



Improving the quality of life for premature infants through the continuity of care approach: A literature review

Dyah Dwi Astuti^{1,3*}, Dessie Wanda²

¹Postgraduate Program, Faculty of Nursing, Universitas Indonesia

²Pediatric Nursing Department, Faculty of Nursing, Universitas Indonesia
Jalan Prof. Dr. Bahder Djohan, Kampus UI Depok Jawa Barat 16424, Indonesia

³Pediatric Nursing Department, Poltekkes Kemenkes Surakarta
Jalan Letjend Sutoyo Mojosongo, Kec. Jebres, Kota Surakarta, Jawa Tengah

*Corresponding author: astutidyah83@gmail.com

ABSTRAK

Latar Belakang: Agenda penguatan arsitektur kesehatan global adalah membangun kesehatan global dalam kualitas hidup bayi prematur. Permasalahan kelahiran prematur meningkatkan morbiditas dan mortalitas bayi baru lahir, oleh karena itu diperlukan inovasi layanan kesehatan.

Tujuan: Literatur review bertujuan menganalisis program inovasi pendekatan continuity of care layanan kesehatan primer terhadap peningkatan kualitas hidup bayi prematur.

Metode: Literatur review dari data base Science Direct dan Google Scholar. Penulis menggunakan kata kunci "continuity of care" dan "premature infants". The inclusion criteria were publications in the form of journal articles from January 2020-December 2022, in English-language journals, and full-text articles.

Hasil: Hasil literatur review diperoleh 10 artikel yang sesuai dengan pendekatan continuity of care pada bayi prematur. Artikel terdiri dari 4 penelitian kualitatif, 3 penelitian kuantitatif, 1 penelitian mixed method, 1 studi literatur, dan 1 penelitian sistematik review. Ada tiga tema yang berhubungan dengan pendekatan continuity of care dalam perawatan bayi prematur antara lain: (1) Layanan kesehatan primer dengan information continuity, relationships continuity, dan management continuity; (2) Kesiambungan perawatan perawatan antenatal, intranatal, dan postnatal; (3) Pendekatan continuity of care dalam perawatan bayi prematur meningkatkan outcome perawatan bayi prematur, kemampuan orang tua, dan kualitas layanan kesehatan.

Kesimpulan: Pendekatan continuity of care pada perawatan bayi prematur merupakan program inovatif yang menurunkan morbiditas dan mortalitas, serta optimalisasi pertumbuhan dan perkembangan. Pendekatan continuity of care dapat meningkatkan tercapainya edequacy, equaty, efficiency, dan effectiveness layanan kesehatan bayi prematur. Sinergi bersama antara masyarakat, layanan kesehatan, dan pengambil kebijakan kesehatan diperlukan dalam upaya peningkatan kualitas hidup bayi prematur.

KATA KUNCI: *bayi premature; continuity of care; kualitas hidup*

ABSTRACT

Background: The agenda for strengthening the global health architecture is to improve quality of life for premature infants. Premature births increase the morbidity and mortality of newborns, necessitating innovation in primary health care.

Objectives: This study was conducted to examine innovation programs with a continuity

of care approach in primary health care for premature infants in an effort to strengthen the global health architecture.

Methods: A literature review method was used to analyze articles obtained using databases such as Science Direct and Google Scholar. The researcher used the key words “continuity of care” and “premature infants”. The inclusion criteria were full-text journal articles published from January 2020-December 2022 in English-language journals.

Results: This study obtained ten articles that correspond to the continuity of care approach for premature infants. The articles included four qualitative studies, three quantitative studies, one mixed-method study, one literature review, and one systematic review. There are three themes related to the continuity of care for premature infants, including (1) Primary healthcare with information continuity, relationships continuity, and management continuity; (2) Continuity of care in the antenatal, natal, and postnatal periods; (3) The continuity of care on premature infant approach improves the outcome of premature infant care, the ability of parents, and health service quality.

Conclusions: A continuity of care approach can increase the achievement of adequacy, equity, efficiency, and effectiveness in primary health care for premature infants. Joint synergy between the community, health services, and health policymakers is essential in efforts to strengthen the quality of life for premature infants.

KEYWORD: continuity of care; premature infant; quality of life

Article Info :

Article submitted on May 19, 2023

Article revised on June 28, 2023

Article received on August 11, 2023

INTRODUCTION

There are three primary world health reform agendas for enhancing the global health architecture. These priority agendas include building the resilience of the global health system, harmonizing global health protocol standards, and building global manufacturing and knowledge centers for pandemic prevention, preparedness, and response. This pledge was made during the inaugural meeting of G20 Health Ministers. The G20 meeting theme "Recover Together, Recover Stronger" focused on cooperation for managing COVID-19 pandemics and post-pandemic health systems (1).

One of the objectives of the agenda for strengthening the global health architecture is to improve global newborn health. The

majority of newborn health problems are prematurity-related, which increases morbidity and mortality. World Health Organization (2018) estimates that approximately 15 million infants are born prematurely each year, with birth rates ranging from 5 to 18% in 184 countries. Indonesia still ranks fifth in the world with 675,700 premature births and ninth with a premature birth rate of 15.5% per 100 live births (2). A systematic review and meta-analysis conducted by Marchand et al. (2022) revealed a 16.7% increase in premature infant births during the COVID-19 pandemic. The rise in preterm births has both short- and long-term effects.

Prematurity with babies born at a gestational age of less than 37 weeks is a

cause of high infant mortality in Indonesia, such as complications of respiratory distress syndrome and sepsis neonatorum (4). An increased risk of stunted growth and development is another effect. Infants born prematurely, at a gestational age of less than 28 weeks, with cerebral lesions such as interventricular hemorrhage, have a high risk of cognitive dysfunction, such as attention deficit hyperactivity disorder (ADHD), autism spectrum disorders (ASD), and learning difficulties (5,6). According to additional research, premature infants have a stunting risk that is 2.5-7.7 times greater than that of term infants (7,8). According to the findings of a systematic review and meta-analysis by de Mendonça et al. (2020), premature infants are 1.38 times more likely to develop cardiometabolic noncommunicable diseases.

Another adverse effect of premature births is an increase in premature infant care costs due to the high number of rehospitalizations. Hannan et al. (2020) found that rehospitalization rates for premature infants were increased by 6.6 times for extremely preterm infants, 5.3 times for very preterm infants, and 3.0 times for moderately preterm infants compared to term infants. Rehospitalization is caused by hyperbilirubinemia and delay in oral feeding skills (11). The increase in preterm infant care costs is \$11,341. Records showed premature infant rehospitalization funding of \$41, with an average rehospitalization duration of 4.8 days. Access to health services, service quality, and socioeconomic factors influence this rise in the cost of financing health insurance (10).

Goal 3 of the Sustainable Development Goals (SDGs) program, namely ensuring a healthy life and increasing the well-

being of all ages, including the neonatal period, aims to improve the quality of life of premature infants. Regulation of the Minister of Health of the Republic of Indonesia No. 25 Year 2014 regarding *Child Health Efforts* stipulates that premature infants have the right to optimal growth and development. The regulation states that every child has the right to a quality life, growth, and development; therefore, it is necessary to implement integrated, comprehensive, and continuity of care. This is consistent with the Universal Health Coverage (UHC) program, which states that all individuals, including premature infants, have the right to access high-quality health facilities (12).

Minimum Service Standards (SPM) are crucial indicators for evaluating the quality of health care services. The achievement of 75% for the SPM indicator for newborns is still below the target of 100% according to Regulation of Minister of Health No. 4 Year 2019. This justifies the need for innovation to strengthen health policy, particularly primary health care (12). The continuity of care approach is an effort to provide continued care from the prenatal, natal, to postnatal stage (13). The purpose of this literature review is to examine innovations that aim at quality of life for premature infants via a continuity of care approach.

MATERIALS AND METHODS

A literature review was used to identify innovation programs that adopted the continuity of care approach. The researcher selected articles that were in the form of health research from journal publication across a variety of disciplines, including medicine, nursing, public health, psychology, and the

social sciences. Databases used to find these research articles were Science Direct and Google Scholar. The researcher typed in the key phrases population (P): “premature infants”, intervention (I): “continuity of care”, comparison (C): standard intervention, outcome (O): “the quality of life”. In addition, the researcher applied major headings (MH) and subject headings (SH) depending on the database sources. The inclusion criteria were full-text research articles in the form of journal

publications published between January 2020 and December 2022 (**Figure 1**).

The first author reviews and analyzes articles obtained based on inclusion and exclusion criteria. The first author then extracts research data from the articles obtained. The results of the assessment and analysis are then consulted with supervisors who are experts in the field of nursing and literature study research.

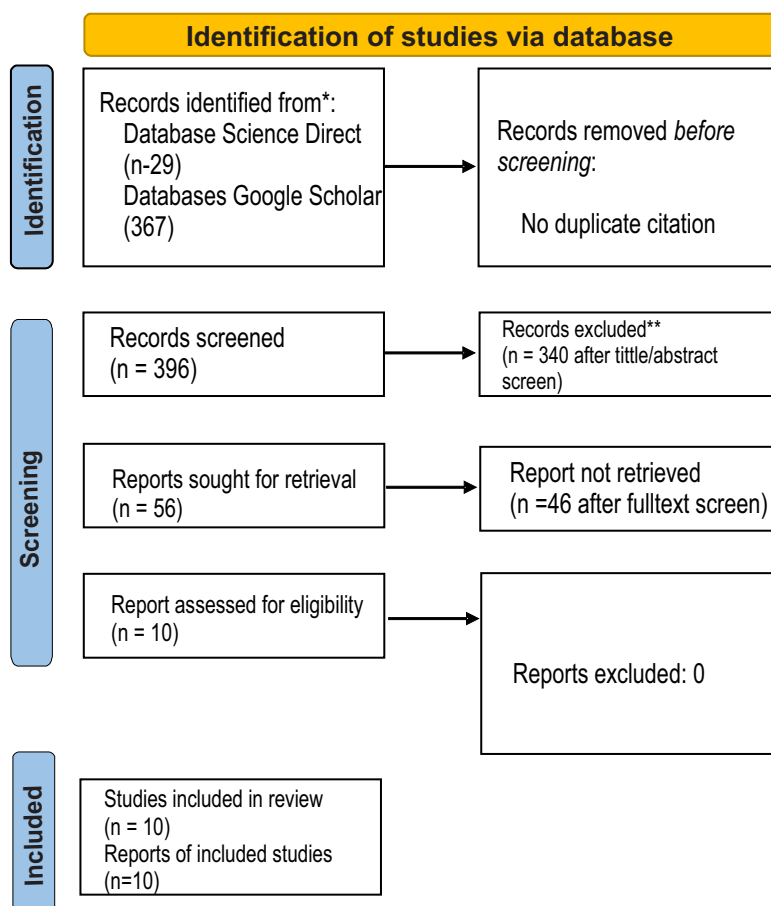


Figure 1. PRISMA 2020 flow diagram

RESULTS AND DISCUSSION

RESULTS

Table 1. Results related to continuity of care approach based on literature review

Author and Country	Methodology	Participant and Setting	Continuity of Care Intervention	Result and Conclusion
Baldewsingh et al. (2020) Country: Suriname	Prospective cohort study Purpose: to evaluate prenatal care using the Medical Mission Primary Health Care Suriname (MMPHCS) model for pregnant women and pregnancy outcomes.	205 pregnant women aged = 16 years old, of which 101 are from tribal communities and the other 104 are from indigenous communities.	Model: Visits to the Primary Health Care Corporation (PHCC) in order to receive education and information about at-risk pregnancies and proper feeding, as well as home visits. Intensity: Categorised based on those receiving < 8 times and = 8 times visits Continuity: Visits during the antenatal care Initiation: First trimester	Preterm birth is connected to antenatal care and parity. Recommendations for more than eight prenatal visits in high-risk groups, along with education on growth and development.
Firooznia et al. (2022) Country: Iran	Mixed-methods study Purpose: develop a new model to evaluate the maternity health program (MHP) in Iran.	A total of 107 articles were analysed by experts involved in the development of the MHP model. Experts with minimum 10 years' experience in managerial field	Model: MHP based on health or family planning, maternal health, evaluation of medical records, and recourse management. Intensity: Not mentioned in the article Continuity: Antenatal care in primary health care Initiation: First trimester of pregnancy	The analysis of the delphi method for evaluating standards yielded applicable criteria with scores of 8.24 and 7.85 out of a possible 91.55 and 87.22. For primary health care, a comprehensive model in the field of maternal care is required.

Palimbo et al. (2021) Country: Indonesia	Literature study Purpose: to describe the implementation of the continuity of care in maternal health care starting from pregnancy, birthing to post delivery.	Reviewed articles from various data base sources totaling to 2804 articles, of which 114 were deemed relevant to the inclusive criteria, and finally 16 articles being closely analysed. These articles discussed the experiences of mothers, midwives, nurses, and other health practitioners.	Model: Continuity of care included information continuity, management continuity, and relationship continuity Intensity: Not mentioned in the article Continuity: Antenatal, natal, and postnatal care Initiation: First trimester of pregnancy	The continuity of care model is beneficial for the utilization of health services, access to health services, and justice. Recommendations was given regarding the necessity of developing a comprehensive continuity of care model.
Haemmerli et al. (2022) Country: Switzerland	Qualitative explorative research Purpose: to assess and collect information concerning receptiveness towards the Transition to Home Model based on the inter-professional approach during and after hospital care.	A total of 39 parents with premature infants with a gestational age of 27-35 weeks who were hospitalized.	Model: Transition to Home (TtH) which includes support for home visits, telephone calls, monitoring, psychological support, lactation consultations, physical therapy, social support, music therapy, and inter-professional discussion Intensitas: Preliminary consultation via telephone in the first 24 hours, first home visit on the 3rd day, consequent visits every 15-30 days. Continuity: Transition phase up till 6 months post NICU care Initiation: From NICU care	The TtH model conforms to the continuity of care approach in that it increases parental confidence and strengthens inter-professional cooperation.
Feehan et al. (2020) Country: Spain	Descriptive research with cohort analysis Purpose: to analyse the application of the Next Steps Program (NSP) model that is multidisciplinary, and family centered medical home with the needs of vulnerable groups to delivering premature infant.	549 primary health care equipped with NICU care and vulnerable groups delivering premature infant from year 2011-2016. Criteria for premature infant is very or extremely premature with gestational age less than 32 weeks, infants with complex diagnosis, such as congenital	Model: NSP that adopted the continuity of care approach in NICU through to primary health care which included coordination, proactive screening, social relationship, consultation on acute care, and development screening. Intensity: 2 times a week Continuity: After discharge from the NICU to provision of primary	The NSP model with a multidisciplinary and family centered medical home care approach is a successful model in establishing coordination between NICU health services and primary health care in the community.

<p>igaard et al. (2022)</p> <p>Country: Denmark</p>	<p>A meta-ethnography study</p> <p>Purpose: the study reviewed parental experience in caring for premature infant post NICU care</p>	<p>The researcher conducted a synthesis of 12 research articles sourced from five databases: PubMed, CINAHL, PsycINFO, Web of Science, and Scopus. The focus of the research was at home care of premature infant with gestational age less than 32 weeks.</p>	<p>Model: Aspects of the continuity of care focused on parents who felt overwhelmed, anxious and lacking confidence in undertaking home care for their premature infant.</p> <p>Intensity: Not mentioned in the article.</p> <p>Continuity: Continuity of care in the home included caring for premature infants with lactation difficulties, respiratory problems, sociocultural and economic challenges, and maintaining family hygiene.</p> <p>Initiation: From the transition period of NICU care to home care.</p>	<p>The themes resulting from the synthesis of 12 articles included approaches to care characterized by uncertainty and lack of confidence, the fact that caring for premature infants at home is a lengthy learning process that induces anxiety, and numerous parental challenges. Repatriation is a "dual-edged sword" discharge that requires ongoing support and knowledge. Mothers giving birth to premature infants is lower than those receiving the standard intervention, higher vaginal delivery, increased breastfeeding after discharge, no difference in outcome in regard to disease complications between the intervention and control group.</p>
<p>Cummins et al. (2022)</p> <p>Country: Australia</p>	<p>A retrospective cohort study</p> <p>Purpose: The study was to compare the mental health of mothers caring for premature infant receiving the continuity of care model as compared to those that received standard care</p>	<p>The study examined 3028 mothers with premature infant in which 352 (11.6 %) received the continuity of care model. Mothers with premature infant suffering depression and anxiety (n = 723, 23.9 %).</p>	<p>Model: Antenatal and postnatal model of care provided in hospitals and the community.</p> <p>Intensity: Maternal on-call care and can be contacted five days in a week for providing support and counselling to expecting mothers.</p> <p>Continuity: Continuity of care in the home that includes premature infant care</p> <p>Initiation: From the antenatal period.</p>	

Primary Health Care with Information Continuity, Relationship Continuity, and Management Continuity

Primary healthcare focuses on continuity of care for premature infants. Primary healthcare is the entry point for individuals to obtain health services. Therefore, it is essential to implement continuity of care in primary healthcare. Innovation in the continuity of care approach is to establish adequate relationships and coordination so that the goals of premature infant care can be achieved. There are three domains in the continuity of care, namely information continuity, relationship continuity, and management continuity (13).

In premature infant care, continuity of care is the main focus of primary health care. It is essential to implement continuity of care in primary health care because it is the entry point for individuals seeking health services. Innovating the continuity of care approach entails establishing appropriate relationships and coordination so that premature infant health care objectives can be met. In continuity of care, there are three domains: information continuity, relationship continuity, and management continuity (13).

The first domain in the continuity of care approach is information continuity. Information continuity is adequate continuity of clinical and psychosocial information that is accessible to the community or parents of premature infants (13). Several studies prove the need for continuity of information in primary healthcare for premature infant care (13–15,21,23). Information continuity has comprehensive health information for both premature infants and parents, especially

mothers (13).

Providing information on primary healthcare helps identify at-risk in the care of premature infants. Health information provided to parents, namely at-risk pregnancies, optimizing nutrition such as breastfeeding and improving oral feeding skills, maternal health, family health planning, premature infant care with respiratory disorders, growth and development screening, socio-cultural support, psychological support, and maintaining hygiene during treatment at home. It is important to provide health information early, especially to groups of mothers at high risk of preterm delivery (13–15).

The second domain in the continuity of care for premature infants is relationship continuity. Based on the literature review, it is necessary to have relationship continuity in implementing the continuity of care on the premature infant model. Improvement of relationship continuity can be carried out by implementing community-based interventions using an evidence-based practice approach (13,14,16–22). Improvement of relationship continuity is important to establish good cooperation between health professionals.

Relationships continuity is the establishment of positive relationships between professionals in primary healthcare, premature infants, and families, as well as other health services sectors (24). Based on the literature review, the continuity of care in the transition period from hospital to home can be carried out through several strategies, providing education, case simulation, treatment planning, and establishing effective teamwork. Primary healthcare needs to carry out the continuity of care with home visits,

telephone calls, monitors, psychological support, lactation counseling, and social support (16, 18)

The third domain in the continuity of care for premature infants is management continuity. Improvement of management continuity is carried out by forming continuous coordination on premature infant care such as a clear referral system, provision of discharge planning, and follow-up in all areas (13,15,25). The continuity of care can be performed by increasing team coordination or collaboration between health professionals. Interprofessional collaboration (IPC) is a process of two or more experts from different disciplines learning together to achieve treatment goals, namely improving oral feeding skills in premature infants. The framework of IPC is to form a team, communicate, and cooperate in premature infant care. Nurses can collaborate with doctors, nutritionists, physiotherapists, or other professionals to improve the outcomes of premature infant care (16).

Continuity of Care in the Antenatal, Natal, and Postnatal Periods

The continuity of care approach is always present in every period of pregnancy. Based on the literature review, the antenatal period is a key factor for determining the health level of a premature infant in the natal and postnatal periods (13–15,22). It is recommended to apply the continuity of care approach from the antenatal period. During this period, nurses in primary healthcare need to emphasize the identification of groups at risk for preterm birth (14).

During the natal period, it is very

important for groups at risk of preterm birth to be treated by health workers in primary healthcare. It determines the risk of death and quality in premature infants. In delivery care, the competence of health workers is needed, such as the accuracy of oxygen therapy during the resuscitation of premature infants to minimize the occurrence of complications. Health services for premature infant care then continue into the postnatal period, namely preparation for premature infant care at home (14).

Based on the literature review, there is a need for continuity between natal and postnatal care through home care (18,24,26). Implementation of home care varies based on recommendations from several studies. A study by Baldewsingh et al. (2020) recommended conducting home visits more than 8 times for at-risk groups such as premature infants. Other studies recommended carrying out home visits in the first week after treatment at home followed by 2-5 home visits or telephone monitoring in the following week (16,17,22).

Continuity of Care for Premature Infants to Improve the Outcome of Premature Infant Care, Ability of Parents, and Health Service Quality

The continuity of care approach is useful for improving the outcome of premature infant care (Baldewsingh et al., 2020). A study showed that premature infant care with a continuity care approach in the antenatal period was associated with the occurrence of preterm birth and the APGAR score (14). In the antenatal period, it is important to detect at-risk groups such as pregnancies with

mothers aged less than 20 years or the socio-cultural and demographic characteristics of the mothers. Other studies found that the continuity of care approach can reduce disease complications, improve nutrition optimization, and reduce the risk of growth and development disorders (19,20,22).

The continuity of care approach is useful for increasing the ability of parents to care for premature infants (16). Haemmerli et al. (2022a) stated that during the transition period, it is important to increase the confidence of parents in caring for premature infants. In the transition period, there is uncertainty and a lack of confidence to care for premature infants at home because of the long learning experience, causing anxiety, and various challenges for parents. The continuity of care approach can be carried out with continuous support and knowledge from hospital care to home care (21).

The continuity of care approach can improve health service quality, especially in premature infant care. Intermittent networks between health services will have an impact on the outcome of premature infant care. Therefore, continuity between health services is needed (19). The continuity of care approach involving multidisciplinary and family-centered can achieve coordination between health services in intensive care units and primary healthcare in the community (15). The continuity of care model has an impact on the utilization of health services, justice, and access to health services (13).

DISCUSSION

The continuity of care concept is an important element for optimizing care coordination and creating interaction

relationships between health professional teams or between primary healthcare and health services in hospitals. The continuity of care approach is beneficial for both premature infants and parents as a vulnerable group. The continuity of care approach establishes good continuity of informational continuity, relationship continuity, and management continuity (13).

Informational continuity is the continuity of information during the antenatal, natal, and postnatal periods in every health service (13). Afrizal et al. (2020) showed there is still a need to improve the quality of education and screening in the antenatal period. Sugiarti et al. (2020) showed that the use of Maternal and Child Health (MCH) handbook was not sustainable during the antenatal, natal, and postnatal periods due to a lack of coordination between health services. Another factor influencing the implementation of information continuity is socio-cultural. The majority of decision-making does not rest with the mother as the main caregiver, but the family such as the grandmother due to the cultural value (29). There is a perception that if the premature infant is fussy, then the infant is hungry causing earlier solid food administration (11).

Information continuity can be further improved by utilizing the technological version, such as audiovisual media or mobile applications. Several studies found that a technological approach can increase interest in reading MCH handbook (28,30). The use of technology such as telemedicine supports the growth and development of premature infants, provides more effective and efficient information practices, improves care coordination, and forms integration of

maternal and infant health records in every health service, both primary, secondary, and tertiary healthcare (31).

The information continuity approach is carried out through the involvement of family participation. The family greatly influences the process of premature infant care (Family Centered Care/FCC). The FCC applies the principles of exchanging information, respecting differences, fostering relationships, collaboration, and negotiation within the family. The FCC views that in the process of providing family education, the team is the primary decision maker. Providing education by applying the FCC approach will increase knowledge and skills so that parents become able and confident in carrying out premature infant care with the supervision of a nurse (32).

The relationship continuity approach can be carried out through community intervention by health workers in primary healthcare by conducting home care (da Silva et al., 2020a). Regulation of the Minister of Health of the Republic of Indonesia Number 10 of 2015 stipulates on standards of continuous nursing services in hospitals through home visits or home care. Home care is an approach that can be used to monitor and evaluate the health development of premature infants and the ability of parents to care for premature infants at home (34).

Several studies found that parents still experience premature infant care difficulties during home care. Parents reported that they played less of a role in the premature infant care process. This can be seen from the lack of parental participation in decision-making (21). The transitional phase creates anxiety and self-doubt for parents but determines the

success of treatment for premature infants (35). Based on the literature review, parents feel unable to care for premature infants after being treated in the intensive care unit, so the role of the nurse is needed to improve the skills and knowledge of parents in caring for premature infants through a continuity of care approach. The role of the nurse is needed to carry out an in-depth study of family characteristics, detect risky conditions, and psychological support to improve the quality of follow-up (36–38).

Home care strategies can be adapted to the needs of premature infants and families. One strategy that can be used in conducting home care is home visits. The home care method through direct visits allows nurses to obtain valid data about the development of premature infants such as weight gain and oral feeding skills. The home care method through direct home visits requires more resources and geographical barriers. If health workers are limited, community empowerment can be carried out through health cadres. Training or provision of health cadres is needed to increase knowledge and skills in premature infant care (39).

Another strategy that can be applied is through virtual or online home care. A study by da Silva et al. (2020a) recommended a combination of home visits and telephone calls during home care. The limitations of home care methods via telephone and giving short messages do not have the same effect as when conducting dialogue and building relationships with parents. Hägi-Pedersen et al. (2021) recommended using the home care method through video consultation at the start of premature infant care at home. The frequency of home care will be adjusted

according to the needs of parents and premature infants. Several studies recommended doing home care more frequently for at-risk groups or when encountering health problems (40).

The management continuity on premature infant care shows there is coordination between management and good guidelines between health services. Hariati et al. (2021, 2022) found that there are still obstacles in coordinating health services from premature infant care in hospitals with home care because there are no policies or standards governing the preparation of mothers to discharge with different materials and inadequate continuity of care between hospitals and primary healthcare. This is supported by Afrizal et al. (2020) that the lack of integration between primary healthcare management is related to government implementation of strategy, care processes, organizational, and management support.

An interprofessional approach will improve continuity management and the outcome of premature infant care. The results of an integrative review by Shon et al. (2021) stated that the interprofessional approach includes three main concepts, namely individual professional competence, teamwork, and achieving optimal goals. Nurses in the premature infant care process have competencies including roles and responsibilities in providing nursing care. Nurses then work closely with other professionals by forming teamwork and good communication (41). This is supported by an explorative qualitative study by Haemmerli et al. (2022) showing the implementation of the interprofessional approach model in premature infant care after hospitalization.

The mother of a premature infant with a complex situation will receive support, not feeling alone in caring for the premature infant. The process of interprofessional discussion and communication will encourage better decision-making and support the confidence of the mother and family (23).

The continuity of care with the time approach shows continuity between antenatal, natal, and postnatal care (43). Antenatal services focus on providing education to parents and detecting the main issue in premature infant care. This main issue is related to premature infant morbidity and mortality, optimization of nutrition, emotional and psychological problems of parents, as well as improving the quality of premature life infant. The continuity of natal and postnatal care needs to be emphasized on service improvement during the first contact with parents. Community nurses or pediatrics must have good competence to detect the main issue in premature infant care (43).

Nurses should have the ability to listen, use the right consultation method, and pay attention to the socio-cultural family in providing nursing care during each period. Nurses a major role in increasing the literacy of parents to improve their abilities. Nurses can facilitate parents to recognize ecosystems that support premature infant care such as social groups or peer support. The ecosystem support will help parents to exchange knowledge and experience with fellow families with a premature infant. The ecosystem will indirectly form an adaptive parent coping in premature infant care (43,44).

Strategies in implementing the continuity of care model for for quality life

improvement of premature infants. The challenges in providing information continuity include: (1) a more structured educational program; (2) a common perception of education provision based on agreed standards or guidelines; and (3) increasing parental literacy to comprehend the contents and benefits of the MCH handbook as a means of providing information continuity. Meanwhile, challenges faced in relationship continuity include optimizing continuity of care during the transition from hospital care to home care. Finally, challenges of management continuity include optimizing coordination in the implementation of continuity of care programs for premature infants in the areas of collaborative care, cross-sector care, and programs.

Based on the findings of this literature review, innovative continuity of care programs can reduce morbidity and mortality, thereby reducing the burden of care costs. Establishing collaborative efforts with primary health care services is a crucial factor for supporting the implementation of innovative programs with a continuity of care approach for prenatal, natal, and postnatal care. Innovative health policies will guarantee the adequacy, equity, efficiency, and effectiveness of primary health care for quality of life of premature infants (13).

CONCLUSION AND RECOMMENDATION

The implications of adopting the continuity of care approach, particularly for paediatric nurses in the community, are the need to increase active community participation in strengthening the global health architecture through participation in decision-making processes, policy making,

implementation, and evaluation of innovative programs with a continuity of care approach for premature infants. Primary health care nurses, whose key role is to ensure communities have access to health services, can implement a continuity of care approach for premature infant care that includes information continuity, relationship continuity, and management continuity. The implication of this approach for policy holders is that it can be included as a factor in decision-making to improve the sufficiency, equity, efficiency, and efficacy of health services, specifically in the delivery of primary health care for quality of life of premature infants.

There are three domains in the continuity of care approach for premature infants including information continuity, relationship continuity, and management continuity. The continuity of care approach to premature infant care is an innovative program that can reduce morbidity and mortality by preventing health complications and optimizing growth and development. Continuity of care can indirectly expand access to health services for at-risk populations, such as premature infants. In order to strengthen the global health architecture, effective collaboration between the community, health services, and health policymakers is necessary.

REFERENCES

1. Ministry of Health Republic of Indonesia. Memperkuat arsitektur kesehatan global, agenda utama sektor kesehatan presidensi G20
2. World Health Organization. Preterm birth [Internet]. 2018. Available from: <https://www.who.int/news-room/fact->

- sheets/detail/preterm
3. Marchand G, Patil AS, Masoud AT, Ware K, King A, Ruther S, et al. Systematic review and meta-analysis of COVID-19 maternal and neonatal clinical features and pregnancy outcomes up to June 3, 2021. *AJOG Global Reports*. 2022 Feb 1; 2(1): 1–19. DOI : [10.1016/j.xagr.2021.100049](https://doi.org/10.1016/j.xagr.2021.100049).
 4. Itabashi K, Miyazawa T, Kusuda S, Wada K. Changes in mortality rates among extremely preterm infants born before 25 weeks' gestation: Comparison between the 2005 and 2010 nationwide surveys in Japan. *Early Human Development*. 2021 Apr 1;155:1–6.
 5. Browne J V. Infant mental health in intensive care: Laying a foundation for social, emotional and mental health outcomes through regulation, relationships and reflection. *Journal of Neonatal Nursing*. 2021 Feb 1; 27(1): 33–9. DOI : <https://doi.org/10.1016/j.jnn.2020.11.01>
 6. Iwata O, Iwata S, Lin YC, Kato S, Mizutani Y, Hisano T, et al. Promoting sound development of preterm infants in the name of developmental neuroscience: Beyond advanced life support and neuroprotection. *Pediatrics and Neonatology*. 2021 Feb 1;62:S10–5.
 7. Beal T, Tumilowicz A, Sutrisna A, Izwardy D, Neufeld LM. A review of child stunting determinants in Indonesia. *Maternal and Child Nutrition*. 2018;14(4):1–10. DOI : <https://doi.org/10.1111/mcn.1261>
 8. Sari K, Sartika RAD. The effect of the physical factors of parents and children on stunting at birth among newborns in indonesia. *Journal of Preventive Medicine and Public Health*. 2021;54(5):309–16.
 9. de Mendonça ELSS, de Lima Macêna M, Bueno NB, de Oliveira ACM, Mello CS. Premature birth, low birth weight, small for gestational age and chronic non-communicable diseases in adult life: A systematic review with meta-analysis. *Early Human Development*. 2020 Oct 1;149:1–19.
 10. Hannan KE, Hwang SS, Bourque SL. Readmissions among NICU graduates: Who, when and why? *Seminars in Perinatology*. 2020 Jun 1;44(4):1–7.
 11. Astuti DD, Rustina Y, Wanda D. Oral feeding skills in premature infants: A concept analysis. *Belitung Nursing Journal [Internet]*. 2022 Aug 18;8(4):280–6. (<https://www.belitungraya.org/BRP/index.php/bnj/article/view/2107>) DOI : <https://doi.org/10.33546/bnj.2107>
 12. USAID, Kementerian Kesehatan RI, Health Policy Plus. *Pembiayaan pelaksanaan standar pelayanan minimal bidang kesehatan di Indonesia*. 2021.
 13. Palimbo A, Salmah AU, Amiruddin R, Syam A. An overview of the implementation of the continuity of care model in maternal health services: A literature review. *Gaceta Sanitaria*. 2021 Jan 1;35:S388–92.
 14. Baldewsingh GK, Jubitana BC, van Eer ED, Shankar A, Hindori-Mohangoo AD, Covert HH, et al. Adequate antenatal care and ethnicity affect preterm birth in pregnant women living in the tropical rainforest of Suriname. *BMC Pregnancy Childbirth*. 2020 Dec 1;20(1).
 15. Firooznia R, Dargahi H, Jafari-Koshki T, Khaledian Z. Developing an evaluation model for maternity care: A mixed-method study from Iran. *Iran Journal Public Health*

- [Internet]. 2022;51(1):160–71. DOI : [10.18502/ijph.v51i1.8307](https://doi.org/10.18502/ijph.v51i1.8307)
16. Haemmerli NS, Stoffel L, Schmitt KU, Khan J, Humpl T, Nelle M, et al. Enhancing parents' well-being after preterm birth—A qualitative evaluation of the “Transition to Home” model of care. *International Journal of Environmental Research and Public Health*. 2022 Apr 1;19(7).DOI<https://doi.org/10.3390/ijerph19074309>
 17. Feehan K, Kehinde F, Sachs K, Mossabeb R, Berhane Z, Pachter LM, et al. Development of a multidisciplinary medical home program for NICU graduates. *Maternal Child Health Journal*. 2020 Jan 1;24(1):11–21.
 18. Jantsch LB, Alves TF, Arrué AM, Toso BRG de O, Neves ET. Health care network (dis)articulation in late and moderate prematurity. *Revista Brasileira de Enfermagem*. 2021;74(5):e20200524. DOI : <https://doi.org/10.1590/0034-7167-2020-0524>
 19. Pedersen JF, Kallesøe SB, Langergaard S, Overgaard C. Interventions to reduce preterm birth in pregnant women with psychosocial vulnerability factors—A systematic review. Vol. 100, *Midwifery*. Churchill Livingstone; 2021.
 20. Fairless HE, Ulloa M, McGrath B. Continuity of care when transitioning complex preterm infants from NICU to home: Parent experiences. *Journal of Neonatal Nursing*. 2021 Aug 1 ; 27 (4) : 273 – 9 . DOI : <https://doi.org/10.1016/j.jnn.2020.11.009>
 21. Aagaard H, Hall EOC, Audulv Å, Ludvigsen MS, Westergren T, Fegran L. Parents' experiences of transitioning to home with a very-low-birthweight infant: A meta-ethnography. *Journal of Neonatal Nursing*. 2022. DOI : [10.1016/j.jnn.2022.11.012](https://doi.org/10.1016/j.jnn.2022.11.012)
 22. Cummins A, Baird K, Melov SJ, Melhem L, Hilsabeck C, Hook M, et al. Does midwifery continuity of care make a difference to women with perinatal mental health conditions: A cohort study, from Australia. *Women and Birth*. 2022.
 23. Haemmerli NS, von Gunten G, Khan J, Stoffel L, Humpl T, Cignacco E. Interprofessional collaboration in a new model of transitional care for families with preterm infants – the health care professional's perspective. *Journal of Multidisciplinary Healthcare*. 2021 ; 14 : 897 – 908 . DOI : [10.2147/JMDH.S303988](https://doi.org/10.2147/JMDH.S303988)
 24. Fairless HE, Ulloa M, McGrath B. Continuity of care when transitioning complex preterm infants from NICU to home: Parent experiences. *Journal of Neonatal Nursing*. 2021 Aug 1 ; 27 (4) : 273 – 9 . DOI : <https://doi.org/10.1016/j.jnn.2020.11.009>
 25. Haemmerli NS, von Gunten G, Khan J, Stoffel L, Humpl T, Cignacco E. Interprofessional collaboration in a new model of transitional care for families with preterm infants – the health care professional's perspective. *Journal of Multidisciplinary Healthcare*. 2021 ; 14 : 897 – 908 . DOI : [10.2147/JMDH.S303988](https://doi.org/10.2147/JMDH.S303988).
 26. Haemmerli NS, Von Gunten G, Khan J, Stoffel L, Humpl T, Cignacco E. Interprofessional collaboration in a new model of transitional care for families with preterm infants-the health care professional's perspective. *Journal of*

- Multidisciplinary Healthcare [Internet]. 2021;14:897–908. DOI:<https://doi.org/10.24451/arbor.1479>
27. Afrizal SH, Hidayanto AN, Handayani PW, Besral B, Martha E, Markam H, et al. Evaluation of integrated antenatal care implementation in primary health care: A study from an urban area in Indonesia. *Journal of Integrated Care*. 2020 May 11;28(2):99–117.
 28. Sugiarti S, Rustina Y, Efendi D. Increasing the knowledge and confidence of mothers in caring for low-birth-weight babies through education from the maternal and child health handbook. *Jurnal Keperawatan Soedirman*. 2020 Jul 30;15(2). DOI : <http://dx.doi.org/10.20884/1.jks.2020.15.2.1160>
 29. Shorey S, Loh DNL, Chan V, Chua C, Choolani MA. Parents' perceptions of antenatal educational programs: A meta-synthesis. Vol. 113, *Midwifery*. Churchill Livingstone; 2022.
 30. Rustina Y, Efendi D, Ilmu Keperawatan F. Literature Review: Pemanfaatan Buku Kesehatan Ibu dan Anak (KIA) serta Potensi Pengembangan Selanjutnya Literature Review: Utilization of Maternal and Child Health Books and Potential for Further Development [Internet]. Vol. 11, *Jurnal Kesehatan*. Online; 2020. Available from: <http://ejurnal.poltekkes-tjk.ac.id/index.php/JK> DOI : [10.26630/jk.v11i2.1500](https://doi.org/10.26630/jk.v11i2.1500)
 31. Asghari E, Farahani AS, Nourian M, Bonakchi H, Gholami S. The effects of telenursing on stress in mothers with premature infants. *Evidence Based Care Journal*. 2021 Dec 1;10(4):7–16. DOI : [10.22038/EBCJ.2021.52976.2398](https://doi.org/10.22038/EBCJ.2021.52976.2398)
 32. Mirlashari J, Brown H, Fomani FK, de Salaberry J, Zadeh TK, Khoshkhou F. The challenges of implementing family-centered care in NICU from the perspectives of physicians and nurses. *Journal of Pediatric Nursing*. 2020 Jan 1 ; 5 0 : e 9 1 – 8 . DOI : [10.1016/j.pedn.2019.06.013](https://doi.org/10.1016/j.pedn.2019.06.013)
 33. da Silva RMM, Zilly A, Nonose ERDS, Fonseca LMM, de Mello DF. Care opportunities for premature infants: Home visits and telephone support. *Revista Latino-Americana Enfermagem*. 2020;28:1–8. DOI : [10.1590/1518-8345.3520.3308](https://doi.org/10.1590/1518-8345.3520.3308)
 34. Hägi-Pedersen MB, Dessau RB, Norlyk A, Stanchev H, Kronborg H. Comparison of video and in-hospital consultations during early in-home care for premature infants and their families: A randomised trial. *Journal of Telemedicine and Telecare*. 2022 Jan 1;28(1):24–36.
 35. Hamer O, Hill J, Kuroski J, Gupta R, Appleton V, Georgiou G, et al. The effectiveness of neonatal early supported transfer to home interventions for parents and preterm infants in neonatal intensive care units: A systematic review and meta-analysis. *Journal of Neonatal Nursing*. Elsevier Ltd; 2022. DOI:<https://doi.org/10.1016/j.jnn.2022.08.005>
 36. Hariati S, Febriani ADB, Sutomo R, Lusmilasari L, McKenna L. Exploring Indonesian nurses' perspectives on preparing parents of preterm infants for hospital discharge: A qualitative study.

- Journal of Neonatal Nursing. 2022 Feb 1;28(1):59–66.
DOI:[10.1016/j.jnn.2021.07.002](https://doi.org/10.1016/j.jnn.2021.07.002)
37. Hariati S, Sutomo R, McKenna L, Reisenhofer S, Lusmilasari L, Febriani ADB. Indonesian mothers' beliefs on caring practices at home for preterm babies after hospital discharge: A qualitative study. *Journal for Specialists in Pediatric Nursing*. 2021 Jul 1;26(3). DOI: [10.1111/jspn.12330](https://doi.org/10.1111/jspn.12330)
38. Viera CS, Pancieri L, da Silva RMM, Wernet M, Gaiva MAM, de Mello DF. Individual, Social and Institutional Vulnerabilities in the Premature Infant Care at Home. *Qualitative Report*. 2022 Feb 1;27(2):414–26.
39. World Health Organization. Framework for countries to achieve an integrated continuum of long-term care. 2021.
40. Hägi-Pedersen MB, Kronborg H, Norlyk A. Video consultation as nursing practice during early in-home care for premature infants and families viewed from the families' homes'. *Nursing Open*. 2021 Mar 1;8(2):824–32. DOI : [10.1002/nop2.687](https://doi.org/10.1002/nop2.687)
41. Shon S, Jeon H, Hwang H. Core educational components of interprofessional education in pediatric emergencies: An integrated review. *Child Health Nursing Research*. 2021 Apr 1;27(2):111–26. DOI : [10.4094/chnr.2021.27.2.111](https://doi.org/10.4094/chnr.2021.27.2.111)
42. Haemmerli NS, Stoffel L, Schmitt KU, Khan J, Humpl T, Nelle M, et al. Enhancing parents' well-being after preterm birth—A qualitative evaluation of the “transition to home” model of care. *International Journal of Environmental Research and Public Health*. 2022 Apr 1;19(7):1–21. DOI : <https://doi.org/10.3390/ijerph19074309>
43. Blair M. Caring for infants after hospital discharge –Are we doing enough? *Early Human Development*. 2020 Nov 1;150. DOI:[10.1016/j.earlhumdev.2020.105192](https://doi.org/10.1016/j.earlhumdev.2020.105192)
44. Hill ME, Martin A, Demauro SB. Reading to the Preterm Infant: Parent Perspectives on Barriers and Facilitators. 2022. DOI : [10.1016/j.acap.2022.08.008](https://doi.org/10.1016/j.acap.2022.08.008)