



# Impact to Integrated Management of Childhood Illness (IMCI) Implementation in Developing Countries: A Literature Review

Joaquim Pinto <sup>a\*</sup>, Yenny Puspitasari <sup>b</sup>, Yuli Periwati <sup>b</sup>,  
Carlos Boavida Tilman <sup>a</sup>, Adelina Pinto <sup>c</sup>  
and Estevao Menezes Ximenes <sup>a</sup>

<sup>a</sup> Universidade Nacional Timor Loro Sa'e , Timor-Leste.

<sup>b</sup> Institut Ilmu Kesehatan Strada, Indonesia.

<sup>c</sup> Centro Saúde Becora, Timor-Leste.

## Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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**Systematic Review Article**

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## ABSTRACT

**Background:** Integrated Management of Childhood Illness (IMCI) is needed to address infant mortality in sub-Saharan African and South Asian countries of 11 million cases, due to diarrheal diseases, pneumonia, measles, malnutrition and newborn care problems. (IMCI) is an approach to sick children carried out integrated by combining promotion, prevention, and treatment services for the five leading causes of death in infants and child's in developing countries. IMCI is used as a service standard for sick infants and childhood illness and a guideline for health workers, especially nurses and midwives and doctors in primary health care facilities. IMCI contributes significantly to

\*Corresponding author: Email: [pintotio123@gmail.com](mailto:pintotio123@gmail.com);

reducing the mortality rate of neonates, infants and child if implemented widely, properly, and correctly.

**Purpose:** To determine the key of impact to the implementation on integrated management of childhood illnesses (IMCI).

**Methods:** The design of this study uses systematic review, namely literature research that assess of critically quality health journals, which have been filtered with inclusion criteria and used several Google Scholar, Science Direct and Research Gate databases as literacy in this study. There were 215 results according to the keyword Impact, implementation IMCI and perceptions.

**Results:** the factors causes to implementation IMCI are supervised by head community health, district authority, attitude of health workers, logistics support, experience, knowledge, and perception of health staffs trained on IMCI determine in process application in each health facility.

**Conclusion:** Leadership, logistic support, monitoring and supervision and coordination has as impact on IMCI implementation process.

*Keywords: IMCI; impact; determinant; perception; implementation.*

## 1. INTRODUCTION

“The Integrated Management of Childhood Illness (IMCI) is a strategy which was developed by the World Health Organization (WHO) and the United Nations International Children’s Fund (UNICEF) in 1992 as an integrated approach to improve child health. IMCI is a set of integrated (combined) guidelines, instead of separate guidelines for each illness which can affect a child. Its main objective is the reduction of mortality and morbidity associated with the major causes of childhood illness” [1].

“According to UNICEF, in the year 2010 about 7.6 million children died before reaching their fifth birthday. Most child deaths (and 70% in developing countries) result from one the following five causes or a combination: acute respiratory infections, diarrhea, measles, malaria and malnutrition. Result study showed the main challenges identified in the implementation of IMCI are low initial training coverage among health care workers, lack of essential drugs and supplies, lack of onsite mentoring and lack of refresher courses and regular supportive supervision. Supporting the healthcare workers through training, onsite mentoring, supportive supervision and strengthening the healthcare system through increasing access to essential medicines, vaccines, strengthening supply chain management, increasing healthcare financing, improving leadership & management were the major interventions that could assist in IMCI implementation” [2].

“At the health facility level, IMCI is implemented as a case management algorithm whereby health care providers working in resource-poor settings can more easily diagnose, classify, and manage

childhood illnesses. A simple set of questions guides health care workers to assess, classify, treatment, follow-up and counseling to mothers [3]. Also the IMCI cases management process follows these steps are assess the child’s illness, classify the illness based on signs, identify treatment, treat the child, counsel the caretaker and provide follow up care” [4,5].

According to Ministry of Health Timor Leste guideliness [4,5], “the chart assess and classify the sick child age 2 months up to 5 years describes how to assess and classify sick children so that signs of disease are not overlooked. Should ask the mother about the child’s problem and check the child for general danger signs, check for four main symptoms, cough or difficult breathing, diarrhoea, fever and ear problem. A child who has one or more of the main symptoms could have a serious illness. When a main symptom is present, ask additional questions to help classify the illness. Check the child for acute malnutrition and anaemia. Also check the child’s immunization, Vitamin A and deworming status and assess other problems the mother has mentioned”.

“In recognizing the need to improve the health and well-being of children under five, the Timor-Leste government commenced IMCI in Ministry of Health (MoH) health services in 2007. By 2011, when IMCI was implemented in all health facilities services, the estimated under 5 child mortality rate had reduced from 108.7 per 1000 LB in 2000 to 60 in 2011 and more recently reduced further to 49.7 per 1000 LB in 2016. The MoH set a new goal to further reduce the under-five child mortality rate to 27 per 1000 LB by 2030” [6].

Research [7] shows that “the impact of contribute to IMCI implementation include organizational and structural factors that hinder the implementation of IMCI; education, training and awareness; behavior and attitudes of nurses towards the implementation of IMCI and also supported by research results [8] that lack of adequate knowledge regarding IMCI, among trainees and untrained health service providers and training does not seem to significantly increase health worker knowledge without support from repeated refreshing training”. Likewise, the results of Health research (Knowledge, Leadership support, Supervision, completeness of filling out the registration form. Likewise the results of research [9], that the factors that are more dominant in the implementation of IMCI are Leadership Factors and the ability of Health officers (Knowledge, leadership support, Supervision, completeness of filling out the registration form), internal coordination of health & support workers (attitude, work motivation and completeness of medicines) and facilities and infrastructure (availability of polyclinic and equipment).

Result of study Result [10] showed “four key challenges emerged on IMCI implementation are Insufficient financial resources to fund program activities, Lack of training, mentoring and supervision from the tertiary level, Length of time

required for effective and meaningful consultations conflicts with competing demands and Lack of planning and coordination between policy makers”.

The research method used in writing this article is *systematic review*, namely literature review that critically examines knowledge, ideas, or even findings in quality medical journals, and is prepared theoretically and methodologically for a particular topic [11]. The strategy used in searching for articles is to use research articles that are according to the topics in the Google Scholar database, PubMed, Science Direct and Research Gate. This systematic review is limited to a literature search in the last 10 years (2012-2022) by using the following keywords: *IMCI, Factors, determinant, Perception, Implementation* "integrated management of childhood illnesses" with determination questions that follow the PICO technique. Where each question P is a sample with or without determinant factor, I is IMCI implementation, C is IMCI influence factor, O is IMCI workers' perception of health. The inclusion criteria in this literature review were articles in the form of articles *full-text*, in Indonesian and English published in the last 10 years, research articles in it include 3 or more search keywords in the database. The journal review flow is adjusted to the following figure.

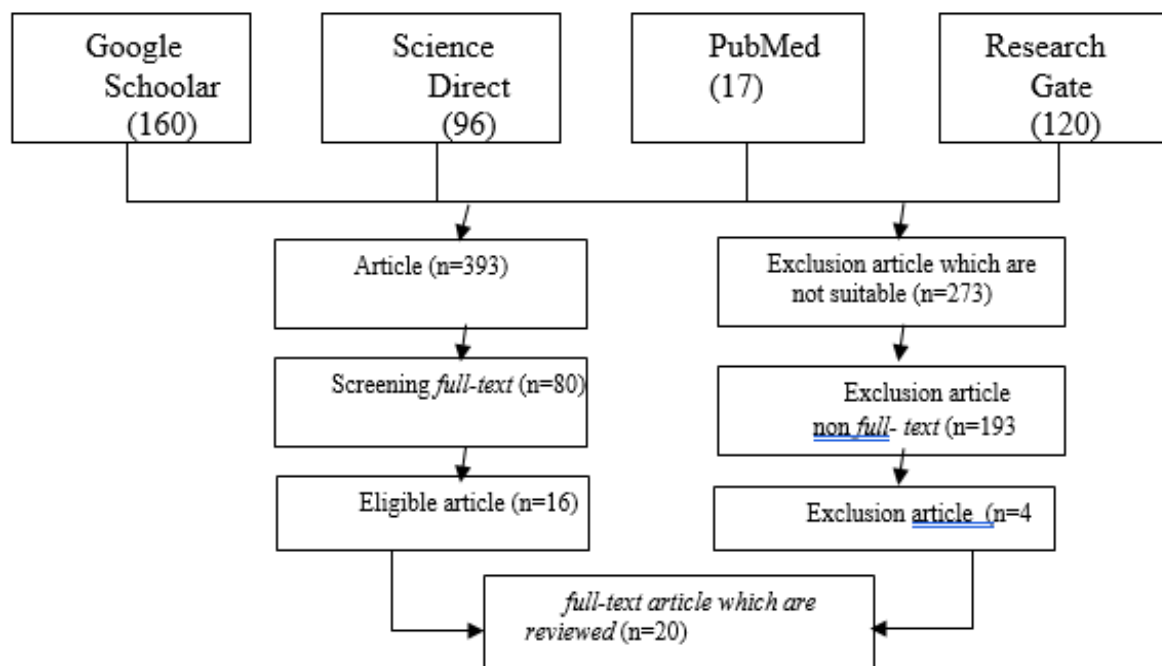


Fig. 1. Flowchart of search results and article selection

**Table 1. Systematic review**

<b>No</b>	<b>Article Identity</b>	<b>Article Summary</b>
<b>1</b>	<p>Title: Factors inhibiting implementation of Integrated Management of Childhood Illnesses (IMCI) in primary health care (PHC) facilities in Mafikeng subdistrict                      Authors: Felicia, I'm Not Afraid, Lufuno Makhadob, Molekodi Matsipanea [7]                      Publish: International Journal of Africa Nursing Sciences, Science Direct                      Link: <a href="https://www.sciencedirect.com/science/article/pii/S2214139118300428">https://www.sciencedirect.com/science/article/pii/S2214139118300428</a></p>	<p>Purpose: The aim of this study was to explore and describe the inhibiting factors for implementing IMCI in primary health care facilities (PHC) in selected sub-districts in the Northwest Province, South Africa.                      Metode: A qualitative, exploratory, descriptive-contextual framework                      Results: Participants were professional nurses aged between 25 and 50 years. From these data, among others, the organizational and structural factors that hinder the implementation IMCI; education, training and awareness; behavior and attitudes of nurses towards the implementation of IMCI; and factors related to caregivers in implementing IMCI.</p>
<b>2</b>	<p>Title : Knowledge on integrated management of childhood illness among health and family planning field workers                      Authors: Khatun et al. [12]                      Publish: Asian Journal of Medical and Biological Research                      Link: <a href="https://www.banglajol.info/index.php/AJMBR/article/view/53309">https://www.banglajol.info/index.php/AJMBR/article/view/53309</a></p>	<p>Purpose: This study aims to assess the level of knowledge about IMCI among health and family planning field workers.                      Metode: Convenience sampling and a semi-structured questionnaire                      Results: Among respondents, 42.6% did not know one of the goals and 46.8% of respondents knew one of the IMCI components, 51.5% of respondents knew that IMCI was to improve the health system and 35.3% of respondents knew that IMCI was to improve family and community practices. Signs of diarrhea in infants aged 0-2 months were not known by 27.8% of respondents. Most of the respondents (72.2%) had knowledge about increased respiratory rate as a sign of pneumonia. Among the respondents, 42.6% of respondents had less knowledge about IMCI, 28.7% had good knowledge and (28.7%) had moderate knowledge. The level of knowledge is significantly related to age (p&lt;0.026), gender (p&lt;0.001), workplace (p&lt;0.001), position (p&lt;0.001), type of work (p&lt;0.001), length of work (p&lt;0.001) , training status (p&lt;0.002).</p>
<b>3</b>	<p>Title : Knowledge Concerning IMCI Intervention Strategy among Trained And Untrained Healthcare Providers in Port Harcourt Primary Healthcare Centres                      Authors: Amachree &amp; Eleke, (2022)                      Publish: International Journal of Nursing</p>	<p>Aim: To examine IMCI intervention strategies between trained and untrained health care providers in Port Harcourt Primary Health Center in Nigeria                      Method: questionnaire                      Results: respondents who did not receive IMCI training (score 45.8%,</p>

No	Article Identity	Article Summary
	Link: <a href="http://ijnnet.com/journals/ijn/Vol_9_No_1_June_2022/3.pdf">http://ijnnet.com/journals/ijn/Vol_9_No_1_June_2022/3.pdf</a>	criterion 70%). IMCI knowledge of respondents who attended IMCI training (50%). There was no significant difference in knowledge about IMCI between groups (trained vs. untrained, $p = >0.05$ ). Knowledge regarding IMCI was inadequate among IMCI trainees and untrained health service providers and the training did not appear to significantly improve IMCI knowledge. In the recommendations, mentoring and supervision should be explored in addition to frequent refreshes IMCI training for health service providers.
4	<p>Dominant Factors Influencing the Implementation of Integrated Management of Sick Toddlers (IMCI) in All Health Centers in Tasikmalaya City, West Java</p> <p>Author :Asep Setiawan, Budiman and Chatarina</p> <p>Healthcare Nursing Journal Faculty of Health Sciences UMTAS E-ISSN : 2655-6812, Volume 2 Number 1, August 2019</p> <p><a href="http://journal.umtas.ac.id/index.php/healthcare">http://journal.umtas.ac.id/index.php/healthcare</a></p>	<p>Results: the factors that are more dominant in IMCI implementation are:</p> <ol style="list-style-type: none"> <li>Factors-Leadership &amp; ability of health workers (knowledge, leadership support, supervision, completeness of filling out the registration form</li> <li>Internal coordination of health &amp; support workers (attitude, work motivation and completeness of medicines)</li> <li>Facilities and infrastructure (availability of polyclinic and equipment).</li> </ol>
5	<p>Factors Influencing Implementation of Integrated Management of Childhood Illnesses (IMCI) among Health Care Workers in Selected Primary Health Centres in Ibadan, Nigeria</p> <p><a href="https://www.ajol.info/index.php/ajhs/article/view/237594">https://www.ajol.info/index.php/ajhs/article/view/237594</a></p> <p>Afr. J. Health Sci. 2022 35(5): 662-670]</p> <p>Author :Oladokun, Temitope Florence, Odetola, Titilayo Dorothy and Abiona, Mary3</p>	<p><b>Results:</b> showed that majorities (68.1%) of the respondents were trained in IMCI, and a significant number (65.3%) had adequate knowledge about IMCI. Slightly above average out of the participants had strong perceptions of lack of adequately trained staff (52.8%) and scarcity of trained staff concerning numerous children searching for treatment (52.8%) as barriers to implementing IMCI. The identified motivators for implementing IMCI were the training and retraining of healthcare workers and the provision of working aids.</p> <p><b>Conclusion:</b> Therefore, it is recommended that appropriate measures should be taken to reduce the barriers and improve the motivators for IMCI implementation.</p>
6	<p>Factors inhibiting implementation of Integrated Management of Childhood Illnesses (IMCI) in primary health care (PHC) facilities in Mafikeng sub-district</p> <p>Autor Felicia I'm Not Afraid, Lufuno Makhado, Molekodi Matsipane</p> <p><a href="https://www.sciencedirect.com/science/article/pii/S2214139118300428">https://www.sciencedirect.com/science/article/pii/S2214139118300428</a></p> <p><a href="https://doi.org/10.1016/j.ijans.2019.100161">https://doi.org/10.1016/j.ijans.2019.100161</a></p>	<p>Result: Participants were professional nurses aged between 25 and 50 years. Themes emerging from the data included organizational and structural factors inhibiting IMCI implementation; education, training and awareness; the behavior and attitude of nurses towards IMCI implementation; and caregiver related factors affecting IMCI implementation.</p>

No	Article Identity	Article Summary
	Volume 11, 2019, 100161	<p>Concussion The study revealed that professional nurses need effective support, mentoring and supervision throughout IMCI implementation by the Mother, Child and Women Health (MCWH) coordinators. Caregivers and mothers need to know the importance of providing a comprehensive child history to professional nurses and therefore they need to be encouraged to disclose all relevant information during the IMCI process.</p>
7	<p>Factors Influencing The Implementation Of Integrated Management of Childhood Illness In The Area Military Health Unit Gauteng And 1 Military Hospital In Tshwane Gauteng  <a href="http://scholar.sun.ac.za/handle/10019.1/106060">http://scholar.sun.ac.za/handle/10019.1/106060</a>                      Cilliers, Anna Christina Maria (2019-04)</p>	<p>The results revealed that the main factors influencing the implementation of IMCI is lack of follow-up training, not enough IMCI-trained staff, no supervisory support, unavailability of IMCI wall charts and staff not utilizing standardized IMCI checklists. The researcher recommends that all supervisors attend IMCI training and that training be extended to include other categories of healthcare workers, such as medical practitioners and clinical associates. Furthermore, continuous monitoring, evaluation and supervisory support should be reflected in monthly reports. Lastly, follow-up training, workshops, symposiums and refresher courses on IMCI should be offered.</p>
8	<p>Key challenges of health care workers in implementing the integrated management of childhood illnesses (IMCI) program: a scoping review                      Author : Mark Donald Reñosa, Sarah Dalglish, Kate Bärnighausen &amp; Shannon McMahon  <a href="https://doi.org/10.1080/16549716.2020.1732669">https://doi.org/10.1080/16549716.2020.1732669</a></p>	<p><b>Results:</b> Four key challenges emerged from analysis: 1) Insufficient financial resources to fund program activities, 2) Lack of training, mentoring and supervision from the tertiary level, 3) Length of time required for effective and meaningful IMCI consultations conflicts with competing demands and 4) Lack of planning and coordination between policy makers and implementers resulting in ambiguity of roles and accountability. Although the IMCI program can provide substantial benefits, more information is still needed regarding implementation processes and acceptability in primary health care settings.</p> <p><b>Conclusion:</b> 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.</p>

No	Article Identity	Article Summary
9	<p>Factors Influencing the Implementation of Integrated Management of Childhood Illnesses in Selected Health Center,2021 Author : Temitope D Afolalu* International Journal of Family Medicine and Primary Care</p>	<p><b>Result:</b> It was deduced from the findings that majority of the healthcare workers have not received IMCI training, it was also deduced that factors such as lack of essential drugs, patient's resistance to drug are some of the factors that hinders the implementation. Factors such as; increase in the provision of essential drugs, provision of charts, and training of healthcare workers are some of the factors that can promote the implementation of IMCI.</p> <p><b>Conclusion:</b> The study confirmed that there is low level of IMCI training among health care workers which is consistent with previous studies. Therefore, more healthcare workers should be trained and tools and materials needed for the implementation should be made available.</p>
10	<p>Factors influencing implementation of integrated management of childhood illness in Lindi Region, Southern Tanzania Author : Boniface Idindili1* , UI Haq Zaeem2 , Steven Ayella2 ; Sumaiya G. Thawar1 ; Majige Selemani1, Strinic Dragana2 And John Kallage2 Tanzania Journal of Health Research Doi: <a href="http://Dx.Doi.Org/10.4314/Thrb.V20i1.7">Http://Dx.Doi.Org/10.4314/Thrb.V20i1.7</a> Volume 20, Number 1, January 2018</p>	<p><b>Result:</b> All health facilities visited were found to have adequate supply of IMCI equipment. However, there was inadequate availability and distribution of clinical officers in the districts. None of the 41 clinical officers observed, assessed sick children for all items in the IMCI checklist. Furthermore, health centers and dispensaries were found to have a serious shortage of essential medicines. Oral antibiotics for bacterial infections were available across health facilities. Amoxicillin was found in 4(44%) health centers and 7 (46.7%) dispensaries; Ampicillin was only available at 4(44.4%) health centers and 1 (6.7%) dispensary. Considerable challenges in access to health services were identified and they included long distances to health facilities, inadequate and unaffordable transport systems and continuous limited quality of care due to shortages of trained staff and drug stock outs. In addition, caregivers were found to have limited awareness of danger signs and symptoms of childhood illnesses.</p> <p><b>Conclusion:</b> The implementation of IMCI services in the three districts of Lindi region experiences multiple challenges despite the availability of adequate infrastructure for program implementation. This calls for strengthened supportive supervision, constant provision of medical supplies and training of IMCI health workers to improve services delivery to sick children. In addition, community level promotion of</p>

No	Article Identity	Article Summary
11	<p>An Overview of the Knowledge and Motivation of IMCI Staff Regarding the Implementation of IMCI at the Lubuk Buaya Public Health Center, Padang                      Author: Nurhayati Siregar*, Yofa Sukmawati, Eza Yuliarni                      Basic And Applied Nursing Research Journal  <a href="http://dx.doi.org/10.11594/banrj.02.01.03">http://dx.doi.org/10.11594/banrj.02.01.03</a></p>	<p>prompt modern health care seeking behavior is essential to enhance childhood illness care and treatment.</p> <p><b>Results:</b> From 37 staff implementing IMCI, it was found that 31 (83.8%) staff had implemented IMCI well, 36 (97.3%) staff had high knowledge, and 23 (62.2%) staff had high motivation.</p> <p><b>Conclusions:</b> This study shows that the knowledge and motivation of IMCI implementers are good in implementing IMCI. It is hoped that every IMCI implementer will further increase knowledge about IMCI and its performance so that all sick toddlers get the best IMCI services to prevent death in these toddlers.</p>
12	<p>Integrated Management of Childhood Illnesses implementation-related factors at 18 Colombian cities                      Author: Andrés Mauricio García Sierra* and Jovana Alexandra Ocampo Cañas <a href="https://bmcpublihealth.biomedcentral.com/">https://bmcpublihealth.biomedcentral.com/</a>                      García Sierra and Ocampo Cañas BMC Public Health (2020) 20:1122<a href="https://doi.org/10.1186/s12889-020-09216-0">https://doi.org/10.1186/s12889-020-09216-0</a></p>	<p><b>Results:</b> Information was obtained from 165 medical appointments made by nurses, general practitioners, and pediatricians. Health access is given mainly in the urban area, in the first level care and outpatient context. Essential medicines availability, necessary supplies, second-level care, medical appointment periods longer than 30 min, and care to the child under 30 months are often related to higher rates of Integrated Care Index.</p> <p><b>Conclusion:</b> Health care provided to children under five remains incomplete because it does not present the basic minimums for the adequate IMCI's implementation in the country. It is necessary to provide integrated care that provides medicine availability and essential supplies that reduce access barriers and improve the system's fragmentation.</p>
13	<p>Patient factors that influence the implementation of policy on management of childhood illnesses in bomet county.                      Author : Geoffrey Kipkorir Chalulot, Susan Njuguna, Eunice Ndirangu  <i>African Journal of Emerging Issues</i>                      Link : <a href="https://ajoeijournals.org/sys/index.php/ajoei/article/view/36">https://ajoeijournals.org/sys/index.php/ajoei/article/view/36</a></p>	<p><b>Results:</b> The study found that Patient factors have a significant influence on the implementation of the policy on management of childhood illnesses in Bomet County. The study found that the level of knowledge respondents provided to the patients on IMCI and ETAT in the hospital and the level of access for patients to the hospital significant at <math>p &gt; 0.01</math>. The study further discovered a significant positive relationship between patient factors and implementation of policy on management of childhood illnesses where a unit increase in patient factors would lead an increase in implementation of policy by 0.350.</p>



No	Article Identity	Article Summary
14	<p>The Evaluation of the Application on Integrated Management of Childhood Illness (IMCI) Referred to Acute Diarrhea in Sick Children from 2 Months to 5 Years Old at Community Health Centers, Dili, Timor Leste                      International Journal of Innovative Science and Research Technology                      Author: Joaquim Pinto, Lidia Gomes and Avelino Guterres Correia                      Link <a href="http://www.ijisrt.com/">http://www.ijisrt.com/</a></p>	<p><b>Recommendations:</b> The study recommended that awareness should be created for patients to demand for services on management of childhood illnesses.</p> <p><b>Result:</b> The study found high levels of adherence to the IMCI guidelines for assessment and classification of cases, but low levels of adherence to guidelines for treatment, counselling and follow-up of these children. Overall 61.7% of the case files showed adherence to guidelines. Explanations for non-adherence to guidelines were related to shortages of resources such as zinc tablets and a lack of mentoring, follow up training and supervision of health workers.</p>
15	<p>Factors Influencing the Implementation of Integrated Management of Sick Toddlers (IMCI) at Community Health Centers in Tabanan Regency in 2016                      Author: Kadek Dwi Adnyani</p>	<p>From the results of the analysis, it was found that 3 of the 6 independent variables had a significant influence, namely: Knowledge (OR=5.8 95% CI=1.10-23.4, p = 0.03), Training (OR= 5.3 95% CI = 1.4 - 21.1, p = 0.014), leadership support (OR = 10, 95% CI = 1.8-55.9, p = 0.004), from the results of the logistic regression analysis it was found that only 2 variables had significant effect p&gt; 0.05. the training variable has a value (OR= 13.2 95% CI=1.6-109.4) and the support of the head of public health center has a value (OR=36.2 95% CI = 2.4 - 560.6). From this study it can be concluded that the achievement of IMCI in Tabanan is still low, influenced by not all midwives have received training and the lack of leadership support from the head of the public health center.</p>
16	<p>Integrated Management of Childhood Illness (IMCI) implementation at community health centers in Aileu municipality, Timor Leste: Health Workers "Perceptions                      Author : Joaquim Pinto, et al [13] contents lists available at Science Direct, journal homepage                      :<a href="https://www.sciencedirect.com/journal/healthcare">https://www.sciencedirect.com/journal/healthcare</a></p>	<p>The results: showed that the values of the parameters observed namely assessment, classification, treatment, counseling to the mother and follow-up are 83.3%, 97,10.5%, 88.45%, 44,76%, and 39%, respectively. There were high levels of adherence to the IMCI guidelines for the assessment and classification of cases, compared to treatment, counseling, and follow-up. Approximately 70,64% of the case files adhered to guidelines, while non-adherence was related to shortages of resources such as limited materials and trained staff. It was discovered that healthcare workers accuse one another of IMCI implementation in all health facilities, the lack of routine monitoring, evaluation, and supervision from the competent authority. Therefore, it</p>

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17	<p>Factors inhibiting implementation of Integrated Management of Childhood Illnesses (IMCI) in primary health care (PHC) facilities in Mafikeng subdistrict</p> <p>Authors: Felicia, I'm Not Afraid, Lufuno Makhadob, Molekodi Matsipanea [7] Publish: International Journal of Africa Nursing Sciences, Science Direct Link: <a href="https://www.sciencedirect.com/science/article/pii/S2214139118300428">https://www.sciencedirect.com/science/article/pii/S2214139118300428</a></p>	<p>is concluded that the level of adherence to guidelines on the application of IMCI in Ailleu Municipality is 70,64% only.</p> <p>Purpose: The aim of this research is to explore and describe the inhibiting factors for the implementation of IMCI in primary health care facility (PHC) in selected sub-districts of the North West Province, South Africa Methods: A qualitative, exploratory, descriptive-contextual framework Results: Participants were professional nurses aged between 25 and 50 years. From these data, among others, the organizational and structural factors that hinder the implementation of MTBS; education, training and awareness; behavior and attitudes of nurses towards the implementation of MTBS; and factors related to caregivers in implementing MTBS</p>
18	<p>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</p> <p>Authors: Mamo Abebe - The Best of Mamo Abebe [14] Publish: International Journal of Pediatrics Link: <a href="https://www.scienceopen.com/document_file/9d752767-4d51-4d3b-b4fb-79295d7af9df/PubMedCentral/9d752767-4d51-4d3b-b4fb-79295d7af9df.pdf">https://www.scienceopen.com/document_file/9d752767-4d51-4d3b-b4fb-79295d7af9df/PubMedCentral/9d752767-4d51-4d3b-b4fb-79295d7af9df.pdf</a></p>	<p>Objective: To examine the factors influencing the implementation of the IMNCI strategy by health professionals at Yifat cluster public health institutions in North Shewa zone, Ethiopia, 2018 Method: cross-sectional study Results: Data were obtained from 201 healthcare professionals, yielding a 100% response rate. IMNCI implementation as a whole is 58% high level implementation and 42% low level implementation. In multivariate analysis of implementation of IMNCI higher among trained health workers IMNCI 2.7, 95% CI: (1.1.278, 4.562)) and among those who always refer to the chart booklet [2.76, 95% CI: (1.753, 5.975)]. the IMNCI strategy can be better implemented through the provision of training for health workers.</p>
19	<p>Knowledge on integrated management of childhood illness among health and family planning field workers</p> <p>Authors: Khatun et al. [12] Publish: Asian Journal of Medical and Biological Research Link: <a href="https://www.banglajol.info/index.php/AJMBR/article/view/53309">https://www.banglajol.info/index.php/AJMBR/article/view/53309</a></p>	<p>Purpose: This study aims to assess the level of knowledge about IMCI among health and family planning field workers.</p> <p>Method: Convenience sampling and a semi-structured questionnaire Results: Among respondents, 42.6% did not know one of the goals and 46.8% of respondents knew one of the IMCI components, 51.5% of respondents knew that IMCI was to improve the health system and 35.3% of respondents knew that IMCI was to improve family and</p>

No	Article Identity	Article Summary
20	<p>Integrated Management Of Childhood Illnesses (IMCI) Implementation-Related Factors At 18 Colombian Cities Author : Andrés Mauricio García Sierra * and Jovana Alexandra Ocampo Cañas Publiserh : BMC Public Health Journal García Sierra and Ocampo Cañas BMC Public Health (2020) 20:1122 <a href="https://doi.org/10.1186/s12889-020-09216-0">https://doi.org/10.1186/s12889-020-09216-0</a></p>	<p>community practices. Signs of diarrhea in infants aged 0-2 months were not known by 27.8% of respondents. Most of the respondents (72.2%) had knowledge about increased respiratory rate as a sign of pneumonia. Among the respondents, 42.6% of respondents have knowledge n less about IMCI, 28.7% have good knowledge and (28.7%) have moderate knowledge. The level of knowledge is significantly related to age (<math>p&lt;0.026</math>), gender (<math>p&lt;0.001</math>), workplace (<math>p&lt;0.001</math>), position (<math>p&lt;0.001</math>), type of work (<math>p&lt;0.001</math>), length of work (<math>p&lt;0.001</math>), training status (<math>p&lt;0.002</math>).</p> <p>Results: Information was obtained from 165 medical appointments made by nurses, general practitioners, and pediatricians. Health access is given mainly in the urban area, in the first level care and outpatient context. Essential medicines availability, necessary supplies, second-level care, medical appointment periods longer than 30 min, and care to the child under 30 months are often related to higher rates of Integrated Care Index. Conclusion: Health care provided to children under five remains incomplete because it does not present the basic minimums for the adequate IMCI's implementation in the country. It is necessary to provide integrated care that provides medicine availability and essential supplies that reduce access barriers and improve the system's fragmentation.</p>

## 2. DISCUSSION

### A. IMCI implementation

IMCI is a program that is very efficient and effective because in its implementation it is carried out in an integrated and comprehensive manner, which means that every sick children who is brought to the Community Health Center must be assessed in details, starting from general danger signs to immunization. As reported by WHO, IMCI focuses on sick children aged 0-59 months which can be treated as a whole, IMCI is not a health program but an approach or way of managing sick toddlers. The concept of the IMCI approach, which was first introduced by WHO, is a form of health service effort strategy aimed at reducing mortality, morbidity and disability of infants and children in developing countries [1]. To improve the quality of IMCI services in every health facility, trained personnel are needed so that they can understand the concept of implementation in a directed manner starting with assessment, classification, identification treatment, treatment, counseling and follow-up. This is supported by research by [13], that assessment, classification, treatment, counseling to mothers and follow-up, where show that lack regular monitoring, evaluation and supervision by health authorities in district and national levels so that the health workers are also not motivated in compliance with usage guidelines IMCI. It is also highly supported by Research by Pandya et al., (2018) shows obstacles to implementing IMCI including the inability of trained nurses, lack of coordination at various levels in implementation. Also Result of study from Reñosa, et al [10] showed "four key challenges emerged on IMCI implementation are Insufficient financial resources to fund program activities, Lack of training, mentoring and supervision from the tertiary level, Length of time required for effective and meaningful consultations conflicts with competing demands and Lack of planning and coordination between policy makers".

The IMCI strategy is a guideline that provides opportunities for stakeholders and partnership in its implementation. As pointed out by Padilla-Choperena et al., (2018) IMCI practices are closely related to the distribution of disease control competencies (80% to 99.3%), and (66.9%) do not recognize signs of danger; infrequently used practices related to health promotion and prevention of common diseases (23%-57.9%). Social mobilization with an ethno cultural approach has a medium frequency of use (60% to 79%). Likewise Ehsanur Rahman et

al., (2022) the IMCI service conducted oximetry tests for all children who were hospitalized, where; 69-95%/min. In cases of pneumonia/severe pneumonia it also affects oximetry values, while Tjirare & Tlale, (2021) in their research showed that successful implementation of the IMCI strategy properly will help drastically reduce infant mortality before the age of five.

### B. The Impact of IMCI implementation

As reported by Meno et al. [7], the inhibiting causes factors for the implementation of IMCI in primary health care facilities (PHC) are the health professional's age factor, which hinders education, training and awareness; behavior and attitudes of nurses towards the implementation of IMCI; and factors related to caregivers in the implementation of IMCI. One of the factors hindering the implementation of IMCI is the national and regional strategies that do not provide space for stakeholders to review, monitor and evaluate the program. It is supported by [14] assessing the factors influencing the implementation of the IMCI strategy by health professionals in public health institutions only reached 58%.

Economic factors are also one of influencing people to bring their child's to health care facilities, this is supported by [15] economic factors are important indicators to help people make decisions to bring their children to get treatment. Therefore, to support program implementation in order to reduce morbidity and mortality children's rate, intensive provision by the government is needed to motivate people to bring their children to health facilities.

The knowledge factor is also the dominant factor for increasing the ability of the community to participate in improving public health status. Therefore, the community needs to be given health education in the hope that it can change attitude and behavior. This is supported by research results [12], shows that the higher of education the community's knowledge, the higher the participation in reducing the incidence of diarrhea and only 46.8% know how to treat diarrhea at home. Also 27.8% did not know about symptoms of diarrhea, and 42.6% did not know about IMCI.

It is not only a matter of increasing public knowledge to participate in the implementation of IMCI in order to improve public health status to access health facilities but also training health workers who work in health facilities to provide

quality services. Health workers who have been trained by IMCI also need to be supported by leaders and adequate infrastructure. It is supported by [16] was deduced from the findings that “majority of the healthcare workers have not received IMCI training, it was also deduced that factors such as lack of essential drugs, patient’s resistance to drug are some of the factors that hinders the implementation. Factors such as; increase in the provision of essential drugs, provision of charts, and training of healthcare workers are some of the factors that can promote the implementation of IMCI”.

### C. The Perception Health professional on IMCI Implementation

According to Philip Kotler (2017), meaning perception is a process in which individuals select, organize, and interpret information inputs to create a meaningful overall picture. In the implementation of IMCI there is always a perception from health workers about the implementation of IMCI because it is not supported by the proper division of tasks. This is supported by the results of research showed that “majorities (68.1%) of the respondents were trained in IMCI, and a significant number (65.3%) had adequate knowledge about IMCI” [17]. “Slightly above average out of the participants had strong perceptions of lack of adequately trained staff (52.8%) and scarcity of trained staff concerning numerous children searching for treatment (52.8%) as barriers to implementing IMCI. The identified motivators for implementing IMCI were the training and retraining of healthcare workers and the provision of working aids” [13,18-21].

### 3. CONCLUSION

Integrated Management of Childhood Illness (IMCI) is an integrated approach in the management of sick childrens by focusing on the overall health of children aged 0-5 years. IMCI activities are an effort to help reduce morbidity and mortality while improving the quality of health services at various levels of basic health services such as at public health centers. Evaluation, and routine supervision from the authorities, district and national levels so that health workers are also not motivated to use IMCI guidelines in providing services.

Impact to implementation IMCI are the availability of trained IMCI officers, knowledge factor, economic factors, motivational factors, availability of facilities and infrastructure, routine

supervision by health authority and frequent refreshing training.

There needs to be a common perception between health workers in each facility so that there is no mutual accusation in the implementation of IMCI. This is supported by the lack of a clear division of tasks by the competent authorities so that the health professionals accuse each other.

### CONSENT AND ETHICAL APPROVAL

It is not applicable.

### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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