

The influence of parents' growth and development knowledge on child development

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ABSTRACT

Background: Parents play a significant role in stimulating their child's development. This literature review aimed to find out the influence of parents' knowledge of child growth and development on child development.

Methods: The method used in this research is a literature review by gathering the secondary data from 6 journals that related to parents' knowledge and child development which were obtained from PubMed and Google Scholar as the search source.

Results: Based on the six journals used in this literature review, it was found that parents play a crucial role in their child's development. Providing stimulation that is based on enough knowledge about the stages of child development serves to help stimulate the maturation of a child's brain cell performance.

Conclusion: Based on this literature review, it can be concluded that parents' knowledge influences aspects of child development. Providing stimulation that is based on good knowledge will assist in improving creativity and stimulating a child's brain cells to grow optimally.

Keywords: child development, growth and development, literature review, parents knowledge, pediatric

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Introduction

The childhood phase is a very crucial phase in the formation of skills and personality of each individual to go through the process of life.¹ In this phase, children have the sensitivity to capture information and responses from conditions in the surrounding environment. One of the characteristics of this phase is the rapid development and maturation of physical and psychological functions so this phase is also known as the golden age. Contributions from others are needed to facilitate children's development and to monitor and assess the suitability of children's development according to their age.²

Parents have a very large role in stimulating the growth and development of children. It is important to educate their children so that they can develop according to the potential of each child.³ Educating and parenting techniques will differ between families and this will affect the level of child development such as how children will interact, communicate, and carry out their daily activities.⁴ Parents' understanding of the concept of growth and development can affect the quality of child development and prevent deviations from occurring.⁵ One of the factors that can

influence aspects of child development is the suitability of stimulation. The positive impacts of proper stimulation include mental strengthening, memory enhancement, and reasoning maturation.⁶

The aspects of child development can be used as a reference in assessing whether a child is growing by their age milestones or experiencing developmental delays. There are four aspects included in child development consisting of gross motor, fine motor, social or emotional, and language.⁷ Gross motor can be defined as an activity or movement that involves the contribution of the large muscles of the body which has several aspects including strength, speed, flexibility, and so on.⁸ Fine motor is an activity or movement that involves the contribution of smaller muscles when compared to the muscles involved in gross motor movements. Fine motor movements emphasize more specific activities such as holding a pencil, folding paper, and cutting with scissors.⁹ Social or emotional development is the child's ability to accept and respond to the surrounding environment which will be the basis for the formation of the child's character and social behavior in the future.¹⁰ Language development is the child's ability to communicate with the

surrounding environment. Language has four aspects of skills, which are listening, speaking, reading, and writing.¹¹

Parents have a great responsibility to understand and also recognize signs of abnormalities that may occur in children so that parents can provide stimulation as early as possible to prevent developmental delays.¹² According to data from the World Health Organization (WHO) in 2018, there were 28,7% of toddlers experienced cases of growth and development disorders and Indonesia was ranked third with the most cases among Southeast Asian countries. According to data from the Kementerian Kesehatan Republik Indonesia (Kemenkes) in 2018, there are 11% of toddlers still experience growth and developmental delays.¹³ Seeing these issues, a literature review research was conducted to find out more about the influence of growth and development knowledge on children's development aspects.

Methods

This research used a literature review design by taking secondary data from journals related to parental knowledge and child development obtained from PubMed and Google Scholar as search sources. There were 24 journals used in the literature review and 6 journals were selected as the main journals based on the level of relevance to the topic of discussion in the literature review, with keywords including child development, knowledge, and parents. Literature was selected based on inclusion and exclusion criteria. The inclusion criteria used were journals in the last 5 years with topics that discuss how the influence of growth and development knowledge on parents on aspects of child development. The exclusion criteria were participants with developmental disorders such as Down syndrome, cerebral palsy, attention-deficit hyperactivity disorder (ADHD), etc.

Results

The review of six selected journal articles provided insight. With knowledge of growth and development parents can look for factors that affect the level of child development (Table 1). This is in line with research conducted by Brahmani, and Milla in 2023, researchers worked with 88 pairs of participants who were mothers of 1-2-year-old children. Researchers stated that 38.6% of mothers had a lack of knowledge of child development at the age of 1-2 years as measured using a questionnaire and 62.5% of children were declared to have a questionable level of development after being measured using DPsQ. The final results of data processing showed that most of the mothers with a lack of knowledge had children with a questionable level of development with a percentage of 33% of the total participants. In this study, it was stated that there was a relationship between maternal knowledge about growth and development with child development obtained from the p-value = 0.000 (>0.5) with a moderate correlation between variables obtained from the r value of 0.645.¹⁴

Huru, Meriatty's research in 2022 conducted research on 84 pairs of parents and children. In measuring parental knowledge, researchers used a questionnaire as a measuring

tool with three levels of assessment, including good, sufficient, and less. The results of measuring parental knowledge found that 60.7% of parents had a good level of knowledge. Measurement of child growth and development is measured using the DPsQ as a measuring tool whose results are divided into three levels, which are appropriate, doubtful, and deviant. The results obtained were that 61.6% of children had a good level of development. After measuring the final data, researchers found that 96.1% of parents who were at a good level of knowledge had children whose development was by their age. Researchers mentioned that stimulation plays a role in influencing child development. Stimulation is a basic need for children to improve motor skills, social-emotional, language, cognitive, independence, and creativity. Stimulation can also help in stimulating the improvement of brain cell function.¹⁵ Research by Desra Yunita, et al in 2020 states that children's contribution to interacting with parents is one of the important things that must be considered during the stimulation process. Children should be allowed to move freely and explore their bodies and the environment around them.¹⁶

Syahailatua, Jufia's research in 2020 was a study involving 367 pairs of participants who were mothers and children. There are two measuring instruments used, which are interviews to measure maternal knowledge related to understanding child development which will be considered good if it has a score of 11-20, while it is considered deficient if it has a score of 0-10 and DPsQ is used to measure the level of child development. Researchers found that 70.3% of mothers had a good level of knowledge about child development and 80.4% of children had an age-appropriate level of development. In the final results of data processing, it was stated that 83% of mothers who had a good level of knowledge had children with age-appropriate developmental levels. In addition to the level of maternal knowledge, this study also examined the relationship between maternal employment and child development but did not find a significant relationship in the relationship between maternal knowledge and child development.¹⁷

These results are in line with the research of Handayani, et al in 2017 which states that several factors cause work not to be the main factor in influencing child development, for example, the availability of daycare services to assist in the process of child development, but parents still have an important role in supervising children from time to time so it can be said that parents' knowledge of child development is still the basis for monitoring children's development to stay by their age.¹⁸

Rizka, and Liadina's research in 2023 conducted research on 32 participants of pairs of mothers and children. Parental knowledge data is divided into 3 levels (good, sufficient, and lacking) and researchers get data that 46.9% of participants are at a sufficient level. In the child development data, the assessment was divided into 3 levels (deviant, doubtful, and appropriate) and the data obtained was that 56.3% of children were at a doubtful level. This research stated that there is a significant relationship between

parental knowledge and child development with a p-value of 0.006 (<0.05).¹⁹

Yuniarti, Sri's research in 2021, involved the participation of 47 pairs of mothers and children who attended At-Taqwa Kindergarten. The researcher obtained data that there were 48.1% of the total participants who were parents who were at a low level of knowledge and who also had children with questionable development. The researcher mentioned that to be able to provide stimulation to children, mothers need to develop creativity such as in making toys and stimulation aids that do not need to spend money and are made from raw materials that are easily available.²⁰ This statement is by what is explained by Rahadrjo in 2012, who found that there are still mothers who have a lack of knowledge and have an impact on child development such as language disorders and behavioral disorders that lead to autism due to a lack of understanding and awareness of the importance of finding out about information on how to stimulate child development and how children should develop at that age.²¹

The research conducted by Pourgavam, Moradi in 2020 involved 462 participants who were children under 5 years old. Participants were divided into 2 groups, a group of 231 children in the case group and 231 children in the control group. The results of this study examined the relationship of four factors and all had a significant relationship. The four factors consisted of the mother's age at childbirth, the child's history of illness, the parents' cigarette consumption, and the mother's level of vigilance toward growth and development. The researchers concluded that the ability to identify these factors can help reduce the risk of developmental delays and their effects on the child.²²

The statement written by Demirci, Aylin in her 2018 research states that low levels of knowledge and vigilance of parents can create an inability to establish effective communication, provide physical and social needs, and facilitate the right environment for children to improve their skills.²³

Discussion

The successful development of children so that they can keep up with their age milestones is a big responsibility that every parent has. Parents who know and understand the stages of development will be better able to meet the needs of their children. In cases of delayed child development, it is usually detected by parents who are aware of the signs of delay. Awareness of the symptoms of child developmental delays as early as possible will be able to prevent the worsening of child developmental delays, so it is important for parents to routinely monitor their child's cognitive, motor, language, social, and emotional development.²⁴

Developmental delay is a condition where a child is unable to reach the milestone development stages according to their age. Many factors cause developmental delays, such as genetic factors, complications during pregnancy, and the environment. Reducing the incidence of developmental delays can be achieved through parents' understanding of the

risk factors that may cause developmental delays. There are many things that parents can do to contribute to reducing the incidence of these cases, such as screening genetic history, monitoring health during pregnancy, and providing appropriate stimulation by the child's developmental milestones.²⁵

Research conducted by Brahmani, and Milla in 2023 stated that the basis for mothers to be able to monitor and pay attention to child development is through knowledge about growth and development. Mothers play a big role in providing proper stimulation and care, as well as in regulating the nutritional balance of children's intake. The lack of quality in providing proper stimulation and care can be caused by the lack of maternal knowledge of growth and development.¹⁴ The results of this study are reinforced by research conducted by Ramadia, et al in 2021 which states that stimulation based on maternal understanding will have a good influence in terms of stimulating children's imagination levels and the development of thinking power. Other factors such as emotions and beliefs from mothers also have a role in increasing motivation to provide optimal stimulation for child development.^{6,26}

Rizka and Liadina's research in 2023 indicates that the role of parents is very useful to recognize the advantages of the child's development process and provide stimulation to their children. Stimulation can help children's brain development to be more optimal. Parents have a role as caregivers who must be able to control, guide, and accompany their children, especially when they are still in the process of development. Ideal development can be created if parents know and understand how children develop according to their age.¹⁹ The strategy that parents can use is to provide and facilitate children's learning space in the process of child development as described in the research of Soraya, et al in 2023. Factors such as a conducive and pleasant learning space atmosphere will have a positive impact on providing stimulation and can motivate children to increase their enthusiasm for development.²⁷

This study has limitations and disadvantages. One of the main disadvantages is the use of the literature review method, which limits the exploration of unexamined variables and relies on existing publications. Therefore, further exploration is needed regarding the influence of parents' knowledge about child growth and development on the aspect of child growth and development.

Conclusion

Parents' knowledge can affect children's growth and development. Providing stimulation based on proper understanding can increase imagination and stimulate brain cell development so that children can grow more optimally. Good parental knowledge can also help the analysis process to assess the suitability of children's development with their age. Therefore, further research is needed to identify and assess the relationship between parental knowledge and child development. In addition, understanding this

Table 1. Results summary of the influence of parents' growth and development knowledge on child development

Title	Author (Year)	Methods	Results
Hubungan pengetahuan ibu tentang tumbuh kembang dengan perkembangan anak usia 1-2 tahun di updt puskesmas klungkung ii	Brahmani, Milla (2023) ¹⁴	This cross-sectional study involved a total of 695 participants. The inclusion criteria were mothers who had a child aged 1–2 years, had at least an elementary school education, and were cooperative during the study. Participants were excluded if their children had disabilities or congenital diseases. Data collection was conducted using the DPsQ (Daily Parenting Stress Questionnaire) as the primary measurement tool.	There is a significant relationship between maternal knowledge about growth and development with child development with a p-value of 0.000 (<0.05). Good knowledge about growth and development can help mothers in analyzing and evaluating their children's development. The accuracy of this analysis is important to find out as early as possible if signs of growth and development disorders appear.
Hubungan pengetahuan dan sikap orangtua tentang stimulasi perkembangan dengan perkembangan anak prasekolah	Huru, Meriaty (2022) ¹⁵	This cross-sectional study included 84 participants, specifically parents with preschool-aged children and toddlers residing in Penfui Timur Village. Children with disabilities or congenital diseases were excluded from the study. Data collection was conducted using the Daily Parenting Stress Questionnaire (DPsQ) as the primary measurement tool.	There is a significant relationship between parental knowledge and child development with p=0.017 (<0.005). Providing appropriate stimulation by the age of the child can affect the improvement of the performance of cells in the brain that are responsible for the development of motor, sensory, cognitive, and other aspects.
Pengetahuan ibu tentang tumbuh kembang berhubungan dengan perkembangan anak usia 1-3 tahun	Syahailatua, Jufia (2020) ¹⁷	This cross-sectional study involved 367 participants, specifically mothers with children aged 1–3 years. The inclusion criteria required participants to be mothers of children within that age range, while the exclusion criteria ruled out children with nutritional disorders, mental problems, ADHD, or autism. The Daily Parenting Stress Questionnaire (DPsQ) was used as the primary measurement tool.	There is a significant relationship between maternal knowledge and child development with a p-value of 0.045 (<0.05). A mother's broad insight in exploring information about providing appropriate stimulation can be one of the factors that influence aspects of child development. Curiosity to be able to dig up more information from various sources can be an important step for mothers to increase their knowledge.

Table 1. continued

Hubungan pengetahuan orang tua Rizka, Liadina (2023)¹⁹
dengan perkembangan anak
usia 3-5 tahun

This cross-sectional study involved two groups of participants. The first group included 32 mothers with children aged 3–5 years, while the second group consisted of 47 children aged 5–6 years who attended At-Taqwa Cibeber Cimahi Kindergarten. In both groups, participants were excluded if the children had disabilities or congenital diseases. The Daily Parenting Stress Questionnaire (DPsQ) was used as the measurement tool in both groups.

There is a significant relationship between parental knowledge and child development with a p-value of 0.006 (<0.05). Lack of parental knowledge based on stimulation can affect the level of child development and can increase the risk of prevalence of growth and development disorders.

Relation between knowledge and Yuniarti, Sri (2021)²⁰
mother's occupation with growth
and development of children
between ages 5-6 in tk at-
taqwa cimahi

This cross-sectional study included 47 participants, consisting of children aged 5–6 years who attended At-Taqwa Cibeber Cimahi Kindergarten. Children with disabilities or congenital diseases were excluded from the study. The Daily Parenting Stress Questionnaire (DPsQ) was used as the primary measurement tool.

There was a significant relationship between maternal knowledge and child development with a p-value of 0.01 (<0.05). Maternal knowledge can be one of the factors that influence aspects of child development. Mothers need to increase their creativity in providing stimulation to optimize the quality of stimulation.

Associated factors with Pourgavam, Moradi (2020)²²
developmental delay of under 5 year
old children in hamadan, iran: a case-
control study

This case-control study involved 462 participants, focusing on children under 5 years of age. Inclusion criteria required participants to be within this age group, while mothers who did not cooperate during the study were excluded. The Ages and Stages Questionnaire (ASQ) was used as the primary measurement tool.

Four main causes were found to influence the occurrence of growth and developmental delays: the mother's age at delivery, the child's medical history, the parents' smoking habit, and the mother's level of vigilance towards growth and development.

relationship can help parents in monitoring so that they can detect any signs of developmental delays as early as possible.

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Conflict of interest

According to the authors, there is no possibility of conflict of interest related to the study, writing, or distribution of this paper.

Author contributions

The study's conceptualization, data acquisition, and initial manuscript preparation were undertaken by IGMKW, with collaborative efforts from NKAJA and AWI on data collection and manuscript revision

Ethical consideration

This review study used published and accessible articles. As such, the study did not require ethical approval or consideration.

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