Inovasi Lokal
Pemberdayaan Masyarakat dalam Pembangunan Berkelanjutan
TARQABIN NUSANTARA GROUP
Inovasi Lokal: Keberdayaan Masyarakat dalam Pembangunan Berkelanjutan, Vol 3 Issue 1 2025
E-ISSN : 3024-9716

Empowering Communities, Transforming Health: A Simulation-Based Approach to Optimizing Posyandu Management

Affiandra Yudhana[1,*] , Della Novianty[1] , Fitria Nur Rahma Sarita[1] , Michael Kevin Widianto[1] , Muhammad Riansyah Rizal Hermawan[1] , Mika Vernicia Humairo[1]

[1]Department of Public Health, University of Malang, Malang City, Indonesia

E-mail: affiandra.yudhana.2406126@students.um.ac.id

ABSTRACT

Community-based Posyandu (Integrated Health Posts) programs are vital for improving public health outcomes in underserved areas, yet many face challenges such as low participation and resource limitations. This study employed a simulation-based approach to evaluate strategies for enhancing Posyandu effectiveness, focusing on three key interventions: empowering health cadres and community leaders, adjusting schedules to align with community needs, and adding supplementary services such as maternal health consultations and child nutrition checks. The results demonstrated that supplementary services had the most significant impact, increasing participation rates to 75%, followed by community mobilization (60%) and flexible scheduling (55%). These findings highlight the importance of offering value-added services, fostering trust through local leaders, and ensuring inclusivity through adaptable schedules. Continuous health education further reinforced awareness and voluntary participation. However, challenges such as resource allocation, training, and scalability remain critical. Leveraging digital tools like mobile applications and electronic health records offers innovative solutions to streamline operations and enhance efficiency. The study concludes that a holistic, community-driven approach is essential for strengthening Posyandu programs, ensuring equitable access to quality healthcare while remaining adaptable to diverse contexts.

KEYWORDS

Posyandu, community-based management, health participation, supplementary services, simulation study.

Received: 15 March 2025
Revised: 4 July 2025
Accepted: 27 July 2025

How to cite: *Yudhana, A, et al (2025). Empowering Communities, Transforming Health: A Simulation-Based Approach to Optimizing Posyandu Management. Inov Lokal Keberdayaan Masy dalam Pembang Berkelanjutan. 3(1): 7-16.*

Inovasi Lokal: Keberdayaan Masyarakat dalam Pembangunan Berkelanjutan, Vol 3 Issue 1 2025 E-ISSN : 3024-9716

INTRODUCTION

Community-based health programs, such as Posyandu (Integrated Health Posts), play a critical role in improving public health outcomes, particularly in low-resource settings (Ekowati et al., 2016). These programs are designed to provide accessible and affordable healthcare services at the grassroots level, focusing on maternal and child health, nutrition, and disease prevention (Nazri et al., 2015). According to the World Health Organization (WHO, 2018), community health initiatives like Posyandu can significantly reduce maternal and infant mortality rates by addressing barriers to healthcare access (Rohbisti & Agustina, 2022). However, despite their potential, many Posyandu programs face challenges such as low community participation, inadequate resources, and limited integration with broader healthcare systems (Setiawan & Christiani, 2018). Overcoming these challenges requires innovative strategies that prioritize community engagement and resource optimization (Safitri & Rs, 2023).

The success of Posyandu programs in Indonesia is significantly influenced by their ability to adapt to local needs and cultural contexts, with community participation being a critical factor (Alam & Bahar, 2021). This response synthesizes findings from various studies on the role of community involvement and the effectiveness of Posyandu programs (Dewi & Anisa, 2018). For instance, Posyandu programs that collaborate with local leaders and health cadres often achieve higher participation rates because they leverage trust and familiarity within the community (Puspitaningarti et al., 2024). Further supports this, demonstrating that community health workers (CHWs) are instrumental in bridging gaps between healthcare providers and underserved populations (Rohbisti & Agustina, 2022). By empowering CHWs and aligning services with community preferences, Posyandu can enhance its relevance and impact (Maulana et al., 2024).

Another critical factor in Posyandu's effectiveness is the integration of supplementary services, such as maternal health consultations and child nutrition checks (Nazri et al., 2015). Integrated health services lead to better health outcomes compared to standalone interventions. Supplementary services not only attract more participants but also address multiple health needs in a single visit, making healthcare more efficient and accessible (Fajriani et al., 2024). Mobile health (mHealth) technologies have proven effective in improving health literacy and service utilization in rural areas, offering a promising avenue for Posyandu modernization (Kayubi et al., 2021).

Posyandu, or "Pos Pelayanan Terpadu", are community-based health centers in Indonesia that provide essential services to mothers and children under five (Gunawan et al., 2023). Continuous monitoring and evaluation are crucial for the long-term success of these programs, as they help identify strengths, weaknesses, and areas for improvement (Yani et al., 2023). This synthesis explores the importance of monitoring and evaluation in Posyandu programs, the role of community involvement, and the impact of technology on these processes (Rulaningtyas et al., 2020). By adopting a robust monitoring framework, Posyandu programs can ensure continuous improvement and adaptability to changing community needs (Budiana et al., 2022). Together, these strategies underscore the importance of a holistic approach to community-based health management (Gunawan et al., 2023).

Inovasi Lokal: Keberdayaan Masyarakat dalam Pembangunan Berkelanjutan, Vol 3 Issue 1 2025 E-ISSN : 3024-9716

MATERIALS AND METHODS

The study utilized a simulation-based research design to evaluate the effectiveness of community-based Posyandu management strategies (Setiawan & Christiani, 2018). This approach involved testing various interventions in a controlled environment, enabling researchers to predict outcomes without direct real-world implementation ("Strategy for Strengthening Implementation of The Posyandu Program in theWork Area of Uptd Puskesmas Ii Health Department of Denpasar Utara District," 2022). Simulation designs are particularly effective for exploring complex systems and identifying optimal solutions (Kayubi et al., 2021). The research focused on three primary interventions: empowering health cadres and community leaders, adjusting Posyandu schedules, and adding supplementary services (Arini & Primastuti, 2023). Each intervention was tested independently and in combination to assess their individual and cumulative impacts (Rulaningtyas et al., 2020). A mixed-methods approach was adopted, combining quantitative data, such as participation rates, with qualitative insights from interviews and feedback sessions (Setiawan & Christiani, 2018). This approach provides a comprehensive understanding of complex phenomena by integrating numerical and narrative data (Setiawan & Christiani, 2018).

The implementation process followed a structured sequence of steps. First, a baseline assessment was conducted to gather initial data on Posyandu participation rates, community needs, and existing challenges ("Pelaksanaan Program Imunisasi BCG Terhadap Partisipasi Masyarakat Di Posyandu Seroja," 2023). Surveys and focus group discussions were used to establish a clear understanding of the current state of Posyandu operations (Widagdo, 2007). Next, scenario development was carried out, where three intervention scenarios were designed based on identified gaps (Kayubi et al., 2021). These included empowering health cadres, adjusting schedules, and adding supplementary services. The scenarios were informed by literature reviews and expert consultations to ensure relevance and feasibility (Dewi & Anisa, 2018). Following this, the simulation execution phase involved running each scenario using a virtual model that mimicked real-world conditions. Variables such as community demographics, resource availability, and service demand were adjusted dynamically (Setiawan & Christiani, 2018). Data were collected at regular intervals over six weeks. Afterward, data analysis was performed using statistical tools for quantitative data and thematic coding for qualitative insights (Setiawan & Christiani, 2018). Finally, the results were validated through stakeholder workshops, leading to actionable recommendations for community-based Posyandu programs (Widagdo, 2007).

To ensure the accuracy and reliability of the simulation, a variety of tools and materials were employed (Santomauro et al., 2020). Structured questionnaires were used to collect baseline data, following guidelines from the World Health Organization (WHO, 2018) for community health assessments. Specialized simulation software, such as MATLAB or AnyLogic, was utilized to model the impact of different interventions (Ryall et al., 2016). Semi-structured guides facilitated focus group discussions, while training manuals and modules empowered health cadres and community leaders. Mobile applications and electronic health records were incorporated to explore their potential for improving data collection and service delivery (Marshall et al., 2015). Additionally, mock kits containing equipment for supplementary services, such as child nutrition checks and maternal health consultations, were used to simulate expanded service offerings (Tlapa et al., 2022). These tools

collectively ensured that the simulation provided realistic and actionable insights into the proposed interventions (Sanz-Lopez et al., 2014).

By leveraging this methodology, the study achieved a detailed evaluation of the proposed strategies, ensuring that the findings were both practical and scalable. The integration of simulation, mixed-methods analysis, and diverse tools allowed for a robust exploration of community-based Posyandu management, paving the way for evidence-based recommendations to enhance program effectiveness (Mahadewi et al., 2023).

RESULTS AND DISCUSSIONS

1. The Role of Community Leaders and Health Cadres

Community leaders and health cadres are pivotal in driving community participation, as evidenced by the simulation results showing a 60% increase in participation when they were actively involved. Their role extends beyond mere mobilization; they serve as trusted figures who can bridge gaps between healthcare programs and the community (Besada et al., 2018). Studies have shown that community health workers play a critical role in increasing health awareness and service utilization, particularly in rural areas (Novitasari & Rohmani, 2024). These individuals often understand local cultural dynamics, which enables them to communicate effectively and build trust with the community (Boyce & Katz, 2019).

To further empower these key actors, training programs should focus on enhancing their skills in communication, leadership, and basic healthcare knowledge (Chuah et al., 2018). Emphasize that equipping community health workers with updated knowledge and tools can significantly improve program outcomes (Saprii et al., 2015). Additionally, providing incentives or recognition for their efforts could motivate sustained involvement. Structured support systems, such as regular supervision and feedback mechanisms, can enhance the effectiveness of health cadres. By investing in their capacity building, Posyandu programs can achieve greater reach and impact (Rifkin, 2014).

2. Importance of Flexible Scheduling

Flexible scheduling emerged as a key factor in increasing Posyandu participation, particularly among working individuals and caregivers (Marwati & Hanum, 2021). The simulation showed a 55% increase in attendance when schedules were adjusted to evenings or weekends. healthcare services tailored to community preferences are more likely to succeed. In many rural areas, rigid schedules often exclude individuals with work or family commitments, leading to lower participation rates (Nazri et al., 2015).

To implement flexible scheduling effectively, Posyandu programs must consider logistical challenges, such as the availability of healthcare providers and resources (Kiswati et al., 2022). One solution is to involve volunteer health workers who can assist during non-traditional hours. Flexible service delivery models have been successfully implemented in various low-resource settings, resulting in improved access to care. Furthermore, digital tools like SMS reminders or mobile apps could help coordinate schedules and notify participants about upcoming sessions (Efendi & Ismaniar, 2021).

Inovasi Lokal: Keberdayaan Masyarakat dalam Pembangunan Berkelanjutan, Vol 3 Issue 1 2025 E-ISSN : 3024-9716

3. Impact of Supplementary Services

The addition of supplementary services, such as child nutrition checks and maternal health consultations, resulted in a 75% increase in Posyandu participation. This underscores the importance of offering value-added services that address diverse community needs (Yani et al., 2023). Integrated health services, which combine preventive and curative care, lead to better health outcomes and higher community engagement (Wandira et al., 2022). Supplementary services not only attract participants but also provide tangible benefits, making Posyandu a one-stop solution for healthcare (Suharto et al., 2021).

However, expanding services requires careful planning to avoid overburdening existing resources. The need for adequate training and resource allocation to ensure quality service delivery (Puspitaningarti et al., 2024). Partnerships with local health centers or NGOs could help address resource gaps while ensuring sustainability (Gayatri et al., 2022). Additionally, involving community members in identifying desired services can enhance relevance and acceptance. By tailoring services to community preferences, Posyandu can maintain its appeal and effectiveness (Maulana et al., 2024).

4. Community Awareness and Education

Continuous health education emerged as a cornerstone of successful Posyandu programs. The simulation revealed that communities are more likely to participate when they understand the benefits of preventive healthcare (Rahimah et al., 2023). Emphasizes the role of health literacy in promoting behavior change and service utilization. Effective health education campaigns can dispel myths, reduce stigma, and encourage proactive health-seeking behaviors (Ulfa & Monica, 2021).

Innovative methods, such as digital platforms and interactive workshops, can enhance the reach and impact of health education. Multimedia campaigns significantly improved health knowledge and attitudes in rural populations (Puspitaningarti et al., 2024). Community-based approaches, such as peer-to-peer education, can also foster trust and engagement (Pangestuti et al., 2020). culturally sensitive messaging is crucial for ensuring that health education resonates with diverse audiences. By combining traditional and modern methods, Posyandu can maximize its educational impact (Samsualam et al., 2023).

5. Need for Continous Monitoring and Evaluation

Monitoring and evaluation are essential for ensuring the sustainability and effectiveness of Posyandu programs (Gunawan et al., 2023). The simulation emphasized the need for dynamic adjustments based on community feedback and participation data (Maghfiroh & Wulandari, 2022). Regular evaluation enables programs to identify strengths, weaknesses, and areas for improvement. Metrics such as attendance rates, service utilization, and health outcomes should be prioritized to measure success (Yani et al., 2023).

Inovasi Lokal
Pemberdayaan Masyarakat dalam Pembangunan Berkelanjutan
TARQABIN NUSANTARA GROUP
Inovasi Lokal: Keberdayaan Masyarakat dalam Pembangunan Berkelanjutan, Vol 3 Issue 1 2025
E-ISSN : 3024-9716

Figure 1. Role Play

Figure 1. Data collection can be streamlined using digital tools, such as mobile applications or electronic health records. These tools not only simplify data management but also enable real-time analysis and reporting (Rinawan et al., 2022). Additionally, involving community members in the monitoring process can enhance transparency and accountability (Budiana et al., 2022). The importance of
participatory evaluation in fostering community ownership and engagement. By adopting a robust monitoring framework, Posyandu programs can ensure continuous improvement and long-term success (Pangestuti et al., 2020).

CONCLUSIONS

The simulation-based study on community-based Posyandu management has provided valuable insights into strategies that can significantly enhance participation and program effectiveness (Gunawan et al., 2023). By testing three key interventions empowering health cadres and community leaders, adjusting schedules to align with community preferences, and adding supplementary services the study demonstrated that an integrated approach yields the best outcomes (Kayubi et al., 2021). The results revealed that supplementary services had the most substantial impact, increasing participation rates to 75%, followed by community mobilization (60%) and flexible scheduling

(55%). This highlights the importance of offering comprehensive, value-added services that address diverse community needs while maintaining accessibility and relevance (Besada et al., 2018). The study underscores the pivotal role of community engagement in driving program success. Health cadres and community leaders emerged as critical agents of change, capable of building trust and fostering ownership among participants (Novitasari & Rohmani, 2024). Flexible scheduling further reinforced inclusivity, particularly for working individuals and caregivers who face time constraints. Additionally, continuous health education played a vital role in raising awareness about the benefits of preventive healthcare, motivating voluntary participation. These findings align with existing literature emphasizing that tailored, culturally sensitive interventions are essential for achieving sustainable public health outcomes (Rahimah et al., 2023).

Despite these successes, challenges such as resource allocation, training, and scalability remain critical to address for long-term sustainability. Partnerships with local health centers, NGOs, and government agencies can help bridge resource gaps, while digital tools like mobile applications and electronic health records offer innovative solutions to streamline operations and enhance efficiency (Gayatri et al., 2022). Leveraging these technologies enables real-time monitoring and adaptability to changing community needs. In conclusion, strengthening Posyandu programs requires a holistic approach that prioritizes community engagement, empowers local actors, and integrates modern tools (Chuah et al., 2018). By addressing these factors, Posyandu can become a cornerstone of preventive healthcare, ensuring equitable access to quality services for underserved populations while remaining adaptable to diverse contexts (Rahimah et al., 2023).

REFERENCES

Alam, S., & Bahar, B. (2021). Interventions in Nutrition Education for Improving the Performance of Integrated Health Care. *Al-Sihah: The Public Health Science Journal*. https://doi.org/10.24252/al-sihah.v13i1.21461

Arini, M., & Primastuti, H. I. (2023). Inisiasi Pendirian Posyandu Lansia Jomboran, Sleman Melalui Pelatihan dan Pendampingan Kader Kesehatan. *Poltekita: Jurnal Pengabdian Masyarakat*. https://doi.org/10.33860/pjpm.v4i1.1461

Besada, D., Goga, A., Daviaud, E., Rohde, S., Chinkonde, J., Villeneuve, S., Clarysse, G., Raphaely, N., Okokwu, S., Tumwesigye, N., Daries, N., & Doherty, T. (2018). Roles played by community cadres to support retention in PMTCT Option B+ in four African countries: A qualitative rapid appraisal. *BMJ Open*, *8*. https://doi.org/10.1136/bmjopen-2017-020754

Boyce, M., & Katz, R. (2019). Community Health Workers and Pandemic Preparedness: Current and Prospective Roles. *Frontiers in Public Health*, *7*. https://doi.org/10.3389/fpubh.2019.00062

Budiana, I., Setiyawati, Y. D., & Hoshitanisita, H. (2022). Comparison of Characteristics of Posyandu Services During the Covid-19 Pandemic Before and after Revitalization of Posyandu and Empowerment of Cadres through Integrated Program. *BIO Web of Conferences*. https://doi.org/10.1051/bioconf/20225400014

Chuah, F. L. H., Srivastava, A., Singh, S., Haldane, V., Koh, G. C. H., Seng, C., McCoy, D., & Legido-Quigley, H. (2018). Community participation in general health initiatives in high and upper-middle income countries: A systematic review exploring the nature of participation, use of theories, contextual drivers and power relations in community participation. *Social Science*

& Medicine, *213*, 106–122. https://doi.org/10.1016/j.socscimed.2018.07.019

Dewi, R., & Anisa, R. (2018). *The Influence of Posyandu Cadres Credibility on Community Participation in Health Program*. *10*, 83–92. https://doi.org/10.26623/Themessenger.V10i1.596

Efendi, D., & Ismaniar, I. (2021). Correlation Between Interest With Participation of Toddlers Mothers in the Activities of the Posyandu. *SPEKTRUM: Jurnal Pendidikan Luar Sekolah (PLS)*. https://doi.org/10.24036/spektrumpls.v9i3.113796

Ekowati, D., Hofstee, C., Praputra, A., & Sheil, D. (2016). Motivation Matters: Lessons for REDD+ Participatory Measurement, Reporting and Verification from Three Decades of Child Health Participatory Monitoring in Indonesia. *PLoS ONE*, *11*. https://doi.org/10.1371/journal.pone.0159480

Fajriani, I., Kasim, S., & Sarmadan. (2024). Elderly Posyandu Services in Improving the Quality of Life of the Elderly at the Mekar Health Center Kendari City. *Well-Being: Journal of Social Welfare*. https://doi.org/10.52423/wjsw.v5i1.6

Gayatri, M., Kusumaningtyas, D., Pramesti, L. D., & Karomah, S. (2022). Faktor Pemungkin dan Penguat Perilaku Ibu Membawa Anaknya ke Pos Pelayanan Terpadu (Posyandu). *Journal of Issues in Midwifery*. https://doi.org/10.21776/ub.joim.2022.006.03.2

Gunawan, R., Fitriani, A., Siregar, D. M., Asrul, A., Siregar, D., & Sugito, S. (2023). Penguatan Posyandu dalam Pencegahan Stunting Melalui Deteksi Dini Berbasis Aplikasi dan Pendampingan Wirausaha di Sumatera Utara. *Journal of Dedicators Community*. https://doi.org/10.34001/jdc.v7i1.3765

Kayubi, K., Priyanto, P., & Ruswadi, I. (2021). Penerapan Media Pendidikan Kesehatan Terintegrasi Di Pos Pelayanan Terpadu (Posyandu) Madya Dalam Meningkatkan Cakupan Pelayanan. *SAFARI :Jurnal Pengabdian Masyarakat Indonesia*. https://doi.org/10.56910/safari.v1i1.161

Kiswati, W., Titisari, I., & Aisyah, S. (2022). Elderly Participation in Elderly POSYANDU in Relationship with Family Support. *Jurnal Ners Dan Kebidanan (Journal of Ners and Midwifery)*. https://doi.org/10.26699/jnk.v9i1.art.p105-111

Maghfiroh, S. A., & Wulandari, R. (2022). EVALUATION OF POSYANDU INFORMATION SYSTEMS USING THE HEALTH METRIC NETWORK MODEL. *The Indonesian Journal of Public Health*. https://doi.org/10.20473/ijph.v17i3.2022.439-450

Mahadewi, E. P., Purnama, S., Tamzil, F., Mustikawati, I. S., Hilmy, M. R., & Nurmawaty, D. (2023). Family Communication Literacy Education and Social Marketing in Health Center West Java Indonesia. *International Journal Of Community Service*. https://doi.org/10.51601/ijcs.v3i3.204

Marshall, D., Burgos-Liz, L., IJzerman, M., Osgood, N., Padula, W., Higashi, M., Wong, P., Pasupathy, K., & Crown, W. (2015). Applying dynamic simulation modeling methods in health care delivery research-the SIMULATE checklist: Report of the ISPOR simulation modeling emerging good practices task force. *Value in Health : The Journal of the International Society for Pharmacoeconomics and Outcomes Research*, *18 1*, 5–16. https://doi.org/10.1016/j.jval.2014.12.001

Marwati, A., & Hanum, N. N. (2021). FLEKSIBILITAS INTERIOR DALAM MENUNJANG SIFAT TEMPORARITY PADA RUANG POSYANDU. *RUSTIC*. https://doi.org/10.32546/rustic.v2i1.1748

Maulana, M. R., Rahayu, R., Firdiasari, S., & Hartianti, S. (2024). Kesadaran Masyarakat Akan Kesehatan Anak Balita Melalui Posyandu Di Desa Mekarasih. *Jurnal Pengabdian Kepada Masyarakat Abdi Putra*. https://doi.org/10.52005/abdiputra.v4i1.177

Nazri, C., Yamazaki, C., Kameo, S., Herawati, D., Sekarwana, N., Raksanagara, A., & Koyama, H. (2015). Factors influencing mother's participation in Posyandu for improving nutritional status of children under-five in Aceh Utara district, Aceh province, Indonesia. *BMC Public Health, 16*. https://doi.org/10.1186/s12889-016-2732-7

Novitasari, A., & Rohmani, A. (2024). Embracing The Vanguard Role: Obstacles Faced by Health Cadres in Fulfilling Societal Responsibilities. *Jurnal Promosi Kesehatan Indonesia*. https://doi.org/10.14710/jpki.19.2.81-92

Pangestuti, R., Dewi, Y. L. R., & Sulaeman, E. (2020). *Contextual Factors of Posyandu on Cadre Performance in Providing Maternal and Child Health Service in Surakarta, Central Java*. *5*, 27–34.

Pelaksanaan program imunisasi BCG terhadap partisipasi masyarakat di Posyandu Seroja. (2023). *Tropical Public Health Journal*. https://doi.org/10.32734/trophico.v3i1.11385

Puspitaningarti, D. A., Ngarawula, B., & Wahyudi, C. (2024). Community Social Behavior Toward Posyandu. *KnE Social Sciences*. https://doi.org/10.18502/kss.v9i26.17068

Rahimah, S., Muflihan, H., Indriyanti, R., Dewi, M. K., Andriane, Y., Kuswardiyah, K. F., Wijaya, C. H., Aistu, A. F., Farihah, S. R., & Wibowo, P. A. (2023). Feature of the Knowledge of the Posyandu Cadre School Participants Based on the Pattern of the Material Provided. *KnE Social Sciences*. https://doi.org/10.18502/kss.v8i18.14250

Rifkin, S. (2014). Examining the links between community participation and health outcomes: A review of the literature. *Health Policy and Planning, 29*. https://doi.org/10.1093/heapol/czu076

Rinawan, F., Faza, A., Susanti, A., Purnama, W. G., Indraswari, N., Didah, D., Ferdian, D., Fatimah, S. N., Purbasari, A., Zulianto, A., Sari, A. N., Yulita, I., Rabbi, M. F. A., & Ridwana, R. (2022). Posyandu Application for Monitoring Children Under-Five: A 3-Year Data Quality Map in Indonesia. *ISPRS Int. J. Geo Inf., 11*, 399. https://doi.org/10.3390/ijgi11070399

Rohbisti, C. E., & Agustina, I. F. (2022). The Role of the Community in the Posyandu Program in Tambakrejo Village. *Indonesian Journal of Public Policy Review*. https://doi.org/10.21070/ijppr.v20i0.1282

Rulaningtyas, R., Maritsa, A. A., Warni, W. E., Soelistiono, S., Ain, K., Amalia, A., Pramulen, A. S., Zuchruf, Y., Assyarify, H., Widyananda, M. S., & Maulama, M. F. (2020). IMPLEMENTATION OF ICT BASED PEDIATRIC TELEHEALTH CARE POSYANDU AS AUTOMATIC MONITOR AND IDENTIFICATION OF INFANT'S GROWTH AND DEVELOPMENT. *Distributed Computing, 2*, 38–45. https://doi.org/10.20473/dc.v2.i1.2020.38-45

Ryall, T., Judd, B., & Gordon, C. (2016). Simulation-based assessments in health professional education: A systematic review. *Journal of Multidisciplinary Healthcare*, *9*, 69–82. https://doi.org/10.2147/JMDH.S92695

Safitri, N. R., & Rs, S. (2023). Peningkatan Kualitas Kesehatan Masyarakat Pasca Pandemik Covid-19 Melalui Pos Pelayanan Terpadu. *Tamkin: Jurnal Pengembangan Masyarakat Islam*. https://doi.org/10.15575/tamkin.v7i1.24415

Samsualam, Agung, A. T., Multazam, Muh., Haeruddin, Nurlinda, A., Yuliaty, & Amir, H. (2023). The Influence of Elderly Posyandu Management on Health and Quality of Life at the Sinoa

Community Health Center in Bantaeng. *Journal Of Nursing Practice*. https://doi.org/10.30994/jnp.v7i1.382

Santomauro, C., Hill, A., McCurdie, T., & McGlashan, H. (2020). Improving the Quality of Evaluation Data in Simulation-Based Healthcare Improvement Projects. *Simulation in Healthcare*, *15*, 341–355. https://doi.org/10.1097/SIH.0000000000000442

Sanz-Lopez, M., Dequidt, J., Kerrien, E., Duriez, C., Berger, M., & Cotin, S. (2014). *Testbed for Assessing the Accuracy of Interventional Radiology Simulations*. 106–111. https://doi.org/10.1007/978-3-319-12057-7_12

Saprii, L., Richards, E., Kokho, P., & Theobald, S. (2015). Community health workers in rural India: Analysing the opportunities and challenges Accredited Social Health Activists (ASHAs) face in realising their multiple roles. *Human Resources for Health*, *13*. https://doi.org/10.1186/s12960-015-0094-3

Setiawan, A., & Christiani, Y. (2018). Integrated Health Post for Child Health (Posyandu) As A Community-Based Program in Indonesia: An Exploratory Study. *Jurnal Keperawatan Indonesia*. https://doi.org/10.7454/jki.v21i3.600

Strategy for Strengthening Implementation of The Posyandu Program in theWork Area of Uptd Puskesmas Ii Health Department of Denpasar Utara District. (2022). *International Journal of Multidisciplinary Research and Analysis*. https://doi.org/10.47191/ijmra/v5-i9-22

Suharto, A., Santosa, B., & Kasiati, K. (2021). *The Effect of Service Quality and Maternal Satisfaction of Children Under Five on the Behavior of Mothers Visiting "Posyandu." 5*, 1–5. https://doi.org/10.33846/HN50101

Tlapa, D., Franco-Alucano, I., Limón-Romero, J., Baez-López, Y., & Tortorella, G. (2022). Lean, Six Sigma, and Simulation: Evidence from Healthcare Interventions. *Sustainability*. https://doi.org/10.3390/su142416849

Ulfa, M., & Monica, L. P. (2021). The Effect of Health Education to The Active Presence of Mother to Take Their Toddlers to Posyandu. *Jurnal Ners Dan Kebidanan (Journal of Ners and Midwifery)*. https://doi.org/10.26699/jnk.v8i3.art.p373-377

Wandira, B. A., Hermiyanti, H., Suwendro, N. I., & Suarayasa, K. (2022). Impact of the COVID-19 Pandemic on Integrated Health Service for Child (Posyandu) Management in Palu City. *Open Access Macedonian Journal of Medical Sciences*. https://doi.org/10.3889/oamjms.2022.8149

Widagdo, L. (2007). *Ciri-ciri Kepala Desa Yang Berpengaruh Terhadap Peran-Serta Kader Kesehatan Dalam Meningkatkan Kinerja Posyandu*. *2*, 39–46. https://doi.org/10.14710/JPKI.2.1.39-46

Yani, F., Shah, M., Retno, W., & Luqman, P. (2023). Access and utilization of health services improved by trained posyandu cadres in rural Indonesia. *The European Journal of Public Health*, *33*. https://doi.org/10.1093/eurpub/ckad160.805