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The Relationship Between Parental Knowledge About Stimulation and Child Development in Playgroup Classes in Bluru Kidul Village, Sidoarjo

[1]Dewi Setyowati*, [2]Rinez Ananda Ragil, [3]Andriyanti
[1] Midwifery Study Programme, Faculty of Medicine, Universitas Airlangga, Indonesia*;
email: dewi.setyowati@fk.unair.ac.id
[2] Midwifery Study Programme, Faculty of Medicine, Universitas Airlangga, Indonesia
[3] Midwifery Study Programme, Faculty of Medicine, Universitas Airlangga, Indonesia
*Correspondence

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Abstract
Introduction: *Early childhood is a critical period for cognitive, language, motor, and social development. However, developmental problems remain a serious issue globally and in Indonesia.* ***Objective:*** *This study aims to analyze the relationship between parental knowledge about stimulation and child development in playgroup classes.* ***Method:*** *This analytical observational study used a cross-sectional design with 60 children and their parents from four early childhood education centers in Bluru Kidul Village, Sidoarjo. Parental knowledge was assessed using questionnaires, and child development was evaluated using the Pre-Screening Developmental Questionnaire (KPSP). Data were analyzed using Fisher's Exact Test.* ***Results and Discussion:*** *Most parents (51.7%) demonstrated good knowledge levels, and most children (73.3%) showed appropriate development. Fisher's Exact Test showed a significant association ($p = 0.019$) between parental knowledge and child development outcomes.* ***Conclusion:*** *There is a significant relationship between parental knowledge about stimulation and child development in playgroup-aged children. Strengthening parental knowledge and consistent stimulation practices are essential for optimal early childhood development.*

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Introduction

Early childhood, particularly the golden age period, represents a crucial phase in child development, serving as the foundation for personality formation and the development of psychomotor, cognitive, language, and social-emotional capabilities. During this phase, brain development occurs extremely rapidly, requiring appropriate, directed, and continuous stimulation to enable children to reach their optimal developmental potential. Early childhood education is obtained not only through formal learning in educational institutions but also through stimulation provided by parents, teachers, and the surrounding environment according to the child's developmental stage (Tanu, 2019).

Child developmental problems remain a global issue. The World Health Organization (WHO) reports that approximately 250 million children, or 43% of children in low- and middle-income countries, have not been able to achieve optimal developmental potential, particularly due to limitations in developmental monitoring and adequate stimulation provision (WHO, 2016). WHO and UNICEF also report that the rate of child developmental delays in various countries, including Indonesia, is still in the range of 12-18%, necessitating routine growth and development monitoring and screening from early childhood (WHO, 2019; UNICEF, 2020). Data from the Indonesian Ministry of Health shows that approximately 13-18% of under-five children in Indonesia experience growth and developmental disorders (Kemenkes RI, 2020).

National coverage of Early Stimulation, Detection, and Intervention of Child Development (SDIDTK) services in 2024 was recorded at 69.94%, decreasing compared to 2023 at 70.83% (Kemenkes RI, 2024). Although growth and development monitoring has been widely implemented, the quality and consistency of stimulation implementation and early detection of child development still need improvement. Additionally, there is currently no comprehensive reporting, either nationally or regionally, regarding SDIDTK service outcomes in the form of child development achievement data after receiving these services.

Parental knowledge about stimulation becomes a crucial factor in the success of child development. According to Notoatmodjo (2020), knowledge is an important factor in shaping a person's behavior. Parental knowledge about child growth and development will influence perception and awareness of the importance of providing stimulation appropriate to the child's developmental stage. Good knowledge will encourage parents to provide appropriate and continuous stimulation. The higher the level of parental knowledge about developmental stimulation, the better the child's achievable development. Conversely, limitations in parental knowledge can hinder the stimulation process and impact child developmental delays.

This research focuses on Playgroup (PG)/Kelompok Bermain (KB) classes because children at this age are at the early entry stage of preschool education, so exposure to stimulation from the school environment is still relatively new. This condition allows for clearer observation of how the initial influence of stimulation provided affects child development, especially in cognitive, language, social, and motor aspects. At this stage, developmental delays still have great potential to be improved through appropriate and consistent stimulation. Therefore, this research aims to explore the relationship between parental knowledge about stimulation and the development of PG/KB class children.

Method

This research is a quantitative study with an analytical observational approach using a cross-sectional design. The study was conducted in Bluru Kidul Village, Sidoarjo District, from October to November 2025. The research population consisted of students and parents in the 2025/2026 academic year at four early childhood education institutions: TK/RA Dakwatul Hasanah, TK Al Ikhlas, TK Setya Darma, and PAUD Tunas Pelangi.

The sampling technique used was total sampling, with a total sample of 60 children and their parents who met the inclusion criteria: parents of playgroup students participating in the 2025/2026 academic year, parents willing to be samples and agreeing to have their children screened using KPSP, and students present during screening implementation. Exclusion criteria included students absent during screening and parents who did not complete the distributed questionnaires.

Data collection was conducted through two instruments: a knowledge questionnaire for parents consisting of 30 question items that had been validated (Sekarsari, 2023), and the Pre-Screening Developmental Questionnaire (KPSP) to assess child development which had been standardized by the Indonesian Ministry of Health. The knowledge questionnaire was categorized as Good if the score was ≥75% (greater than 22 correct answers) and sufficient if less than 75% (≤22 correct answers). KPSP results were categorized as compliant (9-10 yes answers), Doubtful (7-8 yes answers), and Deviant (≤6 yes answers).

Data analysis was performed univariately to describe the frequency distribution of each variable and bivariately using Fisher's Exact Test with a significance level of $\alpha = 0.05$. For bivariate analysis purposes, KPSP results were simplified into two categories: Appropriate and Not Appropriate (combining Doubtful and Deviant categories) to meet statistical assumptions. This research has received ethical clearance from the Ethics Committee of the Faculty of Medicine, Airlangga University with letter number 353/EC/KEPK/FKUA/2025.

Research and Discussions

1. Result

The research results showed that the majority of parents were in the productive age category of 20-35 years (mothers 95%; fathers 78.3%). The education level of respondents was dominated by bachelor's degree education (mothers 56.7%; fathers 65%). Most parents worked in the private sector (mothers 41.7%; fathers 65%).

Table 1
Distribution of Parent Characteristics

Characteristics	Mothers		Fathers	
	frequency (n)	Percentage (%)	frequency (n)	Percentage (%)
		Age		
20-35	57	95	47	78.3
>35	3	5	13	21.7
		Education		
Senior High School	25	41.7	20	33,3
Bachelor	34	56,7	39	65
Others	1	1.7	1	1.7
		Work		
Doesn't work	18	30	0	0
Government employees	7	11.7	10	16.7
Private sector	25	41.7	39	65
Self-employed	7	11.7	10	16.7
Total	**60**	**100**	**60**	**100**

It shows that the majority of respondents were in the 20–35 years age group (95% and 78.3%). The respondents' educational level was predominantly bachelor's degree (56.7% and 65%). Most parents were employed in the private sector (41.7% and 65%). In terms of occupation, there were three mothers and one father categorized as having other types of employment, which included various jobs such as fishermen, farmers, daily freelance workers, and other occupations.

Table 2
Distribution of Parental Knowledge and Child Development

Characteristics	Total	
	Frequency (n)	Percentage (%)
	Knowledge	
Good	31	51.7
Sufficient	29	48.3
	KPSP Screening	
Compliant	44	73.3
Doubtful	11	18.3
Deviate	5	8.3
Total	60	100,0

Based on child characteristics, the majority of children (53.3%) were aged 3-3.9 years and most (58.3%) were male. The majority of parents had good knowledge (51.7%), while 48.3% had adequate knowledge. KPSP screening results showed that most children (73.3%) were in the appropriate development category, 18.3% in the doubtful category, and 8.3% in the deviant category.

Table 3
Relationship Between Parental Knowledge and Child Development

Variable	Category	KPSP Screening		P value	r
		Appropriate	Not appropriate		
Level of knowledge of parents	Good	**27 (87.1%)**	**4 (12.9%)**	0.019	0.284
	Sufficient	**17 (58.6%)**	**12 (41.4%)**		

A p-value of 0.019 ($p<0.05$) was obtained, indicating a statistically significant association between the quality of parental questionnaire completion and the appropriateness of the Developmental Pre-Screening Questionnaire (KPSP) results. The strength of the relationship between the two variables was classified as weak to moderate, with a correlation coefficient (r) of 0.284. Descriptively, among 31 parents with good knowledge, 27 children (87.1%) demonstrated appropriate development, whereas among 29 parents with sufficient knowledge, only 17 children (58.6%) showed appropriate development.

2. Discussion

Parental Knowledge About Stimulation

The research results show that the majority of parents have good knowledge levels regarding stimulation and child growth and development, namely 51.7% (31 people), while 48.3% (29 people) are in the sufficient category. This distribution indicates that most parents have adequate understanding of the importance of stimulation, child developmental stages, and age-appropriate supporting activities.

Parental knowledge levels can be influenced by various characteristic factors. Parent education dominated by bachelor's degree graduates (mothers 56.7%; fathers 65%) correlates with the ability to absorb information regarding parenting patterns and child growth and development. Additionally, most parents are in productive age (mothers 95%; fathers 78.3%), so cognitive ability in receiving educational materials or information sources is still optimal (Notoatmodjo, 2020).

These results align with the theory that knowledge is an important factor in shaping behavior. Parents with good knowledge are proven capable of providing more appropriate, consistent stimulation according to child developmental stages. These findings are also reinforced by Fitriani and Harahap (2021) that the higher the parental knowledge, the better the stimulation provided, thereby reducing the risk of developmental delays.

Child Development Levels

KPSP screening results for playgroup/kindergarten class children show that of 60 children, the majority (73.3%) are in the compliant category, 18.3% in the doubtful category, and 8.3% in the deviant category. Most children are in appropriate developmental conditions, but the percentage of "doubtful" and "deviant" is quite important to analyze further.

In the deviated category, 5 children (8.3%), observation results and information from teachers show that the condition of these five children is not entirely caused by natural developmental delay factors. Of the 5 children, 3 children are suspected to have specific developmental disorders based on observations at school, such as communication difficulties, lack of eye contact, minimal social responses, or motor obstacles not

appropriate to their age stage. Teachers have conveyed recommendations to parents to conduct further examinations at health facilities or growth and development clinics, but the parents concerned have not been able to bring their children for examination, either due to time, work, or economic factor constraints.

Meanwhile, the other 2 children show developmental delays that are still within mild to moderate limits, without indications of specific disorders. This delay is visible in fine motor, language, or social abilities that are not yet fully appropriate to the child's age. For these two children, teachers observe that stimulation at home tends to be less consistent, and parents acknowledge that time to provide stimulation is limited due to work. Thus, the developmental delays experienced by these two children tend to be caused by minimal repeated stimulation, not due to developmental disorders.

Relationship Between Parental Knowledge and Child Development

The findings of this study indicate that parental knowledge plays an important role in supporting early childhood development through appropriate stimulation. Knowledge serves as a fundamental basis for shaping attitudes and behaviors, including how parents recognize developmental needs and provide stimulation for their children (Notoatmodjo, 2020). Parents with better knowledge are more likely to understand developmental milestones and apply stimulation consistently according to the child's age.

Statistical analysis using Fisher's Exact Test showed a p-value of 0.019 ($p < 0.05$), indicating a statistically significant relationship between parental knowledge regarding stimulation and child developmental outcomes based on the KPSP. Among 31 parents with good knowledge, 27 children (87.1%) demonstrated appropriate development, while only 4 children (12.9%) showed not appropriate development. In contrast, among 29 parents with sufficient knowledge, only 17 children (58.6%) had appropriate development, whereas 12 children (41.4%) showed not appropriate development.

This difference demonstrates that children whose parents have good knowledge have a substantially higher likelihood of achieving appropriate developmental outcomes compared to children whose parents have only adequate knowledge. The correlation coefficient ($r = 0.284$) indicates a weak to moderate association. Although this contribution is relatively small, it remains statistically meaningful and highlights parental knowledge as an important contributing factor.

These results are consistent with previous studies reporting that insufficient parental knowledge increases the risk of developmental delays (Ramadia et al., 2021). Nevertheless, child development is a multifactorial process influenced not only by parental knowledge but also by other factors such as nutritional status, quality of stimulation at school, parenting style, and the home environment. Therefore, strengthening parental knowledge should be viewed as part of a broader, integrated effort to optimize early childhood development.

Research Limitations

Although this research has been conducted systematically, there are several limitations that need to be considered in interpreting research results. First, the instrument uses self-report assessment questionnaires which can cause social desirability bias, where respondents tend to provide answers considered good or ideal. Second, respondent characteristics vary and are not analyzed in depth; factors such as education level, teaching experience, and differences in parental backgrounds can influence results, but these factors are not included as control variables. Third, other important variables are

not measured; this research focuses on parental knowledge and stimulation, but child development is also influenced by nutritional status, health, parenting patterns, and home environment which are not analyzed in this study.

Conclusion

Based on the research results, it can be concluded that there is a significant relationship between parental knowledge about stimulation and child development in playgroup classes. Parents with good knowledge levels tend to have children with appropriate developmental outcomes (87.1%) compared to parents with adequate knowledge (58.6%). Statistical analysis using Fisher's Exact Test showed $p = 0.019$ (p less than 0.05), indicating a significant relationship. Although the strength of the relationship is classified as weak to moderate ($r = 0.284$), these findings emphasize the importance of parental knowledge as one of the key factors in supporting optimal early childhood development. Increasing parental knowledge through education and consistent stimulation implementation is urgently needed to reduce the risk of developmental delays in children aged 3-4 years.

Reference

Aditya Rina Sekarsari, R. (2023). *HUBUNGAN PENGETAHUAN DENGAN PERILAKU STIMULASI TUMBUH KEMBANG ANAK PADA IBU DENGAN ANAK BALITA DI INSTALASI RAWAT JALAN POLI ANAK RSUI KUSTATI SURAKARTA* (Doctoral dissertation, Universitas Kusuma Husada Surakarta).

Amelia, A., & Sumarni, S. (2022). Peran orang tua dalam mengoptimalkan perkembangan sosial anak usia 5-6 tahun. *Jurnal Pendidikan Anak (WEBSITE INI SUDAH BERMIGRASI KE WEBSITE YANG BARU==> https://journal. uny. ac. id/v3/jpa)*, 171-180.

Ariyanti, T. (2016). Pentingnya pendidikan anak usia dini bagi tumbuh kembang anak the importance of childhood education for child development. *Dinamika Jurnal Ilmiah Pendidikan Dasar*, *8*(1).

Azizah, F. H. L. L., & Wardhani, J. D. (2022). Pengaruh Pemberian Stimulasi Terhadap Kreativitas Anak Usia Dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, *6*(6), 6245-6257. Available at: DOI:10.31004/obsesi.v6i6.3325

Badan Pusat Statistik (2023) Katalog: 4101001.35 ISSN 2620-4398, *Badan Pusat Statistik*, 6(Statistik Kesejahteraan Rakyat Provinsi Jawa Timur).

Badan Pusat Statistik (2024) Profil Anak Usia Dini 2024, *Badan Pusat Statistik*, 5.

Dewi, A. (2017). *Pengaruh stimulasi perkembangan dengan pencapaian perkembangan motorik anak usia 1-3 tahun di play group kelurahan Pandean Kota Madiun* (Doctoral dissertation, STIKES Bhakti Husada Mulia).

Dinas Kesehatan Provinsi Jawa Timur. (2024). *Profil Kesehatan Provinsi Jawa Timur Tahun 2023*. Surabaya: Dinkes Jatim.

EKA, N. M. (2017). *HUBUNGAN PENGETAHUAN ORANG TUA TENTANG STIMULASI BERMAIN ANAK DENGAN PERKEMBANGAN MOTORIK HALUS ANAK USIA 3-5 TAHUN DI PAUD AL FALAH DESA BIBRIK KECAMATAN JIWAN KABUPATEN MADIUN* (Doctoral dissertation, STIKES Bhakti Husada Mulia).

Hamdiyah, H., Syahriani, S., & Akib, R. D. A. (2022). Pengaruh Pengetahuan Orang Tua Tentang Stimulasi Tumbuh Kembang Terhadap Perkembangan Motorik Kasar Di Tk Aisyiyah. *Jurnal Riset Kesehatan Poltekkes Depkes Bandung*, *14*(2), 334-339.

Hapsari, D. (2019). *Pentingnya stimulasi perkembangan anak usia dini dalam membentuk karakter positif*. Jakarta: Pustaka Karya Utama.

Hastuti, D., Nurhaeni, N., & Putri, A. (2020). *Contextual factors influencing early childhood education quality*. Early Childhood Studies Journal, 12(1), 33–42.

Kementerian Kesehatan Republik Indonesia. (2020). *Profil Kesehatan Indonesia Tahun 2020*. Jakarta: Kemenkes RI.

Kementerian Kesehatan Republik Indonesia. (2024). *Profil Kesehatan Indonesia Tahun 2024*. Jakarta: Kemenkes RI.

Kementerian Pendidikan dan Kebudayaan Republik Indonesia (2019). *Pedoman Pengasuhan dan Pendidikan Anak Usia Dini*. Jakarta: Kemendikbud RI.

KEMENTRIAN KESEHATAN RI TAHUN 2016 (2016) Pedoman pelaksanaan SDIDTK, *KEMENTRIAN KESEHATAN RI* [Preprint].

Khaironi, M. (2018). *Perkembangan Anak Usia Dini*. *Jurnal Golden Age*, Hamzanwadi University, 3(1), pp. 1-12.

Meilanie, R. S. M. (2020). Survei kemampuan guru dan orangtua dalam stimulasi dini sensori pada anak usia dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, *5*(1), 958-964.

Mubarak, W. I. (2015). Promosi Kesehatan untuk Kebidanan. Jakarta: Salemba Medika.

Mubarak, W.I. (2022) Konsep dasar pendidikan kesehatan, *Wordpress*, pp. 4–15. Available at: https://samoke2012.files.wordpress.com/2017/02/konsep-dasar-pendidikan-kesehatan.pdf.

Nardina, E. A., Astuti, E. D., Hapsari, S. W., Hasanah, L. N., Mariyana, R., Sulung, N., Triatmaja, N. T., Simanjuntak, R. R., Argaheni, N. B., & Rini, M. T. (2021). *Tumbuh Kembang Anak*. Yayasan Kita Menulis.

Notoatmodjo, S. (2020). *Promosi Kesehatan dan Perilaku Kesehatan*. Jakarta: Rineka Cipta.

Novianti, R., Febrialismanto, F., & Satria, D. (2020). Pelatihan terapi sensori integrasi bagi orang tua dan guru PAUD. *Caradde*, *3*(2), 181-188. Available at: https://doi.org/10.31960/caradde.v3i2.517

Pariyem, P., Maimunah, S., & Tantriyanna, U. (2023). Tingkat Pengetahuan Ibu tentang Stimulasi Perkembangan Berhubungan dengan Berkembangan Balita. *Malahayati Nursing Journal*, *5*(9), 2994-3002.

Peraturan Menteri Kesehatan Reublik Indonesia (2020) PERATURAN MENTERI KESEHATAN REPUBLIK INDONESIA NOMOR 2 TAHUN 2020, (3), pp. 1–78.

Permata, R., & Lestari, S. (2021). *Self-report bias in educational research*. Jurnal Psikologi Pendidikan, 14(3), 112–120.

Pratiwi, N., Dewi, S., & Utami, R. (2021). *Teachers knowledge and learning quality in early childhood education*. Jurnal Pendidikan Anak, 8(1), 21–30.

Prof. Dr. Soekidjo Notoatmodjo (2018) Metodologi Penelitian Kesehatan, *Rineka Cipta*, pp. 1–242.

Profil Desa Bluru Kidul. (2025). *Data kependudukan dan pendidikan Kelurahan Bluru Kidul Tahun 2025*. Sidoarjo

Putri, I., Indah, D. N., & Yuliana, Y. (2017). Faktor-Faktor yang Mempengaruhi Pengetahuan Diri Seseorang. Jurnal Keperawatan, 1(1), 1-10.

Rahmawati, T., & Sari, N. (2022). *Demographic influences on parental practices*. Jurnal Ilmu Perilaku, 10(2), 76–85.

Ramadia, A., Sundari, W., Permanasari, I., & Pardede, J. A. (2021). Pengetahuan orangtua tentang stimulasi perkembangan anak berhubungan dengan tahap tumbuh kembang anak usia todler. *Jkj: persatuan perawat nasional indonesia*, *9*(1), 1-10. doi:10.26714/jkj.9.1.2021.1-10.

Riyadi, E. K. S., & Sundari, S. (2020). Tingkat pengetahuan orang tua tentang stimulasi perkembangan anak pra sekolah usia 60-72 bulan. *Jurnal Ilmu Kebidanan*, *6*(2), 59-67.

Rofiâ, U. A., Hafni, N. D., & Mursyidah, L. (2022). Sosial Emosional Anak Usia 0-6 Tahun dan Stimulasinya Menurut Teori Perkembangan. *Az-Zahra: Journal of Gender and Family Studies*, *3*(1), 41-66.

Sari, M., Widodo, A., & Nirmala, T. (2021). *Multifactor influences on early childhood development*. Indonesian Journal of Child Development, 4(1), 55–64.

Talango, S. R. (2020). Konsep perkembangan anak usia dini. *Early Childhood Islamic Education Journal*, *1*(01), 92-105. 92–105. doi:10.54045/ecie.v1i1.35.

TANU, I.K. (2019) Pentingnya Pendidikan Anak Usia Dini Agar Dapat Tumbuh Dan Berkembang Sebagai Generasi Bangsa Harapan Di Masa Depan, *Adi Widya: Jurnal Pendidikan Dasar*, 2(2), p. 19. doi:10.25078/aw.v2i2.960.

UNICEF. (2020). *Early childhood development: Global status report*. New York: UNICEF.

Wati, D.E. (2016) Pengetahuan Guru PAUD Tentang KPSP (Kuesioner Pra Skrining Perkembangan) Sebagai Alat Deteksi Tumbuh Kembang Anak, pp. 133–139.

World Health Organization. (2016). *Early childhood development and disability: A discussion paper*. Geneva: WHO.

World Health Organization. (2019). *Developmental delays and disabilities inearly childhood*. Geneva: WHO.

Yuliani, T., & Hartati, S. (2022). *Home–school collaboration and child development*. Jurnal Pendidikan Usia Dini, 6(2), 88–97.

Yusnita, Y., Setianingrum, K. A., & Septiasari, Y. (2024). Hubungan pengetahuan guru tentang tumbuh kembang anak dengan implementasi pendidikan karakter anak usia 60-72 bulan. *THE JOURNAL OF Mother and Child Health Concerns*, *4*(2), 86-91.

Zukhra, M.R. and Amin, S. (2019) Hubungan Tingkat Pengetahuan Orang Tua Tentang Stimulasi Tumbuh Kembang Terhadap Perkembangan Balita Di Wilayah Kerja Puskesmas Simpang Baru, *Jurnal Ners Indonesia*, 8(1), pp. 9–10.

Zukhra, R. M., & Amin, S. (2017). Hubungan tingkat pengetahuan orang tua tentang stimulasi tumbuh kembang terhadap perkembangan balita di wilayah kerja puskesmas Simpang Baru. *Jurnal Ners Indonesia*, *8*(1), 8-14. Available at: https://doi.org/10.31960/jkj.9.1.2021.1-10