RESEARCH
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EVALUATION OF THE HEALTHCARE WORKERS PERFORMANCES TOWARDS THE INTEGRATED MANAGEMENT OF NEONATAL AND CHILD HEALTH PROGRAM THROUGHOUT THE NAJAF GOVERNORATE

Hussain Nadhim Rasoul[1] Hassan Ali Farman[2], Saad Saleem Raheem [3]
[1] *M.Sc., Student Department of Community Health Techniques, Al-Najaf*
[2,3] *Al-Furat Al-Awsat Technical University, College of health & medical tech. / Kufa, department of community*

Author Emails
[a)]Corresponding author: hussain.rasoul.chm@student.atu.edu.iq
[b)] Kuh.hsn@atu.edu.iq
[c)] kuh.sad@atu.edu.iq

ABSTRACT
Background: An approach implemented to manage the disorders of child is “integrated management of illness” “IMCI”, conventional techniques are insufficient to enhance child survival, the treatment of ill children involves the management of particular ailments, specifically on acute respiratory infections and diarrhea. Objective: Assess healthcare workers are performing towards the “integrated management of neonatal and child health program” in the governorate of Najaf. Methods: A cross-sectional study was conducted across six primary health care sectors in Al-Najaf governorate, began from December 31, 2023, end in March 31, 2024 the study contained a sample of 378 cases, to assess the performance of healthcare workers for children of age group of under 5 years old. Data was collected using a specifically created questionnaire that was adapted from the World Health Organization (WHO), .Result: The performance of the health care workers was fair, out of the individuals looked at, 47% checked the child's temperature, 63% checked the child's weight, 6% inquired about signs of danger, 43% asked about cough or difficulty breathing, 38% asked about diarrhea, 18% assessed ear problems, 98% asked about breastfeeding, 16% gave advice regarding the child's meals, and 4% inquired about the necessity of immediate return and follow-up appointments. Conclusions: the Performances of healthcare workers about “integrated management of neonatal and child health” programs assessed to be fair.
Keywords: Primary health care; integrated; management; neonatal; child

INTRODUCTION

Annually, with respiratory infections being the leading cause of these elevated mortality rates, approximately 10 million children worldwide died before reaching the age of five. (Strong et al., 2021)

It is believed that over 60% of child deaths globally might be prevented with easily accessible and competitively cost therapies. (1)

Since 1998, the Iraqi government continues to be applying the “Integrated Management of Neonate-Child Health” “IMNCH” program, the objective of this program is to tackle the main causes of death and illness among children under the age of

five by employing a comprehensive approach that aligns with the country's primary health care policy. (2)

The "Integrated Management of Neonate-Child Health" Program focuses on instructing healthcare providers in the management of prevalent pediatric illnesses with a specific emphasis on respiratory system infections, such as pneumonia, malaria, measles, diarrhea, and malnutrition. Furthermore, the allocation of funds for health initiatives aimed at preventing particular diseases and enhancing overall well-being was also included, the duration of the IMNCI training course was originally 11 days, however it was subsequently reduced to seven or eight days in different nations and places.(3)

The "IMNCI" approach has benefits for health facilities in that it makes it easier to identify childhood illnesses in outpatient settings, guarantees that enough medication is prescribed and given for all major illnesses, enhances caregiver therapy, and expedites the referral process for very sick children. (4)

The fundamental principles of "integrated management of childhood illness" include the education and training of healthcare personnel, the delivery of essential healthcare services, and the development of specialized knowledge to treat children with multiple diseases, the establishment of basic guidelines for urogenital referrals and appropriate treatment, and the dissemination of information on child care, after completing the training, it is recommended that this worker be accompanied by an "Integrated Management of Neonatal and Childhood Illness" "IMNCI" supervisor during workplace visits to provide assistance, Enhancing the management of ill children is necessary to implement "Integrated Management of Neonatal and Childhood Illness" "IMNCI" (5, 6) .

RESEARCH METHODOLOGY

Data collected using a custom questionnaire based on a structured questionnaire adopted from the "World Health Organization" "WHO", this cross-sectional study examined in Al-Najaf governorate in primary health care centers and data was collect from December 31, 2023, to March 31, 2024, with a sample size of 378 cases representing children under the age of 5, Training on the IMNCH program, the correct way to measure temperature, and asking about the child's symptoms (such as diarrhea or ear problems) are all part of this.

Sample size and Sampling techniques

The sample size was calculated using Thompson's statistical equation (7), given the following assumptions:

$$n = \frac{N \times p(1-p)}{\left[\left[N-1 \times \left(d^2 \div z^2\right)\right] + p(1-p)\right]}$$

P= Rate of availability of property = 0.50, Z= Standard degree = 1.96, N= Community size 10000, d= Error ration = 0.05, n= the minimum sample size

The population consists of both male and female children, the sample size comprised 378 children, the sample size was determined using an equation that computed the most advantageous size.

Statistical analysis

The SPSS-26 software was utilized for data analysis, and the data were presented using basic percentage metrics.

Data collection technique:

The data were collected via a questionnaire specifically created to evaluate the effectiveness of the IMNCH program at the healthcare center, this evaluation involved directly watching the program using a customized checklist based on the WHO IMNCH program.

Scoring system

The evaluation of every component in the "integrated management of neonatal and child health program" is determined based on the quartile status.

1. Assessment of checking for general danger signs, weight, length, head circumference and temperature.

There are a total of 6 questions in this section, a score of 1 is assigned for responding with "no" and a score of 2 is assigned for responding with "yes", quartile status which the score is based on it, which is categorized as "good". If the score exceeds 80% (equivalent to 11 or more scores), it is categorized as "Fair" if it falls between the second quartile and 80% (inclusive) for scores ranging from 8 to 10, It is considered "poor" if the value is below the second quartile, which is less than 7.

2. Assessment for child below two years of age of breastfeeding and other fluids

This section contains a grand total of 4 questions, a score of 1 is allocated for answering "no" and a score of 2 is allocated for answering "yes", The score is established based on the quartile status, which is categorized as "good", If the score surpasses 80% (which is comparable to 6 or more scores), it is categorized as "Fair" if it is within the range of the second quartile and 80% (including both values), for scores ranging from 5 to 6, and result is deemed "poor" if it falls below the second quartile, which is less than 5.

3. Assessment of respiratory and diarrhea problems

There are a total of 6 questions in this section. A score of 1 is assigned for responding with "no" and

a score of 2 is assigned for responding with "yes", the score is determined based on the quartile status, which is categorized as "good". If the score exceeds 80% (equivalent to 8 or more scores), it is categorized as "Fair" if it falls between the second quartile and 80% (inclusive) for scores ranging from 6 to 8, It is considered "poor" if the value is below the second quartile, which is less than 6.

4. Assessment and screening for other problem

This section contains a grand total of 6 questions. A score of 1 is allocated for answering "no" and a score of 2 is allocated for answering "yes", the score is established based on the quartile status, which is categorized as "good", If the score passes 80% (which is equal to 8 or more scores), it is categorized as "Fair" if it is between the range of the second quartile and 80% (including both values) for scores ranging from 7 to 8,and result is deemed "poor" if it falls below the second quartile, which is less than 7.

RESULT

1-Distribution of children according to age groups:

This study included a group of 378 children who participated in the "Integrated Management of Neonatal and Child Health" "IMNCH" program., In Table 1 the result of this study the highest percent found in (2 - 11) months in comparison with other distribution according to age group in which there were closely in percent's (21%) about (12 – 23) months and (24 – 60) month respectively.

Table I Distribution of children according to age groups

Age group (months	N (number of children	%
< 2 r	9	26%
(2 – 11) r	12	32%
(12 – 23) r	8	21%
(24 – 60) r	7	21%
Tota	37	100%

2-Checking for general danger signs, weight, length, head circumference and temperature:

Table 2 indicated that 93% of health workers accurately calculated the age, 47% correctly checked the temperature, 63% accurately measured the weight of the child, 39% correctly measured the length of the child, 44% correctly measured the head circumference of the child, and only 6% asked about the child's ability to drink or breastfeed, whether the child vomits everything, or if the child had a convulsion.

Table II: Checking for general danger signs, weight, length, head circumference and temperature.

item	Ye		N		Tota	
	N	%	N	%	N	%
Was the age calculated correctly	35	93%	2	7%	37	100%
In the case of temperature checking, was it done correctly	17	47%	20	53%	37	100%
In the case of checking whether the child's weight was measure correctl	23	63%	13	37%	37	100%
In the case of checking the measurement of the child's height, wa it done correctly	14	39%	23	61%	37	100%
If you check the head circumference measurement, was it don correctly	16	44%	21	56%	37	100%
Did the health worker ask about the child's general danger sign (he has the ability to drink or breastfeed, he vomits everything, h has convulsions	2	6%	35	94%	37	100%

Quartile status ((≥11 good), (≥7 & <8 fair), (<7 poor) (N= 6 items) (Total score =12))

3-Assessment for child below two years of age of breastfeeding and other fluids

The data in Table 3 indicates that 98% of health workers inquired about breastfeeding, 68% inquired about the child's consumption of other fluids or foods, 4% inquired about changes in eating patterns during illness, and 16% offered guidance on the child's meals.

Table III: Assessment for child below two years of age of breastfeeding and other fluids

item	Ye		N		Tota	
	N	%	N	%	N	%
Have you been asked about breastfeeding	29	98%	1	2%	30	100%
Has the child been asked to take any other liquids or foods	20	68%	9	32%	30	100%
Was it asked whether nutrition changed during the illness	1	4%	28	96%	30	100%

Was advice given about the meals provided to the child	4	16%	25	84%	30	100%

Quartile status ((≥6 good), (≥6 & <5 fair), (<5 poor) (N= 4 items) (Total score =8))

4-Assessment of respiratory and diarrhea problem:

Table 4 indicated that the majority of health workers, approximately 57%, weren't asking about cough symptoms in children. Additionally, around 98% of health workers did not assess the child's breathing rate, and approximately 17% asked about the duration of the cough. Similarly, about 62% of health workers did not ask about diarrhea signs in children, with approximately 99% failing to check for signs of dehydration. Furthermore, around 8% asked about the duration of the diarrhea.

Table IV: Assessment of respiratory and diarrhea problems

item	Ye		N		Tota	
	N	%	N	%	N	%
Has the child been asked about coughing or difficulty breathing	16	43%	21	57%	37	100%
Is the child's breathing counted for 60 seconds if there is a cough		2%	37	98%	37	100%
In the case of coughing, is there a question about the duration of th coughing	6	17%	31	83%	37	100%
Have you been asked about diarrhea	14	38%	23	62%	37	100%
In the case of diarrhea, is the question about the duration of the diarrhea	3	8%	34	92%	37	100%
In case of diarrhea, has dehydration been checked		1%	37	99%	37	100%

Quartile status ((≥8 good), (≥8 & <6 fair), (<6 poor) (N= 6 items) (Total score =12))

5-Assessment and screening for other problem

The data from table 5 indicates that a majority of health workers, approximately 78%, did not assess pharyngeal problems in children. Similarly, around 82% of health workers did not inquire about any ear-related problems. Furthermore, a significant percentage of health workers, approximately 98%, did not screen for anemia in children over 2 months old. Additionally, about 98% of health workers did not ask any questions regarding maternal health. Moreover, the majority of health workers, around 96%, did not inquire about immediate return or follow-up appointments. However, approximately 76% of health workers did check the child's vaccine card.

Table V: Assessment and screening for other problem

item	Ye		N		Tota	
	N	%	N	%	N	%
Have you checked for pharyngeal problems	8	22%	29	78%	37	100%
Have you been asked about a problem with the ear	6	18%	30	82%	37	100%
Has anemia been checked for children over two months old		2%	37	98%	37	100%
Is at least one question asked about maternal health		2%	36	98%	37	100%
Are questions given regarding signs of immediate return and follow-u appointment	1	4%	36	96%	37	100%
Did the health worker check the child's vaccine card	28	76%	9	24%	37	100%

Quartile status ((≥8 good), (≥8 & <7 fair), (<7 poor) (N= 6 items) (Total score =12))

DISCUSSION

Table 2 showed that about 83% of healthcare workers checking or recording the child weight and 68% checked the temperature and 6% asked about the danger signs and 93% of health workers calculated age correctly this is lower than the study that done in Egypt, The results that showed in table 2 was disagreement with the previous study (8) it was observed that all health workers carefully completed tasks such as measuring temperature, verifying weight, assessing danger signs, and accurately calculating age, maybe that's because due to the lack of receiving a comprehensive "IMNCH" training program

Findings of table 2 align with previous research, such as the study conducted in Bulawayo city, Zimbabwe by (9), the survey indicated that over 82% of health staff evaluated displayed acceptable feeding habits. Another study supports our findings in the city and neighboring regions of Salah al-Din governorate in Iraq (10) which discovered that healthcare workers the percentage of respondents who were asked about appropriate feeding practices for children who are not ill was approximately 80.25%. However, the same study found that health workers had differing opinions on this matter. The inquiry on the child's feeding or breastfeeding behaviors during this sickness

resulted in around 79.75%, another study conducted in Iraq confirmed our findings. (11) The main discovery highlighted the promising fact that caretakers expressed their intention to continue feeding their child throughout illness. However, it was observed that the feeding advice provided to them was mostly poor, and healthcare practitioners rarely utilized appropriate communication approaches.

The results shown in Table 3 revealed that approximately 43% of health workers reported experiencing cough, while approximately 38% reported experiencing diarrhea, this finding is consistent with a previous study conducted in South Africa, which found that around 37.5% of health professionals reported experiencing diarrhea, while approximately 60% reported experiencing cough (Chopra et al., 2005), it is possible that's health care worker didn't committee with the "IMNCH" guidelines

A review of Table 4 revealed that approximately 21% of health workers failed to inquire about anemia, while around 4% of health workers forgot to ask for immediate return and follow-up appointments, the majority of healthcare workers, accounting for 76%, verified the child's vaccine card. This finding matches the results of another study conducted in Egypt (8), which found about 94.3% of health workers did check for anemia, and about 97% of health workers gave follow up advice and most of health workers have checked of the child's vaccine card with 100%, another study disagree with our findings that happened in Iraq (10) that was 61.5% of health workers Looked in child's ear & behind it if there is an ear problem, this different is due to the poor follow up from healthcare workers

CONCLUSION

The healthcare workers performances were fair in all aspects of the "Integrated management of Neonatal, and Child Health" "IMNCH" program, with the exception of asked about breastfeeding, verifying vaccine records, accurately calculating the child's age, measuring the child's weight, and inquiring about the consumption of any other liquids or meals. thus, as a recommendation enhance monitoring at the primary health care where the "Integrated Management of Neonatal and Child Health" "IMNCH" program is being implemented to enhance the effectiveness of health personnel and get an outstanding level of adherence to "IMNCH" protocols.

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