

COMMUNITY SERVICES ON TODDLER DEVELOPMENT, INSIGHT FROM MATERNAL AND CHILD HEALTH (KIA) BOOK IN SURAKARTA

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Abstract

Disrupted child development will contribute to morbidity throughout the human life cycle. Based on the SUSENAS results, the Early Childhood Development Index (ECDI) of Indonesian children is still relatively good and has a value of 88.30%. However, the active role of families in supporting children's growth and development is still needed. The Maternal and Child Health (MCH) book is a pre-screening instrument that can be used by parents for stimulation and screening tools for growth problems and child developmental delays can be detected early from the closest family. The purpose of this community service is to optimize the growth and development of toddlers through the use of Maternal and Child Health (MCH) books at Posyandu Tangkas, Pasar Kliwon, Surakarta through a family empowerment approach. used a mixed-methods approach, combining both quantitative and qualitative data from 24 respondents. we door to door doing growth and development screening and stimulation education assistance to mothers who have children under five. Each mother is interviewed regarding age, growth and development screening, education on how to stimulate child development with the KIA book, conduct early detection of growth and development using the Developmental Pre-Screening Questionnaire (KPSP) according to the child's age, and then provide assistance for 4 weeks to toddlers with questionable KPSP results through cooperation with posyandu management cadres.

Keywords: Growth, Development, ECDI, MCH book

INTRODUCTION

One of the major problems for low- middle-income countries is the delayed development of children under five. Impaired development of children under five will contribute to morbidity that occurs throughout the child's life cycle, increase intergenerational poverty, and in the long term can hold back the pace of a country's development. Given that children are an important element for the sustainability of the nation and state, creating a superior generation from an early age is absolutely necessary (Fitriani, 2016). Around 250 million children under the age of 5 are at risk of not being able to achieve maximum development (World Bank, 2017). Research by Zhang J et al. (2018) states that more than 200 million children under five in the world are estimated to have impaired cognitive and social emotional development. The *Early Childhood Development Index* (ECDI) of Indonesian children is still relatively good and has a value of 88.30%. However, the active role of families in supporting children's growth and development is still needed, especially during the Golden Age (Susenas, 2018). The golden age period is the golden period in children aged 0-5 years which is very important in the growth and development of children. The early years of children's life are critical period of rapid physical, cognitive, social, and emotional development. During this formative stage, children acquire fundamental skills and abilities that lay the groundwork for their future success and overall well-being (Marawaha and Malik, 2022). However, some children may experience delays or difficulties in their development, which if left unidentified and unaddressed, can have profound and long lasting consequences. This is where the importance of comprehensive developmental screening comes into sharp focus.

Comprehensive developmental screening is a vital component of ensuring the healthy growth and well-being of children. By identifying potential issues or delays early on, it enable the timely implementation of tailored interventions and support. Developmental screening is a systematic process of observing, measuring, and evaluating a child's progress across various developmental domains, such as motor skills, language, and communication, cognitive abilities, and social-emotional functioning (Mbabazi et al, 3034). Good and adequate nutrition, good health status, proper care, and proper stimulation in this period will help children to grow healthy and be able to achieve their optimal abilities. Proper stimulation will stimulate the toddler's brain so that the development of movement, speech, socialization and independence in toddlers is optimal according to their age (Anggryni et al., 2021). Early detection of growth and development deviations needs to be done to be able to detect early deviations in the growth and development of toddlers, including following up on any complaints from parents about their children's growth and development problems (Cmejla R et al, 2023). Healthcare professionals, educators, and child development specialist can collaborate to create and carry out tailored support programs

when developmental issues are discovered. These plans make sure that every kid gets the specific help they need, which may include specialized treatment, adjustments for school, or referrals to other resources. Based on Kim et al (2022) Early intervention and assistance increase a child's chance of academic, social, and emotional success. Early intervention for developmental problems help children become more capable of participating fully in school, forming close relationship with their peers, and acquiring the skills they will need to succeed in the future. Developmental screening strengthens families while also benefiting the child. Screening gives parents and caregivers knowledge about their child's developmental growth, which empower them to take an active role in their child's care and support. Better long-term results and more effective interventions may result from this professional family collaboration.

The Maternal and Child Health (MCH) book is a pre-screening instrument that can be used by parents for stimulation and screening tools for growth problems and developmental delays. The stimulus provided is not only through balanced nutrition, but also to fulfill visible physical abilities (Sistiarini et al., 2018). Maternal child health book is also a comprehensive resource that covers various aspect of health care for mothers and children. It typically includes information on prenatal care, childbirth, postpartum care, infant care and also child development. Such books are valuable for healthcare professionals, students, and sometimes parents. They provide evidence-based guidelines, best practices, and practical advice to ensure the well-being of both mother and child. Mothers should gain a grasp of their own and their children's health status by completing the KIA book. One of the treatments targeted at improving information is the usage of the prenatal and stimulation care guidebook by moms. Having comprehensive data can help mother become knowledgeable about their own health as well as the health of their children, including children's developmental status. Besides that, Using the MCH book is one way to enable the community and families in particular- to take care of their health and access high quality maternity and child health services (Fela et al, 2023).

Posyandu has a long history of serving mothers and young children with basic healthcare services. In order for Posyandu to serve as a hub for public health initiatives, it must now be able to supply comprehensive and current health information. One type of community based health efforts, known as "Posyandu". Posyandu is coordinated and managed from, for, and with the community in order to implement health development, empower the community, and make it easier for the community to access basic social and health services in order to hasten the decline in the rates of maternal and infant mortality. As a result, Posyandu is a fundamental health program by the community with assistance from medical professionals. Posyandu was founded with the intention of reducing baby and child mortality and morbidity (Saepudin et al, 2017). Based on preliminary studies following posyandu activities of 24 toddlers in the tangkas posyandu, only 11 toddlers can be found to weigh and provide BMI. Of these toddlers, 8 of them do not know that they can

stimulate with the guidelines in the MCH book. So that assistance in optimizing the use of the MCH book will be very useful for stimulating mothers to check the growth and development of children under five. As society we have a collective responsibility to prioritize and invest in comprehensive developmental screening programs, as they represent crucial investment in the future of our children and the overall well-being of our community. This community service aims to optimize the growth and development of toddlers through the use of Maternal and Child Health (MCH) books at Posyandu Tangkas, Pasar Kliwon, Surakarta through a family empowerment approach.

RESEARCH METHODS

This community service method used a mixed-methods approach, combining both quantitative and qualitative data from 24 respondents, including activities starting from the initial coordination to the evaluation stage, as follows:

a. Initial Coordination

At this stage, the service team together with posyandu cadres tangkas pasar kliwon and TPK cadres Pasar Kliwon visited toddlers who had nutritional problems for initial screening of problems on the land.

b. Assessment of data on children under five. At this stage, the service team together with TPK cadres collected data by going door to door to 24 toddlers who had nutritional problems. This data assessment includes collecting toddler identity, anthropometric measurements (Weight, Height, Head Circumference, Arm Circumference), KPSP screening to check the toddler developmental.

c. In-depth Interview

At this stage, the service team together with TPK cadres conducted in-depth interviews with mothers with malnourished toddlers to find out the understanding of mothers of toddlers about the utilization of MCH books for toddler growth and development.

d. Socialization of KIA Book Utilization

At this stage, the team and the TPA cadres socialized the importance of the MCH book to stimulate the development of toddlers using the lecture method.

e. Analysis Data

Systematically applying statistical and logical techniques to describe, illustrate and evaluate data. We analyze the characteristic respondent, toddler developmental status and also the effect of KIA sensory play on child development.

The slovin formula is used to calculate the sample size by considering the desired margin error. The formula is as follows:

$$n = \frac{N}{1 + N \times e^2}$$

Where:

n = sample Size

N = Population size

e = margin error

Here, the population is 28 parents with toodler, and we use 10% margin error, so we can calculate the sample size as bellow:

$$n = \frac{28}{1 + 28 \times (0,1)^2}$$

$$n = \frac{28}{1,28} = 21,8$$

Using the Slovin we can get 22 respondents, then we also adding 10% drop out probability, so the required sample size is 24 respondents.

The materials and equipment used in this service include the Maternal and Child Health Book (KIA book), Developmental Pre Screening Questionnaire (KPSP), Towards Health Card (KMS) Sheet, Stadiometer, Head Circumference Tape and Arm Circumference Tape, Digital body scales, and writing pad for taking notes.

RESULTS AND DISCUSSION

Finding

Respondent characteristics were categorized based on age, child spacing, occupation, and breastfeeding history. The Moher's characteristics of the respondents are presented in table 4.1;

Table 4.1 Mother's Characteristic

Mother's Characteristics	Category	<i>f</i>	%
Age	<20 years	2	8,33
	20-35 years	12	50
	> 35 years	10	41,67
Child Distance	<2 years	6	25
	>2 years	18	75
Jobs	Household	22	91,67
	Private	2	8,33
Education	Elementary	3	12,5
	Junior High School	6	25
	Senior High School	10	41,67
	University	5	20,83

Breastfeeding History	Exclusive breastfeeding	20	83,33
	Breast milk and formula	3	12,5
	Formula milk	1	4,17

This comprehensive table provides insight about the demographic, socio-economic, highlighting diversity in age, child spacing, employment, education, and breastfeeding practice of respondents. This data indicates a varied distribution of mothers across different age groups, with a majority falling between 20 to 35 years old. The majority of mother having child spaced more than 2 years. Most mothers are employed in house hold activities, while a small percentage work in the private sectors. The educational attainment mothers variess, with a significant proportion having completed at least senior high school. A large majority of mothers practiced exclusive breastfeeding smaller percentage supplemented with formula or combined milk with formula. While, the children characteristic can be seen in table 4.2 as follow:

Table 4.2 Children Characteristic

Children Characteristics	Category	f	%
Age	0-12 months	2	8,3
	13-24 months	8	33
	24-36 months	6	25
	37-48 months	6	25
	49-60 months	2	8,3
Nutritional Status	Underweight	5	20,8
	Normal	16	66,7
	Overweight	2	8,3
	Obese	1	4,2
Developmental Screening (KPSP)	Normal	18	75
	Doubtful	6	25

This data provides a snapshot of the age distribution, nutritional status, and developmental screening results of a group of children. Most children are in 1-2 years old, with normal nutritional status, and normal development screening. We also check the effect of using MCH book as stimulation guide on knowledge level about stimulation that can be seen in table 4.3 below:

Table 4.3. Effect of MCH book stimulation guide on knowledge level

	N	p-value
Pre intervention	24	.018*
Post intervention	24	

*p-value < 0.05 = significant

This data shows that there was statistically significant effect of MCH book stimulation guide on knowledge level after intervention.

Discussion

The activity begins with a preliminary study through TPK Pasar Kliwon to determine the focus of the posyandu that will be carried out by students and accompanying lectures. The Posyandu where the services is carried out is in Tangkas Posyandu, pasar Kliwon. The characteristics of respondents involved in developmental screening highlight the importance of considering demographic and lifestyle screening programs. We highlight the importance of considering factors such as age, education, and occupation when designing and implementing developmental screening programs. Data 4.1 shows about mother's characteristic. We can see that the fewest respondents were <20 years old, this suggest that most respondents are likely to be adults with children who are undergoing developmental screening. Mothers maybe understand that early detection and intervention can significantly impact the outcome for their children. Developmental screenings help identify potential delays or issues early, allowing for targeted interventions to support the child's development. The majority of respondents had a child spacing of >2 years, this indicated that many respondents have multiple children with a significant and proper age gap between them. Molitoris et al (2019) said that Longer birth intervals are associated with better child health outcomes, including lower rates if low birth weight, preterm birth and infant mortality. Not only it, longer birth intervals can also support optimal child development by allowing for more focused attention and resources for each child, which can positively impact cognitive and social development. Most respondent were housewife indicating that many mothers are actively involved in their children's developmental screening. Mother feel responsible for their child health and development screening as a part of their parental duties to ensure their child receives the best possible care and support (Roshanfekar et al, 2017). A small proportion of respondents still had an elementary school education. Its indicted that most respondents have a higher level of education. The majority of respondents had given exclusivebreastfeeding to their children. This indicates that most respondents follow a breastfeeding practice that is considered optimal for child development. Exclusive breastfeeding is essential for the fits six months of life, s it provides the best possible nutrition and helps in the development of the child's immune system (Khatib et al, 2023). In this study, the respondents may have a high level of knowledge about breastfeeding. This knowledge helps them make informed decisions about their child's nutrition and development. These factors can influence the effectiveness and accessibility of such programs, and therefore should be taken into account to ensure optimal outcomes for children. Not only that, in table 4.2 we also can see the

children's characteristics. In table 4.2, almost all of children have good nutritional status with a normal development. Based on Lipkin et al (2020) It is important for all the pediatrics health care professional, doctor, midwives, nurse and all health workers conducting developmental surveillance and screening to identify conditions such as autism, behavioral disorder, and other medical condition. This ongoing developmental surveillance by using standardized screening test to identify subtle risk for developmental delays. Especially attention to surveillance at 4 to 5 years well child visit screening. Table 4.2. Overview of Interpretation of Toddler Developmental Screening results The results of the KPSP examination, obtained the majority of toddlers have development in accordance (normal) with age and there are still toddlers with doubtful development. This condition is a concern for parents and health workers, especially for toddlers whose development is not appropriate. If the toddler is in doubtful development status, it is necessary to evaluate the type of development that is lagging behind, stimulation should be done more often and check back 2 (two) weeks later, but if the development status deviates, it needs to be reported to further health care facilities. Developmental discrepancies can be caused by a lack of stimulation provided by parents or caregivers, and one of them is short stature which has a height below the -2 SD percentile. It may be caused by nutritional disorders, chromosomal abnormalities, systemic diseases or endocrine disorders. Mothers with doubtful screening result also still active and participate in follow up evaluation, indicating an awareness in mothers in paying attention to their growth and development. Providing education about stimulation through MCH book is expected that respondents are able to understand and increase maternal awareness in monitoring children's development better. Furthermore, the analysis test was carried out and the results are presented in Table 4.3. Data proves that a significant value of p -value < 0.05 is obtained, which indicates that there is an effect of *MCH Book stimulation guides* on the level of knowledge. Assistance with used of the MCH book aims to optimize existing media. In accordance with the recommendation of the health Ministry, that MCH book have many benefit for mother to monitoring and stimulating the children's development. Using MCH book mother can read and also implemented easily the way of stimulation for their children that already exist in the MCH book. So that with this existing media parents can having independence and awareness of growth and developmental screening. All activities that have been done during this community service can be seen as pictures below;



Picture 1. Developmental screening and assessment on children and educating mother about MCH book for developmental stimulation

CONCLUSIONS

The conclusion illustrate that the use of MCH book is highly recommended as practical medium for mothers to optimizing child development.

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