

Development And Effectiveness Of A Continuity Of Care Pocket Book As An Educational Tool On Midwifery Provider Satisfaction

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ABSTRACT

Background: The quality of care provided by midwives plays a crucial role in maternal and neonatal outcomes, yet their satisfaction with the care process remains a critical factor in improving service delivery. This study aimed to evaluate the development and effectiveness of a Continuity of Care pocket book as an educational tool on midwifery provider satisfaction.

Methods: This research utilized a Research & Development approach with a quasi-experimental design, specifically employing a two-group pre-test post-test design, including a control group. Twenty participants were divided into two groups: the pocket book group (80 participants) and the control group. The study was conducted from June to November 2023 at PuskesmasKassi-kassi, PuskesmasJongaya, and PuskesmasMinasaUpa in Makassar City. Data analysis was performed using the Mann Whitney test.

Results: The Pocket Book group showed a satisfaction mean value of 19.40 with a standard deviation of 0.882, whereas in the MCH book group, the mean value was 15.95 with a standard deviation of 1.503. The resulting p-value was 0.001, indicating significance at α (0.05).

Conclusion: The study's conclusion confirmed that implementing the Continuity of Care module can enhance the satisfaction of midwifery service providers.

Keywords: Educational media, Continuity of Care, midwifery services

Introduction

Indonesia ranked third highest in South and Southeast Asia for maternal mortality rates (MMR) [1,2]. In response to these concerning statistics, the government had implemented health policy programs such as Safemotherhood, Making Pregnancy Safer (MPS), the Childbirth Planning and Complication Prevention Programme (P4K), aligning with the fifth goal of the Sustainable Development Goals (SDGs). These initiatives aimed to enhance maternal and child health and decrease the Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR). Despite these efforts, these policies had yet to comprehensively address all maternal and child health needs [3].

As per the Health Professional Education Quality (HPEQ) Project, midwives held a crucial position in decreasing MMR and IMR. Serving as the forefront of midwifery services, they maintain direct contact with communities, delivering sustainable and comprehensive care. Their role involved a holistic approach encompassing prevention through health education and counseling, promoting health, assisting in normal deliveries through partnership-based practices, empowering women, and early detection in obstetric referral cases [4,5].

Midwives, as primary providers of midwifery care, held a pivotal role in expediting endeavors aimed at diminishing MMR and IMR [6]. Hence, it was imperative that midwives not only deliver care meeting standard protocols but also possess qualifications aligned with the ethos of women-centered midwifery care.

Implementing a continuity of care (CoC) model in midwifery services stood as one of the key initiatives to enhance midwives' qualifications[7].

Hence, in line with the government's initiative to enhance maternal and child health, it was essential for midwives to offer continuous midwifery services, ensuring continuity of care. This encompassed various stages, commencing from antenatal care, intranatal care, newborn and neonatal care, through to postnatal care and ensuring quality family planning interventions [8,9]. A midwife's role entailed practicing midwifery with a physiological approach, incorporating and advancing a practice model rooted in Evidence-Based Practice[10–13].

Research conducted in Australia had revealed a higher rate of cesarean sections compared to other nations, coupled with insufficient support for vaginal birth. The implementation of continuity of care had shown the potential to elevate the rate of vaginal birth after cesarean (VBAC) while offering a sense of security for both the mother and the baby[13].

The World Health Organization (WHO) advocated for the CoC model in midwifery care, emphasizing continuity throughout the entire childbearing cycle. This model involved monitoring the physical, psychological, spiritual, and social well-being of women and families. It included offering personalized education, counseling, and individualized antenatal care (ANC), along with consistent presence by a familiar midwife during labor, birth, and the immediate postpartum period [14]. Moreover, continuous support during the postnatal phase, minimizing unnecessary technological interventions, and effectively identifying, referring, and coordinating care for women needing midwifery or specialist attention require a more streamlined and patient-centric CoC model. Such a model aimed to enhance efficiency and convenience for both midwives and patients [2,7,8,15].

Previous studies had highlighted that midwifery students derived substantial learning experiences by recognizing the significance of offering focused and meaningful care and support to women from early pregnancy through labor [16]. Seibold's study reported that students underwent personal transformation and regarded their follow-up experience as immensely valuable learning [17]. Moreover, the study concluded that exposing all midwifery students to such experiences enhanced their comprehensive understanding of the philosophy behind midwifery care. The findings suggested that the CoC clinical learning model offers students a platform to practice woman-centered care, fostering a deeper understanding of this approach [15,18].

This study offers a unique contribution by not only providing practical implications for improving the quality of midwifery care but also introducing a pocketbook-based educational tool aimed at enhancing midwifery provider satisfaction. This approach supports innovation in midwifery education systems and demonstrates that well-designed educational tools can directly influence provider satisfaction and performance, ultimately improving the quality of care patients receive.

This study aimed to evaluate the development and effectiveness of a Continuity of Care pocket book as an educational tool on midwifery provider satisfaction.

METHODS

Research Design

This research adopts a design and development methodology (Research and Development) employing a mixed

methods approach [19]. The process involves product design and development following the stages outlined in the ADDIE framework [19], which include Analysis, Design, Development, Implementation, and Evaluation as the primary stages. Additionally, the intervention product's design phase utilizes the Dick et al. intervention design model [20].

The outcomes of this development are referred to as artifacts, considered solutions to practical problems. In this study, these artifacts entail the incorporation of computer-based expert systems, focusing on developing a model (Continuity of Care) to aid midwives in patient identification and minimizing unnecessary interventions to address delayed management of maternal-neonatal emergencies. The intervention model will undergo field testing through a quasi-experimental design, specifically a two-group pre-test post-test design with a control group [21].

Participant

The participants in this study included midwifery students and practicing midwives who deliver continuous midwifery services at various health centers in Makassar City, Indonesia. The students are those currently enrolled in midwifery programs and engaged in clinical field practice, while practicing midwives are healthcare providers who actively deliver midwifery services, including prenatal, childbirth, and postpartum care. This study seeks to evaluate satisfaction with continuous midwifery services; therefore, participants were required to meet specific criteria, such as experience in providing continuous midwifery services at Puskesmas, and a willingness to participate in the study.

The study was conducted from July to October 2023, with data collection occurring within this period. A total of 80 midwives who met the inclusion criteria—such as having at least one year of experience in continuous midwifery services and being employed at a Puskesmas involved in the study—were randomly selected as participants. This random sampling approach was intended to minimize bias and enhance the generalizability of the results to a broader population. Consequently, the study obtained a representative sample of midwives working at Puskesmas in Makassar City, enabling the data to provide an accurate reflection of the quality of midwifery services delivered to patients.

Sample size

A total of 80 students were calculated using the Slovin's formula at $\alpha = 0.05$, and the total population was considered to be 87 people. According to Masturoh and Anggita[22] Sample is calculated using the Taro Yamane formula as follows:

$$n = \frac{N}{1 + Nd^2}$$

Information:

n = Number of samples

N = Number of populations

d = Precision

Instrument and data collection

The instruments used in this study comprised two primary data collection tools: questionnaires and observation sheets, both meticulously developed by the researcher with careful methodological consideration. Each instrument underwent a validation process to ensure its legitimacy and suitability for accurately measuring the intended study variables. This validation involved expert review and a limited pilot test with a sample group of respondents to confirm the instrument's effectiveness, relevance, and ability to obtain accurate and reliable data.

The questionnaire used in this study focused on patient satisfaction with the continuum of midwifery care, encompassing the stages from pregnancy through delivery to postpartum. It comprised 15 questions aimed at exploring

respondents' perceptions of various aspects of the midwifery care they experienced. Key areas evaluated include the quality of communication between medical personnel and patients, comfort and safety during pregnancy and childbirth, responsiveness to patient needs, and the services and support provided during the postnatal recovery period. These questions were crafted to provide a comprehensive picture of patients' overall satisfaction with the quality of care received throughout the obstetric process.

This questionnaire employs a Likert scale, a commonly used measurement tool in social and health research for assessing respondents' attitudes, perceptions, or opinions. Likert scales typically offer several response options that indicate the respondent's level of agreement or disagreement with a given statement. In this study, the Likert scale was utilized to gauge respondents' satisfaction with various aspects of continuous midwifery care.

In addition to the questionnaire, this study employed an observation sheet as a complementary tool. The observation sheet was used to directly record the conditions of services provided by medical personnel in the field, offering objective data that is independent of respondents' perceptions or recollections. Observations included factors such as facility cleanliness, the professionalism of medical personnel, the availability of necessary medical equipment, and the adherence to medical procedures in accordance with established standards. This observation sheet served to validate and supplement the information gathered through the questionnaire.

Based on the results of the validity and reliability analysis, it can be concluded that the research instruments—comprising a Likert-scale questionnaire and an observation sheet—demonstrated good validity (both content and construct validity) and excellent reliability (with a Cronbach's Alpha of 0.85 for the questionnaire and an inter-rater reliability of 0.90 for the observation sheet). Therefore, these instruments are deemed valid and consistent for measuring patient satisfaction with continuous midwifery care in this study.

Statistical Analysis

In the initial analysis phase, qualitative data was gathered during the preliminary observation activities, particularly at the needs analysis stage. Subsequently, the analysis phase was constructed from the ground up, employing an inductive approach. Quantitative data analysis was performed univariately, intending to assess the percentage or scale of the identified problem or indicator. The quantitative data, sourced from students and service-providing midwives, encompassed information generated during the needs analysis stage. This data was then analyzed using descriptive statistics, narrating and interpreting the urgency of practical problem-solving based on the identified issues.

During the prototype development phase, expert validation was qualitatively presented. Subsequently, in the one-on-one trial, qualitative analysis techniques, particularly employing the spiral method, were utilized to gain insights primarily focusing on the weaknesses and deficiencies within the product.

In the small group testing phase, qualitative data was scrutinized to refine product quality. Additionally, quantitative data sourced from questionnaires and observations was statistically analyzed. For the field test, data was descriptively presented alongside its frequency distribution. Moreover, the Mann Whitney test was utilized to establish a causal relationship between the product's usage and the resultant impact.

RESULTS

Table 1. Results of Material Expert Validation

No	Component	I	II	Total/ Mean
Aspects of Content Appropriateness				
1	Suitability of material with basic competencies	3,6	3.6	3.6
2	Accuracy of the material	3,8	3.6	3.7
3	Material Provenance	4	3,6	3.8

4	Encourage curiosity	3,5	4	3.7
Aspects of Presentation Feasibility				
1	Technique of presentation	4	4	4
2	Presentation support	3,6	3,6	3,6
3	Presentation of learning	4	4	4
4	Coherence of thought	4	4	4
Aspects of Language Feasibility				
1	Straightforward	4	3,6	3.8
2	Communicative	3	4	3,5
3	Diagnosis and interactive	4	4	4
4	Developmental appropriateness	4	3	3.5
5	Conformity with language rules	3,5	4	3,75
Presentation Appropriateness Aspect				
1	The Nature of Contextualisation	3	4	3,5
2	Contextual components	4	4	4
Average				3.76

Table 1 displays the outcomes of the material expert assessment for two materials, indicating the quality and viability of the developed Continuum of Care pocket book for midwives. Notably, the assessment reveals an excellent categorization, evident from the average percentage of the four module components, which stands at 3.76.

Table 2. Results of the Media Expert Validation

No	Component	Media Expert		Total/ Mean
		I	II	
Pocketbook size				
1.	Module size compliance with ISO standards	3	3	3
2.	Suitability to the module content material	4	3	3.5
Cover design				
3.	Harmonious appearance of layout elements and explanation of functions	4	4	4
4.	Harmonious appearance of colour elements and explanation of functions	3	3.5	3.25
5.	The font used is attractive and easy to read	4	4	4
6.	Illustration of pocket book cover	4	4	4
Content Design				
7.	Layout consistency	3	4	3.5
8.	Elements of the layout are complete	3	3.5	3.25

9.	Layout elements	3	3	3
10.	Layout speed up page	3	3	3
11.	Simple typography of module content	3	3	3
12.	Topographical content of the pocket book facilitates understanding	3.5	3	3.25
13.	Content illustration	3	3	3
Average				3.41

Table 2 presents the evaluations conducted by two media experts, indicating the quality and feasibility of the Continuum of Care pocket book. This assessment focused on various elements such as book size, cover design, and overall content design. The evaluation demonstrates an overall categorization as "very good," apparent from the average assessment score of the three aspects of the pocket book components, which stands at 3.41.

Table 3. Analysis of Midwifery Service Provider Satisfaction

Group	N	Mean±SD	p-value
Intervention	40	19.40±0.882	
Control	40	15.95±1.503	0.001*

* *Mann Whitney*

In Table 4, employing the Mann Whitney U test yielded a p-value of 0.000. This p-value of 0.000 is notably less than α (0.05), thus leading to the rejection of the null hypothesis (H_0). Consequently, the conclusion drawn is that there exists a discernible difference in midwifery service provider satisfaction.

The analysis involved 80 respondents split into two groups: the Intervention group (40 participants) and the control group (40 participants). The Intervention group, provided with the Module (Pocket Book), reported a satisfaction mean of 19.40 with a standard deviation of 0.882. In contrast, the control group (MCH book) exhibited an average satisfaction level of 15.95 with a standard deviation of 1.503. This discrepancy resulted in a p-value of 0.001, which is less than the significance level α (0.05).

DISCUSSION

Continuity of Care represents a comprehensive and sustainable model within midwifery practice, encompassing antenatal, intranatal, postnatal, neonatal, and family planning aspects. This approach aligns women's health requirements with their unique personal circumstances [23]. Conversely, McLachlan describes Continuity of Care as a form of care centered around facilitating natural birthing processes, aiming to minimize intrusion or intervention while ensuring continual monitoring of the mother and family's physical, psychological, spiritual, and social well-being [24].

The study revealed that women experienced greater satisfaction with the support rendered by midwives. Maternal contentment stemmed from various aspects of care provided by midwives, including offering guidance, providing information and counseling, assisting in selecting the birthplace, preparing for childbirth, suggesting methods to alleviate labor pains, and conducting ongoing monitoring [25]. As a result, mothers perceived the midwife as a trusted "friend."

Additionally, according to Forster et al [15], Continuity of Care (CoC) operates as a patient-centric learning framework wherein clients serve as educational resources. This approach aims to enhance midwifery students' comprehension of the entire and integrated philosophy underpinning midwifery care.

A prior study investigating Relational continuity as a model of care in practical midwifery studies concluded that the establishment of ongoing relationships is a pivotal concept in the learning process of student midwives [26]. Through the mentoring method involving one student midwife providing continual care to one patient from pregnancy to postpartum, student midwives encountered more profound relationships during birth assistance and home visits. Over time, these relationships bolstered their confidence in their midwifery role, amplifying their skills and fostering personal development.

Hence, in line with the government's initiative to enhance maternal and child health, midwives are mandated to deliver uninterrupted midwifery services (Continuity of Care). These services span across various stages including antenatal care, intranatal care, newborn and neonatal care, postnatal care, and comprehensive family planning [27]. A midwife is anticipated to adopt a physiological approach in their midwifery practice, implementing and evolving a midwifery practice model rooted in Evidence-Based Practice principles [28,29].

The CoC model of midwifery care encompasses continuity of care, overseeing the physical, psychological, spiritual, and social well-being of women and families throughout the entire childbirth cycle. It involves providing women with tailored education, counseling, and personalized antenatal care, as well as offering continuous attendance during labor, birth, and the immediate postpartum period by a familiar midwife [30]. Additionally, sustained support during the postnatal phase, minimizing unnecessary technological interventions, and effectively identifying, referring, and coordinating care for women in need of midwifery or specialist attention, underscore the necessity for a more streamlined and convenient CoC development model, benefitting both midwives and patients [31,32].

One of the endeavors aimed at enhancing the quality of maternal and child health services involves the creation of a model (Continuity of Care) in the form of a pocket book, intended for implementation by midwives to combat stunting. This research and module development introduce an innovative strategy by incorporating families as the focal point in health development initiatives.

The researchers' premise is that the pocketbook-based module program serves as a model for executing Continuity of Care, thereby embedding aspects of midwifery care philosophy. This approach contributes positively to respondent satisfaction, facilitates early detection or identification of patient complications, fosters effective communication, establishes reciprocal relationships, and incorporates documentation in the form of SOAP (Subjective, Objective, Assessment, Plan).

Limitation

The participant counted in this study remained quite limited, despite the inclusion of midwives from three Puskesmas. Therefore, for future investigations, it becomes imperative to engage a larger number of participants in the research.

CONCLUSION

The study's conclusion established that implementing the Continuity of Care module leads to an increase in the satisfaction levels of midwifery service providers.

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Declaration of Conflicting Interest

None declared

Authors contributions

The contributions of the authors to this research are as follows: ZAA was responsible for the conceptualization of the study, developing the research questions, and supervising the overall process (60%). SM conducted the systematic

literature review, analyzed the data, and drafted the manuscript, interpretation of results and provided critical revisions to the manuscript (40%)

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REFERENCES

1. Naibaho BU, Fitriani A, Ar EY, Fitri EG, Yun DC, Suyanti N. Asuhan Kebidanan Continuity Of Care (COC) Pada Ibu Hamil, Bersalin Dengan Letak Sungsang, Bayi Baru Lahir, Nifas, Dan KB Pada Ny. A Di BPM Irma Silaban Naibaho Kecamatan Patumbak Kabupaten Deli Serdang Tahun 2022. *Medihealth J Ilmu Kesehat dan Sains*. 2022;2(1):91–7.
2. Homer CSE. Models of maternity care: evidence for midwifery continuity of care. *Med J Aust*. 2016;205(8):370–4.
3. Kementerian Kesehatan RI. Kemenkes RI. Rencana Strategis Kementerian Kesehatan Tahun. 2015.
4. Ningsih DA. Continuity of Care Kebidanan. *OKSITOSIN J Ilm Kebidanan*. 2017;4(2):67–77.
5. Dahlberg U, Aune I. The woman's birth experience—the effect of interpersonal relationships and continuity of care. *Midwifery*. 2013;29(4):407–15.
6. Cbe JS. The contribution of continuity of midwifery care to high quality maternity care. *R Collage Midwife*. 2017;
7. Fitri FJ. Asuhan Kebidanan Continuity of Care Di Klinik Medika Utama Sidoarjo. *J Kebidanan*. 2020;9(2):34–43.
8. Bowers J, Cheyne H, Mould G, Page M. Continuity of care in community midwifery. *Health Care Manag Sci*. 2015;18:195–204.
9. Steer PJ. Continuity of care, continuity of service. *Int J Cardiol Congenit Hear Dis*. 2020;1:100056.
10. Marmi. Asuhan Kebidanan Pada Masa Antenatal. Yogyakarta: Pustaka Pelajar; 2017.
11. McLachlan HL, Newton M, McLardie-Hore FE, McCalman P, Jackomos M, Bundle G, et al. Translating evidence into practice: Implementing culturally safe continuity of midwifery care for First Nations women in three maternity services in Victoria, Australia. *EClinicalMedicine*. 2022;47.
12. Aune I, Holsether OV, Kristensen AMT. Midwifery care based on a precautionary approach: Promoting normal births in maternity wards: The thoughts and experiences of midwives. *Sex Reprod Healthc*. 2018;16:132–7.
13. Turienzo CF, Roe Y, Rayment-Jones H, Kennedy A, Forster D, Homer CSE, et al. Implementation of midwifery continuity of care models for Indigenous women in Australia: Perspectives and reflections for the United Kingdom. *Midwifery*. 2019;69:110–2.
14. Fernandez Turienzo C, Rayment-Jones H, Roe Y, Silverio SA, Coxon K, Shennan AH, et al. A realist review to explore how midwifery continuity of care may influence preterm birth in pregnant women. *Birth*. 2021 Sep;48(3):375–88.
15. Forster DA, McLachlan HL, Davey MA, Biro MA, Farrell T, Gold L, et al. Continuity of care by a primary midwife (caseload midwifery) increases women's satisfaction with antenatal, intrapartum and postpartum care: results from the COSMOS randomised controlled trial. *BMC Pregnancy Childbirth*. 2016;16:1–13.
16. Kemp E, Sillence E, Thomas L. Information work and digital support during the perinatal period: Perspectives of mothers and healthcare professionals. *PLOS Digit Heal*. 2024;3(8):e0000387.
17. Tanniru M. Engagement leading to empowerment—digital innovation strategies for patient care continuity. *J Hosp Manag Heal Policy*. 2019;3.
18. Dai Y, Min H, Sun L, Wang X, Zhu C, Gu C. Assessing women's and health professionals' views on developing a midwifery-led mobile health app intervention in pregnancy: A descriptive qualitative study. *J Adv Nurs*. 2024;
19. Rusdi M. Penelitian Perlakuan Kependidikan (Educational Treatment-Based Research): Perpaduan

- Penelitian Desain, Penelitian Tindakan, dan Penelitian Eksperimen dalam Permasalahan Kependidikan. RajaGrafindo Persada. 2020;
20. Dick W, Carey L, Carey JO. *The Systematic Design of Instruction* Eight Edition. United States Am Pearson. 2015;
 21. Siregar T. Stages of Research and Development Model Research and Development (R&D). *DIROSAT J Educ Soc Sci Humanit.* 2023;1(4):142–58.
 22. Imas Masturoh SKM, Imas Masturoh SKM, Nauri Anggita T, SKM M, Nauri Anggita T, SKM M. *Metodologi Penelitian Kesehatan*. Jakarta: Rineka Cipta: Kementerian Kesehatan Republik Indonesia; 2018.
 23. Mose A, Fikadu Y, Zewdie A, Haile K, Shitu S, Wasie Kasahun A, et al. Pregnant women's perception of midwifery-led continuity care model in Ethiopia: a qualitative study. *BMC Womens Health.* 2023 Jun;23(1):304.
 24. Alba R, Franco R, Patrizia B, Maria CB, Giovanna A, Chiara F, et al. The midwifery-led care model: a continuity of care model in the birth path. *Acta Bio Medica Atenei Parm.* 2019;90(Suppl 6):41.
 25. Shenton EK, Carter AG, Gabriel L, Slavin V. Improving maternal and neonatal outcomes for women with gestational diabetes through continuity of midwifery care: A cross-sectional study. *Women and Birth.* 2024;37(3):101597.
 26. Radu MC, Armean MS, Pop-Tudose M, Medar C, Manolescu LSC. Exploring Factors Influencing Pregnant Women's Perceptions and Attitudes Towards Midwifery Care in Romania: Implications for Maternal Health Education Strategies. *Nurs Reports.* 2024;14(3):1807–18.
 27. Clements V, Davis D, Fenwick J. Continuity of care: supporting new graduates to grow into confident practitioners. *Int J Childbirth.* 2013;3(1):3–12.
 28. Hildingsson I, Karlström A, Larsson B. Childbirth experience in women participating in a continuity of midwifery care project. *Women and Birth.* 2021;34(3):e255–61.
 29. Fenwick J, Sidebotham M, Gamble J, Creedy DK. The emotional and professional wellbeing of Australian midwives: a comparison between those providing continuity of midwifery care and those not providing continuity. *Women and Birth.* 2018;31(1):38–43.
 30. Lemon CA, Kim J, Haraguchi D, Sud A, Branley J, Khadra MH. Maintaining continuity of care in a multidisciplinary health service by using m-health technologies to develop patient medical records. In: *The International Conference on Health Informatics: ICHI 2013, Vilamoura, Portugal on 7-9 November, 2013*. Springer; 2014. p. 84–7.
 31. Perriman N, Davis DL, Ferguson S. What women value in the midwifery continuity of care model: A systematic review with meta-synthesis. *Midwifery.* 2018;62:220–9.
 32. Ricchi A, Rossi F, Borgognoni P, Bassi MC, Artioli G, Foa C, et al. The midwifery-led care model: a continuity of care model in the birth path. *Acta Biomed.* 2019 Jul;90(6-S):41–52.