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## LITERATURE REVIEW: EARLY DETECTION STIMULATION OF CHILD GROWTH AND DEVELOPMENT AT THE FAMILY AND COMMUNITY LEVEL

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### Absatak

Brain development depends on various interacting factors, such as genetic factors, health and nutritional status, quality of child-mother interactions, and environmental characteristics. The more stimulation from the environment given at an early age, the more synapses between brain cells are connected. Lack of stimulation can cause deviations in children's growth and development and even permanent disorders. The basic abilities of children that are stimulated by directed stimulation are gross motor skills, fine and adaptive motor skills, speech and language skills, and socialization and independence skills. Early detection of developmental deviations needs to be done in order to find out the possibility of deviations, including following up on any complaints from parents regarding their child's developmental problems. If a possibility of deviation is found, early intervention is carried out as a corrective action by utilizing the plasticity of the child's brain so that growth and development are expected to return to normal or the deviation does not become more severe. The research method is a literature review. Articles are taken from the consensus database and Google Scholar in July-August 2024. Initially, researchers obtained 13 research journals, after going through several stages, 6 research journals were determined. The conclusion of this study reveals a significant relationship between mentoring and respondents' abilities in early detection stimulation of the growth and development of preschool children. This report also emphasizes the importance of family (parents) and community (teachers, health cadres) involvement.

**Keywords:** Stimulation of early detection of growth and development, ability

### INTRODUCTION

Child growth and development are fundamental aspects in determining the quality of life and health in the future. Optimal growth and development processes include not only physical growth, but also motor, cognitive, language, and socio-emotional development. In this modern era, various challenges such as changes in the environment, diet, and access to health services have the potential to significantly affect child development. Data on global child growth and development disorders are often reported in public health reports and research studies conducted by various organizations such as WHO, UNICEF, and national health institutions. Stunting (short for age) and wasting (underweight for height)

are key indicators in assessing child health and development. According to WHO data, around 22% of children under 5 years of age worldwide experienced stunting in 2021. For wasting, the global figure is around 6% of children under 5 years of age. Developmental disorders, including motor, cognitive, and language disorders, are estimated to affect around 10-15% of children worldwide. These figures can vary depending on definitions, survey methods, and availability of health services. In January 2022, the Ministry of Health announced that the incidence of stunting in Indonesia had decreased to 21.6% compared to 2021 which reached 24.4%. Based on the results of the 2022 Indonesian Toddler Nutrition Status Survey (SSGI), the prevalence of stunting in Lampung Province experienced a significant decrease of 15.2% compared to the results of the same survey in 2021 of 18.50%. . However, the potential for stunting in children still needs to be watched out for and prevention and handling efforts must be made by health workers and those closest to them.

WHO (2018) recommends a parenting pattern based on the Nurturing Care approach? The Nurturing Care approach is a form of integration of 5 components of parenting, namely fulfilling children's health, fulfilling adequate nutrition, responsive parenting, providing early learning opportunities (stimulation), and ensuring children's safety and security. This parenting pattern must be supported by public policies and local health services through family health programs. Early childhood, especially the first 1000 days of life, is an important time for brain development, which includes physical, language, cognitive, and socio-emotional development. Brain development depends on various interacting factors, such as genetic factors, health and nutritional status, quality of child-mother interactions, and environmental characteristics. Research shows that the early childhood environment has a major influence on brain development. A baby is born with billions of brain cells that represent their lifelong potential. However, in order to develop, these brain cells need to be connected to each other or known as the process of synaptogenesis. The more stimulation from the environment given at an early age, the more synapses between brain cells are connected. In addition to synaptogenesis, neuroplasticity, which is the brain's ability to change in response to exogenous stimuli, is also found to be highest in the first 3 years of life. Therefore, every child needs to receive routine stimulation as early as possible and continuously at every opportunity. Basically, stimulation is not only carried out at an early age, but also continued at a later age to continue to optimize the child's development at every stage of development. Stimulation of child growth and development can be carried out by mothers and fathers who are the closest people to the child, child caregivers, other family members, and community groups in everyday life. Lack of stimulation can cause deviations in child growth and development and even permanent disorders.

The basic abilities of children that are stimulated with directed stimulation are gross motor skills, fine and adaptive motor skills, speech and language skills, and socialization and independence skills. In stimulating children's growth and development, there are several basic principles that need to be considered, namely: stimulation is carried out based on love and affection by applying the principle of two-way interaction (between children and parents or caregivers); Always show good attitudes and behaviour because children will imitate the behaviour of those closest to them; Carry out stimulation gradually, routinely, and continuously according to the age and stage of the child's development towards the four aspects of the child's basic abilities; Carry out stimulation in daily activities, for example when eating, bathing, before going to

bed, or carry out stimulation by inviting children to play, sing, tell stories, and read books; Stimulation is carried out in a fun atmosphere, without coercion, and without punishment; Use simple, safe tools or games that are around the child; Give equal opportunities to boys and girls; Children are given appreciation or awards for every process or result of efforts in developing abilities with simple things that are appropriate for the child's age, such as praise, hugs, or can be in the form of gifts that are not excessive; Limiting gadget playing time according to the Indonesian Paediatrician Association (IDAI) screen time recommendations. Developmental stages, stimulation given, according to the child's age group. In addition to growth and development stimulation, early detection and intervention also need to be carried out.

Early detection of developmental deviations needs to be done to find out the possibility of deviations including following up on any complaints from parents regarding their child's developmental problems. If a possibility of deviation is found, early intervention is carried out as a corrective action by utilizing the child's brain plasticity so that their development is expected to return to normal or the deviation does not become more severe. If the child needs to be referred, the referral must also be made as early as possible according to the indications. Developmental deviations must be detected early so that they can be corrected immediately. If detection is late, then treatment will also be late. Stimulation, Detection, Early Intervention of Growth and Development (SDIDTK) needs to be carried out so that there are no delays. The research taken is an experimental or quasi-experimental study by providing health education to respondents. Health education is in line with the Nola J Pender model approach. The Nola J. Pender Health Promotion Model (HPM) emphasizes the importance of individual behaviour and environmental factors in improving health. This model has been applied effectively in various populations and health problems, demonstrating its versatility and relevance in nursing and public health.

## **METHODS**

The research method used is a literature review. Articles are taken from the consensus database and Google Scholar in July-August 2024.

The process of conducting a literature review is as follows:

- a. Searching for journals with keywords, some keywords used to obtain relevant journals for the literature review include: early detection stimulation of child growth and development, respondent abilities.
- b. Making comparisons from previous research reference journals by adjusting the results of the journal's research with the quasi-experimental/experimental research method, both one group and with a control group in their research.
- c. Initially, the researcher obtained 13 research journals, after going through several stages, 6 research journals were determined (2 international journals and 4 national journals), which were in accordance with the keywords of the previous research journals.
- d. Conclude the results of the comparison of reference journals that are adjusted to the objectives of the literature review research, namely whether there is a significant relationship between mentoring and respondents' abilities in early detection stimulation of the growth and development of preschool children.
- e. The summary in this research literature review is about whether there is a significant relationship between mentoring and respondents' ability in early detection stimulation of preschool children's growth and development, whether carried out by health workers, teachers, parents or health cadres.

The inclusion criteria for this study are: research with experimental or quasi-experimental methods, conducted on families (parents) or communities (health cadres, PAUD teachers)

## RESULTS AND DISCUSSION

### Result

The authors conducted a thorough review of relevant studies, selecting those that met specific criteria for inclusion. They focused on English-language, original, and unpublished papers, ensuring a narrower and high-quality selection. Findings were analyzed for key information, including study details, authors, dates, locations, and methodologies, that were aligned with the study objectives.

Table 1.  
Results

Writer	Origin	Method	Sample	Results
Suryati B1, Bara Miradwiyana1	Jurnal Kesehatan Terpadu (Integrated Health Journal) Vol. 11 No. 2, November 2020 (94-100) ISSN 1978-7766 (Print) and ISSN 2597-9566 (Online) Journal poltekkes maluku	Design & technique: This experimental study used the pre-test and post-test design with control group method. Training and mentoring were provided to PAUD teachers using the Early Detection and Intervention Stimulation Guidelines for Growth and Development (SDIDTK)/Pre-Screening Questionnaire for Development (KPSp) for the intervention group, while for the control group, PAUD teachers were given the KPSp booklet after the post-test.	35 respondents who entered the intervention group and 35 respondents who entered the control group. The population of this study were PAUD teachers in the working area of the Beji Depok Health Centre	The results of the analysis showed that there was a difference in the knowledge and skills scores of PAUD teachers in stimulating early childhood growth and development ( $p = 0.001$ ) between the intervention group and the control group after the mentoring model intervention was carried out. Multivariate analysis could not be carried out because only 1 variable had an effect from the results of the bivariate analysis. The knowledge of PAUD teachers who were given the mentoring model was better than the control group.
Nurwening Tyas Wisnu, dkk.	Jurnal Penelitian Kesehatan Suara Forikes Volume 11 Nomor 2, April 2020 p-ISSN 2086-3098 e-ISSN 2502-7778	Design and technique: This study was pre-experimental, with a static	Respondents: 50 respondents as the control group, 50	The results of the data analysis show that there is an influence of the use of role

		group comparison design. The intervention group was given a lecture and role play on how to measure growth and development.	respondents as the intervention group. The population is PAUD teachers in Poncol sub-district.	play on the ability to detect growth, development and mental emotional problems in children.
Dewi Modjo <sup>1</sup> , Andi Akifa Sudirman <sup>1</sup>	International Journal Papier Volume 1, Issue 2 (Page 21-25) Public Review ISSN: 2709-023X	quantitative research using a quasi-experimental design that provides treatment or intervention to research subjects, then the effect of the treatment is measured and analysed. The research design used is the pre-post-test group design approach.	The sample of this study was the cadres of Early Childhood Education (PAUD) schools consisting of 16 Playgroup Schools (KB), 32 Kanan Kindergarten Schools (TK), and 2 Childcare Schools (TPA) in the Limboto Health Centre Work Environment.	There is a real and significant influence of development detection training on the ability of school cadres in simulating child growth and development.
Tshifhiwa Cynthia Mandiwana1*, Xikombiso G. Mbhenyane2, Lindelani Fhumudzani Mushaphi1 And Ngoako Solomon Mabapa1	Health Promotion International, Vol. 30 No. 1 doi:10.1093/heapro/dau084 Advance Access published 8 October, 2014 The Author 2014. Published by Oxford University Press	A quasi-experimental, single-group pre- and post-test intervention study was conducted in eight strategically selected government-subsidized kindergartens in the Vhembe and Mopani districts of Limpopo Province, South Africa.	Fifteen preschool teachers participated in this study. An intervention in the form of nutritional education learning about growth monitoring was developed and implemented.	67% of teachers understood the importance of growth monitoring from the beginning. The results also showed improvements 6 months after the intervention. All (100%) teachers knew that growth monitoring could be used to diagnose malnutrition. The results also showed improvements in skills, such as how to conduct anthropometric measurements.

					Teachers' knowledge and practices of growth monitoring were improved through nutrition education 6 months after the intervention.
Tria Puspita Sari1), Rusiana Sri Haryanti2)			The research design used is pre-experimental, with a one group pre-test – post-test design.	The sample used a total sampling technique from the toddler posyandu cadres of Margi Sehat 1 and 2 RW 04 Kadipiro Surakarta totalling 21 respondents.	There were 21 cadres (100%) who had less skills before being given training, and after being given training 33% of cadres were declared skilled, 52% were quite skilled and 14% were declared less skilled. The results of the Wilcoxon statistical test of the effect of SDIDTK training on cadre skills produced a p value of 0.000.
Atikah Fatmawati*, Mujiadi, Anndy Prastya	Jurnal Keperawatan Indonesia, Volume 8 Desember 2022	Pendidikan Edisi 2, Halaman 175–184	This study used a pre-experimental design with a one-group pre-post-test type without a control or comparison group. The research variables consisted of respondent characteristics, namely age, education, profession, and sources of information about child growth and development stimulation. The independent variable was	The population of this study were mothers who had children under five years old. The population of mothers who had children under five years old was 46 people. The sampling technique used purposive sampling. The respondents were 32 people with the criteria of	The results of the Paired T-test showed that telenursing effectively increased the mother's ability to stimulate child development ( $p = 0.000$ ). Telenursing allows nurses to control the provision of nursing interventions, even though they do not meet directly. Telenursing can be an alternative method of providing nursing care, one

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telenursing, and the dependent variable was the mother's ability to stimulate child growth and development.	mothers in Brangkal Village who had smartphones, took care of their children, and participated in completing the research.	of which is by providing information on child development.
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## Discussion

1. The results of the analysis show that there is a difference in the knowledge and skills scores of PAUD teachers in stimulating early childhood growth and development ( $p = 0.001$ ) between the intervention group and the control group after the mentoring model intervention was carried out.
2. The results of the data analysis show that there is an effect of the use of role play on the ability to detect growth, development and mental emotional problems in children
3. There is a real and significant effect of development detection training on the ability of school cadres in simulating child growth and development
4. There are 67% of teachers who understand the importance of growth monitoring from the start. The results also show improvement 6 months after the intervention. All (100%) teachers know that growth monitoring can be used to diagnose malnutrition. The results of the study also showed an increase in skills, such as procedures for conducting anthropometric measurements. Teachers' knowledge and practices on growth monitoring were improved through nutrition education 6 months after the intervention.
5. There are 21 cadres (100%) who have less skills before being given training, and after being given training 33% of cadres were declared skilled, 52% were quite skilled and 14% were declared less skilled. The results of the Wilcoxon statistical test on the effect of SDIDTK training on cadre skills produced a  $p$  value of 0.000.
6. The results of the Paired T-test showed that telenursing was effective in increasing mothers' ability to stimulate child growth and development ( $p=0.000$ )

### Summary of discussion:

- a. Three studies conducted on PAUD teachers showed an increase in knowledge, skills, and abilities in early detection stimulation of child growth and development after intervention. The increase in knowledge, skills, and abilities among PAUD teachers regarding early detection and stimulation of child growth and development can be attributed to structured training interventions. These studies highlight the effectiveness of targeted educational programs in improving teacher competency. A study showed a significant increase in knowledge among kindergarten teachers, with an average increase of 33.33% post-intervention ( $p=0.000$ ) (Sutianingsih & Rumiaturun, 2023). Comprehensive Training: Training includes theoretical and practical components, ensuring teachers can apply their knowledge effectively in real-world settings (Sutianingsih & Rumiaturun, 2023). Structured training interventions significantly improved PAUD teachers' knowledge, skills, and abilities regarding early detection and stimulation of child growth and development. This increase can be attributed to various educational methodologies and

theories. Theories by Piaget and Vygotsky emphasize the importance of early stimulation and monitoring, which is in line with the objectives (Saracho, 2022).

- b. Three studies conducted on health cadres and parents showed an increase in skills and abilities in stimulating growth detection in children after intervention. Studies conducted on health cadres and parents showed a significant increase in skills and abilities related to growth stimulation and detection in children after targeted interventions. These findings highlight the effectiveness of educational programs in improving knowledge and practical skills among caregivers. A study showed that health cadres and mothers showed a significant increase in knowledge and skills to promote toddler growth after intervention, with a p value of 0.000, indicating strong statistical significance (Jaya et al., 2024). Another study reported that 80% of health cadres scored above 75% post-intervention, reflecting a substantial increase in their ability to monitor child development (Jaya & Dalle, 2024).

According to researchers, increased knowledge, skills and abilities can be increased if trained or given Health Education. This is in line with the Nola J Pender model approach. The Nola J Pender Health Promotion Model (HPM) emphasizes the importance of individual behavior and environmental factors in improving health. This model has been applied effectively across a variety of populations and health problems, demonstrating its versatility and relevance in nursing and public health.

## CONCLUSION

The conclusion of this study reveals a significant relationship between mentoring/intervention on respondents' ability in early detection stimulation of preschool children's growth and development. This report also emphasizes the importance of culturally relevant interventions and the involvement of health centres, teachers, parents and cadres in encouraging children's growth and development.

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