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Assessment of Philippine Integrated Management of Acute Malnutrition (PIMAM) Program Implementation and Challenges in Maguindanao Hospitals, Philippines

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ABSTRACT

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This study aimed to evaluate the implementation of the Philippine Integrated Management of Acute Malnutrition (PIMAM) Program in Maguindanao Provincial Hospital (MPH), Dinaig Municipal Hospital (DMH), and South Upi Municipal Hospital (SUMH), Philippines. Employing a descriptive-evaluative design, data were gathered from 107 respondents comprising top management and hospital staff, selected via purposive sampling. A survey questionnaire was utilized as the primary data collection tool, supplemented by secondary data obtained from hospitals'

PIMAM-ITP coordinators regarding the status of patients upon discharge from the Inpatient Therapeutic Program (ITP). Data were analyzed using mean and percentage. Results indicated high levels of implementation of PIMAM-ITP across the hospitals concerning guidelines, facilities, materials, screening, treatment, and discharge procedures. Notably, 74% of discharged patients from ITP hospitals were classified as "successfully treated," with the remaining categorized as defaulter (16%), deceased (8%), medically transferred (2%), or non-respondent (0%). The program demonstrated effectiveness in systematically addressing acute malnutrition. However, challenges persisted, particularly concerning caregiver compliance and funding allocation for training on the National Guidelines for the Management of Severe Acute Malnutrition among personnel involved in program implementation.

INTRODUCTION

Nutrition is one physiological need that every human being must meet. It is derived from our food; hence, the amount we nourish from it depends on the quality and quantity of those we take (Chen et al., 2018). Any deviation from the ideal, whether more than what is only required or less than necessary, dramatically impacts the kind of lives we live – this is generally termed malnutrition (Saad et al., 2018). Malnutrition refers to deficiencies, excesses, or imbalances in a person's energy and nutrient intake. Undernutrition (micronutrient-related malnutrition), over-nutrition (overweight and obesity), and diet-related non-communicable diseases are all included under the umbrella term malnutrition. Undernutrition is the outcome of insufficient food intake and repeated infectious diseases. One known risk factor for early childhood death and morbidity is low birth weight (LBW). But little attention has been paid to its link to undernutrition (Ntenda, 2019).

In Brunei Darussalam, malnutrition, which encompasses both undernutrition and overnutrition, presents a significant human capital and economic development challenge across most ASEAN Member States. However, most of ASEAN's lower-income countries still need an agenda regarding malnutrition (Mbuya et al., 2019). Resolving malnutrition requires navigating across many pathways and integrating interventions in multiple sectors, such as effective policy-making that considers factors in socioeconomic and cultural drivers of malnutrition and applies them strategically across life stages, which is essential to prevent the passage of malnutrition to future generations (Rosdy et al., 2022). Besides, as a member of the United Nations (UN) that committed to meeting the seventeen (17) Sustainable Development Goals (SDGs) for which

number two (2) is Zero Hunger and also as a signatory to the global Scaling-Up Nutrition (SUN) Movement last 2013, Philippines has now been strengthening its efforts to address this persistent issue in health (Gillespie et al., 2019).

Undeniably, the problem of this concern has been making a remarkable scene worldwide as various nations nowadays are challenged to some extent by the number of malnutrition cases they have in statistics. In fact, according to the Global Alliance for Improved Nutrition (GAIN), 2 billion people in the world are suffering from malnutrition, for which most are children, and 2.6 million children's deaths every year are attributable to the condition in the form of undernutrition (Prinsen, 2019). The Philippines has never been left out on this negative aspect. The 2017 End of Childhood Survey by Save the Children Organization ranked the best and worst countries for children to be born in, on which malnutrition is a significant indicator; the Philippines ranked 96th out of 172 countries, lagging behind neighbors Vietnam, Thailand, and Malaysia. The survey revealed that the Philippines performed poorly on child malnutrition, which affects more than 30 percent of children across the country, and child mortality or children dying before they reach the age of five constitutes 28 percent of deaths per 1,000 live births (Menon, 2017).

Although highly preventable, there are still cases of malnutrition that unfortunately reach the severe stage (Severe Acute Malnutrition). Severe Acute Malnutrition (SAM) already warrants Inpatient Treatment (Hospital Care) to manage the condition and all the complications to prevent undesirable outcomes such as death (O'Sullivan et al., 2018). It would be immoral to develop a program for the detection of acute malnutrition that relies simply on MUAC or WHZ, as this would result in a large number of children going undetected. More than 10% of children under five in Cambodia suffer from acute malnutrition, which is still a major public health concern (Wieringa et al., 2018). MUAC is a simple and low-cost indicator to screen for acute malnutrition in communities. Still, MUAC cut-offs currently recommended by the World Health Organization do not identify the majority of children with weight-for-height Z-score (<-2 (moderate malnourished) or r<-3 (severely malnourished) (Fiorentino et al., 2016).

Although malnutrition steadily decreases in many low- and middle-income countries, nutritional challenges persist in remote communities, such as those in the mountainous Lao People's Democratic Republic (Boulom, 2020). This is why many countries, such as the Democratic People's Republic of Korea, Mongolia, and Timor-Leste, are committed to establishing a nutrition supply chain system for severe acute malnutrition treatment. Likewise, Cambodia, the Philippines, and Papua New Guinea are committed to advocating and ensuring the inclusion of SAM commodities in the national list of essential

drugs, including local production of Ready-to-Use Foods (RUTFs), as well as increasing accessibility of these foods through mapping of potential producers (both national and international) (De Bustos, Basquin, & Rudert, 2016).

However, in Indonesia, severe acute malnutrition in children younger than five years is addressed through community mobilization. This strategy includes securing political leadership, effective messaging, locally tailored strategies, and continuous ground-level support (Bait et al., 2019). Eradication of malnutrition remains a key development goal, and more spatially detailed data can guide efficient intervention strategies (Jasper et al., 2022). Furthermore, in Malaysia, low birth weight, history of recurrent or chronic diarrhea, daily meal number less than 3, age of breastfeeding cessation less than six months, age of introduction of complementary diets less than six months, maternal age below 25 years, parity less than 5, family history of malnutrition, and number of children under five over 2 were predictive factors of severe acute malnutrition (Mukuku et al., 2019). This prevalence of malnutrition among children admitted to a hospital was 14%. This is why the Malaysian government ensures that strategies for systematic screening and nutritional support for children at risk of severe acute malnutrition and its treatments requiring hospitalization are needed (Lee & Ahmad, 2017).

To treat acute malnutrition in Filipino children under five years old, the Philippine Integrated Management of Acute Malnutrition (PIMAM) program was created in 2015. A child's ability to develop properly is hindered and their chance of death is increased by severe acute malnutrition. It is still a significant worldwide health issue for children under five (Calleja, 2021). However, the Philippine government has approved the National Guidelines for Management of SAM as an evidence-based, equity-focused nutrition intervention for children under five following a thorough and comprehensive process (Garg et al., 2016). It burdens a child's overall health, contributes to mortality, and financially strains the family and the hospital (Pabustan-Calleja et al., 2023). Thus, the Department of Health (DOH) released the Administrative Order (AO) 2015-0055 as the National Guidelines on the Management of Acute Malnutrition for Children under five (5) years old, making it part of the DOH's regular programs and incorporating into all levels of treatment including in the hospital facility for severe cases. This pressing scenario prompted the country to adopt and consistently demonstrate the Integrated Management of Acute Malnutrition (IMAM) for the past eight (8) years in emergency and non-emergency programs.

FRAMEWORK

The study utilized the Input-Process-Output framework of evaluation anchored on the famous work of Karl Ludwig von Bertalanffy (19 September 1901 – 12 June 1972), known as the General System Theory. This interdisciplinary practice describes a system with interacting components (Von Bertalanffy, 1955).

The input denoted the level of the implementation of the PIMAM Inpatient Therapeutic Program (ITP) in the hospitals in Maguindanao in terms of guidelines, facilities, and materials.

The process of determining the input was identified based on the level of the implementation of the PIMAM Inpatient Therapeutic Program (ITP) procedures in the hospitals in Maguindanao in terms of Screening (Appetite Test, MUAC measurement, Z-Score determination, skin assessment, and enrolment to PIMAM); Treatment (therapeutic milk, RUTF, medical management of complications and counseling and health teachings) and the Discharging.

The output was the program's outcome, based on the patient's status upon discharge from the Inpatient Therapeutic Program (ITP) as taken from hospitals" PIMAM Registration records of discharges for the last three years.

Furthermore, the feedback reflected the responses of the respondents on the program. Thus, the respondents were asked for comments and suggestions to improve the PIMAM Inpatient Therapeutic Program (ITP) quality. These variables were framed as a schematic diagram of the study (see Figure 1).

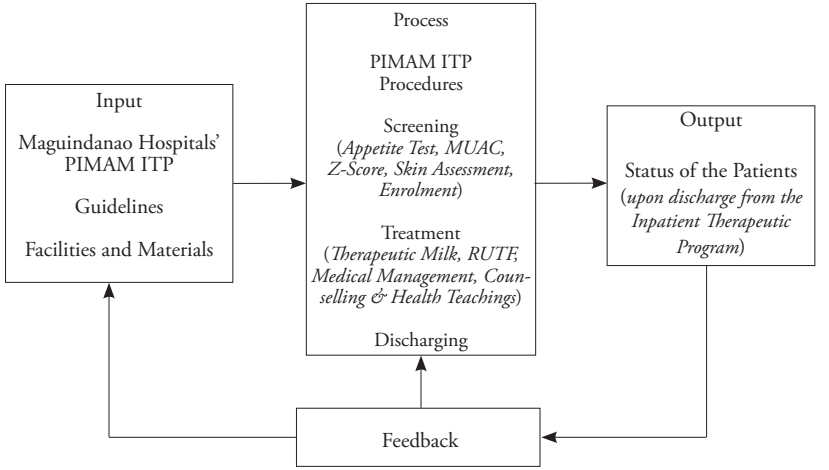


Figure 1. Schematic Diagram of the Study

OBJECTIVES OF THE STUDY

The study aimed to determine the implementation of the Philippine Integrated Management of Acute Malnutrition (PIMAM) Program among hospitals in Maguindanao. The PIMAM Inpatient Therapeutic Program (ITP) was measured in terms of Guidelines, Facilities, and Materials following the procedures such as Screening like Appetite Test, MUAC measurement, Z-Score determination, Skin Assessment, and Enrolment to PIMAM, Treatment like Therapeutic Milk (F75 and F100); RUTF; Medical Management of Complications; and Counselling and Health Teaching, and Discharging. Also, the status of the patients upon discharge from the hospital's PIMAM Inpatient Therapeutic Program (ITP) was included as the problems encountered by the hospital's health professionals.

METHODOLOGY

Research Design and Site

This study utilized the descriptive-evaluative method to determine the implementation of the PIMAM program among hospitals in Maguindanao. The study was conducted in the three (3) hospitals under the IPHO-Maguindanao, namely Maguindanao Provincial Hospital (MPH) at Limpongo, Datu Hoffer, Maguindanao; Dinaig Municipal and Hospital (DMH) at Dinaig, Datu Odin Sinsuat, Maguindanao and South Upi Municipal Hospital (SUMH) in South Upi, Maguindanao.

Respondents

The study's respondents comprised the hospitals' top management and staff. The top management were the Chiefs of Hospitals, Chiefs of Clinics, and the Chief Nurses. The hospital staff, on the other hand, was composed of Doctors, Nurses, and Nursing Attendants identified by the hospitals' PIMAM-ITP Coordinators as the personnel involved in the program implementation of the Inpatient Therapeutic Program (ITP). The study used a complete enumeration with 107 respondents as the sample size.

Instrumentation

A self-made survey questionnaire was used to gather data to depict the implementation of the PIMAM Program in the hospitals of Maguindanao. The instrument was submitted to the experts on PIMAM-ITP to establish content validity. The results of the validated survey questionnaire yielded 4.71, which

is interpreted as excellent. Furthermore, to draw out reliability, a dry run was conducted on respondents who needed to be included in the study properly. The questionnaire result was analyzed and appropriately interpreted using the Alpha Cronbach Test, which revealed data of 0.80, suggesting a high internal consistency of reliable items.

The analysis and interpretation of the research data were facilitated using Weighted Mean, which was used to determine the level of implementation of the PIMAM Inpatient Therapeutic Program (ITP) in the hospitals in Maguindanao. Another tool used in the study was the percentage to determine the distribution of the accumulated data based on the hospital's ITC Registration Book about the patient's status as an outcome of the PIMAM Inpatient Therapeutic Program (ITP) among hospitals in Maguindanao.

Research Ethics Protocol

The study followed research ethics protocol due to the study process's in-depth nature concerning ethical issues when conducting face-to-face interviews with vulnerable participants (Arifin, 2018; Polit & Beck, 2010). They may become stressed while expressing their feelings during the interview session. The following listed below are the research ethics protocols that were observed:

Confidentiality requires using pseudonyms, an acceptable and expected ethical practice in qualitative research to maintain participants' privacy (Lahman et al., 2023).

The role of the researcher requires personal moral views and values that influence how he believes he should act in any situation (Collins & Wray-Bliss, 2005).

Trustworthiness refers to the degree of rigor or confidence in data, procedures, and interpretation employed to assure the quality of research (Polit & Beck, 2010), which includes criteria such as credibility, dependability, confirmability, and transferability (Guba & Lincoln, 1994). Each of these criteria will be described.

1) Credibility emerges through data saturation from participants' stories. Triangulation will help to compare multiple data sources to examine the credibility of the research study. Data triangulation will arise using interviews, literature reviews, and field notes (Janusheva, 2022).

2) Dependability refers to the stability of findings over time. It entails participants assessing the study's findings, interpretation, and suggestions to ensure they are all supported by the data received from the study informants (Bitsch, 2005).

3) Confirmability is the process in which the researcher can confirm the

research study's findings. Confirmability is established by continuously reflecting on the research data throughout the study (Baxter & Eyles, 1997).

4) Transferability is synonymous with generalizability (Clandinin & Connelly, 2004). Qualitative data involves anonymous human subjects, partly explaining the rank (Batt & Kahn, 2021).

RESULTS AND DISCUSSION

Table 1 presents the level of implementation of the PIMAM-ITP in the hospitals in Maguindanao in terms of guidelines, facilities, and materials, which are high, with an overall mean of 4.02. The high implementation of the Philippine Integrated Management on Acute Malnutrition-Inpatient Therapeutic Program (PIMAM-ITP) can be attributed to its alignment with national health guidelines and a concerted effort to address malnutrition issues. The program emphasizes evidence-based practices and integrates seamlessly into existing healthcare protocols. Improved facilities play a crucial role in ensuring that hospitals have the necessary resources and infrastructure to implement the program effectively, enhancing the quality of care provided to individuals affected by acute malnutrition.

Table 1
Mean Rating on the Level of Implementation of the PIMAM Inpatient Therapeutic Program (ITP) in the Hospitals in Maguindanao
n = 107

Items	Mean	Interpretation
1. Guidelines	3.82	High
2. Facilities and Materials	4.22	High
Over-all Mean	4.02	High

Legend:
4.50 – 5.00 – Very High
3.50 – 4.49 – High
2.50 – 3.49 – Moderate
1.50 – 2.49 – Low
1.00 – 1.49 – Very Low

Regarding guidelines, the results revealed a high implementation with a mean of 3.82. The results imply that the Maguindanao hospitals comply with the DOH Administrative Order 2015-0055 guidelines. All hospitals shall formulate

plans, procedures, and protocols to implement the policy and guidelines, which must adhere to all standards, requirements, and systems. The high implementation is likely driven by a commitment to national health guidelines. These guidelines serve as a framework to address acute malnutrition systematically, ensuring a standardized and evidence-based approach to patient care. Implementing PIMAM-ITP aligns with the broader goal of improving health outcomes, promoting consistency in treatment protocols, and contributing to the overall effectiveness of healthcare services in managing acute malnutrition cases.

Further, regarding facilities and materials, results revealed a high implementation of PIMAM-ITP with an overall mean of 4.22. The high implementation of the Philippine Integrated Management on Acute Malnutrition (PIMAM) in hospitals can be attributed to adequate facilities and materials. Hospitals with well-equipped facilities and the necessary materials can seamlessly integrate PIMAM into their healthcare services. This ensures that healthcare professionals have access to the required tools, therapeutic resources, and training materials, enabling them to manage acute malnutrition cases effectively. Such resources enhance the quality of care provided to individuals affected by acute malnutrition in the Philippines.

Hence, the results describe that the hospitals are fine with the provision and availability of basic materials needed to implement the Inpatient Therapeutic Program. Hospitals can maintain adequate and available supplies as enumerated in the National Guidelines on the Management of Severe Acute Malnutrition for Children under Five Years. Stakeholders, like the NGO Health Organization of Mindanao (HOM) – a UNICEF local partner, supply these materials with direct concern and involvement in malnutrition cases.

Table 2 shows the respondents' responses on the level of implementation of the PIMAM-ITP procedures in terms of screening, treatment, and discharging, which revealed a high implementation with an overall mean of 4.15. The high implementation of the Philippine Integrated Management of Acute Malnutrition in hospitals is likely driven by the government's commitment to address malnutrition comprehensively. This approach ensures early detection through systematic screening, effective treatment protocols, and proper guidelines for discharging patients, aiming to improve overall healthcare outcomes and reduce malnutrition-related complications. A rigorous screening protocol is likely in place to identify malnutrition cases early on.

This is crucial for timely intervention and prevents the progression of malnutrition-related complications. At the same time, the emphasis on treatment may be driven by the understanding that prompt and appropriate interventions significantly improve patient outcomes. Standardized treatment plans, nutritional

supplementation, and therapeutic feeding programs ensure a systematic and evidence-based approach to managing acute malnutrition, and clear guidelines for discharging patients reflect a commitment to long-term recovery and sustained well-being. This phase likely involves counseling on post-discharge nutrition, follow-up plans, and continued monitoring to prevent relapses and ensure ongoing support for patients beyond their hospital stay.

Further, it can be gleaned that for the process to be properly implemented, the screening followed five methods, namely: 1) Based on Appetite Test, 2) Based on MUAC Measurement, 3) Based on Z-Score Determination, 4) Based on the Skin Assessment, and 5) Based on Enrolment to PIMAM. Firstly, screening based on the Appetite Test was high, with a mean of 3.48, which may be attributed to its effectiveness in quickly identifying individuals at risk and allowing timely interventions. This method helps healthcare professionals assess nutritional status efficiently, enabling targeted care for those in need and potentially reducing the severity of malnutrition cases. Also, the appetite test aligns with the holistic approach of integrated management, ensuring a comprehensive response to acute malnutrition in healthcare settings.

Secondly, screening based on mid-upper arm circumference (MUAC) measurement was revealed to be high, with a mean of 4.20, which can be attributed to this method's simplicity and reliability. MUAC measurement is a quick and non-invasive indicator of acute malnutrition, allowing healthcare professionals to identify at-risk individuals rapidly. The focus on MUAC measurement aligns with the practicality and efficiency desired in healthcare settings to address acute malnutrition effectively.

Thirdly, the screening based on Z-Score Determination was high, with a mean of 4.19, likely driven by the method's precision in assessing nutritional status. Z-scores consider a child's anthropometric measurements about a standard population, providing a more nuanced understanding of growth faltering and malnutrition. This allows healthcare professionals to identify and classify different degrees of malnutrition accurately, enabling targeted interventions based on severity levels.

Fourthly, regarding screening based on the skin assessment, the result was high, with a mean of 3.96, which can be attributed to the valuable insights it provides into a patient's overall health. Skin assessment offers visual cues such as changes in pigmentation, texture, and turgor, which can indicate nutritional deficiencies and malnutrition. This method complements other screening tools, providing a holistic view of a patient's condition.

Lastly, the screening based on enrolment to PIMAN was also high, with a mean of 4.04, which may stem from this method's strategic advantages.

Enrolling individuals in the PIMAM program allows for systematic tracking and monitoring of patients at risk of acute malnutrition. This method facilitates continuity of care and ensures that healthcare professionals can closely follow the progress of affected individuals, making adjustments to interventions as needed.

Table 2
Mean Rating on the Level of Implementation of the PIMAM Inpatient Therapeutic Program (ITP) Procedures in the Hospitals in Maguindanao
n = 107

Items	Mean	Interpretation
1. Screening	3.97	High
Based on Appetite Test	*3.48*	High
Based on MUAC Measurement	*4.20*	High
Based on Z-Score	*4.19*	High
Determination	*3.96*	High
Based on the Skin Assessment	*4.04*	High
Based on Enrolment to PIMAM		
2. Treatment	4.23	High
Based on Therapeutic Milk	*4.18*	High
Based on ready-to-use	*4.18*	High
therapeutic food (RUTF)	*4.25*	High
Based on Medical Management	*4.30*	High
of Complications		
Based on Counseling and		
Health Teachings		
4. Discharging	4.24	High
Over-all Mean	4.15	High

Legend:
4.50 – 5.00 – Very High
3.50 – 4.49 – High
2.50 – 3.49 – Moderate
1.50 – 2.49 – Low
1.00 – 1.49 – Very Low

Overall results on implementing the PIMAM-Inpatient Therapeutic Program (ITP) procedures in the hospitals in Maguindanao in terms of screening revealed to be high, with a mean of 3.97, which can be attributed to the effectiveness

and efficiency of its screening process. This process combines screening methods, such as appetite tests, mid-upper arm circumference measurement, z-score determination, and skin assessment. This multifaceted screening process allows healthcare professionals to comprehensively evaluate the nutritional status of individuals, ensuring a thorough and accurate assessment. By employing diverse screening tools, the integrated management system increases the likelihood of identifying acute malnutrition promptly and tailors interventions based on the specific needs of each case. This comprehensive screening approach aligns with providing targeted and effective care in hospital settings, contributing to successfully adopting the Philippine integrated management of acute malnutrition.

Also, the data in Table 2 shows that treatment followed four methods, namely: 1) Based on Therapeutic Milk, 2) Based on ready-to-use therapeutic food (RUTF), 3) Based on Medical Management of Complications, and 4) Based on Counseling and Health Teachings. Firstly, treatment based on therapeutic milk was high, with a mean of 4.18, attributed to its evidence-based approach and alignment with international guidelines. Therapeutic milk administration as part of the treatment plan for the condition is necessary as it must be consistent. For this reason, parent's participation in the treatment is highly needed as their cooperation would help a lot in constantly monitoring the patient's receipt of the treatment and also can gauge the patient's response to the management approach.

Secondly, treatment-based ready-to-use therapeutic food (RUTF) was revealed to be high, with a mean of 4.18, which can be attributed to the convenience and effectiveness of this treatment method. RUTF, a nutritionally dense and pre-packaged food product, simplifies the treatment process for severe acute malnutrition. The practicality of RUTF eliminates the need for complex food preparation, making it an efficient solution, especially in hospital settings where resources and time are often limited. Its ready-to-use nature allows for easy administration, reducing the burden on healthcare providers and improving adherence to treatment protocols.

Thirdly, the treatment based on medical management of complications was revealed to be high, with a mean of 4.25, suggesting that the complication assessment plays a significant bearing in managing the condition. Children who have medical complications, severe edema (+++), poor appetite (fail the appetite test), or present with one or more Integrated management of childhood illness (IMCI) danger signs are treated inpatients (Asres et al., 2018). Some respondents raised points that though IMCI is acknowledged as an essential indicator, hospital staff need to become more acquainted with its components. However, patients who come to the facility with manifested severe complications are

responded to promptly and addressed accordingly based on the manifested signs and symptoms.

Lastly, treatment based on counseling and health teaching was also high, with a mean of 4.30, which indicates that these procedures are acknowledged as an essential responsibility of healthcare providers. Through this, parents become more aware of the patient's condition and enlightened about their significant responsibilities in effective management. The results affirm the fact that the patient's admission and stay in the facility provide an excellent opportunity for mothers and caretakers to support each other and for healthcare providers and assistants to determine and address some of the reasons why the child became severely malnourished and seek preventive measures to avoid this from re-occurring.

Overall results on implementing the PIMAM-Inpatient Therapeutic Program (ITP) procedures in the hospitals in Maguindanao in terms of treatment revealed to be high, with a mean of 4.23, which can be attributed to a multifaceted approach, incorporating therapeutic feeding, nutritional counseling, and medical care to address acute malnutrition comprehensively. Therapeutic feeding, which includes specialized products like ready-to-use therapeutic food (RUTF) or therapeutic milk, provides essential nutrients to malnourished individuals, promoting rapid recovery. Nutritional counseling is another integral aspect of PIMAM-ITP, aiming to educate individuals and caregivers on proper feeding practices, hygiene, and overall nutrition. This empowers communities to sustain positive health outcomes beyond the hospital setting, contributing to the long-term success of malnutrition management. Integrating medical care ensures that underlying health issues contributing to malnutrition are addressed simultaneously. Thus, this holistic approach enhances the effectiveness of treatment methods.

Furthermore, the results of implementing the PIMAM-Inpatient Therapeutic Program (ITP) procedures in the hospitals in Maguindanao in terms of discharging procedures revealed to be high, with a mean of 4.24, is likely driven by the need for a comprehensive approach to address malnutrition cases. PIMAM-ITP focuses on a holistic management plan involving assessment, treatment, and follow-up care, ensuring patients receive proper nutritional support before discharge, aiming to reduce relapse rates and improve long-term outcomes for malnourished individuals, aligning to enhance healthcare effectiveness. In the same way,

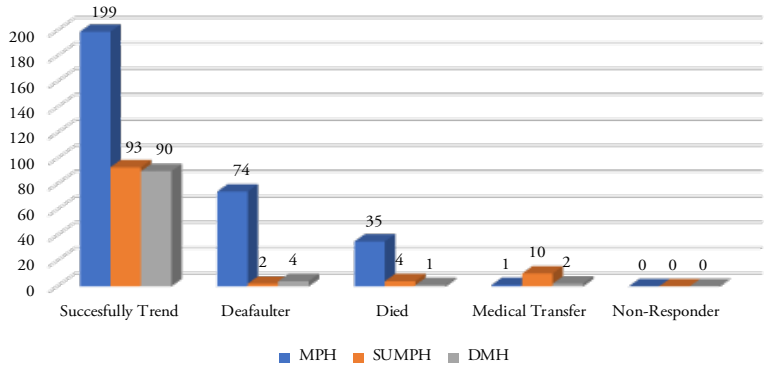
Status of Patients upon Discharge from Inpatient Therapeutic Program

Figure 2 illustrates the number of patients discharged from the Inpatient

Therapeutic Program (ITP) of the selected hospitals, namely Maguindanao Provincial Hospital (MPH), South Upi Municipal Hospital (SUMH), and Dinaig Municipal Hospital (DMH).

The result shows that Maguindanao Provincial Hospital has the most significant number of discharges, reaching 309 in total for three years. Out of that, 199 were successfully treated, 74 were defaulters, and death records 35 discharges. Moreover, South Upi Municipal Hospital and Dinaig Municipal Hospital have had close statistics for PIMAM discharges from 2015 to 2017. Specifically, SUMH was able to document 109 discharges, from which 93 were successfully treated; for DMH, 97 total discharges were recorded, with 90 successfully treated in the data.

Figure 2. Number of Discharges from ITP per Hospital in Maguindanao

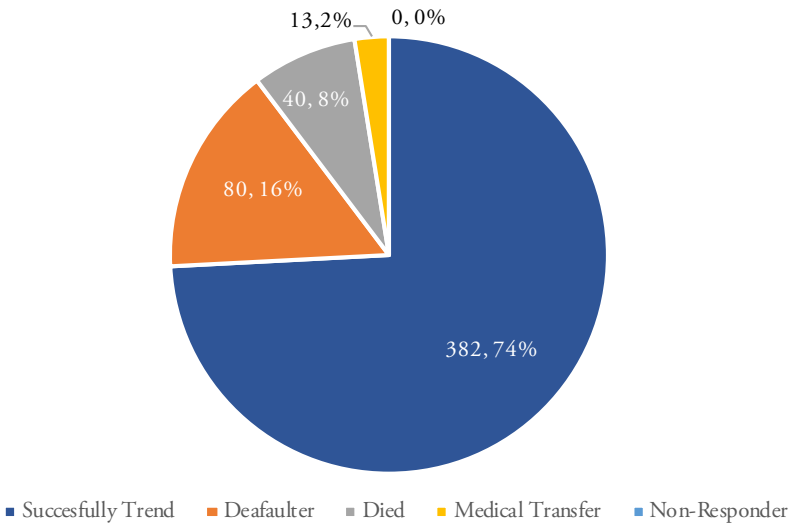


As can be perceived in the data, it goes without saying that MPH was able to handle a considerable number of PIMAM cases within the period identified. The statistics support that MPH, the only level 2 hospital in Maguindanao, can cater to and manage a significant number of malnourished patients, given its capacity in size and service. MPH operates at 150-bed capacity, while SUMH and DMH operate under ten beds. However, in implementation, they all cater to patients beyond their authorized capacity, and malnourished patients are just a few of the cases they handle.

Figure 3 illustration reveals that out of the total 515 PIMAM discharges for the past three years, most of the patients who were discharged from ITP hospitals in Maguindanao were "successfully treated," as evident in the percentage result of 74% for the total 382. This result indicates that hospitals can address malnutrition cases of patients. These patients were those who were cured completely and those whose complications were managed and referred to OTP

for continuity of care. This rate is still quite close to the required SAM Cure Rate target, which is >75% of all discharged SAM cases during the reporting month to monitor and evaluate PIMAM (DOH Administrative Order 2015-0055).

Figure 3. Status of Patients Upon Discharge from Inpatient Therapeutic Program (ITP)



As per hospitals" records with confirmation from PIMAM-ITP coordinators, the patients" length of stay in the hospitals depends on the status of the complications. Once the complications are treated, the patients" are discharged to the OTP site for rehabilitation. On average, most patients stayed in the facility for almost two weeks; however, few reached months due to the severity of the condition. Even if the patients did not gain weight, edema was resolved thoroughly as expected upon release. Still, so long as the patient had already demonstrated the appetite and complications were adequately managed, they were referred to OTP and still discharged as "successfully treated" from the hospital, which is still in conjunction with the condition as stated in National Guidelines on the Management of Severe Acute Malnutrition for Children under Five Years (2015).

Furthermore, a considerable percentage was documented for "defaulter" at around 16% for 80 documented discharges under this category. This included patients who opted to go home against medical advice (HAMA), terminating their admission from the facility, and those who absconded from the hospital.

The percentage is slightly higher than the DOH AO 2015-0055 set target for SAM Default Rate, which is <15% of all discharged SAM cases during the reporting month.

This significant report for the "defaulter" category somehow affected the rate number for those who are cured because these patients chose to end their admission to the program without completing the treatment plan. For this reason, hospital healthcare providers must intensify the health education program about the condition and the need for adherence to the treatment, hence gaining the full cooperation of the caregivers on this matter. A particular "follow-up mechanism" may also be considered by hospitals through establishing close coordination with the respective health centers to at least still monitor the condition of the defaulter-discharged patients in the community.

Additionally, "died" was documented for records of hospital deaths that reached 40, representing 8% of the total discharges. During the record review, most deaths were attributed to late hospital admission, as evidenced by serious complications such as severe pneumonia or dehydration. However, the result is still within the set target for the SAM Death Rate, which is <10% of all discharges during the reporting month (DOH Administrative Order 2015-0055).

A negligible "medical transfer" rate was only 2% for 13 discharges. This means that most hospitals are capable enough to handle cases of malnutrition with medical complications. These documented transfer cases were for those patients whose complications already needed advanced management in the more capable facility. Lastly, no record of "non-responder" patients was documented from the hospitals in Maguindanao for the past three years. It indicates that the program is still effectively implemented in the hospitals in Maguindanao.

Feedback on PIMAM Inpatient Therapeutic Program (ITP)

Regarding problems encountered in implementing the PIMAM-ITP, the program's benefits, as obtained from the respondents, were primarily centered on the program's capacity to treat severe acute malnutrition. It was expressed in conviction that the evidence-based guided/systematic approach to treat the case also contributes highly to the decrease in the admission of the same case in the hospitals. It was also acknowledged that the program has a set of organized guidelines to be adopted in the hospitals as mandated by DOH Administrative Order 2015-0055. The program also paved the way for the institutions to coordinate closely with NGOs for health concerns like malnutrition.

Furthermore, respondents were also able to cite some problems/issues that hinder the effective implementation of the program, and non-compliant or non-cooperative caregivers top the list for these. Some of these parents were too

young to handle the situation or have many children, so the patient becomes less of a priority, which undeniably contributes to the delay of the healing process, poor prognosis, and slow rehabilitation process.

Language barriers for illiterate people are also significant in opposing cultural beliefs. Their resistance to adhere to the treatment plan due to their inability to comprehend the essence of the approach brings difficulty to the implementation. The issue of unclean water or, for some, even the availability of sufficient water supply was also considered a concern. As an essential activity for this, handwashing is affected by this factor. Late admission of patients is also included as challenging. Access to any invasive emergency and routine intervention is difficult for these patients, and their healing response is also expectedly poor. Finally, it was also noted that some staff need more confidence to handle the case due to lack of training. Every move needed to be referred to the trained personnel, which could mean a delay in the delivery of service.

As for the suggestions, it is noted that respondents paid so much emphasis on the provision of training to those who are involved in the implementation. The statement supports that all ITP personnel must be trained in severe acute malnutrition treatment protocol before managing severe acute malnutrition patients and undergo regular. Local Government Units' involvement in the program implementation must also be strengthened, as pointed out by respondents. The LGUs are directed to oversee the implementation and policies within the locality. They must also develop and sustain a safe and efficient referral system for children with acute malnutrition in their LGUs (DOH Administrative Order 2015-0055). A specific suggestion was also raised concerning the content of the therapeutic milk products. As such, the suggestion for enhancing the feeding tastes was stressed as this can contribute to the children's compliance. As explained, some children do not like the tastes of the packaged F75 and F100, so making them flavored would minimize this concern.

Additionally, some respondents from top management see the relevance of having the case managed in a separate building, especially for PIMAM patients. They recognized that for this delicate case, treatment demands special consideration, which can be best addressed by building a household set-up to facilitate high compliance of caregivers and hasten rehabilitation of the patients. Nonetheless, they also understand its implications –extra funds and additional staff. This view, though, is in conjunction with what the guidelines dictate. If space and staffing allow, the ITP should be separated from the pediatric ward since patients with severe acute malnutrition with complications often have poor immunity and are highly susceptible to cross-infection.

CONCLUSIONS

Based on the study's findings, the researchers conclude that in terms of guidelines on PIMAM-ITP in Maguindanao, all the hospitals are implementing the said program by the standards as established. However, a particular point was raised as needing attention, especially regarding the training for all hospital personnel involved in the program implementation on National Guidelines for the Management of Severe Acute Malnutrition. Nevertheless, it was noted that though not all of those who handled were sent for formal training on this program, they were at least taught how to carry out the procedures before case exposure correctly.

Hospitals have no issue concerning materials "provision and availability however, as for facility concerns, all hospitals have designated rooms to handle SAM patients, but they do not conform to the standard set by guidelines that it must be separated from the pediatric ward in consideration of patients" condition.

Moreover, most of the identified procedures were considered implemented saved for the case of the Appetite Test. Even so, valid reasons were detailed in justification for its lower performance, which is highly acceptable based on the program's guidelines. It can also be gleaned from the results that from 2017 to 2019, most patients discharged from hospitals with ITP were "successfully treated." Under this category are those who were cured and those who were managed medically; the complications referred to OTP for continuity of rehabilitation. Therefore, although hospitals in Maguindanao are implementing the PIMAM Inpatient Therapeutic Program under very minimal gaps from the standard, they were still able to yield good outcomes and effective performance.

TRANSLATIONAL RESEARCH

The study's findings may best translate to policy implementation based on the National Guidelines on the Management of Severe Acute Malnutrition for Children under Five Years. This implementation requires a strong engagement with the community for information dissemination using various social media platforms regarding ways. It means to address factors that often contribute to having malnourished children, such as livelihood ideas/programs to address the problem of poverty, teachings on facts of pregnancy, parenting, and reproductive health for young parents and emphasis on benefits of birth spacing, the importance of maternal health and child nutrition to those who have had multiple pregnancies.

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