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# Exposure to child development information with parental participation in conducting child development checks

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**ABSTRACT**

**Introduction:** Parental involvement in monitoring child development is essential to detect early developmental disorders and ensure appropriate interventions. However, many parents have limited knowledge regarding developmental milestones, which hinders their participation in developmental screening activities. This study aims to analyze the relationship between exposure to child development information and parental involvement in developmental screening, including the sources of such information among mothers of toddlers.

**Method:** A cross-sectional design involving 57 mothers of children aged 3–72 months was employed. Data were collected through structured questionnaires and analyzed using univariate statistics to describe parental participation and information sources. Bivariate analysis using the chi-square test was conducted to assess the association between exposure to developmental information and parental involvement in screening activities.

**Results:** The majority of respondents were aged 36–50 years (54.4%), had completed secondary education (77.2%), and were unemployed (52.6%). Most respondents (57.9%) had been exposed to child development information, predominantly from health workers. Parental participation in screening was higher among mothers who had received developmental information (66.7%) than those who had not (20.8%). The association between information exposure and parental participation was statistically significant ($p = 0.001$).

**Conclusion:** Exposure to developmental information significantly influences parental participation in child development screening. Parental awareness and understanding of developmental milestones are critical in supporting timely health interventions. Therefore, healthcare professionals should implement comprehensive educational efforts through various media to enhance parental engagement.

**Keywords:** Development, Education, Information, Participation, Screening.

## INTRODUCTION

Indonesia has shown progress in development compared to the previous period, but it still has to face changes in the strategic environment in the future. The changes that arise will certainly create challenges in efforts to achieve the vision of Golden Indonesia 2045, which includes many aspects. One of the important challenges is the low productivity level during increasing global competition. This low productivity is caused by the quality of human resources that are still far behind (BAPPENAS, 2024). Indonesia is predicted to reach the peak of the demographic bonus in 2030, where 68.3% of its entire population is of productive age. The demographic bonus only appears once in a country's history. This can be an opportunity or a challenge if it is not managed properly (UNICEF, 2023). The problem of malnutrition in children is a serious issue in Indonesia. Stunting conditions, low body weight, and very thin children (wasting) continue to affect toddlers. Stunting can cause long-term effects, including obstacles in child growth and development. The current condition of child welfare is an important indicator of Indonesia's progress in achieving the Sustainable Development Goals (SDGs) targeted by 2030 (Unicef, 2021).

Developmental monitoring and stimulation for child growth is a comprehensive process used to monitor a child's progress and identify discrepancies in development that do not correspond to normal circumstances. The skills of health workers and caregivers in conducting detection plays a very important role as a foundation for providing intervention and stimulation (Suprapto *et al.*, 2021). This monitoring process involves health workers and family members or caregivers (Kemenkes, 2023b). Parents' knowledge of development is important because knowledge will be the capital for how parents can monitor the milestones of each stage of the child's age and provide maximum stimulation for optimal child development (Bening and Ichsan, 2022). Parents' knowledge of development affects parents' attitudes in providing stimulation (Huru, Mamoh and Mangi, 2022). Although child development is important, parents' knowledge of child development is still relatively low (Armina et al., 2022). Currently, parents can screen child development independently using the KIA book from the age of 3 - 72 months. The update to the KIA book aims to reduce the morbidity rate in infants and toddlers due to the large number of cases of child developmental disorders that are too late to intervene (Ministry of Health, 2023a). The participation of parents or caregivers in child development screening plays a role in detecting deviations related to child development (Lailatulrohmah, 2024). This can certainly help health workers to provide interventions quickly and appropriately. Many factors can influence participation, including education, employment, and parents' age (Cano and Hofmeister, 2023).

The implementation of the SDIDTK program also encounters several obstacles, including the limited number of implementing human resources and not all health human resources have received SDIDTK training, so that the ability of health workers to provide information and education to parents to conduct independent monitoring cannot be carried out optimally (Khairunnisa et al., 2022). Currently, various information can be accessed through many sources such as magazines, leaflets, banners, billboards, television, and social media such as Instagram, TikTok, Facebook, and YouTube, which are expected to increase parents' knowledge and attitudes (Negeri and Tuntungan, 2022). Exposure to information from various sources can increase parental knowledge and participation in the early detection of child development (Sumiati, Linda et al., 2024).

Based on the results of the interview conducted in Tegallinggah Village with parents of toddlers and midwives at the Posyandu, it was found that most mothers still think that growth and development are 2 things the same. Hence, parents only focus on weighing weight and measuring the child's height. In addition, not all mothers use the KIA book to monitor their children's development at home independently. This underscores why this research is essential to do.

## RESEARCH METHODOLOGY

This study employed a quantitative, cross-sectional design to investigate the relationship between parental exposure to child development information and their participation in developmental screening activities. The research was conducted in Tegallinggah Village, in Sukasada District, Buleleng Regency, Bali Province, Indonesia: Population and Sample. The target population included mothers of children aged 3 to 72 months registered at the local Posyandu (Integrated Health Post). A total of 57 mothers were selected as respondents through total sampling, as all eligible mothers who met the inclusion criteria and were present during the data collection period were included in the study. Inclusion and Exclusion Criteria: Inclusion criteria: Mothers with children aged between 3–72 months who were willing to participate and could comprehend and fill out the questionnaire. Exclusion criteria: Mothers with children with diagnosed developmental disorders or who did not complete the questionnaire.

Data Collection Method. Data were collected over two months, from August to September 2024. The researchers used a structured questionnaire to obtain information on Sociodemographic characteristics (age, education, employment, marital status). Exposure to child development information (yes/no). Sources of information (e.g., health workers, social media, printed materials). Participation in child development screening (yes/no). The questionnaires were distributed and filled out on-site at the Integrated Health Service Post, with assistance to ensure comprehension and accurate responses. Variables. Independent Variable: Exposure to child development information (categorized as “yes” or “no” based on self-report). Dependent Variable: Parental participation in developmental screening (whether the mother had ever conducted developmental checks using the tools provided, such as the Maternal and Child Health Handbook).

Data Analysis. Univariate analysis was conducted to describe the distribution of respondent characteristics, levels of exposure to child development information, and parental participation in developmental screening. Bivariate analysis was conducted using the Chi-square test to assess the relationship between exposure to child development information and parental participation in developmental screening. The level of statistical significance was set at $p < 0.05$. Data were processed and analyzed using SPSS version 26.0.

Ethical Considerations. This study adhered to ethical standards involving human participants. Informed consent was obtained from all respondents before data collection. Confidentiality and anonymity were assured by assigning identification codes to participants and not collecting personally identifiable information. The study received approval from the academic and research ethics board of the Midwifery Program, Faculty of Medicine, Universitas Pendidikan Ganesha.

## RESULT

The study was carried out from August to September 2024 on 57 mothers of toddlers aged 3-72 months. Data was collected by filling out a questionnaire by mothers of toddlers who came to the Tegalinggah Village posyandu. The following are the results of the research conducted:

**Table 1. Characteristics of toddler mothers**

| Characteristics | Frequency (n = 57) | Percentage (%) |
|---|---|---|
| **Age** | | |
| 20-35 | 26 | 45,6% |
| 36-50 | 31 | 54,4% |
| **Paritas** | | |
| >2 | 11 | 19,3% |
| 2 | 27 | 47,4% |
| 1 | 19 | 33,3% |
| **Education** | | |
| Elementary school | 4 | 7% |
| Junior high school | 5 | 8,8% |
| Senior High School | 44 | 77,2% |
| Bachelor | 4 | 7% |
| **Work** | | |
| Working | 27 | 47,4% |
| Not Working | 30 | 52,6% |
| Marital Status | | |
| Divorced/Widowed | 2 | 3,5% |
| Married | 55 | 96,5% |

Based on Table 1, it was found that most of the research respondents were mothers under five with an age category of 36-50 years old (54.4%). Most had a parity of 2 children, while for the level of education, employment, and marital status, the majority of respondents had a high school education (77.2%), did not work (52,650), and had married status (96.5%).

**Table 2. Overview of child development information exposure**

| Characteristics | Frequency (n = 57) | Percentage (%) |
|---|---|---|
| **Information Exposure** | | |
| Yes | 33 | 57,9% |
| No | 24 | 42,1% |
| **Growth and development participation** | | |
| Yes | 26 | 45,6% |
| No | 31 | 54,4% |

Based on Table 2, it was found that most respondents had been exposed to child development information; as many as 33 respondents (57.9%) and only 11 respondents (42.1%) had not been exposed to child development information. It was found that most respondents had never conducted a child development examination. As many as 31 respondents (54.4%) and 26 respondents (45.6%) who had not conducted a child development examination

**Table 3. The relationship between child development information exposure and parental participation in child development screening**

| Information exposure | Participation in the progress examination | | | | Total | | OR | P value |
|---|---|---|---|---|---|---|---|---|
| | Yes | | No | | | | | |
| | n | % | n | % | n | % | | |
| Yes | 22 | 66,7 | 11 | 33,3 | 33 | 100 | 7,6 | 0,001 |
| No | 5 | 20,8 | 19 | 79,2 | 24 | 100 | | |

Table 3. It shows that participation in child development checks is more carried out by mothers under five who receive child development information (66.7%) compared to mothers who do not receive child development information (20.8%). The statistical test results showed a significant relationship between exposure to child development information and parental participation in child development care (p-value <0.05).

## DISCUSSION

The research was conducted on 57 mothers in the Tegallinggah Village Posyandu; the majority of respondents were mothers with the main responsibility for childcare and had a high school education background that had the potential to receive and understand information on child development. Parents' education level affects children's knowledge of parenting patterns (Kamaruddin *et al.*, 2023).

The study's results showed that 57.9% of mothers had received exposure to information about their child's development, while 42.1% had not. This suggests there are still gaps in disseminating child developmental information to parents, potentially affecting their involvement in growth and development screening. Exposure to child development information is closely related to parental participation in monitoring child development. Exposure to information about child development plays a very important role in increasing parents' understanding of the stages of child development and how they can be involved in ensuring optimal development (Orlando *et al.*, 2023). Conversely, parental participation in child development screening (such as early detection of developmental problems) can be influenced by the parent's level of understanding of the information (Ridwayanati, Elan and Sumardi, 2022).

Parents' understanding of children's growth and development helps parents understand various aspects of children's growth and development, both physically, cognitively, emotionally, and socially (Miftahul hakiki and Setiana Andarwulan, 2023). This information can be obtained through various media, such as books, seminars, child health clinics, and online resources (Hasbi *et al.*, 2020). Sufficient knowledge about the stages of children's growth and development allows parents to more quickly identify if there are delays or problems in children's growth and development (Hamid, Wahira and HB, 2024). By knowing the warning signs of a certain growth and development delay or behavioral disorder, parents are more likely to engage in screening or early detection by medical personnel or professionals. For example, parents who understand the importance of speaking early will be more sensitive to speech delays in children (Maksimović *et al.*, 2023).

Effective information exposure can increase parents' awareness of the importance of regular child development checks. This information can include warning signs of developmental delays, such as speech difficulties, motor difficulties, or age-inappropriate behavioral problems. The benefits of early detection can affect parental involvement in regular child health checkups (Arda, Lalla and Suprapto, 2023). Available resources and

services can help parents know where to access screening services (Wulandari, Winarsih and Istichomah, 2022). Parents who get information about their child's development are more likely to participate in the screening process because they understand the importance of early identification of problems and follow-up that can improve the child's quality of life (Darojah, Sugiharti and Wijayanti, 2023).

Effective education and counseling regarding child growth and development and the importance of early detection can be carried out through various approaches. For example, programs at community health center or integrated health service posts that provide information about children's growth and development (Khairunnisa *et al.*, 2022). In this case, medical personnel or counselors educate parents on monitoring their child's growth and development and encourage them to undergo regular screening. Research shows that programs that educate parents about the warning signs of developmental problems can increase parental participation rates in child growth and development screenings (Noya, Pattikawa and Risakotta, 2022). When parents feel more empowered with the knowledge they have, they tend to take proactive steps in seeking medical support if their child shows signs of developmental impairment (Lian *et al.*, 2024).

The concept of the Health Belief Model (HBM) theory explains that a person will be more likely to engage in certain health behaviors, such as screening if they feel that the risks they are facing are serious enough, they have a belief that the action can reduce the risk, and they feel capable of doing so. Adequate exposure to information about child development can strengthen parents' perception of the importance of screening as a preventive measure that can minimize the risk of child developmental disorders (Duffy *et al.*, 2023).

Several studies have shown that good and timely information is associated with increased parental participation in early detection activities for child development. For example, a study by Akutsu *et al.* (2025) suggests that parents with information about the importance of early detection and who are engaged in community-based education programs are more likely to bring their children in for regular developmental checkups. Understanding children's growth and development is important in increasing parental participation in child growth and development screening. With a good understanding, parents can be more prepared and active in preventive measures to ensure children's growth and development run well. On the other hand, a lack of information or good understanding can reduce parental participation in the screening and early detection process, which risks hindering the handling of children's growth and development problems that can impact children's quality of life later in life.

## CONCLUSION

Parental participation in child development screening plays a role in detecting deviations related to child growth; parental knowledge and sensitivity in monitoring child behavior can help health workers in intervention and referral efforts. Parents' ignorance of child development information affects their participation in screening. Providing education about child development is very important to increase parental compliance in screening, and promotional efforts need to be carried out by health workers through various media.

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**Conflict of Interest**

There are no potential conflicts of interest relevant to this article.

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