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Midwifery assessment and interventions protocol for adolescent pregnancy: a Delphi method approach

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A B S T R A C T

Background: Adolescence pregnancy poses risks for both mothers and infants, often due to insufficient prenatal care resulting from societal stigmatization and lack of awareness. Around 16 million adolescents aged 15-19 years in the world give birth each year; in Indonesia, the first pregnant women aged <20 years are 45.10%, while in West Sumatra, it is 33.7%. To address this issue, integrated programs and midwifery care have been implemented. However, providing such care to adolescent mothers comes with its own set of challenges.

Purpose: This study aims to conduct a midwifery assessment and intervention protocol for adolescent pregnancy.

Method: Qualitative approach The Delphi method involved two rounds of evaluation, with twenty-one participants who were independent practice midwives, six midwives involved in the mother and child health program, and nine midwifery lecturers from accredited educational institutions A (excellent). Participants had at least five years of clinical experience and were selected using purposive non-probability sampling. Participants evaluated statements related to midwifery care during the Delphi process. The validity of these statements was determined by participants providing a minimum score of 3, and the Content Validity Ratio (CVR) was calculated. Statements with a CVR greater than 0.8 were considered valid.

Results: Based on expert consensus, important assessments for adolescent pregnant women include addressing issues of gender equality and domestic violence, reproductive and sexual health, risks associated with smoking and substance abuse, maintaining a healthy pregnancy, and adequately preparing for labor and parenthood.

Conclusion: Midwifery management and midwifery information were deemed valid dimensions of midwifery care; relational care had one invalid item.

INTRODUCTION

Adolescence pregnancy is a global concern with significant risks for both adolescent mothers and their infants. Each year, approximately 50,000 adolescent girls lose their lives during pregnancy and childbirth, while nearly one million babies born to adolescent mothers do not survive their first year.[1–3] In Indonesia, women who are pregnant for the first time aged <20 years are 45.10% while in West Sumatra it is 33.7%, although this figure is lower than the national average but higher than the Riau Islands (23.67%), North Sumatra (33.50%), Yogyakarta (26.12%), and Jakarta (29.32%).[4] Adolescent pregnancies can have

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adverse effects on maternal health, social circumstances, pregnancy outcomes, and the long-term development of children. Adolescents are not fully physically developed to cope with pregnancy, which can lead to various issues, such as malnutrition and obstetric complications.[5–8]

Moreover, two-thirds of adolescent pregnancies are unintended, causing adolescent mothers to experience shame and social stigma.[9] This shame and societal pressure can discourage them from seeking proper prenatal care and engaging in social activities.[10,11] Adolescent pregnant women often lack knowledge due to their limited education, limited access to healthcare information, and limited decision-making autonomy. These factors increase the risks of complications, morbidity, and mortality for both the mother and the baby.[12–14] The World Health Organization recommends the implementation of midwifery care for adolescent pregnancies. This approach encompasses antenatal, intrapartum, and postpartum care, addressing the unique challenges faced by adolescent pregnant women. It provides them with appropriate education and skills to enhance their health and the well-being of their babies.[12,15]

High-quality antenatal care, primarily delivered by midwives, plays a crucial role in preventing obstetric complications in adolescent pregnant women.[16–18] Midwifery care, which encompasses midwifery management, midwifery information, and relational care, becomes paramount in preventing maternal and neonatal mortality and fostering trust-based relationships between adolescent pregnant women and midwives.[19] However, the consistent implementation of midwifery care remains a challenge, especially in the context of caring for adolescent pregnant women.[20]

Currently, there is no specialized program in Indonesia designed specifically for adolescent pregnant women. The management of adolescent pregnancies remains generalized without adaptation to the specific needs of adolescent mothers. Existing programs for adolescent pregnant women primarily focus on addressing complications as they arise, with limited emphasis on preventive measures and preparations for motherhood. Furthermore, there is no specific model for midwifery care, and a comprehensive assessment of their specific requirements is lacking.[21–23] Therefore, to address these issues, high-quality antenatal care delivered by midwives needs to be complemented with a comprehensive, multidisciplinary midwifery care model specifically designed for adolescent pregnant women. However, the consistent implementation of midwifery care may not always meet the required standards, and there is a lack of specialized programs tailored to the unique needs of adolescent pregnant women in Indonesia.[24]

A needs assessment, focusing on the dimensions of midwifery management, midwifery information, and relational care, is imperative.[19,25] Understanding these needs will enable healthcare providers to enhance the quality of care and develop action plans that result in improved pregnancy outcomes and greater satisfaction among adolescent mothers. This research seeks to gather expert consensus-based information regarding the essential variables in the needs assessment for midwifery care among adolescent pregnant women, encompassing the dimensions of midwifery management, midwifery information, and relational care.

METHOD

Study Design

Qualitative research The Delphi method aims to achieve consensus among experts to assess the need for midwifery care for adolescent pregnant.[26]

Setting and Respondent

Data collection was conducted in June 2024 in Padang City. The process of sample selection in this research was carried out using the purposive non-probability sampling method. It involved a series of steps, as follows: Identification of Research Subject Candidates, who were provided with detailed explanations about the research objectives and the research process. They were given comprehensive information about what was expected of their participation, research procedures, and how data would be used. They were also informed about the voluntary nature of their participation and their right to withdraw at any time without negative consequences. Only those who voluntarily agreed to participate became research subjects. Research subject candidates were asked to sign written consent forms indicating their willingness to engage in the research and permitting the use of their data in research analysis. The number of research subjects to be included in this study was determined based on research considerations and needs. Three groups of participants with expertise in the field of midwifery. The three groups are independent midwives practice, midwives responsible for the Mother and Child Health Program at Health Center and midwifery lecturers.[27]

Inclusion Criteria: Independent practice midwives who have reached the Pomegranate Midwife standard, possess over 10 years of clinical experience, and have at least completed a Diploma IV in midwifery. They are professionals who have experienced quality standardization in independent midwifery practice, focusing on monitoring, evaluation, training, mentoring, and continuous training in midwifery practice. They are professionals who have experienced quality standardization in independent midwifery practice, focusing on monitoring, evaluation, training, mentoring, and continuous training in midwifery practice. Midwives responsible for the Mother and Child Health (MCH) program at the Padang city health center have a minimum

of 5 years of clinical experience in midwifery practice. Midwifery lecturers from accredited educational institutions A (excellent) in West Sumatra bring their expertise in the field of midwifery to support the development of this research. Meanwhile, the exclusion criteria are withdrawn as a participant during the study period.

Variables, Instruments and, and Measurements

Assessment of midwifery care variables from the dimensions of midwifery management, midwifery information, and relational care needed by adolescent pregnant women to adequately preparing for labor and parenthood. The Delphi questionnaire consists of 31 indicators, with 8 indicators for midwifery management (indicators 1-3, 4a-e, and 5-8), 12 indicators for midwifery informational (indicators 1-12), and 11 indicators for relational care (indicators 1-11). In each dimension, a column was provided to accommodate other indicators considered essential by the experts. Four additional indicators considered essential by the experts, including antenatal care such as prenatal exercises, danger signs and labor preparation, the role of husband and family in pregnancy, birth planning, postpartum care and readiness for complications (indicators 13-15) for the midwifery informational and cross-program collaboration (indicator 12) for the relational care in the second round. Delphi surveys were delivered to participants via email or WhatsApp. Only those who agreed and provided their email addresses were included in the analysis for Round 1 and received the Round 2 survey.[25,28]

Phase 1 - Initial Data Collection

In the first phase of the Delphi method, we collected initial data to identify sample characteristics, build relevant variables, identify difficulties, and identify potential guideline development. This involved input from independent midwives practice, midwives responsible for the MCH Program at Health Center and midwifery lecturers. The results of this phase helped us understand sample needs, build relevant variables, identify issues in meeting the needs of adolescent pregnant mothers, and identify potential guideline development. Experts then met to discuss and compare their views until a consensus was reached. This approach generated more precise and relevant questions that would be redistributed to participants for Round 2.

Phases 2 and 3 - Delphi Surveys

The second and third phases involved two rounds of online Delphi surveys with identified participants. These phases aimed to achieve consensus on a set of 35 metrics that would be used to measure the process of midwifery care. In Round 2, participants were asked to assess the relevance and importance of each metric using a Likert scale based on their considerations. The surveys were distributed to all participants who had completed the first round. They were asked to assess the importance of questions generated from the first round using a Likert scale ranging from 1 (not important) to 3 (important) for each question in the dimensions of midwifery management, midwifery information, and relational care.[29]

Phase 4 - Final Consensus Meeting

The fourth and final phase included a face-to-face meeting with midwifery experts to review findings and reach a consensus on a set of final metrics and indicators. Participants discussed and agreed upon the results from two rounds of Delphi surveys. In this meeting, participants evaluated items deemed relevant or important for midwifery care. If an item received a minimum score of 3 in terms of relevance, its validity was calculated using the Content Validity Ratio (CVR) formula to ensure that the selected metrics are genuinely relevant and important in midwifery care for adolescent pregnancy.

Data Analysis

In the implementation of the Delphi method, statements or items considered relevant or essential to midwifery care are evaluated. If participants rate an item with a minimum score of 3, its validity is calculated using the CVR formula.[30]

Ethical Considerations

All participants received oral and written information about the study. Midwives were informed about guarantees of confidentiality, voluntary participation, and the right to stop at any time without adverse consequences. They signed a written consent before each interview. This study received approval from the ethical committee of the Faculty of Medicine, Andalas University, number 869/UN.16.2/KEP-FK/2024, dated 23 May 2024.

RESULTS

Table 1 provides an overview of the characteristics of the research informants, categorized into three groups: lecturers, independent practice midwives, and MCH Program Managers at the inpatient health center. Table 2 summarizes the outcomes of the Delphi Method used to gauge consensus among experts on the importance of various elements in midwifery care. The CVR scores in this table reveal the level of agreement among experts regarding the significance of each component.

In the "Midwifery Management" dimension, all components scored above 0.8, and some even achieved a perfect score of 1.0. This indicates an exceptionally high level of consensus among experts, signifying strong agreement on the importance of collecting subjective and objective data, midwifery care planning, and anticipating and preparing for pregnant women's care needs.

In the "Midwifery Information" dimension, most components also received high CVR scores, with several reaching a perfect score of 1.0. This suggests widespread consensus among experts regarding the importance of providing information to pregnant women on various aspects of their care. However, one component obtained a slightly lower CVR score of 0.83, indicating some level of disagreement among experts about its importance within this dimension.

In the "Relational Care" dimension, most components also demonstrated high consensus, except for one component with a CVR score of 0.44, which is notably lower than the others. This suggests some variability in expert opinions regarding the significance of this specific component in the context of midwifery care. In summary, Table 2 provides valuable insights into which components are considered highly significant by experts in the field of midwifery care. These findings serve as a foundation for designing more effective and contextually relevant midwifery care, taking into account the perspectives of these experts.

Table 1. Characteristics of Informants

Characteristic	Independent Midwives Practice (n = 21)	MCH Program Manager at the Inpatient Health Center (n = 6)	Midwifery Lecturer (n = 9)
Age, yo			
35 – 39	1 (4.76%)	2 (33.33%)	0 (0%)
40 – 44	2 (9.52%)	1 (16.67%)	0 (0%)
45 – 49	1 (4.76%)	3 (50%)	3 (33.33%)
50 – 54	3 (14.29%)	0 (0%)	1 (11.11%)
55 – 59	4 (19.05%)	0 (0%)	2 (22.22%)
60 – 64	2 (9.52%)	0 (0%)	3 (33.33%)
> 65	8 (38.10%)	0 (0%)	0 (0%)
Education			
Diploma-IV	20 (95.24%)	5 (83.33%)	0 (0%)
Postgraduate	1 (4.76%)	1 (16.67%)	6 (66.67%)
Doctoral	0 (0%)	0 (0%)	3 (33.33%)
Duration of Working, years			
5-10	0 (0%)	0 (0%)	0 (0%)
11-19	2 (9.52%)	3 (50%)	0 (0%)
20-19	5 (23.81%)	3 (50%)	5 (55.56%)
30-39	14 (66,67%)	0 (0%)	3 (33.33%
40-49	0 (0%)	0 (0%)	1 (11.11%)

Table 2. Assessment and Interventions Protocol for Adolescent Pregnancy Expert Consensus Result

No.	Dimensions	CVR
I	**Midwifery Management**	
1.	Midwives assess subjective data, including biodata, chief complaint, obstetric history, health history, family medical history, socio-cultural background, and psychological factors	0.94
2.	Midwives assess objective data, including physical examination findings, psychological assessment, and supporting diagnostics	0.94
3.	Midwives assess health insurance coverage.	1.00
4.	Midwives establish diagnoses and obstetric issues	1.00
5.	Midwives develop a plan for midwifery care, including independent care, collaboration, and referrals based on the mother's condition	1.00
a.	Planning for the administration of Tetanus Toxoid (TT) immunization according to immunization status, provision of iron tablets, and laboratory examinations.	0.94
b.	Plan early anticipation and preparation for referral if complications occur	1.00
c.	Planning interviews/counselling with mothers and families, especially husbands, including maternal health care according to gestational age and mother's age, nutrition for pregnant women, mental readiness, recognizing danger signs in pregnancy, childbirth and postpartum, early initiation of breastfeeding, exclusive breastfeeding, newborn care, immunization and postpartum family planning	1.00
d.	Planning health education/providing information based on the needs of adolescent pregnant women.	1.00
6.	Midwives carry out midwifery care in a comprehensive, effective, efficient and safe manner	1.00
7.	Midwives evaluate care that is carried out systematically and continuously	0.94
8.	Midwives record care in a standard format, and the Subjective, Objective, Assessment and Plan (SOAP) progress notes	1.00
II	**Midwifery Information**	
1.	Midwives provide information about gender equality and domestic violence	0.83
2.	Midwives provide information about changes, physical and psychological adaptation	1.00
3.	Midwives provide information about reproductive and sexual health	1.00
4.	Midwives provide information about maternal nutrition	1.00
5.	Midwives provide information about the dangers of smoking and drugs	0.89
6.	Midwives provide information about recognizing a baby in the womb	0.94
7.	Midwives provide information about baby care	1.00
8.	Midwives provide information about breastfeeding	1.00
9.	Midwives provide information about contraception	1.00
10.	The midwives continuously evaluate the pregnant mother's understanding during each visit	0.89
11.	The midwife uses simple and easily understandable media appropriate for the age and educational level	0.89
12.	Midwives use simple and easily understandable media based on the mother's age and educational level	0.94
13.	Midwives provide information about pregnancy care, including prenatal exercises such as antenatal exercises or prenatal yoga	0.94

14.	Midwives provide information about danger signs during pregnancy and preparations for childbirth.	1.00
15.	Midwives provide information about the role of husbands and family in pregnancy, birth planning, postpartum care, and preparedness for complications	1.00
III	**Relational Care**	
1.	Midwives recognize the uniqueness of mothers as biopsychosocial-spiritual and cultural beings	0.89
2.	Midwives ensure that every care action must obtain consent from the client and/or family (informed consent).	0.89
3.	Midwives ensure that every action provided is based on evidence-based practice	1.00
4.	Midwives involve clients in every action/care they provide	1.00
5.	Midwives in providing services must maintain the privacy of patients/clients	1.00
6.	Midwives implement the principle of infection prevention	1.00
7.	Midwives follow the development of patients/clients on an ongoing basis	1.00
8.	Midwives judiciously utilize available and suitable resources, facilities, and equipment	1.00
9.	Midwives perform actions according to standards	1.00
10.	Midwives implement midwifery care management in every care provided	1.00
11.	The midwife recorded all the actions that had been taken	1.00
12.	Midwives collaborate across programs	0.44

DISCUSSION

This research highlights the importance of three interconnected components within midwifery care: Midwifery Management, Midwifery Information, and Relational Care. These components have been thoroughly examined and validated through the Delphi method, with the participation of experts in midwifery and healthcare.

Midwifery management within midwifery care is crucial in ensuring that adolescent pregnant women receive optimal and high-quality care. This approach involves a systematic process, including data collection, interpretation, diagnosis, identification of obstetric issues, care plan development, implementation, and outcome evaluation.[19,31] Key components highlighted by this research include the assessment of both subjective and objective data, which form the basis for accurate diagnoses and issue identification. Comprehensive data collection, covering aspects such as medical history, family background, socio-cultural factors, and psychological aspects, contributes to providing personalized care tailored to individual needs.[32]

Research from Australia underscores the vital role of midwifery management in delivering consistent care by midwives throughout the entire maternity journey. This fosters a close relationship and trust between mothers and midwives, forming the basis for effective and needs-based care. [32] Furthermore, this approach involves the planning of medical interventions tailored to individual needs while avoiding inappropriate interventions. In essence, midwifery care ensures safe, high-quality, and needs-based care throughout the maternity journey. The subsequent step in midwifery care involves planning appropriate care based on diagnoses and identified issues. The implementation of care prioritizes issues, followed by an evaluation of care outcomes to gauge its effectiveness. Each stage of midwifery management is meticulously documented using the SOAP format, ensuring adherence to systematic care principles in midwifery.[19,31]

Midwifery information, the second component of midwifery care, focuses on providing relevant, continuous, and timely information. Adolescent pregnant women have a heightened need for information regarding pregnancy and preparing for motherhood. This includes 15 essential components of midwifery information, such as insights into gender equality, domestic violence, physical and psychological changes and adaptations, reproductive and sexual health, and the risks associated with smoking and drug use, among others.

Research from Switzerland shows that adolescent mothers have diverse information needs during the postpartum period. These encompass a comprehensive understanding of newborn care, including breastfeeding, newborn physical care, and the identification of health issues warranting attention.[33] Other crucial topics include recognizing fetal development during pregnancy, baby care, prenatal care, exercises during pregnancy, danger signs, and childbirth preparation. It's vital to involve husbands and families while ensuring the use of simple, age-appropriate, and easy-to-understand media. Emotional support is equally important, particularly for mothers experiencing emotional changes post-childbirth. Information related to postpartum planning, household rules, and infant care is highly sought after, and fathers also seek guidance on how to support their partners and care for the baby.[34]

Research indicates that adolescent mothers may require more extensive informational and emotional support compared to multiparous women. Effective communication, encompassing both informational and emotional support, can strengthen the relationship between healthcare providers and patients, easing the challenges associated with first-time childbirth.[35] Adolescent mothers, in particular, seek accurate and reliable information about pregnancy, childbirth, baby care, and the physical and emotional changes accompanying their transition to motherhood. They seek guidance on proper nutrition during pregnancy, recognizing warning signs, coping with anxiety related to childbirth, and effective baby care. Accessing reliable sources of information, such as attending educational

classes, using medical websites, consulting healthcare providers, and reading books, becomes crucial for meeting the informational needs of adolescent mothers.[35,36]

Relational care**,** as the third component of midwifery care, revolves around the therapeutic relationship between midwives and adolescent pregnant women and their families. It entails building a supportive partnership and maintaining an ongoing relationship over time. The consensus among experts has identified 11 essential components that midwives should consider when delivering care, including recognizing the unique individuality of adolescent women, obtaining evidence-based consent, involving adolescent pregnant women and their families in the care process, maintaining privacy, adhering to infection prevention principles, continuously monitoring patient progress, utilizing appropriate facilities and resources, adhering to standards, implementing midwifery management, and thoroughly documenting all actions taken. Previous research also underscores the need for greater social and psychological support for adolescent mothers from both family members and healthcare providers. Therefore, ensuring the availability of essential healthcare infrastructure and services while providing counselling support to pregnant women is vital in helping them navigate the pregnancy period effectively.[35,37,38]

The primary objective of implementing the midwifery care concept is to enhance the knowledge and attitudes of adolescent pregnant women as they prepare for motherhood and to improve the support they receive from their families and partners.[19] The needs assessment, as recommended by experts, encompasses critical topics such as gender equality, prevention of domestic violence, reproductive health, nutrition, behavioral risks like smoking and substance use, and comprehensive information about the pregnancy and childbirth process.[39] In practice, midwifery management is employed to create the best possible care experience by integrating a continuous approach to midwifery care. Within the relational context, this care is grounded in principles such as maintaining privacy, displaying empathy, providing comprehensive care information, promptly addressing patient complaints, and implementing ongoing follow-up. Through these measures, trust is anticipated to be cultivated between adolescent pregnant women and their families and the healthcare system, ultimately bolstering their readiness and confidence in their new roles as parents.[32]

Lastly, it is important to acknowledge that prior research has identified barriers to healthcare access for adolescent pregnant women, including shame, stigma, and negative reactions from family or society concerning adolescent pregnancy. Thus, establishing a relationship of trust and care with adolescent pregnant women and their families is imperative in assisting them in surmounting these barriers and gaining appropriate access to healthcare services. In this regard, the midwifery care approach can be instrumental in helping adolescent pregnant women approach their roles as parents more positively and confidently.

CONCLUSIONS AND RECOMMENDATION

Based on these findings, it can be assumed that midwifery assessment and the intervention protocol for adolescent pregnancy are highly significant approaches to effective maternity care for adolescent pregnancy. Recommendations for future research include conducting more in-depth studies to evaluate the practical implementation of these components in various healthcare settings and cultural contexts. Policymakers can utilize research findings as assessment protocols and midwifery interventions for adolescent pregnancy. Evaluating the impact of midwifery care on maternal and infant outcomes, patient satisfaction, and healthcare system efficiency are also areas that need further exploration.

REFERENCES

1. Maheshwari M V, Khalid N, Patel PD, Alghareeb R, Hussain A. Maternal and Neonatal Outcomes of Adolescent Pregnancy: A Narrative Review. *Cureus*. 2022;14(6):e25921 doi:10.7759/cureus.25921
2. Vasconcelos A, Sousa S, Bandeira N, et al. Intestinal Parasitic Infections, Treatment and Associated Factors among Pregnant Women in Sao Tome and Principe: A Cross-Sectional Study. *J Trop Med*. 2022;2022:7492020 doi:10.1155/2022/7492020
3. Whitworth M, Cockerill R, Lamb H. Antenatal management of teenage pregnancy. *Obstet Gynaecol Reprod Med*. 2017;27(2): 50-56. doi:10.1016/j.ogrm.2016.11.005
4. Badan Pusat Statistik. *Profil Kesehatan Ibu Dan Anak 2020*. Vol 53. Badan Pusat Statistik; 2020.
5. Nadia A, Keats EC, Thurairajah P, et al. Characteristics and birth outcomes of pregnant adolescents compared to older women: An analysis of individual level data from 140,000 mothers from 20 RCTs. *EClinicalMedicine*. 2022;45(3):1-14. doi:10.1016/j.eclinm.2022.101309
6. Hackett K, Lenters L, Vandermorris A, et al. How can engagement of adolescents in antenatal care be enhanced? Learning from the perspectives of young mothers in Ghana and Tanzania. *BMC Pregnancy Childbirth*. 2019;19(1). doi:10.1186/s12884-019-2326-3
7. Jahdi F, Kaheh A, Haghani H. Effect of attachment behaviors training on maternal competence attainment in nulliparous adolescent women. *J*

Babol Univ Med Sci. 2019;21(1). doi:10.22088/jbums.21.1.78

8. Karaçam Z, Kizilca Çakaloz D, Demir R. The impact of adolescent pregnancy on maternal and infant health in Turkey: Systematic review and meta-analysis. *J Gynecol Obstet Hum Reprod*. 2021;50(4):102093. doi:10.1016/j.jogoh.2021.102093
9. Erika. A concept analysis of maternal role in pregnant adolescent. *Enferm Clin*. 2019;29(Supplement 1):16-18. doi:10.1016/j.enfcli.2018.11.008
10. Larsson B, Hildingsson I, Ternström E, Rubertsson C, Karlström A. Women's experience of midwife-led counselling and its influence on childbirth fear: A qualitative study. *Women Birth*. 2019;32(1):e88-e94. doi:10.1016/j.wombi.2018.04.008
11. Laurenzi CA, Gordon S, Abrahams N, et al. Psychosocial interventions targeting mental health in pregnant adolescents and adolescent parents: A systematic review. *Reprod Health*. 2020;17(1):65. doi:10.1186/s12978-020-00913-y
12. Erfina E, Widyawati W, McKenna L, Reisenhofer S, Ismail D. Exploring Indonesian adolescent women's healthcare needs as they transition to motherhood: A qualitative study. *Women Birth*. 2019;32(6):e544-e551. doi:10.1016/j.wombi.2019.02.007
13. Ghiasi A, Keramat A, Farjamfar M, Vakilian K. Perceived Barriers to Accessing Pregnancy-Related Health Information Among Married Adolescent Women: A Qualitative Study in Iran. *J Pediatr Adolesc Gynecol*. 2020;33(1):58-63. doi:10.1016/j.jpag.2019.08.012
14. Shee AW, Frawley N, Robertson C, et al. Accessing and engaging with antenatal care: an interview study of teenage women. *BMC Pregnancy Childbirth*. 2021;21(1):693. doi:10.1186/s12884-021-04137-1
15. Fox D, Scarf V, Turkmani S, et al. Midwifery continuity of care for women with complex pregnancies in Australia: An integrative review. *Women Birth*. 2023;36(2):e187-e194. doi:10.1016/j.wombi.2022.07.001
16. Fulpagare PH, Saraswat A, Dinachandra K, et al. Antenatal Care Service Utilization Among Adolescent Pregnant Women–Evidence From Swabhimaan Programme in India. *Front Public Heal*. 2019;7:369. doi:10.3389/fpubh.2019.00369
17. Kementerian Kesehatan RI. *Profil Kesehatan Indonesia 2021*. In Pusdatin.Kemenkes.go.id; 2022.
18. Öztürk S. Evaluation of the opinions of midwifery students on adolescent pregnancy: A phenomenological qualitative study in eastern Turkey. *Eur J Midwifery*. 2021;5:49. doi:10.18332/EJM/138593
19. Sandall J. *The Contribution of Continuity of Midwifery Care to High Quality Maternity Care*. Royal College of Midwives; 2017.
20. Dutta K, Naskar S, Das D, Banerjee N. Exploring challenges of teenage pregnancy and motherhood from beneficiaries and providers' perspectives: A qualitative study in a rural area of Purba Bardhaman District, West Bengal. *J Fam Med Prim Care*. 2022;11(11):7272-7279. doi:10.4103/jfmpc.jfmpc_689_22
21. Setiawati N, Setyowati B, T. SETIA Health Education Set Enhances Knowledge, Attitude, and Parenting Self-Efficacy Score in Post partum Adolescent Mothers. *Compr Child Adolesc Nurs*. 2017;40(sup1):114-127. doi:10.1080/24694193.2017.1386979
22. Song JE, Chae HJ, Ko JM, In Yang J, Kim T. Effects of a maternal role adjustment program for first time mothers who use post partum care centers (Sanhujoriwon) in South Korea: A quasi-experimental study. *BMC Pregnancy Childbirth*. 2020;20(227):1-12. doi:10.1186/s12884-020-02923-x
23. Kordi M, Fasanghari M, Asgharipour N, Esmaily H. The effect of maternal role training program on role attainment and maternal role satisfaction in nulliparous women with unplanned pregnancy. *J Educ Heal Promot*. 2017;6:61. doi: 10.4103/jehp.jehp_113_15
24. Susanti AI, Ali M, Hernawan AH, Rinawan FR, Purnama WG, Puspitasari IW. Midwifery Continuity of Care in Indonesia: Initiation of Mobile Health Development Integrating Midwives' Competency and Service Needs. *Int J Environ Res Public Health*. 2022;19(21):13893. doi:https://doi.org/10.3390/ijerph192113893
25. de Joang A, Sandall J. Improving Research into Models of Maternity Care to Inform Decision Making. *PLoS Med*. 2016;13(9):e1002135. doi:10.1371/journal.pmed.1002135
26. Eri T, Berg M, Dahl B, Gottfreðsdóttir H, Sommerseth E, Prinds C. Models for midwifery care: A mapping review. *Eur J Midwifery*. 2020;4:30. doi:10.18332/ejm/124110
27. Dahl B, Heinonen K, Bondas TE. From midwife-dominated to midwifery-led antenatal care: A meta-ethnography. *Int J Environ Res Public Heal*. 2020;17(23):8946. doi:10.3390/ijerph17238946
28. Perriman N, Davis DL, Muggleton S. Developing an instrument to measure satisfaction with continuity of midwifery care drawing on the Delphi technique. *Women Birth*. 2022;35(1):e84-e90. doi: 10.1016/j.wombi.2021.01.008
29. Gu C, Lindgren H, Wang X, et al. Developing a midwifery service task list for Chinese midwives in the task-shifting context: A Delphi study. *BMJ*

Open. 2021;11(7):e044792. doi:10.1136/bmjopen-2020-044792

30. Devane D, Barrett N, Gallen A, et al. Identifying and prioritising midwifery care process metrics and indicators: A Delphi survey and stakeholder consensus process. *BMC Pregnancy Childbirth*. 2019;19(1):198. doi:10.1186/s12884-019-2346-z
31. Rayment-Jones H, Silverio SA, Harris J, Harden A, Sandall J. Project 20: Midwives' insight into continuity of care models for women with social risk factors: what works, for whom, in what circumstances, and how. *Midwifery*. 2020;84:102654. doi:10.1016/j.midw.2020.102654
32. Bradford BF, Wilson AN, Portela A, McConville F, Fernandez Turienzo C, Homer CSE. Midwifery continuity of care: A scoping review of where, how, by whom and for whom? *PLOS Glob Public Heal*. 2022;2(10):935. doi:10.1371/journal.pgph.0000935
33. Walyani ES, Purwoastuti E. *Asuhan Kebidanan Masa Nifas Dan Menyusui*. Pustaka Baru Press; 2015.
34. Salarvand S, Mousavi MS, Esmaeilbeigy D, Changaee F, Almasian M. The perceived health needs of primiparous mothers referring to primary health care centers: A qualitative study. *Int J Women's Heal*. 2020;12:745-753. doi:10.2147/IJWH.S258446
35. Fakhraei R, Terrion JL. Identifying and Exploring the Informational and Emotional Support Needs of Primipara Women: A Focus on Supportive Communication. *J Perinat Educ*. 2017;26(4):195–207. doi:10.1891/1058-1243.26.4.195
36. Shatilwe JT, Hlongwana K, Mashamba-Thompson TP. Pregnant adolescents and nurses perspectives on accessibility and utilization of maternal and child health information in Ohangwena Region, Namibia. *BMC Pregnancy Childbirth*. 2022;22(1):284. doi:10.1186/s12884-022-04619-w
37. Aunes I, Tysland T, Vollheim SA. Norwegian midwives' experiences of relational continuity of midwifery care in the primary healthcare service: A qualitative descriptive study. *Nord J Nurs Res*. 2021;41(1):5-13. doi:10.1177/2057158520973202
38. Peter PJ, Mola CL, Matos MB, et al. Association between perceived social support and anxiety in pregnant adolescents. *Rev Bras Psiquiatr*. 2017;39(1):21-27. doi:10.1590/1516-4446-2015-1806
39. Powers ME, Takagishi J. Care of adolescent parents and their children. *Pediatrics*. 2021;147(5):e2021050919. doi:10.1542/peds.2021-050919.