

Predictors of Male Involvement in Postnatal Care in Jambi, Indonesia: A Cross-Sectional Study

G. Guspianto¹, I.N. Ibnu¹, M. Veruswati^{2,3}, A. Asyary⁴

Key words: Involvement, men, postnatal care

Parole chiave: Coinvolgimento, maschi, cure postnatali

Abstract

Background. Postpartum care (postnatal care, or PNC) is crucial for the health of mothers and newborns. After child delivery, mothers and babies should have optimal access to the health care system to utilize the facilities and skilled health workers. The involvement of men has a positive impact on the use of PNC and plays an important role in reducing delays, especially in preventing maternal and newborn deaths.

Objectives. This study assessed the level of the involvement of men in PNC and analyzed the factors that determined this involvement.

Methods. A cross-sectional study was conducted through a survey of 381 males who were selected by multistage random sampling in Muaro Jambi, Indonesia, from April to August 2020. The dependent variable was the involvement of men in PNC, which was constructed from four dichotomous indicators. Multiple logistic regression analysis was performed using SPSS 24.0 at a significance level of 0.05.

Results. Over 50% of respondents were highly involved in PNC, with the predicting factors being the number of children (OR = 2.195, 95% CI = 1.096-4.397), the quality of health service (OR = 6.072, 95% CI = 3.324-11.09), communication (OR = 6.908, 95% CI = 3.255-14.66), and culture (OR = 4.031, 95% CI = 2.196-7.399). The communication factor was the main predictor of male involvement in PNC in Muaro Jambi Regency.

Conclusion. The involvement of men in PNC in Muaro Jambi Regency was related to the number of children, quality of health service, communication, and culture. Counseling “as a couple” is needed to improve the communication between husband and wife so that they can understand each other’s needs in PNC.

¹ Study Program of Public Health Science, Faculty of Medicine and Health Sciences, Universitas Jambi, Muaro Jambi, Indonesia

² Study Program of Public Health Science, Faculty of Health Sciences, University of Muhammadiyah Prof. Dr. HAMKA, Jakarta, Indonesia

³ PhD Program of Business and Management, Management and Science University (MSU), Shah Alam, Selangor Darul Ehsan, Malaysia

⁴ Faculty of Public Health, Universitas Indonesia, Depok, Indonesia

Introduction

Previous evidences have documented negative effects of gender inequality on the health of women because it limits the capacity for decision-making in the household, hampers access to health resources, causes a heavy workload for women, and results in stringent gender norms and discrimination of women (1, 2). Addressing gender inequality is an important strategy to improve the health of women and children, especially during pregnancy and the perinatal period (3-7). The involvement of men during these periods may improve the health status of mothers and newborns through the transformative potential of gender, namely by changing gender relations, gender roles, norms and the structures that produce them (6). Several studies have revealed the benefits of men's involvement in maternal (8) and child health (9), such as better access to health services with trained personnel and the use of modern contraceptive methods (6).

The involvement of men in maternal and newborn health as an integral part of strategies to address the effects of gender on health status was mandated by the 1994 International Conference on Population and Development (ICPD) in Cairo (7). During this conference, men were recognized not only as clients or partners with the right to healthcare and a responsibility for supporting maternal and child health, but also as agents of positive change with the ability to alter the existing gender boundaries in health (10). The involvement of men promotes gender equality, thereby improving the quality of the family (5). The ways in which a man's involvement can improve maternal and newborn health includes taking over the role of the wife when she is pregnant or in labor, seeking care or treatment if there are complications, helping with the care and feeding of newborns, being involved in family planning, and paying attention to the mother's mental health after childbirth.

Postpartum care (postnatal care, or PNC) is extremely important for the health of mothers and newborns. After giving birth, a mother and her baby must have good access to the healthcare system to be able to take advantage of the facilities and skilled healthcare workers. The involvement of men greatly influences the decision to seek, reach, and utilize PNC, especially when complications occur that can have an impact on the maternal mortality rate (MMR) and newborns (neonatal mortality rate, or NMR). Efforts to accelerate the decline in maternal mortality rate and neonatal mortality rate are carried out by ensuring that mothers and babies are able to access quality healthcare services, including PNC, because most deaths occur in the first 48 hours after giving birth. In Indonesia in 2016, the MMR was 305 per 100,000 births, and the NMR was 15 per 1,000 births (11). A priority target of the Sustainable Development Goals of Indonesia is to reduce the MMR to 70 per 100,000 births and the NMR to 12 per 1,000 births in 2030 (12). In Jambi Province, the MMR increased from 46 per 100,000 births in 2018 to 59 per 100,000 births in 2019, while the NMR was 3.7 per 1,000 births in 2019 (13).

The involvement of men has a positive impact on the utilization of PNC and plays an important role in reducing delays, especially in handling obstetric emergencies (7). On this occasion, the low involvement of men in PNC causes an increase in maternal and infant morbidity and mortality because of the delays in making decisions to obtain PNC services (11, 13). This study aims to assess the level of male involvement and analyze the factors that determine male involvement in PNC.

Methods

Study design

A cross-sectional, community-based study was employed in this study.

Setting

This study was conducted from April to August 2020 which the data collection was held on June 2020 in Muaro Jambi, a district in Jambi Province, Indonesia.

Participants

The research sample encompassed men from couples of childbearing age who had biological children of up to 2 years old. The sample selection used a multistage sampling technique.

Variables

In this study, 14 independent variables comprised of the characteristics and background of the respondents that identified with the level of involvement of men in PNC as the dependent variable. These variables are namely [1] age, [2] the household income, [3] husband's education, [4] the number of children, [5] distance, [6] cost, [7] health insurance participation, [8] the wife's education level, [9] knowledge, [10] transportation, [11] service quality, [12] communication, [13] social media information, and [14] culture.

Data sources/measurement

The data were collected by means of a questionnaire, which was developed by the researcher himself by combining and adapting several questionnaires from previous studies (14-16). This research instrument has passed the validity and reliability test at the different study settings on 30 preliminary respondents. Each question item of the questionnaire was presented using an item-total correlation that showed that all of these questions are >0.3 , indicated good discrimination parameters (14, 15). Meanwhile, the reliability of the questionnaire indicated with Cronbach's Alpha (16) > 0.60 (values >0.90 are considered excellent, values >0.70 and <0.90 good, values >0.60 and <0.70 acceptable, and values <0.60 non-acceptable) in all 4

subscales of the questionnaire. Since we are computing binary variables, Cronbach's alpha relies on the KR20 formula to make it suitable for items with proportional responses (e.g. Likert-scaled items) and associated variables continuously, so the underlying math, if any, is simpler for items with a dichotomous response option (17). After running this test, we have the same coefficient and another similar output, and interpret this output in the same way as described in Cronbach's Alpha estimator.

After a well-formed questionnaire was developed, the healthcare professionals in the primary healthcare centers in each village were recruited as the field-enumerator in this study. These field-enumerators comprised midwives, nurses, and epidemiologists that were having briefing sessions before pooling the respondents' data. The instrument questioned specific un-anonymous information from each respondent. However, anonymity is guaranteed with the utilization of a research dataset that is subjected to study purpose only without processing and presenting the privacy information.

This study received approval from the ethics committee of the Health Polytechnic of the Ministry of Health of Jambi (number: LB.02.06/2/109/2020). The potential respondents were receiving the invitation and information regarding the study by the healthcare professional in their respective village. All respondents who accepted the invitation were willing to participate in this study. They have signed an informed consent before participating in this study.

The study site was located in Muaro Jambi, Jambi Province, which is generally known as a rural setting. All eight villages as study setting were having zero cases of Covid-19 when it was selected in April 2020. When the data collection was conducted in June 2020, the Covid-19 situation in Jambi Province had worsened, with 103 people positive and zero death cases (17). At that time, the government set the large-scale

social restriction/distancing measure with work-from-home activity (18). Therefore, to avoid the transmission risk, the data collection was held by health professionals who lived in their respective villages of the study setting. This data collection process applied health protocols that included wearing a face mask, physical distancing, and limiting the interview duration with the respondents.

Bias

The one-shot time approach would potentially affect the measurement that was realized in this type of study. The changing of reversible variables would also affect the study's results and conclusions.

Study size

First, 4 out of 11 sub-districts were randomly selected, followed by the random selection of 8 villages (2 villages from each sub-district). The sample contained as many as 438 respondents taken proportionally and randomly from a study population of 983 people in the 8 selected villages. This study had a response rate of 87%, meaning that 381 persons were successfully interviewed.

Quantitative variables

The involvement of men in PNC was evaluated by 4 sets of questions, with dichotomous (yes/no) answers, regarding the following topics: [1] assessing the health of the wife and baby, [2] accompanying the wife when the baby was immunized, [3] helping with housework and taking care of the baby, [4] arranging a family planning program with the wife. The total score was calculated by adding the respondent scores of each separate activity. The involvement of men was categorized into low engagement or high involvement based on the value of the cut-off point (median). The independent variables were the characteristics and background of the respondents: age (≤ 30 years or >30 years), the number of children

(≤ 2 or >2), income (low/high), education level (low/high), education level of the wife (low/high), knowledge (low/fair), distance to healthcare facilities (long/short), cost of healthcare (expensive/cheap), transportation to healthcare facilities (hard/easy), health insurance (no/yes), quality of healthcare service (not good/good), communication with the wife (low/fair), social media usage (no/yes), and culture (not supportive/supportive).

Statistical methods

Analysis of the data was carried out using univariate, bivariate (chi-square), and multivariate (multiple logistic regression) methods, adopting the UI-licensed SPSS software application.

Results

Characteristics and background of the respondents

The majority of the respondents were aged 25-44 years (78.2%) and had ≤ 2 children (77.4%), a low income (69%), a low education level (59.8%), a wife with a low education level (62.2%), and fair knowledge (56.7%). Most respondents stated that the distance from healthcare facilities was short (90.6%), that the cost of healthcare was low (68%), and that the transportation to healthcare facilities was easy (92.9%). Further, most respondents had health insurance (68.5%), had a good perception of service quality (52.8%), did not communicate with their wives about maternal health (75.6%), had no information on maternal health from social media (71.7%), and had a supportive culture (70.6%).

Male involvement in PNC

Figure 1 shows that the aspects of PNC that most men take care of, are housework and having care of the baby (84%), while

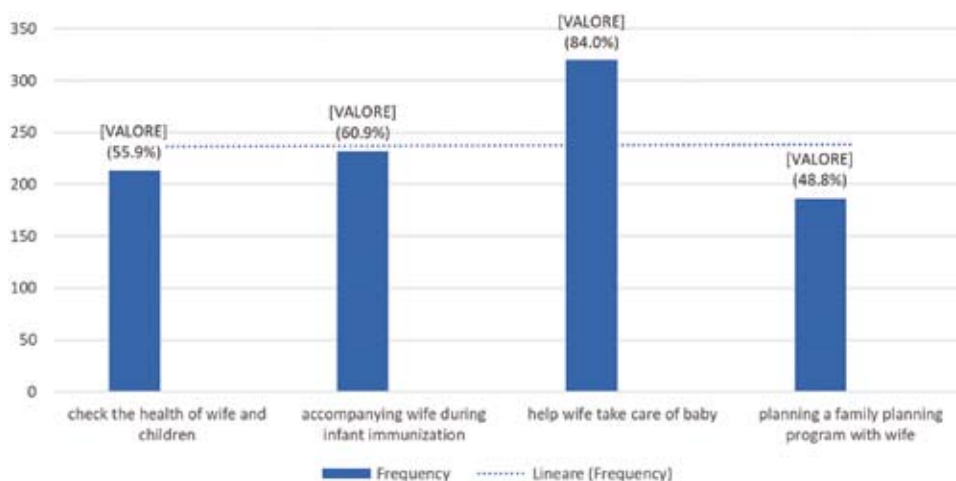


Figure 1 - Components of male involvement in PNC

the activity that was least performed was participating in a family planning program together with the wife (48.8%). In general, more than half of the respondents reported high involvement in PNC (Table 1).

Factors related to male involvement in PNC

Table 2 presents the relationship between the characteristics and background of the respondents and the level of involvement of men in PNC. There are 8 variables (out of 14 variables) that are significantly related to the involvement of men, namely the number of children, the wife’s education level, knowledge, transportation, service quality, communication, social media information, and culture.

Predictors of male involvement in PNC

The results of the logistic regression analysis revealed that men who have the potential to have high involvement in PNC

are men who have 2 children (Odds Ratio [OR] = 2.195), men with good perception of service quality (OR = 6.072), men who are good at talking about maternal health with their wives (OR = 6.908), and men with a supportive culture (OR = 4.031). Thus, communication was the main predictor associated with male involvement in PNC (Table 3).

Discussion

The results of this study showed that more than half of the respondents (54.9%) were highly involved in health care after childbirth (PNC), as indicated by checking the health of their wives and infants (55.9%), accompanying their wives when the children were immunized (60.9%), and assisting with housework or taking care of the baby (84%), whereas participating in family planning programs together with their wives scored low (48.8%). The findings are in line with previous research (18) showing that 59.3% of men are involved in PNC, but they disagree with another research study (15, 16) that found that male participation in PNC was still low. A man’s involvement

Table 1 - Male involvement rate in PNC

Engagement rate	Frequency (%)
- Low engagement	172 (45.1)
- High engagement	209 (54.9)

Table 2 - Relationship between the characteristics and background of the respondents and the male involvement rate in PNC

Variable	Low engagement		High engagement		X ²	p-value
	n	%	n	%		
Age						
≤ 30 years old	44	48.4	47	51.6	0.497	0.481
> 30 years old	128	44.1	162	55.9		
Number of children						
> 2 kids	47	55.3	38	44.7	4.551	0.033*
≤ 2 kids	125	42.2	171	57.8		
Household Income						
Low income	120	45.6	143	54.4	0.080	0.777
High income	52	44.1	66	55.9		
Husband's education						
low education	101	44.3	127	55.7	0.164	0.685
higher education	71	46.4	82	53.6		
Wife's education						
low education	117	49.4	120	50.6	4.515	0.034*
higher education	55	38.2	89	61.8		
Knowledge level						
Not Good	84	50.9	81	49.1	3.906	0.048*
Good	88	40.7	128	59.3		
Distance						
Far	18	50.0	18	50.0	0.379	0.538
Close	154	44.6	191	55.4		
Cost						
Expensive	54	44.3	68	55.7	0.056	0.812
Cheap	118	45.6	141	54.4		
Transportation						
Difficult	18	66.7	9	33.3	5.435	0.020*
Easy	154	43.5	200	56.5		
Health Insurance Participation						
Non Member	61	50.8	59	49.2	2.289	0.130
Member	111	42.5	150	57.5		
Service Quality						
Not Good	124	68.9	56	31.1	77.050	0.000**
Good	48	24.0	152	76.0		
Communication						
Not Good	148	51.4	140	48.6	18.578	0.000**
Good	24	25.8	69	74.2		
Social Media Information						
No	133	48.7	140	51.3	4.966	0.026*
Yes	39	36.1	69	63.9		
Culture support						
Not Support	72	64.3	40	35.7	23.470	0.000**
Support	100	37.2	169	62.8		

Annotation : * = p≤0,05; ** = p≤0,01; *** = p≤0,001; X² = chi-square

Table 3 - Multivariate analysis: predictors of male engagement in PNC

Variable	B	p-value/P-Wald	OR/Exp(B)	95% CI
Number of Child	0,786	0,027*	2,195	1,096 – 4,397
Service Quality	1,804	0,000***	6,072	3,324 – 11,09
Communication	1,933	0,000***	6,908	3,255 – 14,66
Culture Support	1,394	0,000***	4,031	2,196 – 7,399

Notes: * = $p \leq 0,05$; ** = $p \leq 0,01$; *** = $p \leq 0,001$; B = constant; OR = Odds Ratio; CI = Confidence Interval

is necessary to obtain PNC for the mother, to assess the health of mother and baby, to immunize infants, to assist the mother with housework or taking care of the baby, and to participate in a family planning program. Mothers who have just given birth are prone to experiencing emotional disorders, such as depression and feelings of loneliness, anxiety, and unhappiness (19).

This study found predicting factors that were associated with male involvement in PNC, namely the number of children (OR = 2.195), the quality of healthcare service (OR = 6.072), the communication with the mother (OR = 6.908), and the culture (OR = 4.031). Men with ≤ 2 children tend to be more involved in PNC. This is related to the motivation to become a father as a new moment in life. Men who become fathers for the first time, take time off from work to actively care for their children, but they do not do this for the next child (8). The presence of a good healthcare service will provide opportunities for men to get more involved in PNC because it creates comfort and satisfaction. Poor quality of service, on the other hand, can become a major barrier to the involvement of men in PNC (20). Our study found that although the quality was mostly perceived as good, some conditions were thought to be in need of improvement, namely cleanliness and tidiness (28.1%), clarity of service information (38.1%), and completeness of facilities and equipment (28.1%). The results of this study showed that good communication between husband

and wife about maternal health was the main predictor for male involvement in PNC. Maternal health programs should teach how men and women can communicate each other so that they can understand each other's needs during pregnancy, childbirth, and the postpartum period. This study found that most men (75.6%) did not communicate well with their wives about health problems. This situation should be improved by intensive counseling, so that married couples can start communicating each other and make joint decisions regarding the support they need and the way to obtain it. In this study, we also showed that a supportive culture can increase the involvement of men in PNC (6). These results are in line with studies in Kenya and Nigeria that reported that culture affects men's participation in women's reproductive health (20). Women perceived that awareness creation can be a vital strategy to enforce men involvement in maternal health (20), which may affect the health-seeking behavior of men (21). At the same time, men's perceptions may differ as to their roles, due to differences in cultural norms and beliefs. Men may feel that they think they should be involved, but, on the other hand, they may also feel that their involvement is not necessarily needed (22). The culture of "dominant male" as a form of gender inequality is often strong in many societies, creating a barrier to men's involvement in maternity care, including PNC. Male participation in PNC can reduce gender inequality, and men can play an

important role in changing gender roles and norms to improve maternal and child health.

Study limits

The validity and reliability test of the instrument was verified by an un-administrated sub-group, e.g. by sex. In addition, the interviewers were not having specific training. Hence, the interviewers who have competency and qualification/degree as health professionals were having a general briefing before the data collection. Thus, data and information derived from this study can be considered responsibly.

Since it was conducted in the Covid-19 situation with the application of health protocols, the effect of these measures would challenge the data collection in the study. Nonetheless, this study was met with enthusiasm by the participants, each respondent was given double clarification as a clarifying message to prevent bias in the data collection.

Conclusions

More than half of the respondents reported high involvement in PNC, with the predictors being the number of children, quality of health service, communication, and culture. The communication factor was the main predictor of male involvement in PNC. Counseling “as a couple” is required for spouses to better communicate with each other so that they can understand each other’s needs in PNC. This study’s results could become instrumental to improve maternal and child health as well as reduce the MMR and NMR according to Indonesian’s SDGs target 2030. The next intervention steps are to encourage participation in family planning (KB) programs related to the “2 children are better” policy, to improve the quality of PNC services, to disseminate information regarding maternal health, and to stimulate

community leaders to advocate a culture that supports high involvement of men in PNC.

Acknowledgement

Our gratitude to the Jambi University Research and Community Service Institute (LPPM) for providing research funding and the Muaro Jambi District Health Office for its support in carrying out this research. The publication of this study is supported by the Universitas Indonesia.

Riassunto

Fattori predittivi del coinvolgimento maschile nelle cure parentali postnatali a Jambi, Indonesia: un’indagine trasversale

Premesse. L’assistenza post-parto o post-natale è fondamentale per garantire la salute di puerpera e neonato. Dopo il parto, madre e figlio debbono poter disporre di un accesso privilegiato al Servizio sanitario per poterne utilizzare strutture e competenze. Il coinvolgimento dell’elemento maschile ha un impatto positivo sull’efficacia dell’assistenza post-parto e gioca un ruolo importante nel ridurre i ritardi, specie per gli interventi che evitano la morte di madre e/o figlio.

Obiettivi. Lo studio ha indagato il livello di coinvolgimento dei maschi nell’assistenza post-parto ed ha analizzato i fattori che condizionano questo coinvolgimento

Metodi. È stato condotto un’indagine trasversale effettuando una sorveglianza di 381 maschi selezionati mediante campionamento casuale multifase a Muaro Jambi Regency, Indonesia, tra Aprile ad Agosto 2020. La variabile dipendente era il coinvolgimento dei maschi nell’assistenza post-parto, rappresentato da quattro indicatori dicotomici. Un’analisi di regressione logistica multipla è stata effettuata usando SPSS 24.0 ad un livello di significatività di 0.05.

Risultati. Oltre il 50% di coloro che hanno risposto sono risultati molto impegnati nell’assistenza post-parto, ed i fattori predittivi di questo comportamento sono risultati: il numero dei figli (OR = 2,195, 95% CI = 1,096-4,397), la qualità del servizio sanitario (OR = 6,072, 95% CI = 3,324-11,09), la comunicazione (OR = 6,908, 95% CI = 3,255-14,66), e il livello culturale (OR = 4,031, 95% CI = 2,196-7,399). Il fattore comunicazione è risultato come il principale predittore del coinvolgimento maschile nell’assistenza post-parto a Muaro Jambi Regency.

Conclusioni. Il coinvolgimento dei maschi nell’assistenza post-parto a Muaro Jambi Regency è apparso associato al numero di figli, alla qualità dell’assistenza, al

fattore comunicativo ed a quello culturale. Il counseling “alla coppia” è necessario per migliorare la comunicazione tra marito e moglie, in modo tale che entrambi siano in grado di capire le reciproche esigenze nell’ambito dell’assistenza post-parto.

References

1. Richards E, Tolhurst R, Theobald S; Liverpool School of Tropical Medicine (LSTM). Gender Influences. A Narrative Review on Child Survival, Health and Nutrition. United Nations Children’s Fund (UNICEF); 2011: 1-69. Available on: https://www.researchgate.net/publication/309433915_Increasing_understanding_of_the_relationship_between_geographic_access_and_gendered_decision-making_power_for_treatment-seeking_for_febrile_children_in_the_Chikwawa_district_of_Malawi/fulltext/5813f57d08ae90acb23b8157/Increasing-understanding-of-the-relationship-between-geographic-access-and-gendered-decision-making-power-for-treatment-seeking-for-febrile-children-in-the-Chikwawa-district-of-Malawi.pdf [Last accessed: 2022 April 20].
2. Palupi RA, Sulistiadi W, Asyary A. Public Health Policy Practice for Early-Age Marriage in Gunung Kidul, Indonesia: An Evaluation of Regent Regulation Practice on Child Health. In: E3S Web of Conferences: EDP Sciences; 2019: 17002.
3. Gill K, Pande R, Malhotra A. Women deliver for development. *Lancet*. 2007 Oct 13; **370**(9595): 1347-57. doi: 10.1016/S0140-6736(07)61577-3.
4. Caro D. A Manual for Integrating Gender Into Reproductive Health and HIV Programs. Commitment to action. US Agency Interagency Gender Working Group; 2009 Aug: 1-71. Available on: <https://healtheducationresources.unesco.org/library/documents/manual-integrating-gender-reproductive-health-and-hiv-programs-commitment-action> [Last accessed: 2022 April 20].
5. Promundo, UNFPA. Engaging Men and Boys for Gender Equality and Sexual and Reproductive Health and Rights. Washington, D.C.: Promundo-US and New York City, NY: UNFPA; 2016. Available on: https://www.unfpa.org/sites/default/files/pub-pdf/50694_-_Scaling_up_Men_and_Boys_-_revised.pdf [Last accessed: 2022 April 20].
6. Comrie-Thomson L, Tokhi M, Ampt F, et al. Challenging gender inequity through male involvement in maternal and newborn health: critical assessment of an emerging evidence base. *Cult Health Sex*. 2015; **17**(Suppl 2): S177-89. doi: 10.1080/13691058.2015.1053412. Epub 2015 Jul 10.
7. Greene ME, Mehta M, Pulerwitz J, Deirdre W, Bankole A, Singh S. Involving Men in Reproductive Health: Contributions to Development. Washington DC: UN Millennium Project; 2006: 5-53. Available on: <https://www.faihto-actionnetwork.org/resources/pdf/Involving%20Men%20in%20Reproductive%20Health-Contributions%20to%20Development.pdf> [Last accessed: 2022 April 20].
8. Redshaw M, Henderson J. Fathers’ engagement in pregnancy and childbirth: evidence from a national survey. *BMC Pregnancy Childbirth*. 2013 Mar 20; **13**: 70. doi: 10.1186/1471-2393-13-70.
9. Mekonnen W, Worku A. Determinants of low family planning use and high unmet need in Butajira District, South Central Ethiopia. *Reprod Health*. 2011 Dec 8; **8**: 37. doi: 10.1186/1742-4755-8-37.
10. Lincetto O, Mothebesoane-Anoh S, Gomez P, Munjaja S. Antenatal care. Chapter 2. In: Opportunities for Africa’s newborns: practical data, policy and programmatic support for newborn Care in Africa. Geneva: WHO; 2012: 51-62. Available on: <https://www.who.int/pmnch/media/publications/africanewborns/en/> [Last accessed: 2022 April 20].
11. Republik Indonesia. Kementerian Kesehatan RI. Sekretariat Jenderal. Profil Kesehatan Indonesia Tahun 2016. Jakarta: Kementerian Kesehatan RI; 2017. ISBN 978-602-416-253-5. Available on: <https://pusdatin.kemkes.go.id/resources/download/pusdatin/profil-kesehatan-indonesia/Profil-Kesehatan-Indonesia-2016.pdf> [Last accessed: 2022 April 20].
12. Buku saku terjemahan tujuan dan target global. Jakarta: Bappenas; 2018. 72 p. Available on: <http://sdgs.bappenas.go.id/buku-saku-target-metadata/> [Last accessed: 2022 April 20].
13. Republik Indonesia. Kementerian Kesehatan RI. Sekretariat Jenderal. Profil Kesehatan Indonesia Tahun 2019. Jakarta: Kementerian Kesehatan RI; 2020. ISBN 978-602-416-977-0. Available on: <https://pusdatin.kemkes.go.id/resources/download/pusdatin/profil-kesehatan-indonesia/>

- Profil-Kesehatan-indonesia-2019.pdf [Last accessed: 2022 April 20].
14. Gibore NS, Ezekiel MJ, Meremo A, Munyogwa MJ, Kibusi SM. Determinants of men's involvement in maternity care in Dodoma Region, Central Tanzania. *J Pregnancy*. 2019; Article ID 7637124. <https://doi.org/10.1155/2019/7637124>.
 15. Iliyasa Z, Abubakar IS, Galadanci HS, Aliyu MH. Birth preparedness, complication readiness and fathers' participation in maternity care in a northern Nigerian community. *Afr J Reprod Health*. 2010 Mar; **14**(1): 21-32.
 16. Ongolly FK, Bukachi SA. Barriers to men's involvement in antenatal and postnatal care in Butula, western Kenya. *African J Prim Health Care Fam Med*. 2019 Jul 15; **11**(1): e1-e7. doi: 10.4102/phcfm.v11i1.1911.
 17. Indonesian National Task Team Force for Coronavirus 2019 (COVID-19). *Coronavirus 2019 (COVID-19) in Indonesia*. Jakarta: Indonesian National Task Team Force for Coronavirus; 2020. Available on: <https://www.covid19.go.id>. [Last accessed: 2022 April 20].
 18. Veruswati M, Asyary A, Alnur RD, Guspianto G. Correlation between Local Eid-al-Fitr Homecoming (Mudik) with Coronavirus Disease-19 during Ramadhan Season Amidst Large-scale Social Distancing in Indonesia. *Open Access Maced J Med Sci*. 2021 Dec 20; **8**(T1): 570-3. doi: <https://doi.org/10.3889/oamjms.2020.5369>.
 19. Sapkota S, Kobayashi T, Takase M. Impact on perceived postnatal support, maternal anxiety and symptoms of depression in new mothers in Nepal when their husbands provide continuous support during labour. *Midwifery*. 2013 Nov; **29**(11): 1264-71. doi: 10.1016/j.midw.2012.11.010. Epub 2013 Feb 15.
 20. Zakaria M, Khan AKMZR, Ahmad MS, Cheng F, Xu J. Women's Perception of Male Involvement in Antenatal, Childbirth and Postnatal Care in Urban Slum Areas in Bangladesh: A Community-Based Cross-Sectional Study. *Healthcare (Basel)*. 2021 Apr 16; **9**(4): 473. <https://doi.org/10.3390/healthcare9040473>.
 21. Greenspan JA, Chebet JJ, Mpembeni R, et al. Men's roles in care seeking for maternal and newborn health: a qualitative study applying the three delays model to male involvement in Morogoro Region, Tanzania. *BMC Pregnancy Childbirth* 2019 Aug 13; **19**(1): 293. <https://doi.org/10.1186/s12884-019-2439-8>.
 22. Falade-Fatila O, Adebayo AM. Male partners' involvement in pregnancy related care among married men in Ibadan, Nigeria. *Reprod Health* 2020 Jan 28; **17**(1): 14. <https://doi.org/10.1186/s12978-020-0850-2>.

Corresponding Author: Al Asyary, BScPH, MPH, PhD, Department of Environmental Health, Faculty of Public Health, Universitas Indonesia, C Buidling 2nd Floor, Campus FKM UI Depok, 16424, Indonesia
 e-mail: al.asyary13@gmail.com
al.asyary@ui.ac.id