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ASSESSING THE EFFECTIVENESS OF INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS (IMCI) IN TREATING DIARRHEA IN TODDLERS

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ABSTRACT

Background: Diarrheal disease is characterized by changes in stool consistency, leading to frequent watery stools, and an increase in defecation frequency of more than three times per day. This condition is common in young children and requires effective management to prevent dehydration and other complications. **Objective**: The aim of this study was to evaluate the effectiveness of the Integrated Management of Childhood Illness (IMCI) protocol in treating diarrhea in toddlers at the Telagasari Health Center. **Methods**: This was a descriptive-analytic study with a cross-sectional design, involving 32 respondents. The study utilized the Chi-Square test for statistical analysis to determine the relationship between IMCI implementation and the recovery from diarrhea in toddlers. **Results**: The implementation of the IMCI protocol at Telagasari Health Center was found to be 84.4% effective. After receiving treatment according to IMCI procedures, 81.3% of the toddlers showed recovery from diarrhea. The statistical analysis revealed a significant effect of IMCI application on diarrhea healing, with a P-value = 0.000 ($p \leq 0.05$), indicating that the implementation of IMCI significantly contributes to diarrhea recovery in children under five. **Conclusion**: The study concluded that the IMCI protocol is effective for treating diarrhea in children under five at the Telagasari Health Center. Continued implementation and training on IMCI are recommended to improve child health outcomes in the community.

Keywords: Diarrhea, IMCI, toddlers, health center, Chi-Square test, recovery, treatment effectiveness.

INTRODUCTION

According to the World Health Organization, diarrheal disease is characterized by changes in the shape and consistency of watery to disintegrating stools, as well as an increase in the frequency of defecation to more than three times per day (Organization, 2001). Children under the age of five are infants and toddlers aged

12 to 59 months (toddlers). Experts classify childhood as a period that is vulnerable to a number of diseases, including diseases caused by bacteria and viruses, such as diarrhea. The function of children under the age of five in society is very vital. It is the age at which a child sets the foundation for health, happiness, growth, development, and future developmental outcomes in school, family, community, and life. In addition to reducing infant mortality, child health care efforts aim to ensure that future generations are healthy, intelligent, and of high quality. Efforts are made to maintain the health of children from the time they are in the womb, after birth, and until they reach the age of 18. The child health program is expected to, among other things, reduce child mortality. (Bern et al., 1992; Hasanah et al., 2022)

Integrated Management of Sick Toddlers is the management of sick toddlers who come to health services with an integrated/integrated strategy in terms of disease classification, nutritional status, and vaccination status, in addition to managing sick toddlers and providing counseling (El Arifeen et al., 2004). The IMCI examination for sick toddlers includes disease categorization, action planning, treatment, home care, and discharge date. The benefits of IMCI activities include strengthening the capacity of health workers in handling cases of sick toddlers, modernizing the health system, and improving family and community practices in-home care and efforts to assist cases of sick toddlers.

According to Soenarto, more than 10 million children die every year before reaching the age of five (Gove, 1994; Victora et al., 2006). More than half of these are caused by five preventable and curable diseases: pneumonia, diarrhea, malaria, measles, and malnutrition, with many cases including multiple diseases. Problems with the skills of health workers, the health system, and the habits of families and communities can all contribute to a lack of quality health care. For better case management of unhealthy children, nutrition, vaccination, trauma reduction, disease prevention, and psychological support, these factors should be combined. The IMCI program was created because of these considerations (Gera et al., 2016)

WHO has recognized that the IMCI plan is a good instrument to be used by developing countries in their efforts to reduce infant and under-five mortality, disease, and disability as long as it is implemented completely and appropriately (UNICEF., 2004). This is in line with the findings of (Ahmed et al., 2010; Boschi-Pinto et al., 2018) which showed a relationship between the implementation of IMCI (Integrated Management of Sick Toddlers) with repeated visits to the puskesmas for diarrhea under five using the lambda test

with a significance value of 0.01 to show a correlation.

METHODS

Study Design

This research is a descriptive-analytic study with a cross-sectional design. The study aims to assess the relationship between Integrated Management of Childhood Illness (IMCI) and the healing of diarrhea in toddlers. The cross-sectional design allows data collection at a single point in time, providing a snapshot of the effectiveness of IMCI in treating diarrhea in this specific population.

Sample

The study sample consisted of 32 respondents—caregivers of toddlers diagnosed with diarrhea. Respondents were selected using simple random sampling from the population attending the Telagasari Health Center during the study period. This sampling technique ensures that each participant had an equal chance of being selected, minimizing selection bias and making the results generalizable to the broader population.

Instrument

The data collection instruments used in this study included a structured questionnaire and observation checklists.

- The structured questionnaire was designed to assess caregivers' knowledge about IMCI and their experiences in implementing IMCI practices for the treatment of diarrhea in toddlers.
- The observation checklist was used to monitor the adherence of health workers at the Telagasari Health Center to IMCI guidelines during the treatment of diarrhea in toddlers.

Data Collection

Data were collected in two stages:

1. Interviews with caregivers: Caregivers of toddlers were asked to fill out a structured questionnaire that gathered information about their knowledge and practices related to IMCI guidelines for managing diarrhea.
2. Observation of health workers: The implementation of IMCI practices was monitored through observations of health workers at the Telagasari Health Center. Adherence to the IMCI protocols for treating diarrhea was recorded using the observation checklist.

Data Analysis

Data were analyzed using descriptive statistics (e.g., frequencies and percentages) to summarize demographic characteristics and implementation of IMCI practices. To assess the relationship between IMCI practices and the healing

of diarrhea, the Chi-Square test was employed. This statistical test was chosen to determine whether there was a significant association between the two categorical variables: the caregivers' implementation of IMCI practices and the healing outcome in toddlers.

Ethical Considerations

This study adhered to ethical research principles to ensure the protection of participants:

1. Informed Consent: All caregivers were provided with information about the study, including its purpose, procedures, and potential risks. Written informed consent was obtained from all participants be their involvement in the study.
2. Confidentiality: Particip personal information was confidential, and all data v anonymized to protect their priv
3. Voluntary Participa Participation was entirely volun with participants being infor that they could withdraw at any without consequences.
4. Ethical Approval: The study reviewed and approved by an institutional review board (IRB) or ethics committee to ensure the research met ethical standards.

RESULTS

Characteristics of respondents

General and specific qualities were included in the description of the survey participants' traits. The child's age, gender, and type of diarrhea were all included in the general information. To treat diarrhea with IMCI, this knowledge is very relevant. After that, the frequency table is used to describe the general data. Based on the results of 32 respondents who were processed by SPSS, various descriptive characteristics, such as:

Table 1 Frequency distribution by child's age

Age	Frequency	Percent
1 year	7	21,9%
2 year	12	37,5%
3 year	9	28,1%
4 year	4	12,5%
Total	32	100%

Based on table 1, it can be seen that the majority of children of a certain age are more at age 2 (as many as 12), at age 3 (as many as 9), at age 1 (as many as 7), and at age 4 (as many as 4), but only some smaller than children that age more at the age of 4 (as many as 4). (12.5 percent).

Table 2 Frequency distribution by gender

child gender	Frequency	Percent
Boy	12	37,5%
Woman	20	62,5%
Total	32	100%

Based on table 2, women have an average of 20 children (62.5%), while men have an average of 12 children (boy sex) (37.5 percent).

Table 3 Distribution frequency based on diarrhea classification

Classification of diarrhea	Frequency	Percent
Diarrhea without dehydration	27	84,4%
Diarrhea with mild/moderate dehydration	5	15,6%
Total	32	100%

Based on table 3, it can be seen that the majority of children experienced diarrhea without dehydration as many as 27 children (84.4 percent) and children who had diarrhea with mild/moderate dehydration as many as 5 children (15.6 percent). (15.6 percent).

Univariate analysis

Frequency distribution based on application IMCI and diarrhea cure can be seen in the table below.

Table 4 Frequency distribution by application IMCI

Implementation of IMCI	Frequency	Percent
Healthy	27	84,4%
Not Good	5	15,6%
Total	32	100%

Based on table 4 it is clear from the statistics that there are 27 large application IMCIs (84.4%) and only 5 applications lacking IMCIs (good) (15.6 percent).

Table 5 Frequency distribution based on diarrhea recovery

Recovery diarrhea	Frequency	Percent
recover	26	81,3%
Not cured	6	18.8%
Total	32	100%

Based on table 5, most children (81.3 percent) cured 26 children or more, while only a small proportion (six children or less) were able to do so (18.8 percent).

Bivariate analysis

Table 6 Effect of IMCI diarrhea with recovery diarrhea in toddlers

IMCI Implementation	Recovery Diarrhea				Total		p-value
	healed		Not cured				
	F	%	F	%	F	%	
Healthy	26	81.3	1	3.1	27	84.4	
Not good	0	0	5	15.6	5	15.6	0,000
Total	26	81.3	6	18.8	32	100	

Based on table 6, it can be concluded that the application of good IMCI (in children who recovered) increased height by 81.3 percent, while the application of poor IMCI (in children who recovered) No. Statistics show that there is a significant effect on IMCI recovery. diarrhea in the application This means that the use of IMCI for the treatment of diarrhea in toddlers is effective.

DISCUSSION

Overview of IMCI Implementation at Telagasari Health Center

Based on the conclusion of the IMCI Implementation Research Report at the Telagasari Health Center, of the 32 toddlers who were treated, 27 toddlers were treated (84.4%), while 5 toddlers were not enough (15.6 percent). Where to apply is said to be good if the actions of health workers to treat unhealthy toddlers in accordance with the IMCI procedure are more than or equal to 50 percent of the time, while the application is said to be not good enough if the calm health measures are incomplete or less than 50 percent.

IMCI-trained health personnel facilitate efficient IMCI implementation. The lack of implementation of IMCI at the Telagasari Health Center is caused by the absence of trained health workers for IMCI. Based on the results of the researcher's interview with one of the officers who carried out health checks on children in connection with the implementation of IMCI, it was found that these health workers did not participate in IMCI training. In accordance with the skills required from the IMCI training, a health worker can handle cases of sick children in health care institutions (Wiendyasari et al., 2018).

Competence in IMCI training for health workers shows that individuals who have undergone IMCI training are better able to care for sick babies than those who have not (Husni, 2012). This is supported by research (Kowaas et al., 2017; Mu'is et al., 2014) which found a substantial relationship between health workers and midwife/nurse training with the adoption of IMCI with P Value = 0.000 > = 0.05 thus rejecting Ho. In this case, the implementation of IMCI at the Puskesmas is used to improve the quality of outpatient services in basic health facilities. Where IMCI is one of the most effective drugs to reduce the global burden of disease and assist efforts to distribute health services. If the Puskesmas fulfills the requirements for the implementation/implementation of IMCI at least 60 percent of the number of visitors to sick toddlers at the Puskesmas, then it is considered to have adopted IMCI. Based on the research findings and supporting ideas, the researcher found that the implementation of IMCI at Telagasari Health Center was generally effective.

And the lack of IMCI implementation will result from a lack of participation in IMCI training.

Diarrhea Cure Overview

According to the results of the study, twenty-six children (81.3 percent) were able to recover from diarrhea after receiving the drug. In addition, six children under five have not recovered (18.8 percent).

If a toddler has diarrhea for five days or more it is considered untreated, but diarrhea that improves in less than five days is considered cured. Based on the following IMCI book chart: If the child's diarrhea does not improve on the fifth day after treatment, the mother must return. In observation of eight children under five who did not recover, it was found that these children had received follow-up care in the hospital when diarrhea recurred on the third day after treatment at the Puskesmas and diarrhea lasted for 4-5 days during hospitalization, indicating that the children's diarrhea did not recover after the implementation of IMCI. at the Health Center. After undergoing therapy at the health clinic, most of the children recovered, as indicated by the previous explanation. Diarrhea can usually be managed alone (self-limiting disease). Diarrhea in children is most often caused by bacteria and viruses. Toddlers are susceptible to various diseases, including those caused by bacterial and viral diseases, such as diarrhea, according to experts. After the damaged intestinal enterocytes are replaced with healthy adult enterocytes, the child will recover and be able to absorb and digest healthy food fluids. However, if the child has diarrhea, dehydration should be given to prevent complications. The use of ORS, zinc and a healthy diet can help cure and prevent diarrhea problems. ORS serves to restore lost body fluids, while zinc helps treat diarrhea (Indriani & Asri, 2007). This is in accordance with research (Ulfah et al., 2012) which showed that zinc supplementation during diarrhea can improve immune function, intestinal structure, and epithelial cell recovery, thereby preventing further diarrhea and accelerating the healing process.

Based on the researcher's exposure to research data and hypotheses, most of the large toddlers treated at the Telagasari Health Center have recovered. Continuous care provided by the mother, such as gifts of food, ORS, and zinc supplements, can affect the healing of diarrhea.

Effectiveness of IMCI Implementation on Diarrhea Recovery

According to the findings, 26 out of 32 toddlers used IMCI effectively and had a recovery rate of 81.3 percent.

Based on the facts above, it can be said that giving good IMCI to children who recovered increased their height by 81.3%, while giving bad IMCI to children

who recovered No. Statistics show that there is a big influence on how well IMCI diarrhea becomes. better in application This means IMCIs is a good way to treat diarrhea in young children.

CONCLUSION

The implementation of the Integrated Management of Childhood Illness (IMCI) at the Telagasari Health Center has shown a high degree of success, with an implementation rate of 84.4%. This indicates that the health center is largely adhering to the IMCI protocols for treating childhood illnesses, including diarrhea. The effectiveness of these protocols in treating diarrhea was also demonstrated, with 81.3% of toddlers recovering from diarrhea after receiving treatment according to the IMCI guidelines.

The statistical analysis of the study, using the Chi-Square test, yielded a P-value of 0.000, which is significantly less than the threshold of 0.05. This result indicates a strong, statistically significant relationship between the proper implementation of IMCI and the recovery of toddlers from diarrhea. Therefore, it can be concluded that the IMCI protocol is highly effective in managing and treating diarrhea in children under five at the Telagasari Health Center.

This finding suggests that continued training and support for health workers to improve the full implementation of IMCI could enhance the treatment outcomes for toddlers with diarrhea, potentially reducing morbidity and improving overall child health in the community. Further research could explore the sustainability of these results over time and investigate additional factors that may influence the effectiveness of IMCI in different settings.

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