

IMPLEMENTATION OF INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS IN THE SELECTED MUNICIPALITIES OF ILOCOS SUR: AN ASSESSMENT

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ABSTRACT: The study determined the extent of implementation of IMCI in Ilocos Sur, Philippines. This made use of a descriptive research design. The variables used are along diarrhea, cough, ear infection, anemia, and the profile of the implementer-respondents and the mother respondents. The participants were the Municipal Health Office staff and the mothers of children aged two months to five years old who sought consultation. Data were gathered through a questionnaire- checklist and content validated by a pool of experts. The statistical tools used were frequency, percentage, and mean. These are the conclusions drawn: 1) Majority of the implementer-respondents are 31-50 years old, female, married, 26 years in service, monthly income of Php 30,000, Public Health Nurse III, and attended three regional pieces of training. The majority of the mother-respondents have one to three children, are 26-30 years old, are married, are college graduates, and earn 1000-5000 per month. 2) The extent of implementation of IMCI is "Very High.". These are the recommendations forwarded: 1) Health personnel are encouraged to attend more training and seminars related to IMCI. 2) The trained health personnel must conduct health education classes on the steps of IMCI to maintain the "Very High" extent of implementation. 3) Drugs for IMCI should always be available in the Municipal Health Offices. 3) Health personnel should attend training on the assessment of ear problems with the use of the prescribed instrument.

Keywords: Assessment, Instruction, Classification, Treatment, Intervention, IMCI

1. INTRODUCTION

Maintaining a healthy lifestyle beginning from the womb is essential for every child to survive and live to the fullest. Mothers must be equipped with full knowledge of how to assess the health condition of their children. They are the primary partners of health workers in implementing of DOH programs geared toward the attainment of health. The Sustainable Development Goals (SDGs) adopted by the United Nations in 2015 were developed to promote healthy lives and well-being for all children. SDG Goal 3.2.1 is to end preventable deaths of newborns and under-5 children by 2030. The targets are to reduce newborn mortality to at least as low as 12 per 1000 live births in every country and to reduce under-five mortality to at least as low as 25 per 1,000 live births in every country [4].

The global strategy has three objectives: survive (end preventable deaths); thrive (ensure the health and well-being), and transform (expand enabling environments) [7].

WHO and UNICEF express a renewed commitment to child health; both agencies must collaborate directly with countries and ensure sufficient human, financial, and infrastructural resources [6]. Parents most especially mothers play vital parts in the promotion of health and prevention of illnesses particularly to their children, a great role that nobody can question. Children are one of the most vulnerable groups to the transfer of viruses, bacteria, and the like.[13].

In the study entitled "Global implementation survey of Integrated Management of Childhood Illness (IMCI): 20 years on, eighty-one percent of countries reported that IMCI implementation encompassed all three components. Almost half (46%; 44 countries) reported implementation in 90% or more districts as well as all three components in place (full implementation). These full-implementer countries were 3.6 (95% CI 1.5 to 8.9) times more likely to achieve Millennium Development Goal 4 than other (not full-implementer) countries. Despite these high reported implementation rates, the strategy is not reaching the children who need it most, as

implementation is lowest in high-mortality countries (39%; 7/18) [1].

IMCI training improved assessment, rational use of antibiotics and counseling; further investment in IMCI in Afghanistan, continuing provider capacity building and supportive supervision for improved quality of care and counseling for sick children is needed, especially given high burden treatable childhood illness [8].

IMNCI must be repositioned in its role to accelerate progress towards the SDGs, the "survive and thrive" goals of the Global Strategy and other global initiatives. Activities to save newborn and child lives are best undertaken in harmony with those to address maternal health, as evidence shows that at least 50% of the impact on newborn survival [15].

Implementing the integrated management of childhood illness strategy may reduce child mortality, and packages that include interventions for the neonatal period may reduce infant mortality. IMCI may have little or no effect on nutritional status and probably has little or no effect on vaccine coverage. Maternal care-seeking behavior may be more appropriate with IMCI, but study results have been mixed, providing evidence of very low certainty about whether IMCI has effects on adherence to exclusive breastfeeding.[5].

The IMCI process is a strategy that can be used by doctors, nurses, and other health professionals who see sick infants and children aged from 1 week up to five years. It is a case management process for a first-level facility such as a clinic, a health center or an outpatient department of a hospital. The IMCI guidelines describe how to care for a child who is brought to a clinic with an illness, or for a scheduled follow-up visit to check the child's progress. The guidelines give instructions for how to routinely assess a child for general danger signs (or possible bacterial infection in a young infant), common illnesses, malnutrition, and anemia, and to look for other problems. In addition to treatment, the guidelines incorporate basic activities for illness prevention.

The global implementation of the IMCI strategy applied the lessons learned from the vertical programs to the strategies to promote coordination where appropriate, greater integration of activities to improve the prevention and management of childhood illness. The current challenge for the IMCI strategy is to scale up activities to ensure the appropriate and effective use of IMCI principles and clinical guidelines by all types of health care providers (WHO,2015). In Ilocos Sur, Philippines, the Provincial Health Office (PHO), reported cases of anemia, diarrhea, pneumonia and ear infection. The different illnesses affecting children can be eradicated through the strict and effective implementation of the IMCI strategy [14].

IMCI implementation has long lagged behind the implementation of facility-based interventions, despite a growing body of evidence on the effectiveness of community-based interventions in the field of child health. With the current interest in community-based health initiatives as a cornerstone of the PHC Re-engineering Strategy, IMCI can ill afford to be left behind. At this stage, IMCI should be established as the primary vehicle for the delivery of child-health services in the community, with no overlapping or competing child-health prodromic should be implemented in the context of the larger IMCI program, and should form an integral part of this program, with its own budget, oversight and defined targets. Stringent monitoring of the implementation of this program will be crucial, as with all other components of IMCI implementation [3].

In the study conducted by **Tarun et al., (2016)**, in a trial performed in Bangladesh, the estimated child mortality maybe 13% lower with IMCI. The neonatal and infant mortality was lower in the IMCI group compared with the control group. Furthermore, it is estimated that the effect of IMCI on mortality may be reduced by IMCI. Moreover, on the seeking behavior of the mothers, the IMCI strategy resulted in better care-seeking behavior. Lastly, implementing the IMCI strategy may reduce infant and child mortality. IMCI also had favorable effects on the adherence of mothers to exclusive breastfeeding [10].

There are various factors affecting the implementation of IMCI. Major factors among them include low initial training coverage involving nurses, shortage of nurses compared to the increasing number of children seeking medical care, shortage of essential drugs and supplies as recommended by IMCI case management guidelines, lack of follow-up services and refresher courses followed closely by reduced budgetary allocation to Integrated Management of Childhood Illness, lack of motivation and retention of nurses, lack of regular supportive supervision and onsite mentoring[2].

Recognizing and understanding insights of those enacting health programs such as IMCI can spark meaningful strategic recommendations to improve IMCI program effectiveness. This review suggests four domains that merit consideration in the context of efforts to scale and expand IMCI programs [9]. In Integrated Management of Childhood Illness as a systematic approach to child health has demonstrated

significant impact in the reduction of child morbidity and mortality rates as it helps in the early detection and prompt treatment of childhood illness. Therefore, it is imperative that a multidisciplinary approach be adopted and actively imbibed by members of the health care team, taking into cognizance the concept of Integrated Management of Childhood Illness, through the provision of holistic care so as to promote improved survival, growth and development of children [2].

In Ilocos Sur, representatives from the Municipal Health Offices (MHOs) have undergone training on IMCI. The IMCI strategy is used to assess and treat childhood diseases. This had substantially contributed to the health situation of infants and young children. It is supported by the data from the Field Health Services Information System (FHSIS) of the Provincial Health Office (PHO). The reported cases of anemia are decreased from 612 in 2014, 569 in 2015, and 286 in 2016. Likewise, for diarrheal cases, a decrease in the incidence is evident as manifested by a recorded statistic: 2267 in 2014, 1963 in 2015, and 2466 in 2016. However, the pneumonia cases got 219 cases in 2014, 898 cases in 2015 and 1180 cases in 2016. Ear infection got 52 cases in 2015 and 100 cases in 2016. The different illnesses affecting children can be eradicated through the strict and effective implementation of the IMCI strategy [4].

This study was anchored on the model shown below:

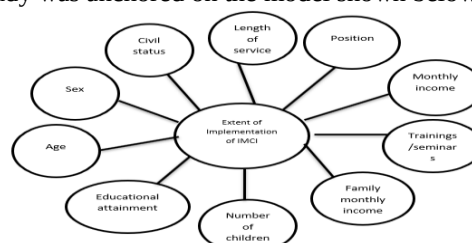


Figure 1. Research Paradigm:

The paradigm was showing the socio-demographic factors of the respondents and the extent of implementation of the Integrated Management of Childhood Illness.

2. METHODOLOGY

The respondents of the study were nurses and midwives who have training on IMCI and the 213 mothers of children aged two months -5 years old who availed the services of the selected MOHs in Ilocos Sur for the Calendar Year 2018. The number of the mother-respondents was chosen through purposive sampling, and G power analysis was used to determine the sample size of the respondents. Total enumeration was used for the implementer-respondents.

Table 1: Distribution of the Respondents

MHOs	Implementer-Respondents	Mother-Respondents	n
Lidlidda	2	321	83
Bantay	2	236	55
Magsingal	1	20	8
Sto. Domingo	1	52	19
Santa Catalina	1	130	48
Total	7	759	213

The questionnaire-checklist used in eliciting the data was adapted from the IMCI booklet (2015) [14] and content validated by a pool of experts. Written permission was sought from the different Municipal Mayors, Municipal Health Officers, and barangay captains, where the respondents thrive before floating the questionnaire. The researchers personally administered the questionnaire to the respondents. The researcher made use of the following statistical tools: frequency and percentage to describe the profile of the respondents, and mean is used to interpret the extent of implementation of IMCI.

3. RESULTS AND DISCUSSION

Table 2: Distribution of the Implementer -respondents in terms of Socio- Demographic Profile

Socio- Demographic Factors	F	%
Age		
61 and above	1	14.28
51- 60	1	14.28
41-50	2	28.58
31-40	2	28.58
20-30	1	14.28
Total	7	100
Sex		
Female	7	100
Civil Status		
Married	7	100
Length of Service		
26 years and above	3	42.9
21-25 years	2	28.6
16-20 years	1	14.3
11-15 years	1	14.3
Total	7	100.0
Position		
Municipal Health Office	1	14.3
PHN II	3	42.9
PHN I	1	14.3
Midwife III	1	14.3
Midwife II	1	14.3
Total	7	100.0
Monthly Family Income		
Php 50,001 and above	1	14.3
Php 30,001-35,000	3	42.9
Php 20,001-25,000	2	28.6
Php 15,000-20,000	1	14.3
Total	7	100.0
Related Trainings Attended		
National	1	14.29
Regional	5	71.42
Local	1	14.29
Total	7	100.0

A great percentage of the implementer- respondents (2 or 28.58%) are 31 to 50 years old; all (7 or 100%) are female,

all (7 or 100%) are married. The majority (3 or 42.9 %) are 26 years and above in service. The majority are occupying PHN III (3 or 42.9 %) position. A great number are earning (Php 30,001-35,000 or 42.9%) monthly income. A great percentage (3 or 42.9%) have attended regional training.

Table 3: Mother -Respondents in Terms of their Socio-Demographic Profile

Age	F	%
45-50	15	7.04
36-40	22	10.3
31-35	51	23.9
26-30	59	27.7
21-25	52	24.4
15-20	14	6.6
Total	213	100
Civil Status		
Single	45	21.1
Married	159	74.6
Widow/er	2	.9
Separated	7	3.3
Total	213	100
Educational Attainment		
College Graduate	51	23.9
College Level	44	20.7
High School Graduate	72	33.8
High School Level	29	13.6
Elementary Graduate	11	5.2
Elementary Level	4	1.9
No Schooling	2	.9
Total	213	100
Number of Children		
13 and above	1	.5
10-12	4	1.9
7-9	3	1.4
4-6	39	18.3
1-3	166	77.9
Total	213	100
Family Income		
20,001 and above	7	3.3
15,001-20,000	8	3.8
10,001-15,000	17	8.0
5,001-10,000	84	39.4
1,000-5,000	97	45.5
Total	213	100

A great majority of mother-respondents (166 or 77.9%) have one to three children; the majority are married (159 or 74.6%), a substantial percentage are 26-30 years of age (59 or 27.7%), are college graduates (72 or 33.8%), and earn Php 1,000-5,001 monthly (97 or 45.5%).

The majority of their children are aged one year old (130 or 61.03%), are female (123 or 57.5%), suffered from cough (125 or 58.68%), suffered from anemia (16 or 7.1%). A substantial number are first born babies (82 or 38.5%) and are fully immunized (175 or 82.2%)

Table 4: Extent of Implementation of IMCI

Extent of Implementation	Implementer Mean	DR	Mother Mean	DR	As a Whole	DR
Diarrhea	4.8	A	4.56	A	4.56	VH
Cough	4.62	A	4.63	A	4.63	VH
Ear Problem	4.46	A	4.29	O	4.38	H
Anemia	4.49	A	4.58	A	4.54	VH
Grand Mean	4.59	A	4.51	A	4.52	VH

The implementer-respondents have a “Very High” extent of implementation of IMCI, as shown by the grand mean rating of 4.52. The end result of the present study means that the

implementer-respondents are very religious in performing their role in the implementation of IMCI. In addition, also, that they are very committed in their work for them to achieve the health of the infants and children to a full extent.

This supports the result of the study of Gera et al., (2016) that implementing the integrated management of childhood illness strategy may reduce child mortality, and packages that include interventions for the neonatal period may reduce infant mortality. IMCI may have little or no effect on nutritional status and probably has little or no effect on vaccine coverage. Maternal care seeking behavior may be more appropriate with IMCI, but study results have been mixed, providing evidence of very low certainty about whether IMCI has effects on adherence to exclusive breast feeding [5].

In the survey of IMCI implementation conducted in Ethiopia (2018) the most common issues encountered in the implementation of IMCI were: lack of trained staff (56.2%), lack of essential drugs and supplies (37.3%), and irregular supportive supervision (89.2%). The qualitative data supplemented the factors that influence IMCI implementation, including drug unavailability, lack of human resources, and lack of effective supportive supervision and follow-up visits. Therefore, interventions aiming at training nurses, with emphasis on performing supportive consistent supervision and supporting the system of health care by enhancing admittance to indispensable drugs and supplies, are recommended to help IMCI implementation.[8]

In addition, the study conducted by Rodillas (2017) states that there is a "Very High" extent of delivery of health care services are affected by various factors such as the profile of the public health worker-respondents, socio-demographic and work-related profile of the respondents, and the health-facility related profile [12].

4. CONCLUSIONS AND RECOMMENDATIONS

A mark percentage of the implementer- respondents, are 31 to 50 years old; all are female and married. The majority are 26 years and above in service. The majority are occupying the PHN III position. A great number are earning Php 30,001-35,000 per month. A substantial percentage have attended three regional number of training. A great majority of mother-respondents have one to three children; the majority are married, a substantial percentage are 26-30 years of age, are college graduates, and earn Php 1,000-5,001 per month. The extent of implementation of IMCI is "Very High."

The following are the recommendations: 1. All Health personnel must be encouraged to attend more trainings and seminars including national seminars to upgrade their knowledge and skills in the implementation of IMCI. 2. Health personnel must conduct health education classes on the steps of IMCI (assessment, intervention, classification, treatment, and instruction) to maintain the "Very High" implementation of IMCI. 3. All drugs indicated in the IMCI should be made available. 4. The MHO should purchase

instruments on ear assessment. Likewise, the personnel should attend training on ear problem assessment to address the result of this study.

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REFERENCES

- [1] Boschi-Pinto, C., Labadie, G., Dilip, T. R., Oliphant, N., Dalglish, S. L., Aboubaker, S., ... & Diaz, T. Global implementation survey of Integrated Management of Childhood Illness (IMCI): 20 years on. *BMJ open*, 8(7), e019079 (2018).
- [2] Chidubem, E. Knowledge and Implementation of Integrated Management of Childhood Illness by Nurses In University of Port Harcourt Teaching Hospital, Rivers State. *International Journal of Nursing Didactics*, 6(4), 05-11 (2016).
- [3] Fick, C. Twenty years of IMCI implementation in South Africa: accelerating impact for the next decade. *South African health review*, 2017(1), 207-214 (2017).
- [4] Field Health Services Information System (FHSIS) of the Provincial Health Office (PHO)
- [5] Gera, T., Shah, D., Garner, P., Richardson, M., & Sachdev, H. S. Integrated management of childhood illness (IMCI) strategy for children under five. *Cochrane Database of Systematic Reviews*, (6). (2016).
- [6] Jacobs, M., & Merson, M. Introductory commentary: a strategic review of options for building on lessons learnt from IMCI and iCCM. *Bmj*, 362. (2018).
- [7] Kuruvilla, S., Bustreo, F., Kuo, T., Mishra, C. K., Taylor, K., Fogstad, H., ... & Costello, A. The Global strategy for women's, children's and adolescents' health (2016–2030): a roadmap based on evidence and country experience. *Bulletin of the World Health Organization*, 94(5), 398. (2016).
- [8] Mansoor, G. F., Chikvaizde, P., Varkey, S., Higgins-Steele, A., Safi, N., Mubasher, A., ... & Alawi, S. A. Quality of child healthcare at primary healthcare facilities: a national assessment of the Integrated Management of Childhood Illnesses in Afghanistan. *International Journal for Quality in Health Care*, 29(1), 55-62. (2017).

- [9] Seid, S. S., & Sendo, E. G. A survey on Integrated Management of Neonatal and Childhood Illness implementation by nurses in four districts of West Arsi zone of Ethiopia. *Pediatric Health, Medicine and Therapeutics*, 9, 1. (2018).
- [10] Tarun G. Dheera S Sachdev H., Integrated Management of Childhood Illness (IMCI) strategy for Children Under five, Retrieved on July 1, 2016, at [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4943011/\(2016\)](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4943011/(2016))
- [11] Reñosa, M. D., Dalglish, S., Bärnighausen, K., & McMahon, S. Key challenges of health care workers in implementing the integrated management of childhood illnesses (IMCI) program: a scoping review. *Global health action*, 13(1), 1732669. (2020)
- [12] Rodillas,R, FDelivery of Maternal, Neonatal and Child Health Care Services Among Public Health Workers in Ilocos Sur. *International Journal of Scientific and Engineering Research (IJSER)* Vol 8, No 8. 2229-5518. .(2017).
- [13] Rodillas R.F., Darisan T.L, Tamayo P.R, Rafanan A.E, Compliance of Mothers to Treatment of Children with Primary Complex (PTB) in the Selected Municipalities in the 1st District of Ilocos Sur. *International Journal of Scientific and Engineering Research (IJSER)*Vol.10,2229-5518. (2019).
- [14] World Health Organization Integrated Management of Childhood Illness (IMCI) booklet, (2015)
- [15] World Health Organization Towards a grand convergence for child survival and health: a strategic review of options for the future building on lessons learnt from IMNCI. . (2016).