Sys Rev Pharm 2020;11(11):237-242
A multifaceted review journal in the field of pharmacy

How maternal and neonatal services at the community level during the COVID-19 pandemic in Indonesia?

Johariyah[*1,2] Detty Siti Nurdiati Zubaedah[3] Widyawati[4]
Sumarti EndahPurnamaningsih Maria Margaretha [5.6]

[1]Bachelor a in Midwifery, Institute of Health Science Al-Irsyad Al-Islamiyyah Cilacap, Jl. Cerme No 24 Sidanegara, Cilacap, Indonesia,
[2] Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia, Jl. FarmakoSekip Utara, Sinduadi, Mlati, DIY, 55281, Indonesia
[3]Departement of Obstetrics and Gynecology, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Jl. Farmako Sekip Utara, Sinduadi, Mlati, Special Region of Yogyakarta 55281, Indonesia,
[4]Departement of Pediatric and Maternity Nursing, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Jl. Farmako Sekip Utara, Sinduadi, Mlati, Special Region of Yogyakarta 55281, Indonesia,
[5]Nursing PolytechnicKaryaHusada Yogyakarta Indonesia
[6]Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia, Jl. FarmakoSekip Utara, Sinduadi, Mlati, DIY, 55281, Indonesia
*Corresponding author; Johariyah1978@gmail.com

ABSTRACT

Background
The COVID-19 pandemic has led to changes in maternal and neonatal care methods. This situation can trigger anxiety and confusion for mothers and families in accessing health services to support their maternal and neonatal health. Accordingly, while midwives have become the main health workers in providing maternal and neonatal health care, the quality of care is still maintained during the many challenges occurring due to COVID-19 in the community.
Objectives: This study aimed to analyze and describe the implementation of maternal and neonatal care in Indonesian communities during the COVID-19 pandemic.
Methods: The study used a cross-sectional design. A sample of 132 midwives was enrolled with snowball sampling technique. Data analysis with frequency and percentage used univariate analysis.
Results: Maternal and neonatal care in the community during the COVID-19 period was done well (53%).
Conclusions: Quality maternal and neonatal care in the community during the COVID-19 period was maintained.

Keywords: Maternal and neonatal care OR Covid-19 OR Community

Correspondence:
Johariyah
1Bachelor a in Midwifery, Institute of Health Science Al-Irsyad Al-Islamiyyah Cilacap, Jl. Cerme No 24 Sidanegara, Cilacap, Indonesia,

*Corresponding author: Johariyah email-address: Johariyah1978@gmail.com

BACKGROUND

The Coronavirus Disease 2019(COVID-19) pandemic continues to bea global concerntoday. The spreadofthe novel COVID-19 originatingfromWuhan China was veryrapidandmassive, infecting over 15 million people in the last six months. Until July25, 2020 the prevalence ofCOVID-19 sufferersin some hard-hit areas of the worldbasedon the World Health Organization (WHO)is reaching 170 cases per 100,000 population with over 264,000 deaths globally. Europe has one of the highest numbers of confirmed cases with 3 million people infected and about 200,000 fatalities. COVID-19 data in Southeast Asia indicated over 222, 231 confirmed cases with 6,374 deaths, while in Indonesia the COVID-19 case numbers have reached an estimated 100,000 positive confirmed patients, with 52,000 recovered, and over 4,500 deaths[1]. This outbreak not only has increasing rates of morbidity and mortality but is also paralyzing the activities of various sectors, including travel, education, and the economy both at the global and domestic levels.

Efforts to prevent the spread of COVID-19 continue to be made to stop or slow the disease transmission in the community. Governments and organizations at the local, national, regional, and global levels have developed guidelines for the health system and the community [3]. Health guidelines and protocols are tailored to the age category, public areas, transportation hubs, health facilities, industry, and tourism for those with special needs and disseminated online to enable people to quickly access the important information. Since March 2020, the Indonesian government has published national health guidelines, one of which covers maternal and neonatal health services[2].The focus of these guidelines is to prevent the spread of COVID-19 to mothers during pregnancy, childbirth and post-deliveryas well as newborn services during the COVID-19 pandemic period. Recent research stated it isimportant to clarify official information about when and how pregnant women are to receive pregnancy, childbirth, and birth care ifsuspected or confirmed with COVID-19 infectionin order to prevent confusion in seeking care[3].

Health workers such as midwives need to disseminate accurate information concerning infection control measures and the use of personal protective equipment (PPE) to mothers and families. In addition, it is also very important to provide clarification to mothers about changes in maternal and neonatal care methods during the pandemic period and clear information related to the use of PPE of health workers according to the specific danger levels in order to avoid fears of mothers and families of visiting health care providers[4].Based on the guidelines for medical service providers from the Ministry of Health, changes in methods for unconfirmed mothers include reducing the number of physical visits to the primary health care centers. Mothers are encouraged to study maternity

care procedures independently at home, while consultations are done only online if there are no complaints, pregnant classes are also done online, and integrated service post (*Posyandu*) can be replaced by online consultations. Likewise, the postpartum visit to the clinic, which was only done once, then was replaced with a home visit by an official medical service provider. However, meanwhile, scheduled immunization, family planning, emergencies, and even childbirth are still conducted in regular service settings[5].

When large-scale area restrictions were imposed and the number of COVID-19 rates increased, then in response, concerns of mothers and families were raised. During the pandemic, a total of 575 independent midwife practices were closed[6]. Public health programs such as Posyandu in a number of regions throughout Indonesia have been temporarily cancelled, so there are no services at Posyandu for maternal and child health. There is a fear among mothers of immunizing their babies because of toddlers becoming infected with COVID-19 and some children have even died[7]. In addition to immunization, a decrease in family planning users also occurred during the COVID-19 pandemic[8]. Likewise, while many hospitals or health facilities areimposing regulations not permittingvisitorsduring cesarean labor and delivery, companions are still permitted for support but are limited to only one person with strict regulations. Accurate andaccessible information about the risks ofCOVID-19has been shown to help reduce the heightened level of anxiety in mothers and their families. This research aimed to analyze and describe the reality during the COVID-19 pandemic of midwives in serving pregnant women, childbirth, and newborns at the community level in Indonesia.

METHODS

Study Design

This research used a cross-sectional method, which is used to study the cause and effects that occur in the object of research measured or collected simultaneously [9].

Sample

A sample of 132 midwiveswasenrolledin the studywith thesnowball sampling technique. Snowball sampling is a data source sampling technique which is used whenatfirstthenumber of participantswas not abletoprovidecomplete data, thenthe subjects are asked to helpfindotherpeoplewhocouldbeused as data sources[10].

Data Collecting

The research was conducted between April 25th until May 10th, 2020. The data collection method used primary data obtained from online questionnaires through a Google survey form. The researchers developed a maternal and neonatal service questionnaire in the community consisting of 33 statement items with yes or no options for answering.

Data Analysis

This research used univariate analysis to describe the frequency distribution of all of the study variables. Analysis of data from survey responses included frequency and percentage.

Results

Respondent Characteristics

Table 1. Respondents Characteristics (n=132)

Variable	F	P (%)
Age		
Late teens	10	7.6
Early adulthood	57	43.2
Late adulthood	43	32.6
Early Elderly	22	16.7
Grade		
Diploma	119	90.2
Bachelor	10	7.6
Postgraduate	3	2.3
Workplace		
Public Health Centers (Puskesmas)	92	69.7
Village Midwives	40	30.3
Work Status		
Contract	7	5.3
Honorary	19	14.4
Private	13	9.8
Civil Servant	93	70.5
Work Experience(Year)		
1	1	0.8
2-5	28	21.2
6-10	17	12.9
11-20	46	34.8
>20	40	30.3
COVID-19 Task Force Officer		
Yes	71	53.8
No	61	46.2

The results showed that the majority of respondents were in early adulthood (43.2%), had midwifery D3 education (90.2%), worked in public health centers (*Puskesmas*) (69.7%) with the length of work ranging from 11-20 years (34.8%), are civil servants (70.5%), and the majority are not clustered in the acceleration of handling COVID-19 (53.8%).

Maternal and Neonatal Services in the Community During the COVID-19 Pandemic Period

Maternal and neonatal services in this study were divided into three services including antenatal(ANC) services, delivery services, and childbirth and neonatal services. Each service is described in the following graphs.

ANC Services

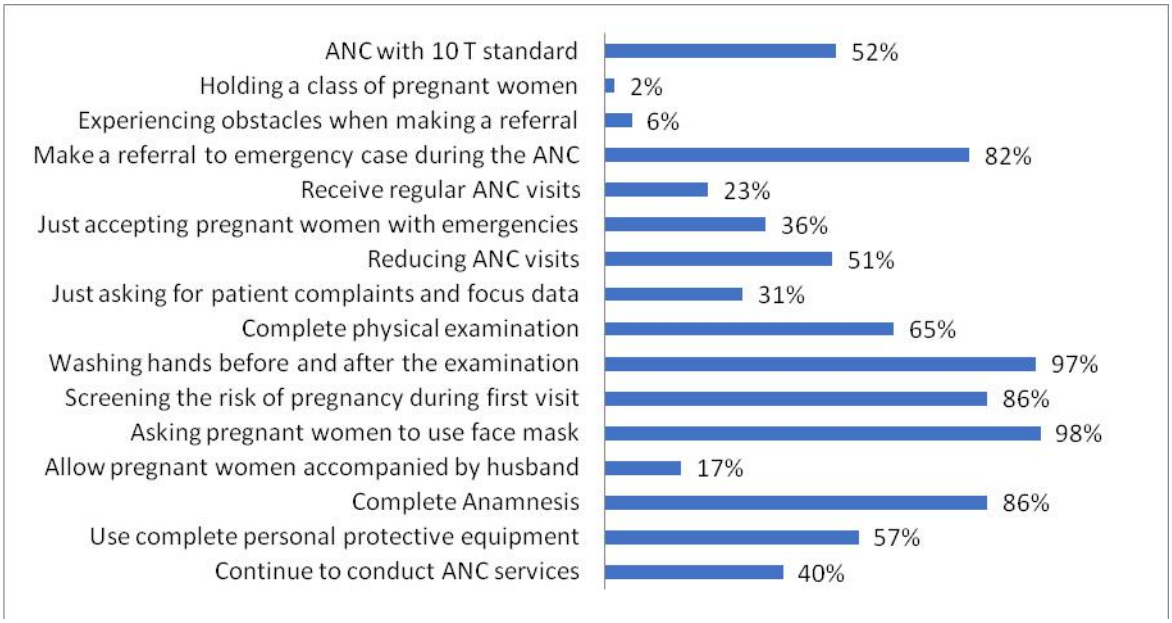

Figure1. ANC services during the COVID-19 pandemic

Based on Figure 1 show that 51% of respondents are reducing ANC visits. The majority of midwives (86%) are still screening the pregnancy risk when first visit ANC, and 52% continuing ANC services while still applying the 10T Standard, conducting a complete physical examination (65%), and a complete anamnesis (86%). During ANC, 57% of respondents used complete personal protective equipment and 97% washed their hands before and after the examination. Most respondents also advised pregnant women to wear masks during the visit (98%) and allowed pregnant women to be accompanied by their husband or family (17%). Only 2% of respondents continue to hold classes for pregnant women. Respondents also conducted a referral system if they encountered an ANC emergency case (82%) and 6% experienced problems when making a referral.

Delivery services

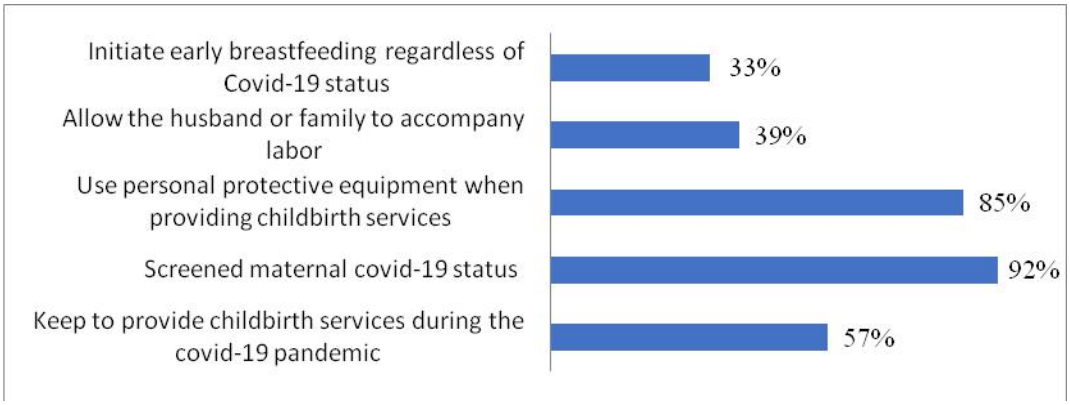

Figure2. Delivery services during the Covid-19 pandemic

The results showed that 57% of midwives are continuing to provide childbirth services during the COVID-i9 pandemic. Respondents who did COVID-19 status screening on maternal mothers were 92%, assisted in childbirth using complete personal protective equipment (85%), and midwives who initiated early breastfeeding regardless of COVID-19 status was 33% and midwives who allow husband/family to accompany childbirth was as much as 39%.

Postpartum and neonatal services

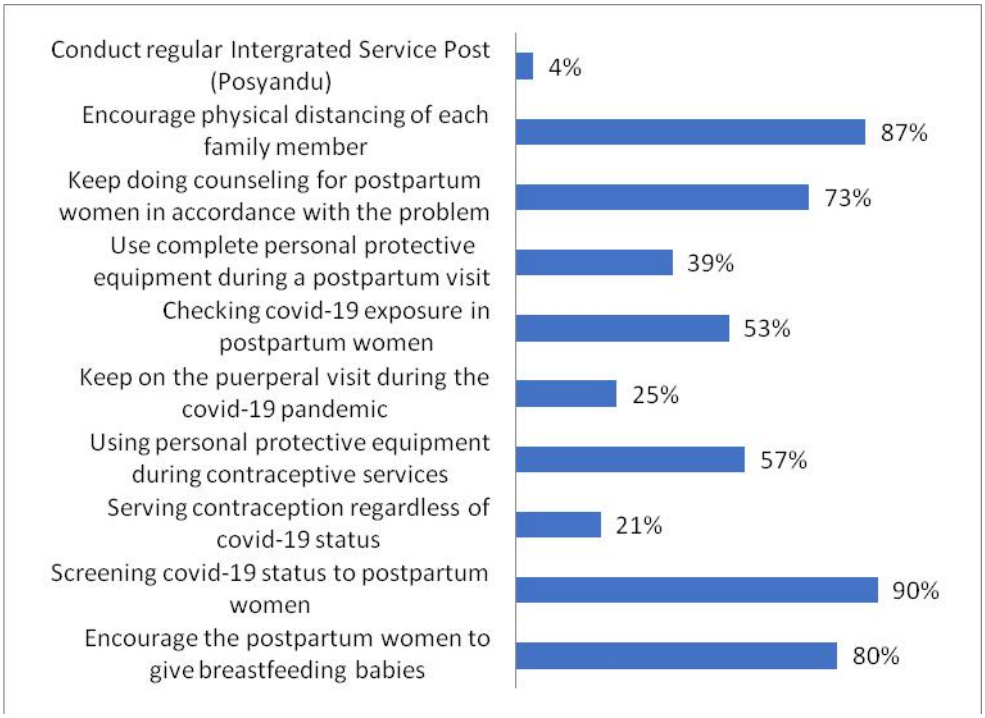

Figure 3. Postpartum and newborns services during the Covid-19 pandemic

Postpartum and newborn services continue to be conducted by respondents during the COVID-19 pandemic. As many as 25% of respondents visited postpartum women and screened COVID-19 status for postpartum women (90%), and 73% midwives counseled new mothers and 87% advised members family to do

Overall services of mothers and infants in the community during the COVID-19 pandemic are presented in Figure 4.

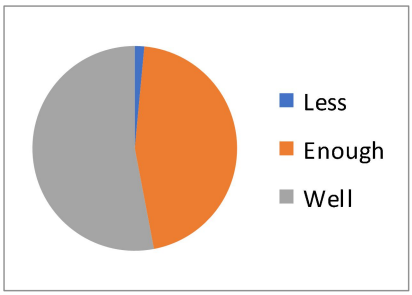

Figure4. Frequency distribution of maternal and neonatal services in the community during the COVID-19 pandemic (n = 132)

Maternal and neonatal services by midwives during the COVID-19 pandemic period were categorized as good (53%), sufficient (45.5%) and lacking (1.5%).

DISCUSSION

The study results show that 40% midwives are still giving the ANC services by face to face meetings.The mode of ANC services delivery should be modified, and innovative ways of care provision are recommended with due consideration of individualized care plans[11]. The women who live in the local areas can do ANC services by telephone and restrict visits with community midwives, and community midwives can provide screening to pregnant women. When a woman visits the hospital for physical distancing with infants and puerperal women. As many as 80% of midwives ask mothers to keep breastfeeding their babies. Posyandu for toddlers continues to be done with as many as 4% and midwives who provide contraceptive services without looking at COVID-19 status was 21%.

her ultrasound scan, the community midwife will attend or meet her to do the scan and consult, perform an examination and record basic observations including blood tests, domestic violence, and perinatal mental health screening. Pregnant women are asked to maintain the schedule for those who have made face-to-face appointments themselves with community midwives at the residence of pregnant women and pregnant women are required to use personal protective equipment when meeting with community midwives[12].

The study results show that 86% midwives are still do the screening of pregnancy risk during covid-19 pandemic. This is in line with the recommendation that care for women and pregnant individuals at risk including obstetrical risks, fetal risks, medical co-morbidities or psychosocial issues should create an individualized care plan to determine the schedule of visits. Not all contacts have to be in-person and virtual care can be considered. Ensuring appropriate blood pressure screening (either home monitoring or in-person visits) can be individualized[13].

Reducing the number of visits at the clinic would reduce contact with hospital personnel and minimize virus transmission. Even with the application of the COVID-19 screening method before the clinic visit, when conducting ANC examinations, the mother is required to use personal protective equipment and then can be accompanied by her husband [3,14]. Pregnantwomen are not allowedtoattendface-to-facemeetingsdirectly.

Pregnantwomenhave stoppedmostoftheface-to-faceconsultationsandreplacedthem with onlineandtelephoneconsultations as anefforttoconductscreening. Meanwhile, clinic face-to-face appointment sand home visits continue at the

hospital and also pregnant women who undergo hospital examination sface-to-face are required to use complete personal protective equipment along with theirhusbandstoreducethetransmissionof COVID-19 whenexamining with the 10T standard. The change in maternitycareduring a pandemicshouldbedone, as done in the UK bychangingthe antenatal visittechniquethrough virtual methods[15][16], but in Indonesia, itcannotbeimplementedduetolackoffacilities.

Thisdilemma leads tothe modifiedimplementationofthe ANC byreducingvisitsduringthe COVID-19 pandemic.

The study results show that health workers in childbirth services are still able to assist in childbirth by using personal protective equipment. The importance of the use of complete personal protective equipment for midwives/health workers who provide delivery assistance is very important to break the chain of transmission of COVID-19. This is in line with the protocols in Labor and Delivery units that include conducting simulations of the COVID-19 pandemic, including donning personal protective equipment (PPE).[17]

The study results indicate some midwives are initiating early breastfeeding regardless of the status of Covid-19. Thiscan happen because the midwife does not check COVID 19 status before the mother is giving birth. The majority of midwives only screen for early signs of COVID-19 such as fever and respiratory symptoms. The options regarding breastfeeding are justifiable since the infection by Covid-19 is still very new and little known. However, puerperal women and their families must be very well informed to make a conscious choice based on the most current information available in the literature [18].

The study results showed that many midwives are allowing husband/family to accompany childbirth.This is possible because of the habits of Indonesian people who if they give birth are always accompanied either by their mother or mother-in-law or accompanied by a traditional doula, who is a skilledbirth attendant.Implementing a labor and delivery unit visitor policy necessitates balancing risks and benefits in the face of uncertain and evolving information. Ideally, such policy making balances the benefits and risks to the patient, the visitor, the community, the health care team, and perhaps above all, to the infant, in an evidence-based, nonreactionary, and compassionate manner[19].

The study results show that the midwives are still giving the delivery services during the COVID-19 pandemic. The midwives are trained to provide safe intrapartum care in the home environment. In the context of a pandemic, women who are pregnant can still deliver at home and do not have to come to health services and are accompanied by a community midwife[20].

The study results show that the majority of midwives who cared for patients during the COVID-19 pandemic used complete personal protective equipment. This is because the midwife has the responsibility to break the chain of transmission of the virus. In addition, the use of complete personal protective equipment reduces the mental burden of midwives as a frontline in maternal and child health services, because fear of transmission of the virus will affect the quality of service. Protecting health care workers is an important component of public health measures for addressing the COVID-19 epidemic. Special interventions to promote mental well-being in health care workers exposed to COVID-19 need to be immediately implemented, with women, nurses, and frontline workers requireparticular attention.[21] Prevention principles include screening pregnant women and controlling infection using complete personal protective equipment, conducting consultations and providing care when emergency indications arise and clarifying to mothers that they can easily access referral facilities[22].

Facility levels for puerperal women for COVID-19 differ between high and low-to-middle incomecountries, including significantdifferences in updating the guidelines, setting referrals for screening for puerperal mothers, availability of testing, and dedicating isolation spaces for patients with confirmed or suspected COVID-19.Midwives also suggest mothers should still provide breastfeeding for their newborns[23]. Global and local efforts must be made to ensure that displaced populations have access to appropriate infection prevention measures, testing, and medical care, and for quality maternal and newborn services to stop the anticipated exacerbation of negative health outcomes[24]. The knowledge gap regarding mother and newborn separation needs to be filled. According to the current evidence, it seems that skin-to-skin contact and breastfeeding can be recommended, but it is critical to screen pregnant women, implement prevention and control measures, and closely monitor newborns at risk of COVID-19[25].

Recent research found themidwives' recommendations for the ANC visits are stronglyassociated with good knowledge about neonatal dangersigns. Motherswho had fourormore ANC visitsduringpregnancy had 3.6 timesincreasedchancesofhavinggood knowledge about neonatal dangersignscomparedtothosewho had fewerthanfourvisits, becausemotherswhofrequentlyvisited ANC duringpregnancy were morelikelytohavepost-natalcare[26]. This finding couldbeduetothecreationofawarenessaboutthesignsof non-fatal dangerduringtheir PNC visitbeforeconductingpostpartumvisitexaminations, which is when mothers arefirstdirectedtoscreeningandadvisedtokeepbreastfeeding theirbabies[27].

The role of midwives outside the hospital in supervising women and their children after birth, and the importance of screening during ANC visits and post-partum, it is equally important to ensure that they have all the appropriate personal protective equipment they need (masks, overalls, gloves, etc.)[28].It is recommended that mothers to continue breastfeeding during the COVID-19 pandemic and to maintain safe social distancing when outside the home. Institutions should make a list of midwives outside the hospital who can provide advanced care for women and their children after birth to strengthen the city/hospital relationship.

CONCLUSIONS

The majority of maternal and neonatal services in the community during the COVID-19 period are being maintained and well-conducted.

Abbreviations

ANC: Antenatal Care, PNC: Postnatal Care, COVID-19: Corona Virus Disease2019, PPE: personal protective equipment

Funding

This research was This research was conducted using the author's personal funds.

Conflict of Interests

The authors declare that they have no competing interests.

Ethical Statement

All participants signed an informed consent at the beginning of the first meeting before fully engaged in the study process.

Credit Authorship Contribution statement

JO and EN are PhD students and first and second author of this manuscript and wrote the first draft of the manuscript. WW, ND revised the manuscript critically. All authors read and approved the final manuscript. All authors read and approved the final manuscript.

Acknowledgements

We gratefully acknowledge the Indonesian Endowment Fund for Education (LPDP) for the support for the publication payment.

REFERENCES

1. Indonesian Health Ministry. Guidelines for Prevention and Control of Coronavirus Disease (COVID-19). Indones. Heal. Minist. 2020.
2. Office P staff. Government Issues Health Protocol for COVID-19 Handling. 2020.
3. Wilson AN, Ravaldi C, Scoullar MJL, Vogel JP, Szabo RA, Fisher JRW, et al. Caring for the carers: ensuring the provision of quality maternity care during a global pandemic. Women and Birth. Australian College of Midwives; 2020;
4. Sarfraz S, Mansoor Z, Tariq R. Teachers' and students' perceptions of the communicative language teaching methodology in the CALL environment: acase study. Procedia - Soc Behav Sci [Internet]. Elsevier B.V.; 2015;199:730–6. Available from: http://dx.doi.org/10.1016/j.sbspro.2015.07.604
5. Indonesiaon Health Ministry. Guidelines for pregnant women, postpartum and newborn during social distancing. 2020.
6. Assosiation IM. Current situation of midwifery services in the COVID-19 pandemic protocol midwifery services in the COVID-19 pandemic commitments and expectations of the Indonesian Midwives Association. Contribution of the Indonesian Midwives Association in the Covid-19 Pandemic. 2020.
7. Jannah SM. Beware COVID-19, How to stay safe immunization in the middle of a pandemic? 2020.
8. Vice. BKKBN: Angka KB menurun di Indonesia selama pandemi covid-19 kelahiran melonjak - VICE. 2020.
9. Notoatmodjo S. Health Research Methodology. Revised Edition. revisi. Jakarta: Rineka Cipta; 2015.
10. Sugiyono. Statistics for Research. Bandung: CV Alfabeta; 2014.
11. Tolu LB, Jeldu WG. Guidelines and best practice recommendations on reproductive health services provision amid COVID-19 pandemic: scoping review. 2020;1–20. Available from: https://doi.org/10.21203/rs.3.rs-25322/v1
12. Richens Y, Wilkinson M, Connor D. Guidance for the provision of antenatal services during the COVID-19 pandemic. Br J Midwifery. 2020;28:324–7.
13. Provincial Health Cervices Authority. Antenatal visits during COVID-19 pandemic. Perinat. Serv. BC. 2020. p. 19–20.
14. Turrentine M, Ramirez M, Monga M, Gandhi M, Swaim L, Tyer-Viola L, et al. Rapid deployment of a drive-through prenatal care model in response to the Coronavirus Disease 2019 (COVID-19) pandemic. Obstet Gynecol. 2020;Publish Ah:1–4.
15. Rocca-Ihenacho L, Alonso C. Where do women birth during a pandemic?:changing perspectives on safe motherhood during the COVID-19 pandemic. J Glob Heal Sci. 2020;2:0–2.
16. Renfrew MJ, Cheyne H, Craig J, Duff E, Dykes F, Hunter B, et al. Sustaining quality midwifery care in a pandemic and beyond. Midwifery [Internet]. Elsevier Ltd; 2020;88:102759. Available from: https://doi.org/10.1016/j.midw.2020.102759
17. Boelig RC, Manuck T, Oliver EA, Di Mascio D, Saccone G, Bellussi F, et al. Labor and delivery guidance for COVID-19. Am J Obstet Gynecol MFM [Internet]. Elsevier Inc.; 2020;2:100110. Available from: https://doi.org/10.1016/j.ajogmf.2020.100110
18. Giuliani C, Li Volsi P, Brun E, Chiambretti A, Giandalia A, Tonutti L, et al. Breastfeeding during the COVID-19 pandemic: suggestions on behalf of woman study group of AMD. Diabetes Res Clin Pract [Internet]. Elsevier B.V.; 2020;165:108239. Available from: https://doi.org/10.1016/j.diabres.2020.108239
19. Snowden JM, Tilden EL, Snyder J, Quigley B, Caughey AB, Cheng YW. Labor and delivery visitor policies during the COVID-19 pandemic: balancing risks and benefits. N Engl J Med. 2015;373:2642–53.
20. Cheryllee Bourgeois, Remi Ejiwunmi. Jane Erdman, Natalie Hope, Tasha MacDonald, Anna Meuser, Alexa Minichiello, Matalie Pambrun, TRacy Pearce, Angela Reitsma, Julie Toole, Vicki Van Wagner SW. Home birth during the COVID-19 pandemic. 2020.
21. Lai J, Ma S, Wang Y, Cai Z, Hu J, Wei N, et al. Factors Associated With Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019. JAMA Netw open. 2020;3:e203976.
22. Elshafeey F, Magdi R, Hindi N, Elshebiny M, Nasser M, Kamel M, et al. A systematic scoping review of COVID - 19 during pregnancy and childbirth. 2020;47–52.
23. Fitriatun E. Voices from the frontline:findings from a thematic analysis of a rapid online global survey of maternal and newborn health professionals facing the COVID-19 pandemic. J Chem Inf Model. 2019;53:1689–99.
24. Lai AL, Millet JK, Daniel S, Freed JH, Whittaker GR. Middle East Respiratory Syndrome-Coronavirus (MERS-CoV) Infection. Lancet. 2020. p. 1315.
25. Duran P, Berman S, Niermeyer S, Jaenisch T, Forster T, Gomez Ponce de Leon R, et al. COVID-19 and newborn health: systematic review. Rev Panam Salud Pública. 2020;44:1.
26. Yosef T, Nigussie T, Asefa A. Knowledge of neonatal danger signs and its associated factors among mothers attending child vaccination centers at Sheko District in Southwest Ethiopia. Int J Pediatr. 2020;2020:1–6.
27. Graham WJ, Afolabi B, Benova L, Maeve O, Campbell R, Filippi V, et al. Protecting hard won gains for mothers income and newborns in low-to-middleincome countries in the face of COVID-19: call for a service safety net. 2020;1–5.
28. Vivanti AJ, Vauloup-Fellous C, Prevot S, Zupan V, Suffee C, Do Cao J, et al. Transplacental transmission of SARS-CoV-2 infection. Nat Commun [Internet]. Springer US; 2020;11:3572. Available from: http://www.ncbi.nlm.nih.gov/pubmed/32665677