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Judul Artikel : Population-based survey of exclusive breastfeeding in Indonesia: A secondary analysis

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4. Sawanya Siriphakhamongkhon

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Fwd: ส่งต่อ: [PRIJNR] Submission Acknowledgement

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23 Maret 2022 09.30

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From: Agus Agushybana <hybana@gmail.com>
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From: **Issara Siramaneerat** <issara_sira@hotmail.com>
Date: Fri, Jul 30, 2021, 08:42
Subject: ส่งต่อ: [PRIJNR] Submission Acknowledgement
To: hybana@hotmail.com <hybana@hotmail.com>, farid agus <hybana@gmail.com>

จาก: Dr. Issara Siramaneerat <admin@tci-thaijo.org>
ส่ง: 7 พฤษภาคม 2560 16:37
ถึง: Dr. Issara Siramaneerat <issara_sira@hotmail.com>
ชื่อเรื่อง: [PRIJNR] Submission Acknowledgement

Dr. Issara Siramaneerat:

Thank you for submitting the manuscript, "TIMING OF INITIATION AND EXCLUSIVE BREASTFEEDING IN INDONESIA" to Pacific Rim International Journal of Nursing Research. With the online journal management system that we are using, you will be able to track its progress through the editorial process by logging in to the journal web site:

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If you have any questions, please contact me. Thank you for considering this journal as a venue for your work.

Somchit Hanucharunkul
Pacific Rim International Journal of Nursing Research

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From: Agus Agushybana <hybana@gmail.com>
Date: Sab, 12 Mar 2022 09.20
Subject: Fwd: ตอบกลับ: Man281
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From: **ISSARA SIRAMANEERAT** <issara_sira@hotmail.com>
Date: Thu, Jul 13, 2017, 14:47
Subject: ตอบกลับ: Man281
To: farid agus <hybana@gmail.com>

i already fix the discusstion u see again

จาก: farid agus <hybana@hotmail.com> ในนามของ farid agus <hybana@gmail.com>
ส่ง: 12 กรกฎาคม 2560 12:57:02
ถึง: ISSARA SIRAMANEERAT
ชื่อเรื่อง: Re: Man281

Here you are the revised file. pleas add more on the discussion.

From: ISSARA SIRAMANEERAT <issara_sira@hotmail.com>
Sent: Wednesday, July 12, 2017 5:26 AM
To: hybana@hotmail.com
Subject: Fwd: Man281

Sent from my iPhone

Begin forwarded message:

From: SOMCHIT HANUCHARANKUL <somchit.han@mahidol.ac.th>
Date: July 12, 2560 BE at 9:23:45 AM GMT+7
To: "issara_sira@hotmail.com" <issara_sira@hotmail.com>

Subject: FW: Man281

Dear Dr. Issara:

Enclosed is your edited manuscript, there are still some minor revision is needed, Please revise and send it to me by July 14, thanks.

Somchit Hanucharunkul RN, PhD

Editor, Pacific Rim Int. JNR

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email somchit.han@mahidol.ac.th

From: Sue Turale [panchoandharley@hotmail.com]

Sent: Wednesday, July 12, 2017 8:57 AM

To: SOMCHIT HANUCHAREANKUL

Subject: Re: Man281

Dear Somchit, here is this manuscript with comments therein. There is one comment for you ... as I am not an expert in quantitative analysis wording. Please ask the authors not to change my edits, unless these are wrong. I will work on the other 4 manuscripts. Thanks Sue

From: Sue Turale <panchoandharley@hotmail.com>

Sent: Sunday, 9 July 2017 5:38 PM

To: SOMCHIT HANUCHAREANKUL

Subject: RE: Man281

Dear Somchit OK I will prioritize this manuscript! I am so glad that you are making progress with your leg. I did not realize you were still in hospital. Yes safety is important, as us older nurses know and it is great that your sister is coming to stay. Will get onto the other manuscripts you sent me asap. Take care and warmest wishes from me. Sue

Sent from my Samsung device

----- Original message -----

From: SOMCHIT HANUCHAREANKUL <somchit.han@mahidol.ac.th>

Date: 7/9/17 8:28 AM (GMT+10:00)

To: Susan Turale <panchoandharley@hotmail.com>

Subject: FW: Man281

Dear Sue:

This manuscript is expected to be published in the next issue. If this issue come out then there will be 10 years in Archive, with good English. Then I will submit our Journal for SCOPUS evaluation. Please look at this manuscript as a priority.

I am getting much better without any pain. The physician adjust the splint to bend the knee at 30 so that I can bend it more. They allow me to go home but I still in the

hospital to be sure that I can help my self with safe. My sister will stay with me in the hospital and at home for awhile.

Thank you

Somchit Hanucharunkul RN, PhD

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From: ISSARA SIRAMANEERAT [issara_sira@hotmail.com]

Sent: Saturday, July 08, 2017 7:03 PM

To: SOMCHIT HANUCHAREANKUL

Cc: hybana@hotmail.com; Kik รศก Raks; sawanya siri

Subject: ดอนกลับ: Man281

I already delete track change and highlight revision.

Best regard,

Issara Siramaneerat

จาก: SOMCHIT HANUCHAREANKUL <somchit.han@mahidol.ac.th>

ส่ง: 7 กรกฎาคม 2560 13:24:07

ถึง: ISSARA SIRAMANEERAT

ชื่อเรื่อง: RE: Man281

Dear Dr. Issara:

Please delete all track change and send it to me ASAP. I want to publish in the next issue, since it is the study outside from Thailand and we need for increase internationalization. Thanks

Somchit Hanucharunkul RN, PhD

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From: ISSARA SIRAMANEERAT [issara_sira@hotmail.com]

Sent: Friday, July 07, 2017 11:36 AM

To: SOMCHIT HANUCHAREANKUL; hybana@hotmail.com; sawanya siri; Kik Raks

Subject: ดอนกลับ: Man281

ps. ลืมแนบไฟล์ reponse to comment ค่ะ

ส่งเข้าระบบแล้วค่ะ

[cid:610cdc56-4d7f-443a-85a3-295fdb00c340]

จาก: ISSARA SIRAMANEERAT

ส่ง: 6 กรกฎาคม 2560 17:15:12

ถึง: SOMCHIT HANUCHAREANKUL; hybana@hotmail.com; sawanya siri; Kik Raks

ชื่อเรื่อง: ตอบกลับ: Man281

Dear editor,

We already edit the paper followed the suggestion from Dr. Sue (Editor from Austarlia).

Best regards,

Issara Siramaneerat, PhD.

จาก: SOMCHIT HANUCHAREANKUL <somchit.han@mahidol.ac.th>

ส่ง: 28 มิถุนายน 2560 10:43:14

ถึง: issara_sira@hotmail.com

ชื่อเรื่อง: FW: Man281

Dear Dr. Issara:

Enclosed is the comments from Dr. Sue, our Editor from Austarlia. Please revise as her recommendations by July13 2017.Thanks

Dear Authors, This manuscript does have potential for publication - it is a very important topic, but still requires more work to make it publishable ... see my comments therein. Be clear as to why you chose to analyse data from another study. (Actually you have not made it very clear as to whether you are utilizing previous data from another study). Apart from the ethics committee, there also needs to be clear description of approval of the authors of the previous study that you can utilize their data for analysis. Be clear that you do not breach publication ethics here.

The methods section needs to be explained in clear terms for readers and for ourselves, especially in regard to the use of secondary data. There is a decided lack of in depth discussion about the findings, and the social cultural economic situation in Indonesia. I think that it would help you to look at papers in high quality journals that have used secondary data analysis. This would assist in understanding the depth and quality of writing required for international publication. Some of the abstract has been

reworded. Take care with referencing to ensure that it is exact in punctuation and format. Good luck with your revision.

From: SOMCHIT HANUCHAREANKUL <somchit.han@mahidol.ac.th>
Sent: Wednesday, 28 June 2017 12:24 PM
To: Susan Turale
Subject: Man281

Dear Sue:

This manuscript has potential to replace the manuscript from Turkey. Please advise.

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Population Based Survey of Exclusive Breastfeeding in Indonesia

ABSTRACT:

Less than half of Indonesian mothers follow the World Health Organization recommendation to provide exclusive breastfeeding practice. Exclusive breastfeeding is associated with reducing an infant's risk of communicable and non-communicable diseases. This study examined the factors that predict exclusive breastfeeding in Indonesia by applying the secondary data of Indonesian Demographic Health Survey 2012, provided by the Demographic Health Survey Program. The participants were women aged 15-49 years old, and the survey was implemented using multi-stage cluster random sampling. The sample of 1,508 respondents was comprised of women who gave birth over the previous two years, were currently breastfeeding, with their baby aged 0-5 months and living with mother. The Survey provided three kinds of questionnaires: one for households, one for men, and one for women. The women's questionnaire included questions about demographic characteristics, their reproductive history, pregnancy, antenatal and postnatal care, as well as immunization and nutrition. The data were analyzed using descriptive statistics and multiple logistic regression analysis.

Results revealed that only 40% of mothers breastfed exclusively. The multivariate logistic regression analysis indicated that there were three of ten factors that could significantly predict exclusive breastfeeding, namely occupation, region and initiation of breastfeeding. Our findings have strong implications for health policy makers, and health professionals. Nurses should work with health systems and community to improve exclusive breastfeeding practice by increasing early breastfeeding initiation within an hour of delivery, and sustaining breastfeeding for at least six months. This can be done

through health promotion and education by health workers. The health promotion should include the benefits of exclusive breastfeeding, and education on suitable nutrition during pregnancy and postpartum.

Keywords: Breastfeeding initiation, Child health, Exclusive breastfeeding, Indonesia, Maternal health

Introduction

Exclusive breastfeeding (EBF) has been identified as one of the crucial strategies to mitigate childhood morbidity and mortality in developed and developing countries¹⁻³. Delayed early initiation of breastfeeding (BF), non-exclusive breastfeeding, and early complementary infant feeding are associated with high rates of child morbidity and mortality.⁴ The risk of death from infectious diseases in the first two years of life and suffering non-communicable disease later in life is lower for infants who have been breastfed optimally, and positive outcomes associated with BF are well-established^{1,2,4,5}. Previous research has found that BF is associated with reducing infants' risk of communicable and non-communicable diseases^{4,6}. BF also has a number of benefits for maternal health which may delay the return of fertility, thus reducing exposure to the risks associated with short birth intervals². Although, the benefits of BF are clear and well-documented¹⁻⁵, the rate of EBF at six months and continued BF up to two years of infant's age are still low in many countries⁷⁻¹⁰.

Indonesia is one of many developing countries that continues to struggle to improve the health of children and mothers.¹¹ Indonesian infant and under five mortality rates are high: 26 and 31 per 1,000 live births respectively.¹² To put it another way, 1 in every 38 babies dies before reaching age 1, and 1 in every 32 children dies between their

first and fifth birthday.¹² According to the 2012 Indonesia Demographic Health Survey (IDHS), only one-fifth of Indonesian mothers follow the recommendation to provide breast milk only (EBF practice) for the first six months of their infant's life¹². The median length of EBF in Indonesia is 0.7 months.¹² However, among infants who are breastfed, these are generally breastfed until well into their second year or beyond, and the median duration of any BF is 21 months.^{11,12}

This study focused on exclusive BF in Indonesia and how it is associated with socio-demographic economic factors, reproductive factors and region. According to Indonesian statistics, the Indonesian archipelago is characterized by uneven distribution of the population among islands and provinces and this affects health care disparities in and among various ethnic groups.^{12,13} There is a lack of data on EBF and factors associated with EBF at the regional level, making it difficult to identify areas that require intervention.^{13,14} This study attempted to provide baseline information on the pattern of EBF. It was felt that the findings could give policy makers and health care professionals could gain insights to enable the development of programs and policies related to BF.

Literature Review

The benefits of BF over formula feeding have been studied widely. EBF during the first month of life is an important factor in reducing infant and childhood morbidity and mortality¹⁵. For human infants, there is nothing equal to human milk. Breast milk cannot be duplicated by any artificial means; it is unique in its composition and function; and no infant formula can even resemble mother's milk.^{4,5,15} Breast milk contains living protective immune factors and an ideal balance of nutrients that the infant can easily digest along with digestive enzymes.⁷ Breastfed babies have fewer tendencies to

develop allergic disease and infections because breast milk contains hundreds of health-enhancing antibodies and enzymes.¹⁶

Although there is overwhelming evidence related to the benefits of EBF for 4 to 6 month-old infants, only a few mothers comply with the recommendations on EBF for at least 4 months.^{3,17} EBF figures vary from countries in Europe to Asian countries. Rate of EBF in central and Eastern Europe is quite low at 20% and quite high in South Asia up to 44%. Some of the main reasons women do not do EBF is because of lack of BF support from healthcare providers and service providers, poor perception of breastfeeding and pressure from the social environment and close family to provide food (both liquid and solid) at very early age and mother's job. In addition, there is often no support from hospitals for mothers and infants in conducting BF initiation and lack of promotions for BF.^{7,19}

Moreover, BF is one of health behavior which is widely influenced by social norms where a mother lives. Some of the most influential factors on BF behavior are the role of family, social and cultural differences, food and socio-economic culture and the economic role of women in supporting their families.²⁰

Many studies have drawn the conclusion that BF is influenced by social and cultural factors.²¹ Levels of education, occupation and family factors have a significant effect on decision making in providing BF in low-income communities. Although it has been proven that infants given EBF have better weight and height than those who do not get EBF.²² The results of the socio-cultural study and the provision of EBF are helpful for professionals to improve the EBF delivery campaign to be more effective.

The majority of the studies from our review revealed significant differences in the duration rate of EBF when mothers receive a variety of intervention ranging from prenatal lactation education, in hospital support, postpartum home visits by professionals

and peer support.^{8, 17, 23, 24} However, few studies have studied differences of EBF rates based on the uneven distribution of the Indonesian population among the islands and provinces.¹⁷ Therefore, to study EBF based on socio-demographic economic factors and region may bridge the gap of EBF support following hospital discharge.

Aim of Study

To investigate the association between socio-demographic economic factors, mode of delivery, BF initiation, place of delivery, health care checkup after delivery, accessibility of information toward EBF among Indonesian mothers.

Methods

Study design: A descriptive and analytical design was used in this study on secondary analysis of data was undertaken on the Indonesian Demographic Health Survey (IDHS) 2012 data, provided by the Demographic Health Survey (DHS) Program..

Participants and setting: The IDHS 2012 covered 45,607 eligible women age 15-49. The survey was implemented using multi-stage cluster random sampling. The first stage was performed to select the total of 1,840 census blocks (CBs) based on the 2010 Indonesian population census, then result a minimum of 43 CBs per provinces. At the second stage, on average 25 households were selected in each CB¹². In this paper, we selected the data only the singleton baby, the baby living with mother, being alive, aged 0-5 months old. Accordingly, this study involved approximately 1,508 women¹². The reason for selecting the participant for the last two years preceding survey was to eliminate recall bias.

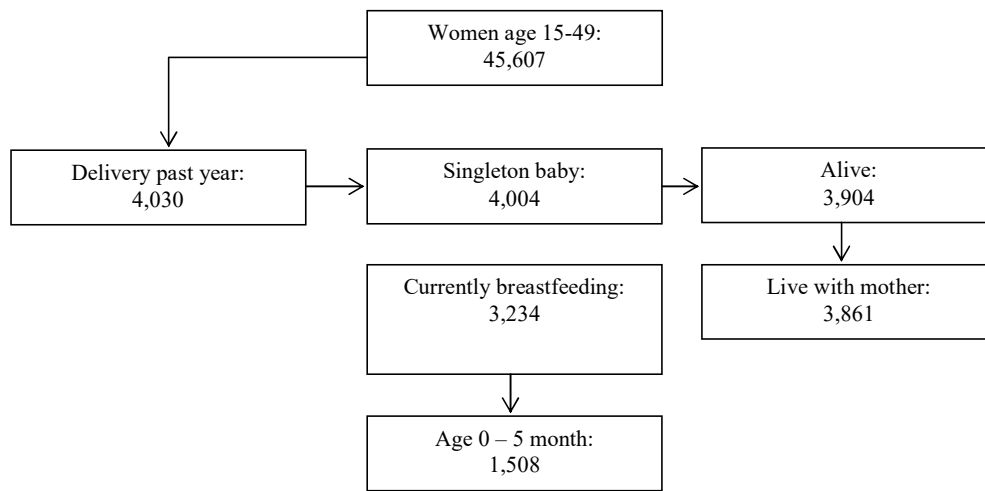


Figure 1. Respondent selection

Ethical considerations:

The Institutional Research Board of Institute for Population and Social Research (IRB-IPSR) - Mahidol University approved this study (certificate no. 2014/1-1-42, dated December 24, 2014). The IRB-IPSR did not have any objections to employing the secondary data from IDHS 2012 which is provided by DHS Program International. Moreover, approval for the usage of IDHS 2012 data was given by The Demographic and Health Surveys (DHS) Program.

Instruments:

IDHS surveys are important instruments which provide information on important health, nutrition, and demographic indicators in a specific country and are nationally representative. The IDHS was elaborated by the collaboration of the National Statistic Board of Indonesia, Ministry of Health, National Population and Family Planning Board, MEASURE DHS - ICF International. The IDHS survey provided three kinds of questionnaire, namely the household questionnaire, women's questionnaire and men's questionnaire. Described here are data from the women's questionnaire, which included

questions cover feeding practices, such as the length of BF, children's consumption of liquids and solid food, and micronutrient supplementation.¹²

The dependent variable was EBF practice. In this study the EBF behavior was derived from a question: “Are you currently breastfeeding?” A “yes” response is followed by other questions “Did (the child) drink plain water/commercially produced infant formula/any other milk product/fruit juice/any other liquid such as sugar water, tea, coffee, carbonated drinks, or soup broth yesterday during the day or at night (last 24 hours)” and 3). “Did (the child) eat yesterday during the day or at night (last 24 hours)”?. Accordingly, if the infant was not given another food and did not eat for the last 24 hours then they were considered as exclusively breastfed (coded as 1), other as non-exclusively breastfeeding (coded as 0)^{12, 17}. The independent variables consist of age, education, occupation, wealth, region, mode of delivery, breast feeding initiation, place of delivery, health check-up after delivery and the accessibility to information.

Data analysis:

Descriptive statistics and the logistic regression were used. Descriptive statistical analysis was conducted to describe the characteristics of mother's involved in the study. The percentage was calculated after the data was **weighted by sample weight** based on the IDHS 2012 survey.¹² Bivariate and logistic regression analysis was performed to fit the un-adjusted and adjusted odds ratios (AOR) with a 95% confidence interval (CI). The unadjusted odds ratio refers the logistic regression result that was done only for one independent and dependent variable, while the adjusted result was done for entire independent variables and dependent variable. *P-values* less than 0.05 or 0.01 were considered as statistically significant.

Results

After selecting and cleaning the data, this study included a total of 4,030 mothers. The **respondents'** characteristics distribution and the major variables are listed in Table 1. Most respondents (76.44%) were aged 25-29 years (Mean = 27.77, SD=+6.3) and 57.24% had completed senior high school. By occupation status, most were unemployed (56.75%). Regarding the household economic status, the majority (22.42%) were categorized as poorest. The participants primarily were from Java-Bali (53.81%) and Sumatra(24.16%), and most (33.01%) had delivery with a midwife. In terms of BF initiation, more than half delayed initiation of BF (50.93%). The majority (20.87%) had a history of health check-up(s) after delivery (post-partum check-up at least 3 times within 42 days after delivery). Regarding the sources of health information, participants received information from newspapers or magazines (51.29%), radio (53.8%) and television (92.58%). Importantly, 39.98% of **respondents** undertook EBF compared to those who were non-EBF (60.02%).

The multivariate logistic regression analysis is detailed in Table 2. All variables, such as mother's age, education, occupation, household, wealth index, region, mode of delivery, BF initiation, place of delivery, health check-up after delivery and accessibility of information, were included in multiple logistic regression. The result was that BF initiation was positively associated with EBF (OR=6.25, 95% CI: 4.89–8.01). In addition, other variables that affected BF were occupation and region. In terms of maternal occupation, the odds ratios of mothers who worked in a white collar job were lower than the odds ratios of unemployed mothers (OR=0.68, 95% CI: 0.50-0.95). The number of mothers who lived in the regions of Sumatra and Kalimantan and who breastfed exclusively was lower than mothers who lived in the Java-Bali region (OR=0.57 and 0.48, 95% CI= 0.41–0.81 and 0.0.30-0.79, respectively), while those who lived in Nusa Tenggara were more likely to have EBF (OR=2.47; 95%CI=1.39-4.39).

Discussion

Findings demonstrated that three variables that were associated significantly with EBF were occupation, region and timely initiation of BF. The results of this study were similar to those of others studies. Employment of mothers outside their homes has an inverse influence on duration of breastfeeding. Regarding occupation, women's involvement in the workforce is one of the obstacles to success of EBF. In Indonesia many women must return to work soon after delivery, and they are faced with the workplace challenges and pressures that often stop them engaging in EBF. Policies should encourage working women to continue to provide BF for longer periods. Policy efforts should aid in helping women in the event of BF and BF initiation within the first hour after birth and sustain this for a sufficient time²⁵, involving breastfeeding exclusively during the first six months and continue breastfeeding up to the age of two years²⁶ to help reduce the risk of neonatal mortality³.

Moreover, the findings demonstrated that mothers who lived in islands of Sumatra and Kalimantan are less likely to exclusively breastfeed than those living in developing societies in islands of Java and Bali. In general, people who live in urban areas are better educated than those who live in rural areas which is reflected in the higher rate of BF in inner-city areas.³ In addition, women living in urban areas tend to have better access to health information as well as education. This is due to urban areas having more available places for consultation and lactation support.^{9, 24, 26}

Furthermore, women living in different island related to various Cultural beliefs and norms. Normally it could have a powerful influence on human nutrition [18] and have been identified as among the determinants of breastfeeding practices [7]. Several studies have also emphasized the need to understand and incorporate cultural beliefs and practices in design and implementation of health and nutrition interventions [19, 20, 21].

Comment [ST1]: You need to reference this. *P farid add the reference that we already have*

Comment [ST2]: Are these your findings or those of other studies? If the latter, please reference. *P farid add the reference that we already have*

Comment [U3]: David Napier CA, Beverley B, Joseph C, Angel C, Helen C, François G, Robert H, Stephen J, Sushrut J, Alison M, Ulrike N, Aaron P, Rodney R, Graham S, Sonu S, Sonia Zafer S, Jakob S-N, Linda T, Nick T, Anna-Maria V, Trinley W, Jessica W, Amanda C de C W, Chris W, James W, Katherine W. Culture and health. *Lancet*. 2014;384(9954):1607–39.

Comment [U4]: Rollins NC, et al. Why invest, and what it will take to improve breastfeeding practices? *Lancet*. 2016;387(10017):491–504.

Comment [U5]: Emina J, et al. Monitoring of health and demographic outcomes in poor urban settlements: evidence from the Nairobi Urban Health and Demographic Surveillance System. *J Urban Health*. 2011;88 Suppl 2:S200–18.

Beguy D, Nduwaga R, Kabiru CW. Entry into motherhood among adolescent girls in two informal settlements in Nairobi, Kenya. *J Biosoc Sci*. 2013;45(6):721–42

Kimani-Murage, E.W., et al. Vulnerability to Food Insecurity in Urban Slums: experiences from Nairobi, Kenya. *J Urban Health*. 2014

The Global Strategy for Infant and Young Child Feeding further emphasizes on the need for those involved in promoting breastfeeding to understand the sociocultural and environmental circumstances around breastfeeding [8].

According to the Kenyan Demographic and Health Survey (2015), the western region of Kenya had the highest prevalence of prelacteal feeding (68%) and the lowest prevalence of immediate initiation of breastfeeding (34%) compared to other regions in the country. Cultural influences with prelacteal feeding has also been documented in other African countries [30, 31] and is a major cause for delayed initiation of breastfeeding, and consequent increased risks of neonatal infections and death [32]. It is also associated with unsuccessful exclusive and all breastfeeding [33]. Community based interventions directed towards promotion of optimal maternal and infant nutrition should dispel the practice of feeding.

We found that mothers who initiated BF within the first hour had a 3 times greater likelihood to give EBF than those who did not initiate BF at all or giving 1 hour following parturition. This result is similar to previous studies: hospital practices in BF initiation affect infant feeding practices, particularly the introduction of infant formulas in hospitals.^{26,27} Therefore, public health professionals should improve legal support for mothers of children younger than 2 years working outside their homes wishing to breastfeed.

Limitations

This study has provided important findings for maternal and child health. However, this study has some limitations. It involved only around 4,000 respondents which might be too low to depict the number of Indonesian population that is more than 250,000,000. Importantly, Indonesians consist of a huge variety of ethnic groups which may have their own local practice on BF.²⁷ Accordingly, this study may not represent the

Comment [U6]: WHO. Global strategy for infant and young child feeding. Geneva: WHO; 2003

Comment [U7]: Kenya National Bureau of Statistics, M.o.H., National AIDS Control Council, Kenya Medical Research Institute, National Council for Population and Development, Kenya Demographic and Health Survey: Key Indicators Report 2014. 2015: Nairobi.

Comment [U8]: Legesse M, et al. Prelacteal feeding practices and associated factors among mothers of children aged less than 24 months in Raya Kobo district, North Eastern Ethiopia: a cross-sectional study. *Int Breastfeed J.* 2014;9(1):1–8.

Kimani-Murage, E.W., et al. Vulnerability to Food Insecurity in Urban Slums: experiences from Nairobi, Kenya. *J Urban Health.* 2014.

Comment [U9]: Kimani-Murage EW, Wekesah F, Wanjohi M, Kyobutungi C, Ezeh AC, Musoke RN, Norris SA, Madise NJ, Griffiths P. Factors affecting actualisation of the WHO breastfeeding recommendations in urban poor settings in Kenya. *Matern Child Nutr.* 2015;11:314–332.

Comment [U10]: WHO/UNICEF. Global nutrition targets 2025: breastfeeding policy brief (WHO/NMH/NHD/14.7). Geneva: World Health Organization; 2014.

whole particular characteristics of an ethnic group. In addition, there is a potential recall bias that emerges from the information collected on the EBF practices which were obtained from mothers whose children were aged 6 to 23 months at the time of interview.

Conclusion and Implications for Nursing Practice

This study analyzed socio-demographic factors, information access that may influence BF patterns, and support breastfeeding initiation, either within approximately 1 hour of delivery or is a strong predictor of EBF. If a child is starting early BF initiation, it can be expected that the child will receive EBF at longer periods than those who did not receive early BF. Nurses and midwives should encourage and provide a broader education on early BF initiation of within 1 hour after delivery. The activities in many such programs tend to focus on encouraging the initiation of BF, for example, stationing health workers in community health centers where they can help mothers to start BF and give information about BF practices. Strategies should include activities such as education on the practice of giving correct EBF as well as education on nutrition during pregnancy and BF. Moreover, policies should promote breastfeeding in hospitals. Every hospital, delivery unit, and primary care should use and implement effective strategies to protect, promote, and support breastfeeding. In addition it may also increase collaboration between the hospital and other health and social care services and motherhood to ensure appropriate breastfeeding support and counseling, especially in the early stages, particularly during the weeks after birth

In addition, it is essential for mothers with lactation problems to find a solution by stimulating the mother's body to produce hormones that are used in milk production. There are several ways to stimulate breast milk volume such as nipple stimulation²⁸, herbal chest compression, breast massage²⁹ and taking ginger¹⁸. These methods contribute

Comment [ST11]: Not endeavoured to analyse. Be positive. You actually did it.
This one I don't understand

to the secretion of more milk. Further study is needed to provide more evidence on the issue of socio-economic and maternal nutrition effects on initiation of early and EBF.

Acknowledgements

We would like to thank the DHS Program - ICF International, for providing the Indonesian Demographic Health Survey (IDHS) 2012 data.

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Comment [ST13]: Shouldn't this be World Health Organization as the authors?

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Table 1 Characteristics of respondents (n= 1,508)

Variable	Non-Exclusive		Exclusive		Total	
	n	%	n	%	n	%
Mean age (M ± SD)	27.7±6.4		27.66±6.2		27.77±6.3	
Age						
<20	88	11.04	54	7.77	142	9.73
20-35	688	75.29	471	78.17	1,159	76.44
>35	126	13.67	81	14.07	207	13.83
Education						
No education	17	1.08	40	4.15	57	2.31
Junior high or lower	229	25.55	187	30.67	416	27.6
Senior high	504	58.25	316	55.71	820	57.24
College or higher	152	15.12	63	9.46	215	12.86
Occupation						
Don't work	484	53.47	354	61.68	838	56.75
White collar	267	28.44	116	18.72	383	24.56
Agriculture	73	6.16	72	9.84	145	7.63
Manual job	73	11.47	64	9.76	137	10.79
Don't know	5	0.46	0	0.00	5	0.28
Household Wealth Index						
Poorest	242	19.58	224	26.67	466	22.42
Poorer	188	20.76	133	17.88	321	19.61
Middle	151	16.38	94	23.24	245	19.12
Richer	176	21.98	94	18.19	270	20.46
Richest	145	21.3	61	14.02	206	18.39
Region						
Java & Bali	193	52.45	146	55.85	339	53.81
Sumatra	339	28.94	139	16.98	478	24.16
Nusa Tenggara	27	2.54	69	9.88	96	5.48
Kalimantan	103	6.76	40	4.05	143	5.67
Sulawesi	124	6.79	97	8.48	221	7.47
Maluku	74	0.87	65	1.34	139	1.06
Papua	42	1.65	50		92	2.36
Mode of Delivery						
Non-Caesarean	742	81.42	553	3.42	1,295	84.63
Caesarean	160	18.58	53	0.00	213	15.37
Breastfeeding Initiation						
Delayed Initiation	636	67.45	163	10.54	799	50.93
Early Initiation	266	32.55	443	0.00	709	49.07
Place of delivery						
Home	313	25.47	230	73.88	543	25.89
Hospital	225	21.7	101	0.00	326	19.02
Health center	57	6.6	72	26.53	129	8.88
Health post	27	3.36	28	15.00	55	3.76

Maternity hospital	41	6.19	17	12.31	58	5.53
General practitioner	43	3.97	13	4.36	56	3.17
Obstetrician	3	0.12	5	4.56	8	0.19
Midwife	189	32.19	134	1.97	323	33.01
Nurse	0	0	1	0.30	1	0.047
Other sector	4	0.4	5	34.24	9	0.49
Health checkup after delivery						
Yes	812	92.28	498	0.62	1,310	90.04
No	90	7.72	108	0.00	198	9.96
Accessibility of information						
Newspaper or magazine						
Yes	479	55.86	271	0.00	750	51.29
No	423	44.14	335	0.00	758	48.71
Radio						
Yes	477	59.19	269	55.58	746	53.8
No	425	40.81	337	0.00	762	46.2
Television						
Yes	847	95.89	528	54.28	1,375	92.58
No	55	4.11	78	0.00	133	7.42
Total	902	60.02	606	39.98	1,508	100

Table 2 The adjusted odds ratio of factors effect to exclusive breastfeeding (n= 1,508)

Variable	Unadjusted odds ratios			Adjusted odds ratio		
	(95% CI)			(95% CI)		
Age						
<20 (ref.)						
20-35	1.12	0.78	1.60	1.22	0.81	1.85
>35	1.05	0.68	1.62	1.02	0.61	1.71
Education						
No education (ref.)						
Junior high or lower	0.35	0.19	0.63	0.55	0.26	1.13
Senior high	0.27	0.15	0.48	0.48	0.23	1.00
College or higher	0.18	0.09	0.33	0.42	0.18	0.97
Occupation						
Don't work (ref.)						
White collar	0.59	0.46	0.77	0.68*	0.50	0.95
Agriculture	1.35	0.95	1.92	1.04	0.66	1.63
Manual job	1.20	0.83	1.72	1.13	0.74	1.74
Don't know	0.00	0.00	0.00	0.00		0.65
Household Wealth Index						
Poorest(ref.)						
Poorer	0.76	0.57	1.02	1.07	0.75	1.54
Middle	0.67	0.49	0.92	0.91	0.60	1.38
Richer	0.58	0.42	0.79	0.82	0.53	1.26
Richest	0.45	0.32	0.64	0.63	0.38	1.05
Region						
Java and Bali (ref.)						
Sumatra	0.53	0.40	0.71	0.57**	0.41	0.81
Nusa Tenggara	3.26	2.03	5.24	2.47**	1.39	4.39
Kalimantan	0.51	0.34	0.77	0.48**	0.30	0.79
Sulawesi	1.02	0.73	1.42	0.97	0.64	1.48
Maluku	1.42	0.85	2.35	1.67	0.90	3.09
Papua	1.51	0.96	2.38	1.17	0.63	2.16
Mode of Delivery						
Non-caesarean (ref.)						
Caesarean	0.44	0.32	0.62	0.75	0.49	1.14
Breastfeeding Initiation						
Delayed Initiation(ref.)						
Early Initiation	6.50	5.17	8.18	6.25**	4.89	8.01
Place of delivery						
Home (ref.)						
Hospital	0.61	0.46	0.82	1.07	0.72	1.59
Health center	1.72	1.17	2.53	1.50	0.93	2.41
Health post	1.41	0.81	2.46	1.41	0.69	2.87
Maternity hospital	0.56	0.31	1.02	1.25	0.61	2.59

General practitioner	0.41	0.22	0.78	0.88	0.42	1.84
Obstetrician	2.27	0.54	9.59	4.83	0.96	24.43
Midwife	0.96	0.73	1.28	1.29	0.88	1.88
Nurse	1.00			1.00		
Other sector	1.70	0.45	6.40	3.02	0.68	13.51
Health care checkup after delivery						
Yes	0.51	0.38	0.69	0.67	0.45	1.00
No (ref.)						
Accessibility of information						
Newspaper or magazine	0.71	0.58	0.88	1.06	0.80	1.41
Radio	0.71	0.58	0.87	0.85	0.65	1.12
Television	0.44	0.31	0.63	0.81	0.49	1.33
Constant				0.99	0.39	2.57
<hr/>						
LR chi2(32)	=	413.09;	Prob > chi2	=	0.00;	Pseudo R2
						= 0.2040

*Significant at 0.05; ** Significant at 0.01; ref. = reference

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Abstract

Less than half of Indonesian mothers follow the World Health Organization recommendation to provide exclusive breastfeeding practice. Exclusive breastfeeding is associated with reducing an infant's risk of communicable and non-communicable diseases. Little is known about factors related to exclusive breastfeeding in Indonesia. This study examined the factors that predict exclusive breastfeeding in Indonesia by applying secondary analysis of data from the Indonesian Demographic Health Survey 2012, after relevant permission was given. The participants were women aged 15-49 years old, and the survey was implemented using multi-stage cluster random sampling. The sample of 1508 respondents was comprised of women who gave birth over the previous two years, were currently breastfeeding, and their baby was aged 0-5 months and living with mother. The IDHS survey provided three kinds of questionnaires: one for households, one for men, and one for women. The women's questionnaire included questions about demographic characteristics, their reproductive history, pregnancy, antenatal and postnatal care, as well as immunization and nutrition. The data were analyzed using descriptive statistics and multiple logistic regression analysis.

The results revealed that only 40% of mothers breastfed exclusively. The multivariate logistic regression analysis indicated that three of ten factors could significantly predict exclusive breastfeeding, namely occupation, region and initiation of breastfeeding. This study has strong implications for health policy makers, and health professionals. Nurses should work with health systems and community to improve exclusive breastfeeding practice by increasing early breastfeeding initiation within an hour of delivery, and helping to sustain breastfeeding for at least six months. This can be done through health promotion and education by health workers. Health promotion activities should include the benefits of exclusive breastfeeding, and education on suitable nutrition during pregnancy and postpartum.

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