Evaluation of Application of Nutritional Status Assessment for Children Under 5 years by Using IMCI Program in a Sample of Primary Health Care Centers in Baghdad City

[1] Samir M.Raoof [2] Rana D. Raoof [3] Mohammed A. Ibraheem

ABSTRACT

Background: World Health Organization (WHO) and United Nation International Children Fund (UNICEF) developed a strategy known as Integrated Management of Childhood Illness (IMCI); which aims to reduce less than five years children morbidity and mortality in developing countries.

Objective: To assess the completion of the IMCI format status in primary health care centers, Baghdad.

Methods: A cross sectional study with analytic element was conducted during the period from 15th of January till 15th May 2016 in selected Primary health centers in Baghdad, Iraq. The sample consists of form of child files less than 2 months and form from 2 month up to 5 years children. Classified correctively, determined follow up visits, Comparison classified of nutritional status assessment between health center and IMCI guideline.

Result: 1400 child files were collected, 1295 from child files (2months-5year), and 105 forms from child less than 2 month. In form less than 2 months (correct classified 54.29%, incorrect 45.71%), (Determined date of follow up 13.33%, not determined 86.67%).Form from (2month-5years) (57.07% correct classified, 43.93% incorrect classified), (Determined date Follow up visit 38.38%, Not determined visit 61.62%).

Conclusion: Impaired classification of nutritional status assessment.

[1] Correspondent author: Consultant in Community Medicine, Head of Al Mustansyria Family Medicine PHCC, FICMS (CM)

[2] Community Medicine Specialists, MoH

[3] Professor, Head of Family & Community Medicine Department, AlKindy College of Medicine.

INTRODUCTION

Infant and child mortality remains high in developing countries, where almost 10 million deaths occur annually in children under-5 years old [1]. Pneumonia, diarrhea, malaria, measles and malnutrition cause more than 70% of the deaths in children under five years of age. WHO and UNICEF used updated technical findings to describe management of these illnesses in a set of integrated (combined) guidelines instead of separate guidelines for each illness [2]. (WHO) and (UNICEF) developed a strategy known as Integrated Management of Childhood Illness (IMCI) [3]. "I", "M", "C", "I" mean in I.M.C.I: I. "Integrated" refers to a number of characteristics of the strategy, in addition to the proposed management approach. The aim of this "integration" is for children under-5 to receive care, whether at home, in the community or at the health facility. It is "integrated" because it is meant to bring together curative, preventive and development aspects of child care into one strategy. M. "Management" The IMCI clinical management adopts a syndromic approach, where signs and symptoms are the entry point: cases are "classified" into defined categories of severity based on the presence or absence of a few key signs and symptoms. The classifications have the purpose of enabling the primary health care provider to select a management plan rather than make Diagnosis, a sick child is "classified" into one of three main categories, with a color code: Red: indicating severe conditions which need urgent referral to an inpatient facility. Yellow: indicating situations that can be managed at the health centers often with drugs but that require definite follow-up. Green: indicating mild conditions which require simple home care. C. "Childhood" refers to children below 5 years of age, which is the child age group most vulnerable to illness and death. I. "Illness" is used in public health terms, to address conditions that are first of all a major cause of death, severe illness in children under-5, These conditions include[4]: Diarrhea, dysentery and persistent diarrhea Meningitis and sepsis. Malaria. HIV/AIDS. Measles. Ear infections. Malnutrition and Anemia.

METHODS

A cross sectional study conducted from 15th of January 2016 till 15th of May 2016. The study was conducted in 8 Primary health care (PHC) centers implementing IMCI in Baghdad city, 4 PHC centers from Al Rusafa (Baghdad Al-Jadida Althany, Summer, Al-Adhamiya ASlthalth and Bab almadam) and 4 PHC centers from Al karkh (Al Mansour, Al Adel, Al-Kadimya Alawal and Al Zuhra). PHC centers were chosen by simple random method. 1400 records were selected from child under five years old files. 1295 forms of IMCI for 2 month-5 years files and 105 form from child less than two months. The form of child's files was evaluated for the nutritional status assessment. The data was evaluated according

RESULTS

Among the 1400 files, 1295 forms for children 2m.-5years and 105 forms for children less than 2 months, the correct classification was higher (64.13%) in Baghdad Al Jadida Althany PHC centers. The lowest proportion was in Summer PHC (41.67%), compared with in corrected classified high proportion in Summer PHC center (58.33%) and low proportion in Baghdad Al Al Jadida Althany (35.87%), (p-value 0.135), significant not different. According to follow up visits more proportion in Al Adel PHC center (63.51%), small proportion in Baghdad Al Jadida Althany (9.78%), compared with not determined date of follow up visit more proportion in Baghdad Al Jadida Althany PHC center (90.22%) small proportion in Al Adel PHC center (40.31%), (p-value 0.0001).

Comparison between classification of primary health centers and IMCI guideline: According to Classified to PHC center Possible risk of overweight high proportion (41.16%) followed by overweight (26.72%) and obesity (10.66%), while wasting and sever wasting (8.03%), (1.31%) respectively, stunting, sever stunting and very tall (6.56%), (1.62%), (0.46%) respectively. But underweight (2.93%) and sever underweight (0.54%). While according to Classified of IMCI guideline, possible risk of overweight high proportion (30.27%) followed by overweight (23.63%) and obesity (8.42%), while wasting and sever wasting (5.48%), (1.54%) respectively, and normal (20%) but stunting, sever stunting and very tall (3.40%), (2.70%) (0.62%) respectively, but

IMCI guideline provided by Iraqi MOH. Logic model for program evaluation was used [5,6]. Two data collection form were constructed, one for care of those 2 month to five years and another one for care of those less than 2 months. Classification correctively according to IMCI guideline. Comparison classified between PHC centers.

Data analysis was carried out using the available statistical package for social software (SPSS for windows-20). Numerical data results were often rounded to the nearest integer. Categorical variable were presented as frequency and relative frequency. Chi-square test was used to test the significance of association, p-value of ≤ 0.05 was considered significant

underweight (1.39%) and sever underweight (0.69%).

Less than 2 months, classified correctively, In correct classified high proportion in Al Adhamiya Althalth PHC center (100%), while low proportion in summer P.H.C. (28.57%), compared with in correctively classified high proportion in Summer PHC center (71.43%), and low proportion in Al Adhamiya Althalth (0%), (p- value 0.001).

According to date for follow up visit, determined date for follow up high proportion in Adhamiya Althalth (50%), low proportion in Summer and Al Zahra P.H.C. (0%). Not determine date for follow up visit high proportion in Al Zahra and Summer (100%).Low proportion in Adhamiya Althalth PHC center (50%), (p-value 0.070).

Comparison between classification of health center and IMCI guideline: According to classified of PHC centers: possible risk of overweight (26.67%) followed by overweight (13.33%) and obesity (9.52%), while wasting and sever wasting (10.48%), (3.81%) respectively, but stunting, sever stunting and very tall (15.24%), (2.86%) (0%) respectively, but underweight (15.24%) and sever underweight (2.86%). While according to Classified of IMCI guideline: possible risk of overweight high proportion (15.24%) followed by overweight (14.29%) and obesity (5.71%), while wasting and sever wasting (9.52%), (2.86%) respectively, and normal (20.95%) but stunting, sever stunting and very tall (11.43%), (3.81%), (0%) respectively, but underweight(11.43%) and sever underweight (4.76%). very tall classification proportion in each PHC center (0%). And according to

IMCI guideline very tall classification proportion in each P.H.C. (0%), p-value showed no significant different.

DISCUSSION

Program Evaluation: The systematic collection of information about activities, characteristics and outcomes of programs used to make judgments, improve effectiveness, add to knowledge, and inform decisions about programs in order to improve programs and be accountable for positive and equitable results and resources invested [6]. IMCI which is strategy aim to reduce less than five years morbidity and mortality in developing countries [7].

The current study showed that correct frequency of classification was higher than in correct classification, this finding is similar to a study done by Amaral J., et al. in Northeast-Brazil 2004 [8]. And similar with study was conducted by Horwood Ch., et al. in South Africa 2009 [9]. That explained IMCI health care centers are overloaded by checking according to a standard guide line for assessing, classifying and counseling of mother.

Comparison between classifications of P.H.Cs. with IMCI guideline Form (2m.-5yr.) classification of primary health center is similar with classification of IMCI guideline, possible risk of overweight high proportion compared with other classification of nutrition followed by overweight and obesity. Less than 2 months stunting and underweight classification high proportion followed by wasting. These result are similar to a study done by Matee A. K. and Al-Jawadi A .A. in Al-Hamdaniya District, 2011 [10]. Increase overweight in age (2m.-5yr.) due to complementary food, long time of watching television and improper weaning, while increase underweight and stunting in age less than 2 months to be associated with increase morbidity due to recurrent attack of infection and introduced of animal milk. Wasting, sever wasting, stunting, sever stunting, very tall, underweight and sever underweight lower percentage in age (2m.-5yr.) this results are similar to the study done by Ministry of Health in Al an bar 2012 [11]. Due to nutrition intake. and in age less than 2m. lower percentage in sever stunting, sever underweight and sever wasting this results are similar to the study done by Jayatissa R., et al. in sri lanka 2012 [12]. And in Iraq (2007-2014) Prevalence of overweight (11.8), underweight (8.5), stunted (22.6) and wasting (7.4) [13].

Percentage of non- determined date of follow up visit was higher than that determined date of follow up visit. This is result of study disagree with study done by Tawfik Y., et al., in Niger 2001 [14]. And similar with study was conducted by Sumaia M. al Fadil. et al., in Gezira State, Sudan 2003 [15]. We may be explained that weak attitude of some medical staff to guide line, proximity to the health facility, differences in caretakers' perceptions direct effect of the difference in timing of the follow-up visit and longer periods between the initial and follow-up visits leading to a reduction in compliance.

CONCLUSION

Impaired classification of nutritional status of children under five years of age. High proportion of possible risk of overweight (41.16%) followed by overweight (26.72%) and obesity (10.66%) in age (2mon.-5yr.). While in age less than 2 months, high proportion of underweight and stunting (15.24%). A higher percentage of the children did not specify a date for their follow-up visit. Use of Palmar pallor in diagnosis of anemia. The IMCI approach in the detection of childhood illnesses.

More detail investigation need in diagnosis of anemia such as lab. Study after verification of anemia Interest in follow-up weight of children, and continue to follow the children until the age of 5 years. Good nutrition counseling by health care worker and medical workers by registered education activities done inside health centers through lectures and outside health centers in school and use the mass media, especially television for the promotion and dissemination of food and health habits Increase the number of healthcare workers therefore reducing the workload, this will make the healthcare workers to follow the IMCI guidelines as recommended, and also need to have many guidelines and chart booklets for everyone so that they can refer to anytime they need. IMCI guidelines, booklets are better to use if health care workers refer to when classifying illnesses then it can easily manage common childhood illnesses.

REFRENCES

1. UNICEF: The state of the world's children 2008: child survival. Available[http://www.

unicef.org/sowc08/report/report.Php]. NewYork UNICEF. Accessed on 3 June 2016.

2. Ministry of Health. INTEGRATED MANAGEMENT OF CHILD HEALTH (IMCI). INTRODUCTION. IMCI IRAQI ADAPTATION. 3ed Edition. Iraq 2009; 1-2. Available [http://www.basics.org/ documents /IMCI-3-Assess-and-Classify-the-Sick-Child-2mo-to-5yrs.pdf].Accessed on 12 April 2016.

3. Department of Child and Adolescent Health and Development (CAH), Family and Community Health (FCH) and World Health Organization (WHO). Integrated Management Of Childhood Illness Guides (IMCI). 2001; 2-3. Available [http://www.who.int/ maternal_ child_adolescent/documents/pdfs/planning_imple menting_evaluating.pdf]. Accessed on 10 February 2016.

4. World Health Organization and Child health and development, IMCI strategy Eastern Mediterranean. Available [http://www.emro.who. int/child-health/imci-strategy/meaning]. Accessed on 15 June 2016, 3:00p.m.

5. World Health Organization (WHO), health facility survey on quality of outpatient child health services, IMCI health facility survey Sudan. 2004; 1-148. Available [http:// applications.emro.who.int/dsaf/dsa483.Pdf] Accessed on 26 June 2016.

6. Logic Model, for program evaluation .Aaron M. Thompson MSW M.ED. School of social work. Available [http://www.uwex.Edu/ces/ lm course]. Accessed on 11 April 2016.

7. Pradhan N. A., Brown N., Sami N. and Rizvi N., Integrated Management of Childhood Illness strategy implementation in a rural district of Pakistan through the lens of planners and implementers. International Journal of Healthcare. 2016; 2(1):139-147.Available [http://www.sciedupress.com/journal/index.php/ij h/article/view/6889]. Accessed on 20 April 2016.

8. Amaral J., Gouws E, Bryce J, Leite AJ, Cunha AL, Victora CG. Effect of Integrated Management of Childhood Illness (IMCI) on health worker performance in Northeast-Brazil, Cad. Saúde Pública, Rio de Janeiro, 2004; 20 Sup 2: 209-219.Available [https:// www. researchgate. net/publication/8120994_Effect_of_Integrated_M anagement_of_Childhood_Illness_IMCI_on_heal th_worker_performance_in_Northeast-Brazil]. Accessed on 13 March 2016.

9. Horwood Ch., Vermaak K., Rollins N., Haskins L., Nkosi Ph. and Qazi Sh., An Evaluation of the Quality of IMCI Assessments among IMCI Trained Health Workers in South Africa, plos one, 2009; 4(6): 1-6. Available [http://journals.

plos.org/plosone/ article?id=10.1371%2Fjournal. pone. 0005937]. Accessed on 4 March 2016.

10. Matee A. K. and Al-Jawadi A. A., Assessment of nutritional status indicators in children under five at Al-Hamdaniya District, North of Iraq. Annals of the College of Medicine. 2011; 37(1&2): 71-79. Available [http://www.iasj.net/iasj? func=fulltext&aId=34685].Accessed on 25 June 2016.

11. Ministry of Health/ Nutrition Research Institute and United Nation Children Fund's (UNICEF), Rapid Nutritional Assessment for Children (6-59) Months of Age in Syrian Refuge Families in Al-Anbar Governorate/Al Qa'im District. Iraq, 2012:1-14. Available [https://data.unhcr.org/ syrianrefugees/download.php?id=1050]. Accessed on 26 January 2016.

12. Jayatissa R., Hossain M. and Nanayakkara L.,Assessment of Nutritional status and associated factors in Northern Province. Medical Research Institute In collaboration with UNICEF and WFP. Ministry of Health, Srilanka, 2012: 1-91. Available [http://www.unicef.org/srilanka/ 2012_SL_ASSESSMENT_OF_NUTRITIONAL _STATUS_in_NORTHERN_PROVINCE.pdf]. Accessed on 26 March 2016.

13. World Health Organization (WHO), WHO Library Cataloguing-in-Publication Data, World health statistics 2015, Luxembourg 2015:104. Available [http://apps .who. int/iris /bitstream/10665/170250/1/9789240694439_eng. pdf]. Accessed on 11 April 2016.

14. Tawfik Y., Legros S., and Geslin C., Evaluation Niger`s Experience in Strengthening Supervision, Improving Availability of Child Survival Drugs Through Cost Recovery, and Initiating Training for (IMCI), BMC International Health and Human Rights. 2001; 1:1-6. Available [https://www.researchgate.net/publication/118396 37_Evaluating_Niger%27s_experience_in_streng thening_supervision_improving_availability_of_c hild_survival_drugs_through_cost_recovery_and _initiating_training_for_Integrated_Management _of_Childhood_Illness_I]. Accessed on 20 March 2016.

15. Sumaia M. al Fadil, Samira H.Abd Alrahman, Simon C., Flavia B., Ahmed Sh., Suzanne F., and Samia M. el Hassan. Integrated Management of Childhood Illnesses strategy: compliance with referral and follow-up recommendations in Gezira State, Sudan. Bulletin of the World Health Organization2003; 81 (10): 708-716. Available [http://www.who.int/bulletin/volumes/81/10/708-716%20(02-0297).pdf]. Accessed on 18 May 2016