Abdigermas

**Jurnal Ilmiah Pengabdian Masyarakat Bidang Kesehatan**
https://ejournal.gomit.id/index.php/abdigermas/

# Evaluation of the Use of the iPosyandu Bidan Application as Integration of Mobile Health and Mobile Learning

Ari Indra Susanti[1*], Annisa Nuraini[2], Flora Honey Darmawan[3]

[1]Universitas Padjadjaran
Jawa Barat, Indonesia
[2,3]Universitas Jenderal Achmad Yani
Jawa Barat, Indonesia
ari.indra@unpad.ac.id*



**Article Information:**
Received February 05, 2025
Revised February 16, 2025
Accepted February 18, 2025

**Keywords**:
Digital Literacy; iPosyandu Bidan Application; mHealth; mLearning

**Abstract**

Currently, midwifery services are strengthened by the use of various technologies, so midwives are required to be able to use smartphone-based applications (mobile Health) in recording and reporting Maternal and Child Health (*MCH*) data and improving lifelong competency based on applications (mobile Learning). This community service activity aims to strengthen midwives' abilities in digital literacy based on the midwife's *iPosyandu* application to improve *MCH* services. The method of implementing the activity is in the form of training in the use of the *iPosyandu Bidan* application. The results of the evaluation of this activity were that most midwives were able to use the midwife's iPosyandu application by quickly learning to input data (mean>5.57) and search for midwifery information (mean>5.65) to improve competence (mean>5.68), and provide health services (mean>5.52). Midwives have good digital literacy when using the *Bidan* applications such as mHealth and mLearning. Recommendations for the next community service activity are that midwives can provide health services in the form of health education to patients based on the *iPosyandu Bidan* application.

## A. Introduction

The development of information technology in the era of the Industrial Revolution 4.0 has become a critical need for the government in various fields, especially in the maternal and child health information system (Mhlanga, 2022; Sheikh et al., 2021). The information system includes data recording and collection, data processing, periodic reporting, and database maintenance. In addition, providing information to the public and other parties in need (Saffady, 2021; Zala et al., 2022). The information system has a role and function in health services as a center for health development, a center for community and family empowerment, and a health service center asked to encourage, provide, and provide adequate services in meeting the needs of the community to realize quality health services (Andriasari & Ferdiansyah, 2022). Maternal and child health (MCH) is one of the most important indicators of assessing the level of health in society (Dagher & Linares, 2022; Muhimmah & Fitriyati, 2023).

However, MCH data processing still uses a manual system with data processing recorded in a registration book (Eze et al., 2020; Jayanti & Meilinda, 2023). Manual recording takes more than 7 minutes for each service, errors often occur in recording and data collection, and it takes a long time to process reporting data every month (Afriansyah & Fujiyanti, 2022). Therefore, it is necessary to develop an electronic MCH information system so that it can assist officers in processing MCH programs quickly, precisely, and accurately (Afriansyah & Fujiyanti, 2022; Jayanti & Meilinda, 2023; Ramadani et al., 2022). Until now, the management of MCH service data includes recording new patient registrations, recording patient visits

How to Cite : Susanti, A. I., Nuraini, A., & Darmawan, F. H. (2024). Evaluation of the Use of the iPosyandu Bidan Application as Integration of Mobile Health and Mobile Learning. *Jurnal Ilmiah Pengabdian Masyarakat Bidang Kesehatan (Abdigermas), 3*(1), 14–21. https://doi.org/10.58723/abdigermas.v3i1.365
ISSN : 2986-2698
Published by : CV Media Inti Teknologi

and examinations, recording medical records, and MCH service reports are still carried out using the Ordinary Notebook (Sab'ngatun & Ropitasari, 2022). Meanwhile, MCH data is stored in the MCH book, which is a combination of MCH cards, starting from the *Kartu Menuju Sehat (KMS)* that aims to monitor the health of pregnant women, toddlers, child development cards, etc. (Bahar et al., 2022). This often occurs in the problem of duplication of medical data, re-registration with the same patient so that medical history cannot be continuous, errors in recording, the search process, and reporting take a long time, and participants often forget to bring their Mother and Child Cards (Widyadara, 2019). To solve the problems that have occurred until now, MCH application technology based on mobile health (mHealth) is needed which is equipped with a system that records patient data, patient medical records, and MCH service reports. By building a mobile-based Maternal and Child Health (MCH) application, MCH data at Posyandu will be of higher quality and integrated (Widyadara, 2019).

MCH data on *Posyandu* activities can be accessed on the *iPosyandu* application as mHealth, which is used by cadres and midwives for online recording and reporting (Susanti et al., 2022). In addition, cadres and midwives can access information and education on the *iPosyandu* application as mLearning to improve the competence of cadres and midwives through training (Susanti et al., 2022). Thus, midwives need to improve digital literacy to provide digital-based maternal and child health services (Natallia, 2022). Midwives are required to utilize technology and communication because of changes in practice models that require security and reliability but are effective (Katharina, 2021). Health education explains how to utilize existing technological developments, both social media and applications, to improve health services for mothers and children in their work areas (Chen & Wang, 2021; Natallia, 2022). Thus, this community service activity aims to strengthen the ability of midwives to use the *iPosyandu* application to improve their competence in providing maternal and child health services.

## B. Methods

Implementing this community service activity involves training 120 village midwives in the use of the *iPosyandu Bidan* application. This training was carried out in February 2023 in the hall of the *Purwakarta* Regency Health Office.

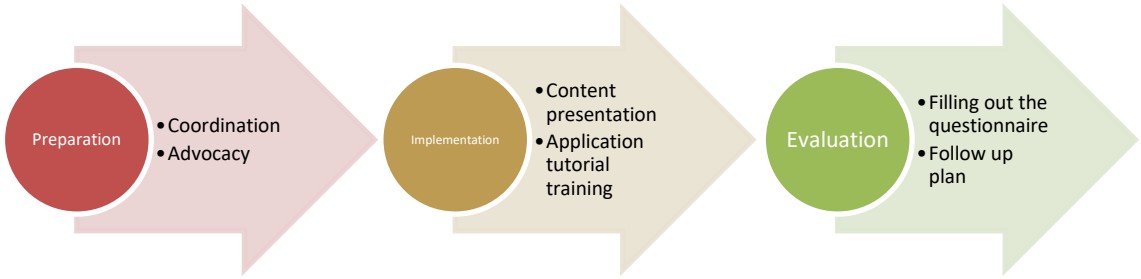


**Figure 1**. Flow of Community Service Activities

The stages of community service activities consist of:

1. Preparation

This activity was prepared by coordinating and advocating in the form of permits to the *Purwakarta* District Health Office. After that, a meeting was held with the coordinating midwives at 15 *PKM* in the *Purwakarta* District Health Office work area. The meeting aimed to determine the village midwives in each *PKM* as participants (as many as 120 people) to take part in the training on recording and reporting Maternal and Child Health (MCH) data based on the *iPosyandu Bidan* Application. Training participants were asked to bring cohort data, especially data on pregnant women, because the data would be directly entered during the training. The output from the entry of data on pregnant women, data on mothers in labor, data on babies and toddlers, data on postpartum mothers, and data on couples of childbearing age and women of childbearing age on the *iPosyandu Bidan* application will produce a cohort report in Excel format that can be downloaded.


**Figure 2**. E-module Instructions for Using the *iPosyandu Bidan* Application


**Figure 3.** Video Tutorial for the *iPosyandu Bidan* Application

2. Implementation

This training is a community service activity carried out in February 2023 in the hall of the *Purwakarta* Regency Health Office. This training was carried out in 4 meetings due to the limited capacity of the training venue, so each meeting consisted of 30 training participants.

**Figure 4**. Explanation of the Display and Purpose of the *iPosyandu Bidan* Application Menu Features

At each meeting, the background, objectives, dashboard display, and menu of the *iPosyandu Bidan* application are explained first. Then, it is explained how to use the *iPosyandu* application, starting from downloading the *iPosyandu* application on the Play Store then registering and logging in, as well as how to enter pregnant women's data on the *iPosyandu Bidan* application.

**Figure 5.** Viewing the *MCH* Data Menu Display and Training Menu by Training Participants

**Figure 6**. Training Participants Enter Data on Pregnant Women

3. Evaluation

To find out the achievement of training objectives in the use of the *iPosyandu Bidan* application, training participants were given a Google form questionnaire regarding the usability of the *iPosyandu Bidan* application after training. This questionnaire contains 30 questions regarding the appearance and ease of use of the *iPosyandu Bidan* application for data entry on Maternal and Child Health and learning media as a source of knowledge and up-to-date information on midwifery to improve midwife competence. This questionnaire consists of 4 dimensions, namely ease of use and satisfaction, system information arrangement, usefulness, and the *iPosyandu Bidan* application as mLearning in education and training. After that, a discussion regarding the Action Plan for village midwives to input pregnant women's data into the *iPosyandu Bidan* application and read e-modules and learning videos contained in the *iPosyandu Bidan* application.

## C. Results and Discussion

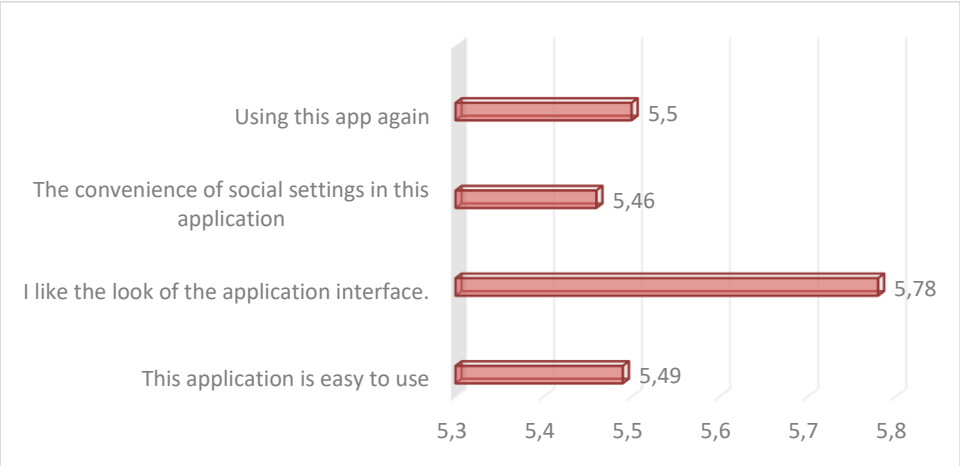


**Figure 7.** User Opinions on Easy of Use and Satisfaction in the *iPosyandu Bidan* Application

Figure 7. shows that most midwives agree that the *iPosyandu Bidan* application is easy for them to learn to use. They also like the appearance of the *iPosyandu Bidan* application interface. The information contained in the application is well organized so that midwives can easily find what they need, so overall, midwives are satisfied with the *iPosyandu Bidan* application (mean>5.57).

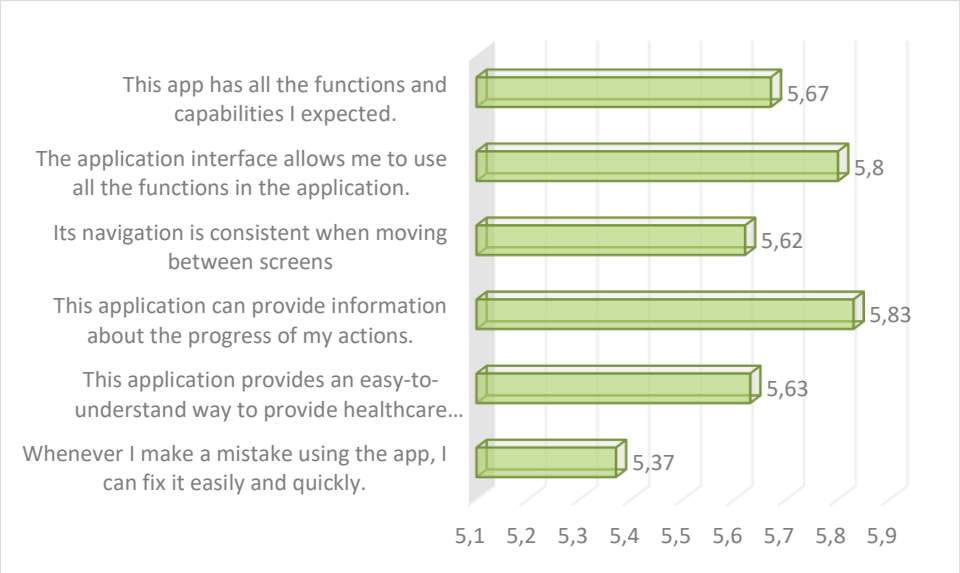


**Figure 8**. User Opinion on System Information Arrangement in the *iPosyandu Bidan* Application

Figure 8. shows that most midwives agree that the application is quite recognized and provides information to inform me about the progress of my actions. The application interface allows me to use all the functions (such as entering information, responding to reminders, and viewing information) provided by the application, and this application has all the functions and capabilities that I expect (mean>5.65).

Midwives are a profession that continues to develop so as to maintain their professionalism by following the development of science and technology (Prosen, 2022). Professionalism is closely related to the competencies that must be possessed by a professional (professional competence). The professional midwife in question must have clinical competence (midwifery skills) to analyze, advocate, and empower in finding solutions and innovations to improve the welfare of women, families, and communities (Maharani et al., 2020).

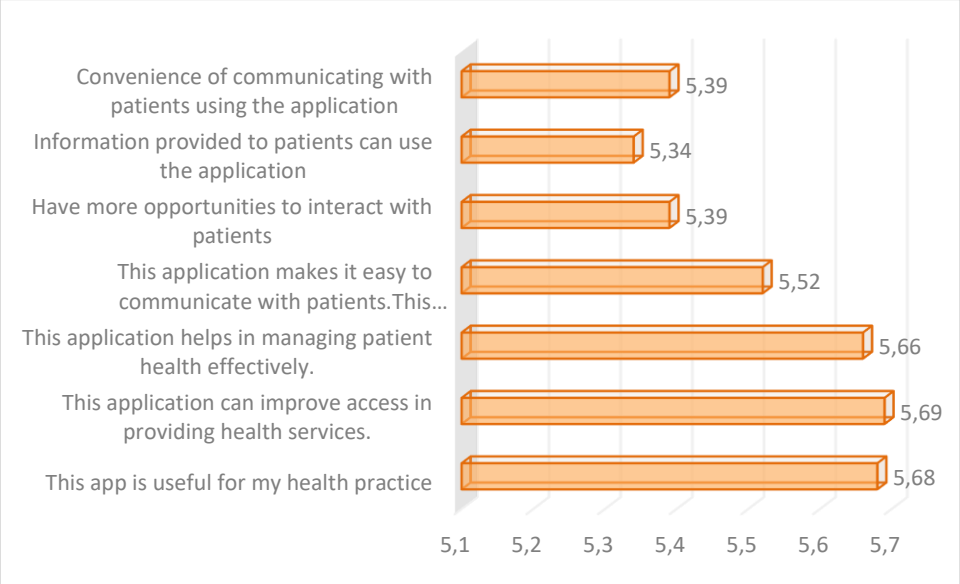


**Figure 9**. User Opinion on Usefulness in the *iPosyandu Bidan* Application

Figure 9. shows that most midwives agree that this application is helpful for midwifery practice; this application can improve access to health services, help manage patients' health effectively, and make it easier to communicate with patients (mean>5.52). In every implementation of the MCH program, village midwives are required to make a monthly Community Health Monitoring for Maternal and Child Health or *PWS KIA* report assisted by *posyandu* cadres. Currently, village midwives still use the Microsoft Excel application when making *PWS KIA* reports (Jaenudin et al., 2023).

However, in its implementation, there are obstacles, namely the lack of mobility for using the Microsoft Excel application where village midwives have to carry a reasonably heavy laptop device to record and process *PWS KIA* indicator data, so there are often difficulties in making a recapitulation of *PWS KIA* reports every month, making it very ineffective and inefficient. An Android-based *PWS KIA* indicator information system that can make it easier for village midwives to make monthly *PWS KIA* reports more practically and flexibly (Local Area Monitoring Indicator Information System for Maternal and Child Health (Ikhrami et al., 2023). *PWS KIA* is used as a management tool to continuously monitor MCH programs in a work area so that fast and appropriate follow-up can be carried out (Susilo et al., 2022). Midwives have roles and duties that focus on promotive and preventive efforts for maternal and child health, using technology that is in line with the times. To facilitate the task of midwives in monitoring maternal and child health, technology in the form of applications is needed (Astuti et al., 2022).

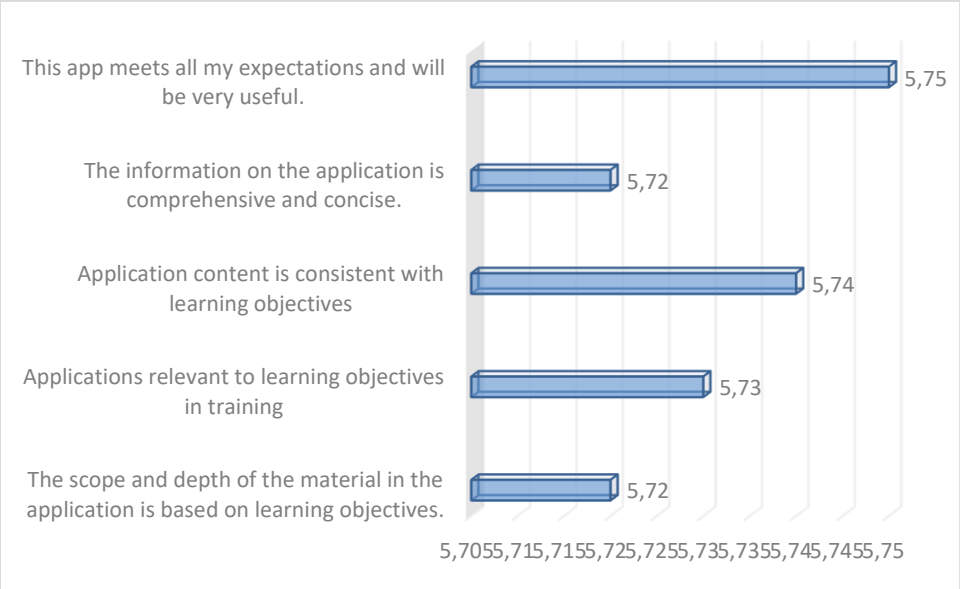


**Figure 10.** User Opinion on the *iPosyandu Bidan* Application as mLearning

Figure 10. shows that most midwives agree that the scope and depth of the material in the application can follow the learning objectives, the application is relevant to the learning objectives in training, the application objectives are related to learning clinical skills, the application content is consistent with the learning objectives, the application can support the achievement of learning objectives, the information in the application is comprehensive and concise, and this application meets all the expectations. It will be beneficial (mean>5.68).

Midwives, as training participants, gain an understanding of the implementation of digital learning as one of the right choices to use in the digital era (Risdianto, 2024). Web-Centric Course (WCC)-based midwife training, which is carried out using blended learning based on the *iPosyandu Bidan* application, can improve midwives' ability to provide midwifery services. Therefore, it is hoped that midwives can utilize the education menu for midwives and the training menu available on the *iPosyandu Bidan* application. This training menu contains training e-modules, tutorials containing practical learning videos, evaluations, and assignments (Susanti et al., 2022). Thus, midwives can improve their knowledge and competence using applications such as mLearning (Baska et al., 2023). The limitation of this training lies in the follow-up plan, namely how to ensure that midwives enter pregnant women's data and examination results consistently in the *iPosyandu Bidan* application given the large workload of Village Midwives. Therefore, advocacy efforts were made so that the *iPosyandu Bidan* application could become a standard supporting application to improve the quality of midwifery services in *Purwakarta* District.

## D. Conclusion

Midwives have good digital literacy when using the *iPosyandu Bidan* applications such as mHealth and mLearning. In addition, the *iPosyandu Bidan* application is easy to use in *MCH* data entry and searching for information to provide health education. Training based on the *iPosyandu* application can also improve midwife competence. Recommendations for the next community service activity are that midwives can provide health services in the form of health education to patients based on the *iPosyandu Bidan* application.

## E. Acknowledgment

The author would like to thank the Health Center and the Health Office of Purwakarta Regency for facilitating the implementation of Community Service activities and the Directorate of Research, Community Service, and Innovation (*DRPMI*) of Padjadjaran University for providing a Research Grant under the UNPAD Lecturer Dissertation Research Grant (RDDU) scheme.

**References**


Afriansyah, R., & Fujiyanti, L. (2022). Pembuatan Sistem Informasi Retribusi Pelayanan Kesehatan Hewan Kota Pangkalpinang. *Dinamisia: Jurnal Pengabdian Kepada Masyarakat*, *6*(1), 242-253. https://doi.org/10.31849/dinamisia.v6i1.9347

Andriasari, S., & Ferdiansyah, M. (2022). Sistem Pelaporan Kesehatan Ibu dan Anak Berbasis Web (Studi Kasus: Desa Sinar Palembang Lampung Selatan). *Jurnal Informatika Upgris*, *8*(1), 21-26. https://doi.org/10.26877/jiu.v7i2.8497

Astuti, I., Shitah, S. A.-F., & Sumarni, R. (2022). Tele-Konsultasi Kebidanan di Era Pandemi Covid-19,"Gratis: Mari Bertanya: Konsultasi Kesehatan Ibu, Bayi dan Kesehatan Reproduksi Wanita Bersama Bidan Profesional": Tele-Consultation Midwifery in the Era Pandemic Covid-19 "Let's Ask for Free: Mom, Baby and Women Reproductive Health Consultation with Profesional Midwife". *PengabdianMu: Jurnal Ilmiah Pengabdian kepada Masyarakat*, *7*(2), 274-283. https://doi.org/10.33084/pengabdianmu.v7i2.2342

Bahar, I., Lisal, L. M., Hartono, E., & Jusuf, E. C. (2022). *Manajemen Program Obstetri Ginekologi Sosial: Acuan Belajar Divisi Obstetri dan Ginekologi Sosial*. Unhas Press. Google Scholar

Baska, D. Y., Wahyuni, E., & Savitri, W. (2023). Efektifitas the Safe Delivery App (SDA) secara Blended Learning terhadap Pengetahuan Bidan: Effect of The Safe Delivery App (SDA) by Blended Learning on Midwives' Knowledge. *Jurnal Bidan Cerdas*, *5*(1), 34-42. https://doi.org/10.33860/jbc.v5i1.1774

Chen, J., & Wang, Y. (2021). Social media use for health purposes: systematic review. *Journal of medical Internet research*, *23*(5), e17917. Google Scholar

Dagher, R. K., & Linares, D. E. (2022). A critical review on the complex interplay between social determinants of health and maternal and infant mortality. *Children*, *9*(3), 394. https://doi.org/10.3390/children9030394

Learning for Lecturers at Poltekkes Kemenkes Kendari. *Jurnal Ilmiah Pengabdian Masyarakat Bidang Kesehatan, ABDIGERMAS*, *2*(3), 84-88. https://doi.org/10.58723/abdigermas.v2i3.283

Eze, E., Gleasure, R., & Heavin, C. (2020). Mobile health solutions in developing countries: a stakeholder perspective. *Health Systems*, *9*(3), 179-201. https://doi.org/10.1080/20476965.2018.1457134

Ikhrami, A., Raharyanti, F., & Syari, W. (2023). Evaluasi Penerapan Aplikasi PWS-KIA untuk Pelaporan Bidan Desa di Puskesmas Gunungsindur Wilayah Desa Pabuaran Kabupaten Bogor Tahun 2022. *PROMOTOR*, *6*(4), 297-301. https://doi.org/10.32832/pro.v6i4.259

Jaenudin, J., Widhyaestoeti, D., & Susilo, T. A. (2023). SIMPEL BEDA (Sistem Informasi Pelaporan Berbasis Android untuk Bidan Desa). *Jurnal Pengabdian Pada Masyarakat*, *8*(1), 160-168. https://doi.org/10.30653/jppm.v8i1.157

Jayanti, W. E., & Meilinda, E. (2023). Peran Model Prototype pada Sistem Informasi Manajemen Layanan Kesehatan Ibu dan Anak Berbasis Website (SILATUAN). *Jurnal Khatulistiwa Informatika*, *11*(1), 68-74. https://doi.org/10.31294/jki.v11i1.16026

Katharina, R. (2021). *Pelayanan publik & pemerintahan digital Indonesia*. Yayasan Pustaka Obor Indonesia. Google Scholar

Maharani, A. D., Rosyati, O. F., Rosyati, O. F., Yulherina, M., Yulherina, M., Gotama, I. B. I., SKM, M. S., Gotama, I. B. I., SKM, M. S., & Sulistiono, S. (2020). Buku Digital Standar Profesi Bidan. In: Kementerian Kesehatan RI. Google Scholar

Mhlanga, D. (2022). Stakeholder capitalism, the fourth industrial revolution (4IR), and sustainable development: Issues to be resolved. *Sustainability*, *14*(7), 3902. https://doi.org/10.3390/su14073902

Muhimmah, I., & Fitriyati, Y. (2023). Metode User Centered Design dalam Pemodelan Aplikasi Pendamping Ibu Berdasarkan Buku KIA untuk Monitoring Ibu Hamil. *Jurnal kesehatan komunitas (Journal of community health)*, *9*(2), 353-362. https://doi.org/10.25311/keskom.Vol9.Iss2.1413

Natallia, M. S. (2022). Technology Utilization By Midwives In Telemedic Services In Maternal And Child Health Services Field: Pemanfaatan Teknologi Oleh Bidan Dalam Pelayanan Telemedis Di Bidang Pelayanan Kesehatan Ibu Dan Anak. *Jurnal Pengabdian Masyarakat Kesehatan*, *8*(4), 374-377. https://doi.org/10.33023/jpm.v8i4.1278

Prosen, M. (2022). A systematic integrative literature review of the factors influencing the professionalization of midwifery in the last decade (2009–2019). *Midwifery*, *106*(103246), 1-10. https://doi.org/10.1016/j.midw.2021.103246

Ramadani, N., Duri, I. D., Gayatri, N. K. U. N., & Arifin, I. (2022). Analisis Dan Perancangan Sistem Informasi Program Kesehatan Ibu Dan Anak Di Puskesmas Lingkar Barat Kota Bengkulu Tahun 2021. *Jurnal Ilmiah Perekam Dan Informasi Kesehatan Imelda (JIPIKI)*, *7*(1), 35-47. https://doi.org/10.52943/jipiki.v7i1.698

Risdianto, E., Kartini, K., Hikmandayani, H., & Farming, F. (2024). Training Development and Implementation of Digital Learning for Lecturers at Poltekkes Kemenkes Kendari. *Jurnal Ilmiah Pengabdian Masyarakat Bidang Kesehatan (Abdigermas)*, *2*(3), 84–88. https://doi.org/10.58723/abdigermas.v2i3.283

Sab'ngatun, S., & Ropitasari, S. S. T. (2022). *Buku Ajar Dokumentasi Kebidanan*. Deepublish. Yogyakarta. Google Scholar

Saffady, W. (2021). *Records and information management: fundamentals of professional practice*. Rowman & Littlefield. Google Scholar

Sheikh, A., Anderson, M., Albala, S., Casadei, B., Franklin, B. D., Richards, M., Taylor, D., Tibble, H., & Mossialos, E. (2021). Health information technology and digital innovation for national learning health and care systems. *The Lancet Digital Health*, *3*(6), e383-e396. Google Scholar

Susanti, A. I., Ali, M., Hernawan, A. H., & Rinawan, F. R. (2022). The iPosyandu Application for Midwives as Learning Media in Continuity Midwifery Care Training Curriculum. *Journal of Education Technology*, *6*(4), 607-616. https://doi.org/10.23887/jet.v6i4.46064

Susanti, A. I., Ali, M., Hernawan, A. H., Rinawan, F. R., Purnama, W. G., Puspitasari, I. W., & Stellata, A. G. (2022). Midwifery Continuity of Care in Indonesia: Initiation of Mobile Health Development Integrating Midwives' Competency and Service Needs. *International journal of environmental research and public health*, *19*(21), 13893. https://doi.org/10.3390/ijerph192113893

Susilo, T. A. S., Jaenudin, J. J., & Widhyaestoeti, W. (2022). Sistem Informasi Indikator Pemantauan Wilayah Setempat Kesehatan Ibu Dan Anak (PWS KIA) Berbasis Android (Studi Kasus: Wilayah Bidan Desa Pabuaran): Information System for Monitoring of Local Areas of Maternal and Child Health (PWS KIA) Android-Based (Case Study: Pabuaran Village Midwife Area). *Indonesian Journal of Informatic Research and Software Engineering (IJIRSE)*, *2*(2), 135-146. https://doi.org/10.57152/ijirse.v2i2.387

Widyadara, M. A. D. (2019). Aplikasi E-Health Kesehatan Ibu dan Anak (KIA) Sebagai Inovasi Kota Cerdas. *Indonesian Journal of Networking and Security (IJNS)*, *8*(4). https://doi.org/10.55181/ijns.v8i4.1606

Zala, K., Thakkar, H. K., Jadeja, R., Singh, P., Kotecha, K., & Shukla, M. (2022). PRMS: design and development of patients' E-healthcare records management system for privacy preservation in third party cloud platforms. *Ieee Access*, *10*, 85777-85791. https://doi.org/10.1109/ACCESS.2022.3198094