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COMMUNITY-BASED TELENURSING TRAINING ON STIMULATION, DETECTION, AND EARLY INTERVENTION OF CHILD GROWTH AND DEVELOPMENT (SDIDTK) FOR PAUD TEACHERS AND *POSYANDU* CADRES IN STUNTING PREVENTION

Nandhini Hudha Anggarasari*✉, Titin Suhartini, Rifsky Firda Firdaus***, Haulah Haepina******

*Universitas Muhammadiyah Tasikmalaya, Indonesia
E-mail: nandhini.hagrs@umtas.ac.id

**Universitas Muhammadiyah Tasikmalaya, Indonesia
E-mail: titinsuhartini@umtas.ac.id

**Universitas Muhammadiyah Tasikmalaya, Indonesia
E-mail: rifskyfirdaf@gmail.com

**Universitas Muhammadiyah Tasikmalaya, Indonesia
E-mail: haepinahaulah@gmail.com

Abstract

This study addresses stunting as a multidimensional community development issue that requires collaborative efforts at the grassroots level. Stunting, caused by chronic malnutrition and recurrent infections during the first 1,000 days of life, remains a significant challenge in Indonesia. Strengthening the capacity of community-based actors such as PAUD teachers and Posyandu cadres is essential for early detection and prevention. However, their limited knowledge of early screening practices hinders effective intervention. This study aims to analyze and compare the capacity improvement of PAUD teachers and Posyandu cadres through community-based SDIDTK telenursing training. A quasi-experimental method with a non-equivalent control group design was employed. The sample consisted of active PAUD teachers and Posyandu cadres selected through purposive sampling, all of whom had access to digital devices for training. Data were analyzed using independent sample t-tests. The results showed no statistically significant difference between the two groups ($p = 0.874$). However, both groups experienced an increase in knowledge after the training. These findings indicate that SDIDTK telenursing training is effective as a community-based capacity-building approach and can equally empower different community actors in supporting early stunting detection.

Keywords: Community Empowerment; Telenursing; SDIDTK; Posyandu Cadres; PAUD Teachers; Stunting Prevention.

✉Corresponding author:
Email Address: nandhini.hagrs@umtas.ac.id
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Abstrak

Penelitian ini memandang stunting sebagai permasalahan pembangunan masyarakat yang bersifat multidimensional dan memerlukan keterlibatan berbagai pihak di tingkat komunitas. Stunting yang disebabkan oleh malnutrisi kronis dan infeksi berulang pada 1.000 Hari Pertama Kehidupan masih menjadi tantangan besar di Indonesia. Oleh karena itu, penguatan kapasitas aktor berbasis masyarakat seperti guru PAUD dan kader Posyandu menjadi sangat penting dalam upaya deteksi dini dan pencegahan. Namun, keterbatasan pengetahuan mereka dalam melakukan skrining dini masih menjadi kendala. Penelitian ini bertujuan untuk menganalisis dan membandingkan peningkatan kapasitas guru PAUD dan kader Posyandu melalui pelatihan telenursing SDIDTK berbasis komunitas. Metode yang digunakan adalah kuasi-eksperimen dengan desain Non-Equivalent Control Group. Sampel dipilih menggunakan teknik purposive sampling dengan kriteria responden aktif dan memiliki akses terhadap perangkat digital untuk pelatihan. Analisis data dilakukan menggunakan uji t sampel independen. Hasil penelitian menunjukkan tidak terdapat perbedaan yang signifikan antara kedua kelompok ($p = 0,874$). Namun demikian, kedua kelompok mengalami peningkatan pengetahuan setelah pelatihan. Temuan ini menunjukkan bahwa pelatihan telenursing SDIDTK efektif sebagai pendekatan pemberdayaan masyarakat dan mampu meningkatkan kapasitas aktor komunitas secara merata dalam mendukung deteksi dini stunting.

Kata Kunci: Pemberdayaan Masyarakat; Telenursing; SDIDTK; Kader Posyandu; Guru PAUD; Pencegahan Stunting.

INTRODUCTION

In Indonesia, the prevalence of stunting remains a serious challenge. Data shows that in 2021, there was variation in stunting prevalence between provinces, with East Nusa Tenggara recording the highest figure at 37.8%.[1] The prevalence of stunting in Pangandaran Regency in 2023 is still relatively high, namely around 20%, this figure is still above the standard recommended by WHO (<20%).[2] Child growth and development are influenced by both genetic and environmental factors, including nutritional status, stimulation, and family socioeconomic conditions.[3] Efforts to prevent and treat stunting have been carried out by various parties. Training for integrated health post (*Posyandu*) cadres has been conducted to improve knowledge and skills in detecting and stimulating child growth and development.[4]

[1]Khoirunnisa, K., Kurniawan, K., S. U. R. Fitri, P. Nugraha, dan Y. Nur'aeni. "Optimalisasi Stimulasi Tumbuh Kembang Anak Daerah Pesisir melalui Pelatihan Kader Kesehatan." *JMM (Jurnal Masyarakat Mandiri)* 7, no. 3 (2023): 2771. https://doi.org/10.31764/jmm.v7i3.14889. Widayatun. "Keberhasilan dan Tantangan Penurunan Stunting di Indonesia." *Jurnal Kependudukan dan Pembangunan Berkelanjutan* 1, no. 1 (2023): 33–43. https://doi.org/10.33476/jkpb.v1i1.99.

[2]Akbarsyah, N. "Peningkatan Kapasitas Kader Posyandu Kawasan Pesisir Pangandaran Menuju Generasi Indonesia Merdeka Stunting dan Mandiri Finansial." *Farmers Journal of Community Service (FJCS)* 6, no. 2 (2025): 180–187.

[3]Quthrotunnada, N. "Problematika Deteksi Tumbuh Kembang Anak di Lembaga RA Wilayah Kedung." *JIEEC (Journal of Islamic Education and Early Childhood)* 6, no. 1 (2024): 50. https://doi.org/10.30587/jieec.v6i1.5988.

[4]Hastuti, R. P., R. Mariani, D. S. Sumardila, A. Rahmadi, dan H. Ismoyo. "Optimalisasi Tumbuh Kembang Balita dengan Memanfaatkan Buku KIA dan Penerapan Metode SDIDTK." *Jurnal Pengabdian Masyarakat Multidisiplin* 7, no. 1 (2023): 57–63. https://doi.org/10.36341/jpm.v7i1.3902.

There are also educational programs for parents to increase understanding of the importance of emotional stimulation and early childhood development.[5] However, the implementation of SDIDTK still faces various challenges, such as limited knowledge and skills of *Posyandu* cadres in utilizing tools such as the Maternal and Child Health Handbook.[6] In addition, the involvement of Early Childhood Education Institutions in providing assistance and monitoring of child growth and development is also very necessary.[7] However, in Pangandaran, PAUD teachers have not been involved. *Posyandu* cadres and PAUD teachers are the front line who have an important role in detecting and monitoring child growth and development.[8]

The results of the analysis of several articles found that telenursing was once provided to nurses to provide long-distance communication facilities and provide warnings to patients.[9] A literature review on telenursing also found that the use of information technology in telehealth services provides long-distance communication facilities and provides alarms to patients using mobile health technology applications.[10] Telenursing and telehealth benefit patients and healthcare providers by increasing the knowledge of medical staff and updating knowledge to improve the healthcare services provided.[11] The implementation of telenursing has a positive impact on public health and is possible to be implemented in Indonesia in an effort to improve the quality of healthcare services.[12]

Other studies also highlight the importance of the role of PAUD teachers and *Posyandu* cadres in stimulating toddler development and training and mentoring.[13] Factors influencing the success of *Posyandu* revitalization, which are influenced by *Posyandu* cadre activities, education/training, incentives, infrastructure, and community participation.[14] Training with integrated modules can increase the knowledge and participation of *Posyandu* cadres.[15]

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[5]Kosasih, H., Herlina, M. I. F. Baihaqi, dan L. F. Damaianti. "Pelatihan Pengembangan Emosi Anak Usia Dini bagi Orang Tua di Kabupaten Pangandaran." *GERVASI: Jurnal Pengabdian kepada Masyarakat* 7, no. 2 (2023): 473–483. https://doi.org/10.31571/gervasi.v7i2.4761.

[6]Hastuti, R. P., R. Mariani, D. S. Sumardila, A. Rahmadi, dan H. Ismoyo. "Optimalisasi Tumbuh Kembang Balita dengan Memanfaatkan Buku KIA dan Penerapan Metode SDIDTK."

[7]Gantini, D., S. S. Mardiah, S. Patimah, dan W. Rismawan. "Development of E-Rapport on Child Growth and Development in Early Childhood Education (PAUD)." *Jurnal Aisyah: Jurnal Ilmu Kesehatan* 8, no. 3 (2023). https://doi.org/10.30604/jika.v8i3.2334.

[8]Perwanida, R. A. "Peran Guru sebagai Pendamping Tumbuh Kembang Anak." *Jurnal Pendidikan* 2, no. 1 (2024): 26–29. Wibawa, Y. A., Herniyatun, dan Sarwono. "Peran Kader Posyandu dalam Pengaplikasian Stimulasi, Deteksi dan Intervensi Dini Tumbuh Kembang Anak." *Jurnal Ilmiah Kesehatan Keperawatan* 9, no. 1 (2013).

[9]Zuliatika, P., dan D. Purnamawati. "Peran Telenursing dalam Peningkatan Mutu Pelayanan Keperawatan." *PubHealth: Jurnal Kesehatan Masyarakat* 3, no. 1 (2024): 1–6. https://doi.org/10.56211/pubhealth.v3i1.574.

[10]Kruse, C. S., N. Krowski, B. Rodriguez, L. Tran, J. Vela, dan M. Brooks. "Telehealth and Patient Satisfaction: A Systematic Review and Narrative Analysis." *BMJ Open* 10, no. 8 (2020): e036442. https://doi.org/10.1136/bmjopen-2019-036442.

[11]Putri, S. A., dan A. Sudaryanto. "Penggunaan Telehealth atau Telenursing di Indonesia selama Pandemi COVID-19." *Jurnal Telenursing* 5, no. 1 (2023): 1093–1102. https://doi.org/10.31539/joting.v5i1.6144.

[12]Fadhila, R., dan T. Afriani. "Penerapan Telenursing dalam Pelayanan Kesehatan: Literature Review." *Jurnal Keperawatan Abdurrab* 3, no. 2 (2019): 77–84. https://doi.org/10.36341/jka.v3i2.837.

[13]Harahap, Z. U., K. Khoirunnisa, A. U. H. Zebua, K. Khadijah, dan H. Nasution. "Peran Guru PAUD dalam Deteksi Dini Gangguan Perkembangan." *Jurnal Pendidikan Tambusai* 9, no. 3 (2025): 40358–40365. https://doi.org/10.31004/jptam.v9i3.35280.

[14]Zamzami, I., C. K. Jiu, L. Hastuti, dan H. Haryanto. "Faktor-Faktor yang Memengaruhi Tugas Kader Posyandu." *Jurnal Ners* 10, no. 2 (2026): 3227–3234. https://doi.org/10.31004/jn.v10i2.54788.

[15]Wahyuni, S., J. C. Mose, dan U. Sabarudin. "Pengaruh Pelatihan Kader Posyandu." *Jurnal Riset Kebidanan Indonesia* 3, no. 2 (2019): 95–101. https://doi.org/10.32536/jrki.v3i2.60.

The novelty of the idea lies in the training respondents to be taken. This study offers four novelties (1) Telenursing training has only been provided to nurses; there has never been any telenursing training provided to PAUD teachers and *Posyandu* cadres. (2) The research method and data collection, which are mostly literature reviews, are experimental. (3) There has been no research on the effectiveness of SDIDTK telenursing for *Posyandu* cadres and PAUD teachers. Fourth, in Pangandaran Regency, no research related to SDIDTK telenursing has been conducted, so this will provide new data to determine the effectiveness of SDIDTK telenursing training in Pangandaran Regency.

Previous research on child development has been conducted, including on problem solving[16], on aspects of early childhood language for beginning reading[17], recognizing vowels in children[18] and aspects of social development regarding the culture of queuing with cooperation in children.[19] Despite the breadth of these studies, there remains a need to further explore integrative approaches that connect multiple domains of child development, particularly in practical educational contexts, to provide more comprehensive and applicable insights for early childhood learning and development.

LITERATURE REVIEW

A. Telenursing

Telenursing is a subset of telehealth that utilizes information and communication technology to provide nursing services remotely. In practice, nurses use media such as telephones, video conferencing, mobile apps, or digital monitoring devices to conduct consultations, monitor patient conditions, provide health education, and coordinate healthcare services. According to Glinkowski, telenursing is a nursing practice carried out using telecommunications technology to provide, manage, and coordinate health services to patients who are in different locations from health workers.[20] Meanwhile, Navarro-Martínez's research explains that telenursing is the use of telecommunications technology in nursing practice to improve the quality of patient care and expand access to health services.[21]

Some of the main characteristics of telenursing include 1) the use of communication technology. Services are provided through technological media such as telephone, internet, video calls, or health telemonitoring systems. 2) Remote healthcare services. Interactions with patient respondents do not have to be in the same location. 3) The focus on the practice of services provided still follows the nursing process, such as assessment, diagnosis, intervention, and evaluation. 4) Use of digital monitoring systems.Telenursing can utilize digital health devices to monitor patient conditions in real time. 5) Integrated with telehealth systems Telenursing is part of a broader telehealth system within digital healthcare.[22]

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[16]Gauvain, Mary. *The Social Context of Cognitive Development*. 2nd ed. New York: Guilford Press, 2020.

[17]Choiriyah, C., D. P. Widiati, dan W. Emiliana. "The Role of Literacy in Early Childhood." *Indonesian Journal of Early Childhood Education Studies* 12, no. 2 (2023). https://doi.org/10.15294/ijeces.v12i2.73749.

[18]Sumarni, S., et al. "Improving Literacy Ability of Children Aged 5–6 Years." *Jurnal Pena PAUD* 6, no. 1 (2025): 115–131. https://doi.org/10.33369/jpp.v6i1.41832.

[19]Ramani, G. B., dan C. A. Brownell. "Preschoolers' Cooperative Problem Solving." *Child Development Perspectives* 8, no. 3 (2014): 141–146.

[20]Glinkowski, W. M., B. Ciszek, dan K. Nowak. "Telemedicine and E-Health in Poland." *Journal of Public Health Research* 2, no. 3 (2013): e20. https://doi.org/10.4081/jphr.2013.e20.

[21]Navarro-Martínez, R., G. Granados-Gámez, dan V. V. Márquez-Hernández. "The Impact of Telenursing on Patient Care." *International Journal of Nursing Studies* 147 (2024): 104594. https://doi.org/10.1016/j.ijnurstu.2023.104594.

[22]Rutledge, C. M., et al. "Telehealth and EHealth in Nurse Practitioner Training." *Advances in Medical Education and Practice* 8 (2017): 399–409. https://doi.org/10.2147/AMEP.S116071.

Telenursing offers various benefits to the healthcare system, including: 1) Improving access to healthcare services. Patients in remote areas can still receive healthcare services without having to visit a healthcare facility. 2) Time and cost efficiency. Patients and healthcare professionals can reduce transportation costs and travel time. 3) Continuous health monitoring, Patients' conditions, especially those with chronic diseases, can be monitored regularly through telemonitoring technology. 4) Improving the quality of healthcare services,Technology enables faster communication between healthcare professionals and patients. 5) Expanding the reach of nursing services, Nurses can serve more patients with more flexible hours.[23]

B. SDIDTK (Early Growth and Development Stimulation, Detection, and Intervention)

SDIDTK is a child health service program that aims to monitor and optimize children's growth and development from an early age through stimulation activities, early detection of abnormalities, and early intervention. According to child health guidelines, SDIDTK is a comprehensive program to monitor and assess children's growth and development from an early age so that any abnormalities can be identified early and addressed promptly. This program is generally implemented for infants and toddlers aged 0–72 months through activities at community health centers (*Puskesmas*), integrated health posts (*Posyandu*), and early childhood education institutions. Therefore, SDIDTK is an important strategy in efforts to optimally improve the quality of children's growth and development.

The SDIDTK program has several key characteristics: 1) It is implemented comprehensively. 2) It includes developmental stimulation, early detection of abnormalities, and intervention or referral if problems are identified. 3) It is conducted periodically. 4) It involves various parties. 5) It involves health workers, integrated health post (*Posyandu*) cadres, early childhood education (PAUD) teachers, and parents. 6) It uses developmental screening instruments. 7) It uses the KPSP (Pre-Screening Development Questionnaire), hearing tests, and vision tests.8) It is based on community health services. 9) This program is widely implemented in primary health facilities such as community health centers (*Puskesmas*) and integrated health posts (*Posyandu*).

The SDIDTK program provides various benefits for children and the community, including: 1) Early detection of developmental disorders. Deviations in child development can be identified earlier, allowing for more effective treatment. 2) Optimizing child development. Appropriate stimulation supports children's motor, language, social, and cognitive development. 3) Preventing more serious health problems. Early detection allows for intervention before disorders develop into more serious problems. 4) Increasing parental awareness of child development. Parents become more aware of their children's developmental needs. 5) Supporting the national child health program. SDIDTK is an important part of efforts to improve the quality of child health in Indonesia.[24]

METHOD

The research method used is a quantitative experimental method, Non-Equivalent Control Group Design. The research stages that will be implemented are in accordance with the flow diagram as shown below. This study used a quasi-experimental design with a

[23]Kementerian Kesehatan Republik Indonesia. *Pedoman SDIDTK*. Jakarta: Kementerian Kesehatan RI, 2016.

[24]Soetjiningsih, dan I. G. N. G. Ranuh. *Tumbuh Kembang Anak*. Edisi ke-2. Jakarta: EGC, 2017. Suryani, D., dan N. Hidayati. "Pengetahuan Orang Tua tentang Stimulasi Perkembangan Anak." *Jurnal Kesehatan Masyarakat* 14, no. 2 (2019): 123–130. Indrayati, N., E. Kusumawati, dan R. Fitriani. "Improving Cadre Knowledge in Stunting Prevention." *International Journal of Health Sciences* 6, no. S9 (2022). https://doi.org/10.53730/ijhs.v6ns9.12326.

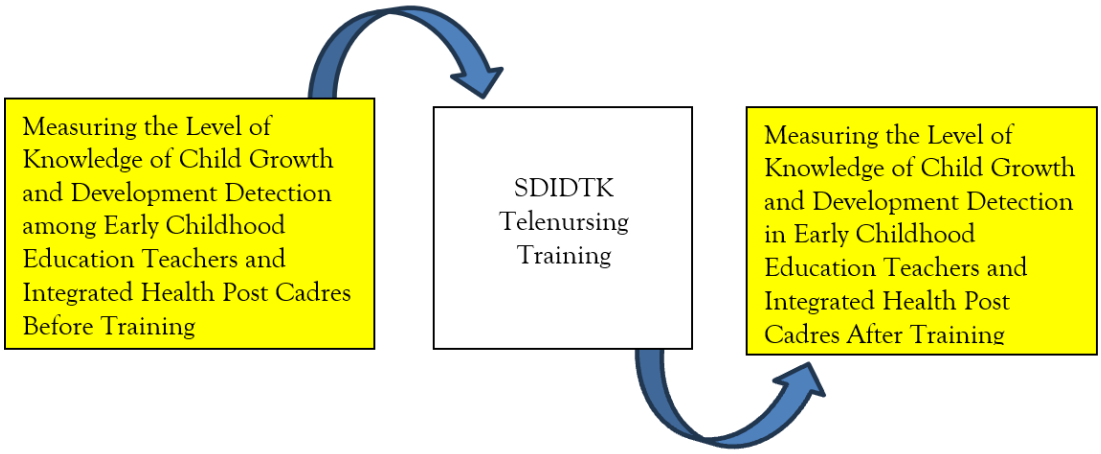
pre-test and post-test control group design to compare the effectiveness of Early Growth and Development Stimulation, Detection, and Intervention (SDIDTK) telenursing training in improving stunting screening knowledge among two different groups of respondents. The study population consisted of Early Childhood Education (PAUD) teachers and Integrated Health Service Post (*Posyandu*) cadres in Pangandaran Regency.

The sampling technique used purposive sampling, with inclusion criteria including respondents who were actively serving as PAUD teachers or *Posyandu* cadres, were willing to participate in the study, and had access to technological devices for telenursing training. The study sample consisted of 52 respondents, divided into two groups: 26 PAUD teachers and 26 *Posyandu* cadres. Each group received the same intervention, namely SDIDTK telenursing training.

The research instrument used was a structured questionnaire that measured respondents' knowledge regarding SDIDTK and stunting screening procedures in early childhood. Before being used in the research, the instrument underwent a validity test using the Pearson Product Moment correlation method to ensure each question measured the intended construct. The reliability test used Cronbach's Alpha to assess the instrument's internal consistency.

The data collection procedure was carried out in three stages: the first stage involved administering a pre-test to both groups to measure respondents' initial knowledge; the second stage involved providing training interventions through telenursing, covering SDIDTK materials and stunting screening techniques delivered online; and the third stage involved administering a post-test to measure respondents' knowledge levels after the training. Data analysis was conducted in stages using the latest version of the Statistical Package for the Social Sciences (SPSS) software. Univariate analysis was used to describe respondents' demographic characteristics and the frequency distribution of research variables. Bivariate analysis used a paired t-test to compare differences in knowledge before and after the intervention in each group. Independent t-tests were used to compare the effectiveness of the training between the early childhood education (PAUD) teachers and the integrated health post (*Posyandu*) cadres.

Data normality testing was performed first using the Shapiro-Wilk or Kolmogorov-Smirnov test to determine the appropriateness of selecting parametric or non-parametric statistical tests. The statistical significance level used in this study was $p < 0.05$, meaning there is a significant difference if the p value is less than 0.05. This study has received ethical approval from the authorized health research ethics committee, and all respondents provided written informed consent before participating in the study.



Picture 1. Research Flowchart.

FINDINGS AND DISCUSSION

Findings

A. Homogeneity and Normality Test

Tabel 1. Normality Test (Shapiro-Wilk).

	W	p
A	0.959	0.073

Note: A low p-value suggests a violation of the assumption of normality.

The data above is 0.073, indicating that the Sig. > 0.05, indicating normally distributed. The teachers and *Posyandu* cadres are diverse. Some have bachelor's and high school degrees. However, all have at least two years of field experience and frequently participate in training related to child development.

Tabel 2. Homogeneity of Variances Test (Levene's).

	F	df	df2	p
A	0.515	1	50	0.476

Note: A low p-value suggests a violation of the assumption of equal variances.

The data above is 0.476, that Sig > 0.05, which means the data exhibits the same homogeneity. *Posyandu* cadres have participated in training on child development and discussions on issues faced by early childhood. Meanwhile, teachers have participated in training on stimulating child development.

B. Group Description During Pretest

Tabel 3. Group Descriptives Pretest.

	Group	N	Mean	Median	SD	SE
A	Cadre	26	41.3	40.0	7.82	1.53
	Teacher	26	39.6	40.0	9.48	1.86

Based on the pretest results above, it shows that the average teacher knowledge about SDIDTK is 39.6, while the cadre's knowledge is 41.3.

C. Group Description During Posttest

Tabel 4. Group Descriptives Posttets.

	Group	N	Mean	Median	SD	SE
A	Cadre	26	78.3	77.5	7.48	1.47
	Teacher	26	77.9	80.0	6.95	1.36

Based on the posttest results above, it shows that the average teacher knowledge about SDIDTK is 77,9, while the cadre's knowledge is 78,3.

D. Difference Test Between *Posyandu* Cadres and PAUD Teachers

Tabel 5. Independent Samples T-Test.

		Statistic	df	p
A	Student's t	0.192	50.0	0.848
	Mann-Whitney U	329		0.874

Note. H_a $\mu_{kader} \neq \mu_{guru}$

Based on the data results above, it shows that the sig value or calculated probability (0.874) . Then the null hypothesis is not rejected which means that between cadres and PAUD teachers have identical population variance, so there is no difference in the level of knowledge of *Posyandu* cadres and PAUD teachers in understanding SDIDTK telenursing.

The absence of statistical differences between *Posyandu* cadres and PAUD teachers does not mean that the SDIDTK telenursing training does not provide practical benefits, but rather indicates that both groups have equal capacity to screen for stunting after receiving the same intervention. This finding has important practical significance, as *Posyandu* cadres and PAUD teachers have complementary roles in the community-level early detection system for stunting. *Posyandu* cadres play a role in monitoring child growth through monthly *Posyandu* activities, while PAUD teachers have daily access to early childhood education settings to stimulate their growth and development.

Therefore, collaboration between these two groups can strengthen a more comprehensive stunting surveillance network in Pangandaran Regency. Telenursing-based training has proven effective as a learning medium that can reach both groups equally, overcoming the geographical and time constraints that often hinder conventional training. With equal capacity, *Posyandu* cadres and PAUD teachers can collaborate in screening, referrals, and education for families with children at risk of stunting, thereby strengthening the system of early detection and sustainable stunting interventions in the field. These practical implications confirm that investing in training in both groups simultaneously is an efficient strategy to expand the coverage and quality of stunting prevention programs at the community level.

Discussion

This study's findings indicate no significant difference in knowledge levels between *Posyandu* cadres and PAUD teachers after SDIDTK telenursing training. Previous studies have consistently reported significant increases in knowledge and skills in both *Posyandu* cadres and PAUD teachers after receiving digital training, but most used pre-post designs without a comparison group or without directly comparing the two professions. Indrayati found that Android-based training significantly increased cadre knowledge scores ($p=0.000$) in a pre-post design without a control group.[25] Similarly, Netti reported that a digital training and mentoring program for PAUD teachers increased teachers' average scores from 61 to 71 ($p=0.019$) and increased the proportion of teachers meeting competency standards from 39% to 57%.[26]

Alindariani also demonstrated a significant increase in cadre knowledge after online training via WhatsApp ($p<0.05$).[27] Although some programs involve both groups simultaneously, such as the one reported by Aulia involving 50 *Posyandu* (Integrated Service Post) cadres and 13 PAUD (Early Childhood Education) teachers in nutrition education to prevent stunting, the study only reported aggregate pre-post results without any intergroup comparative analysis.[28] No study has explicitly compared the effectiveness of training between *Posyandu* cadres and PAUD teachers. Therefore, this study fills an important gap by providing empirical evidence that both groups have equivalent learning responses to a standardized telenursing training intervention.

[25]Netti, H., R. Sari, dan P. Dewi. "Digital Training and Mentoring on PAUD Teachers." *BIO Web of Conferences* 153 (2025). https://doi.org/10.1051/bioconf/202515302025.

[26]Alindariani, D., et al. "Peningkatan Kapasitas Kader tentang Deteksi Dini Stunting." *Media Karya Kesehatan* 5, no. 1 (2022). https://doi.org/10.24198/mkk.v5i1.35261.

[27]Aulia, M. R., et al. "Penguatan Kader dan Guru PAUD." *Jurdimas Royal* 8, no. 3 (2025). https://doi.org/10.33330/jurdimas.v8i3.3920.

[28]Rinayati, R., D. Setyorini, dan S. Mulyani. "Peningkatan Keterampilan Kader Posyandu." *JKPM* 6, no. 2 (2023). https://doi.org/10.33024/jkpm.v6i2.8389.

The lack of significant differences between *Posyandu* cadres and PAUD teachers in improving stunting screening knowledge can be explained by several interrelated scientific and methodological factors. First, the similarity in baseline knowledge between the two groups is a determining factor. Several studies report that training participants often have sufficient or good levels of initial knowledge, resulting in relatively similar room for improvement after intervention.[29] Second, the similarity in the material and training dosage received by both groups ensures identical learning stimuli. Interventions for cadres and teachers generally deliver the same core material, including the definition of stunting, anthropometric techniques, complementary feeding (MPASI), and growth and development monitoring.[30]

Third, homogeneous demographic characteristics such as similar age distribution, education level, and length of service can equate responses to training.[31] Fourth, increased motivation and self-efficacy through structured training models can equate capacity building across professions. Mursyid demonstrated that the Train-the-Trainer (ToT) model increases participants' self-efficacy and shifts their roles from passive data collectors to active counselors.[32] Fifth, the relatively small sample size (n=26 per group) limited statistical power to detect small differences between groups. Sixth, both groups had direct work experience with early childhood education, providing a similar practical foundation. It is important to emphasize that these findings do not constitute a research failure, but rather empirical evidence that SDIDTK telenursing training is inclusive, adaptive, and effective for a variety of community health professions.

The equal skills of *Posyandu* cadres and PAUD teachers following SDIDTK telenursing training have significant practical and policy implications for stunting reduction programs at the community level. From an operational perspective, *Posyandu* cadres play a strategic role in monthly growth monitoring at the *Posyandu*, conducting anthropometric measurements, recording nutritional status, and providing counseling to mothers of toddlers.[33] Meanwhile, PAUD teachers have the advantage of daily access to children in educational institutions, enabling longitudinal observation of diet, behavior, child development, and growth and development stimulation in a structured setting.[34] The synergistic collaboration between the two groups creates a comprehensive and multi-layered stunting surveillance system, with cadres detecting cases at the *Posyandu* and in the community, while teachers continuously monitor children enrolled in PAUD, ensuring that no child is missed.[35]

From a policy perspective, these findings suggest that similar training can be implemented simultaneously for both groups without the need for differentiation in content or delivery methods, significantly saving program resources in terms of curriculum development, material provision, and training allocation.[36] Furthermore, a task-sharing approach that expands the role of early childhood education teachers as partners in

[29]Mintarsih, M., et al. "Empowerment of Health Cadres." *Edelweiss* 9, no. 9 (2025). https://doi.org/10.55214/2576-8484.v9i9.9767.

[30]Mursyid, A., et al. "Nutrition Literacy via Posyandu Model." *ICEJ* 5, no. 1 (2025). https://doi.org/10.37275/icejournal.v5i1.53.

[31]Aulia, M. R., et al. "Penguatan Kader dan Guru PAUD."

[32]Tampake, M. M., et al. "Training Effectiveness on Health Cadres." *Open Access Macedonian Journal of Medical Sciences* 9(E) (2021). https://doi.org/10.3889/OAMJMS.2021.6067.

[33]Mardhiyah, A., et al. "Pemberdayaan Kader dalam Deteksi Dini." *JKPM* 6, no. 12 (2023). https://doi.org/10.33024/jkpm.v6i12.12580.

[34]Rinayati, R., D. Setyorini, dan S. Mulyani. "Peningkatan Keterampilan Kader Posyandu."

[35]Millati, A. A., et al. "Capacity Building of Posyandu Cadres." *Abdimas Polsaka* 4, no. 1 (2025). https://doi.org/10.35816/abdimaspolsaka.v4i1.84.

[36]Hapsari, S., et al. "Pelatihan Literasi bagi Guru PAUD." *JPPM* 3, no. 2 (2018). https://doi.org/10.30653/002.201832.61.

stunting screening can increase early detection coverage, particularly in areas with limited formal health workers.[37]

Digital literacy plays a crucial role as a strengthening or inhibiting factor in the success of technology-based telenursing training, and the ability to effectively use information and communication technology influences how optimally participants absorb and apply training materials. Digital literacy includes the ability to operate a smartphone, access health applications, use communication platforms such as WhatsApp and Zoom, and understand digital information system interfaces.[38] Utami reported that the digital anthropometry system obtained a System Usability Scale (SUS) score of 56.58, indicating that *Posyandu* cadres still require technical assistance from village midwives for optimal use.[39]

This confirms that adequate digital literacy is a prerequisite for successful training, while a lack of digital literacy can be a significant obstacle that needs to be anticipated.[40] Kristiyono emphasized the importance of digital literacy training specifically for cadres so that the use of applications, WhatsApp, and Zoom does not become an obstacle in implementing health materials.[41] A simple technology-based solution in this study uses a telenursing application that can be used even if there is no internet. In disaster conditions where there is often no signal and internet, it will not hinder the performance of cadres and early childhood education teachers in detecting child growth and development and providing stimulation based on age and developmental aspects. Thus, digital literacy should be seen as an integral component of training interventions (training and technical support) to ensure effective skill transfer.

CONCLUSION

Based on the research results, the sig value or calculated probability (0.874). It can be concluded that SDIDTK (Stimulation, Detection, and Early Intervention for Growth and Development) telenursing training significantly improved knowledge within groups, but no significant difference was found between groups.

Based on the findings above, *Posyandu* cadres and PAUD teachers can utilize SDIDTK telenursing by using the application on their mobile phones offline and can detect children's growth and development even without an internet connection. This supports the implementation of early detection and intervention at *Posyandu* and PAUD schools, including the detection of growth abnormalities, developmental disorders, hearing and visual impairments, and mental and emotional disorders in children.

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