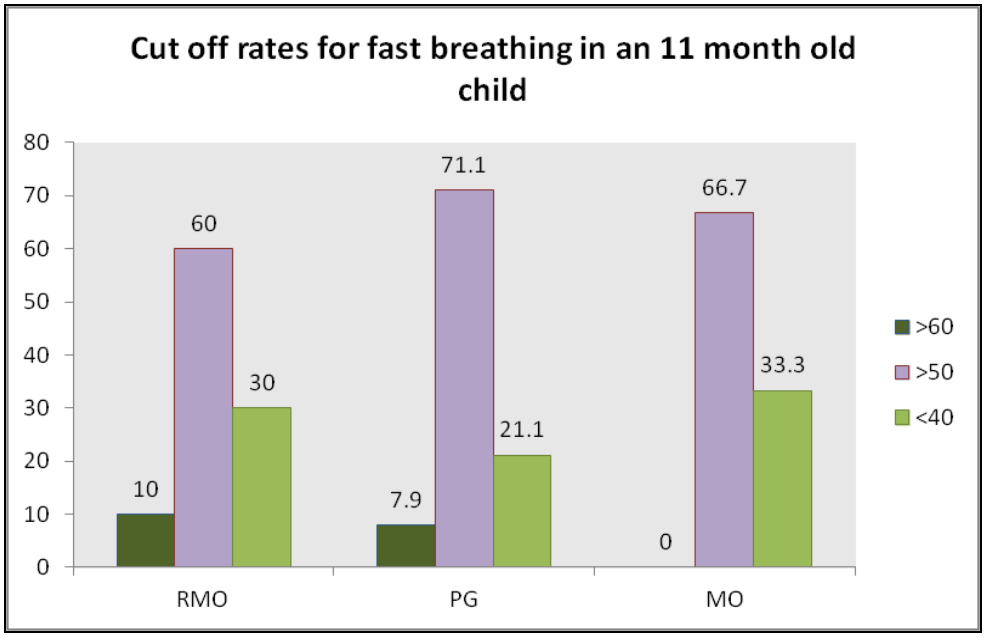


Figure 2. Knowledge of IMNCI and its association with job title (%).



DISCUSSION

Reduction in child and neonatal mortality is a major challenge for Pakistan for which the program of IMNCI holds key importance.[12] Despite nearly two decades since its inception, there is little follow up of the program that is done to review the knowledge and practices of trained professionals. In this regard, understanding the effects of IMCI program in increasing the knowledge and awareness among health care professionals remains a key area of research. This is the first such study to be conducted on the knowledge of IMNCI trained professionals in Sindh, Pakistan.

The study highlighted a gap in understanding the management guidelines of IMNCI despite training. The role of IMNCI is to appraise the child holistically assessing nutritional status along with acute illnesses. However in our study we found that not all trained personnel were aware that IMNCI guidelines include assessment of nutritional status, so there is a lack in adherence to the IMNCI guidelines. In a study conducted in Egypt it was highlighted that correct adherence to the IMNCI guidelines is imperative in achieving significant reductions in under-five mortality.[13] Mohan P et al found similar bottlenecks in training program in their study in India.[14]

The IMNCI training is a course taken by MOs, RMOs and PGs alike; in our study we found no significant difference in knowledge of the three groups of trained professionals regarding the core concepts of IMNCI. Only 58% respondents correctly identified a case of Pneumonia, similarly there was a lack of knowledge in assessment of child presenting with cough. Khan R in his study conducted among trained and untrained health care personnel in Pakistan also found poor knowledge of health care providers regarding respiratory problems in both trained and untrained groups.[9]The knowledge of danger signs and management of diarrhea was also found not promising. Since ARI and diarrhea remain the main stakeholders in infant mortality[15, 16], correct knowledge and practice in management of these cases is an imperative issue.

We found correct knowledge of immunization with >90% respondents knowledgeable of IMNCI recommendations. Since immunization is the single most cost effective strategy to reduce childhood mortality[17] so it is heartening to see a positive understanding among the respondents. K Mullei et al in their study found a deficiency in practice of IMNCI trained professionals regarding routine checkup of immunization status and weight of child.[18]

Horwood C et al found in their study that health workers regarded IMCI training empowering and helpful but found the training time inadequate. They considered the training time too short to acquire skills for all areas of IMCI.[19] Shortcomings in the awareness and practices of our doctors may be ascribed to similar factors.

The IMNCI program is set to reach every district of the country; however, we were not able to find a good number of trained pediatricians in Karachi. Even among the trained professionals there was a deficiency in knowledge especially regarding important issues like diarrhea. In light of this information we recommend that IMNCI training should be stressed as an important program among the pediatricians, especially those working in Government set ups. The number of trained personnel should increase. Along with the number, the quality of training imparted must ensure that the trained doctors know the exact IMNCI protocols and are able to treat patients with the holistic approach envisioned by the program

CONCLUSION

The survey has revealed gaps in knowledge and practices of trained doctors regarding management according to IMNCI guidelines. There is a need for refresher training workshops and symposia at regular intervals to update and reaffirm the existing knowledge. Practices need to be monitored and evaluated routinely during job hours.

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