CORRELATION STUDY COVERAGE OF EXCLUSIVE BREASTFEEDING AND RISK FACTORS IN INDONESIA

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ABSTRACT

Introduction: Exclusive breastfeeding decreases the possibility of death in newborns to achieve the 3rd SDGs goal. However, some provinces have not yet extended the quarry to include infants receiving exclusive breastfeeding. The research purposed to analyze the relationship in the middle of the inclusion of the fourth antenatal care, delivery in healthcare facilities, early commencement of breastfeeding, smoking mothers, and the inclusion of infants receiving exclusive breastfeeding. **Methods:** The study design was conducted using the correlation study from the 2019 Indonesian Health Profile and the 2020 Maternal and Child Health Profile. The unit of analysis was 34 provinces in Indonesia which were analyzed using scatter plot and Pearson correlation test. **Result:** The outcome of the scatter plot and correlation test manifested that the factors that correlated with the coverage of infants receiving exclusive breastfeeding were coverage of the fourth antenatal care (r=0.370), delivery in health care facilities (r=0.466), early initiation of breastfeeding (r=0.592), mother smoking (r=-0.608). **Conclusion:** It was concluded that the 4th antenatal care visit and parturition at a healthcare facility had a moderate and positive relationship. Early commencement of breastfeeding had a strong and positive relationship, while smoking mothers had a strong relationship with a negative direction. It was recommended that the government formulate special policies for regional targets with coverage of the fourth antenatal care, delivery in health care facilities, low early commencement of breastfeeding, and areas with a high percentage of smoking mothers.

Keywords: exclusive breastfeeding, prenatal care, delivery obstetric, smoking, sustainable development

INTRODUCTION

Child health efforts are activities carried out integrated and sustainable to maintain and improve children's health. One of the goals of child health efforts is to ensure children's survival through efforts to reduce the mortality rate of neonatal, infants, and toddlers (Minister of Health RI, 2014). The tendency of child fatality regularly has shown a decline. The Indonesian Demographic and Health Survey in 2017 manifested Neonatal Fatality Rates at 15 of 1000 live births, Infant Fatality Rates 24 of 1000 live births, and Toddlers Mortality Rates 32 of 1000 live births (Ministry of Health RI, 2020). The mortality rate for neonates, infants, and toddlers is expected to be the downturn. Implementations that can assist child endurance aim to reach the third SDGs goal point 3.2. By 2030, ending avoidable neonatal and toddlers fatality, with all nations trying to decrease Neonatal Fatality Rates to at the minimum 12 per 1000 live births and Child Fatality Rates to 25 per 1000 live births (Ministry of Health RI, 2015).

Indicators that describe child health efforts as referred to in the Minister of Health Regulation Number 25 of 2014 through health services for the fetus in the womb, neonatal health, infant and toddler health to ensure optimal child growth and development. One of the endeavors made by advancing the inclusion of exclusive breastfeeding dependent on Government Regulation Number 33 of 2012 in bosom milk that is given to infants from birth for a half year, without adding or supplanting with other food or beverages (aside from medications, nutrients, and minerals) (Minister of Health RI, 2014)(RI Government, 2012).

Mother's milk is an ideal nutrient for babies because it contains nutrients most

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suitable for the baby's needs and some substances protect against various diseases. Based upon facts from the '*World Health Organization* (WHO) in 2016, the inclusion of restrictive breastfeeding in the world was just 36%. This accomplishment is still underneath the worldwide objective of restrictive breastfeeding inclusion set by WHO of 50% (WHO, 2017). Broadly, the inclusion of newborn children getting restrictive breastfeeding in 2019 was 67.74%. This amount has surpassed the 2019 Vital Arrangement focus of 50%. Nonetheless, there are as yet 4 out of 34 territories in Indonesia (11.76%) that have not arrived at the 2019 Vital Arrangement target, including Gorontalo Area (49.29%), Maluku (43.35%), Papua (41.42%), and West Papua (41.12%) (Ministry of Health RI, 2020).

To achieve the goal of infants receiving exclusive breastfeeding, the necessary preparations early, namely the period, *antenatal* here milk production began trimester 3. Thus, efforts to achieve coverage visits *of antenatal care* should be increased. Specifically, the number of pregnant ladies who have gotten antenatal consideration by the guidelines in some measure once in the primary trimester, one time in the subsequent trimester, and double in the third trimester. It is contrasted with the objective number of pregnant ladies in a single workspace inside a time of one-year wellbeing administrations. *Antenatal*, one of them is the provision of interpersonal communication and counseling for breastfeeding preparation and exclusive breastfeeding (Ministry of Health RI, 2020).

An intervention in the form of an innovation that is confirmed to reduce the Infant Mortality Rate (IMR) is the Childbirth Planning and Complications Prevention Program. The Childbirth Planning and Complications Prevention Program is proven to be able to form a ready husband and mobilize families and communities to be involved in planning safe childbirth. In addition, The Childbirth Planning and Complications Prevention Program forms pregnant women to have good planning in the event of risk or occurrence of complications and to have a postpartum plan in terms of the need for contraceptive devices or drugs. The Childbirth Planning and Complications Prevention Program is also proven to make pregnant women interact with health workers during pregnancy, childbirth, postpartum, and newborn examinations. The Childbirth Planning and Complications Prevention Program motivate mothers to initiate early breastfeeding and continue exclusive breastfeeding for the next 6 months. In planning delivery, the delivery target is done in health care facilities by 85% to increase the accessibility and acceptability of quality infirmary for maternal and child health (Secretariat General of the Ministry of Health of the Republic of Indonesia, 2015).

Mothers who smoke are one of the risk factors for not exclusively breastfeeding their babies by considering the impact. Nicotine and other destructive synthetic compounds are found in cigarettes, stogies, pipe tobacco, and biting tobacco. Moms who smoke are a danger for abrupt baby demise, just as lower respiratory sicknesses like bronchitis and pneumonia, ear contaminations, and weakened lung work in babies and youngsters. Notwithstanding the danger of used smoke for every single uncovered newborn child, the synthetic substances found in tobacco can be passed from a smoking breastfeeding mother to her child through bosom milk. Smoking has been displayed to diminish bosom milk supply, and the impacts of nicotine decrease serum prolactin levels. E-cigarettes and other vaping gadgets are battery-fueled gadgets that convey nicotine, flavorings, and different added substances about the impacts of e-cigarette use by moms on newborn child wellbeing. Spray e-cigarettes can contain hurtful synthetics like nicotine and different poisons, flavorings, and solvents (CDC, 2021). This is a

consideration for mothers not to breastfeed their babies.

The causes of the low coverage of infants receiving exclusive breastfeeding are multifactorial. Thus, this study aimed to examine the coverage variables of the visit *antenatal care*, fourth, delivery coverage in health care facilities, coverage of early commencement of breastfeeding, and percentage of smoking mothers with exclusive breastfeeding coverage of infants. This correlation or ecological variable, an aggregate number, is important because it will provide clear targets for policymakers as the basis for policy formulation efforts to increase the inclusion of infants accepting exclusive breastfeeding. So this study aims to analyze the relationship of the fourth antenatal care, delivery in healthcare facilities, early commencement of breastfeeding, smoking mothers, and the inclusion of infants receiving exclusive breastfeeding.

METHOD

This research was conducted using a correlation or ecological analysis study approach (the study of aggregates) and taken from the report that 'Indonesia Health Profile 2019'(Ministry of Health RI, 2020) and the 'Maternal and Child Health Profile 2020'(Central Bureau of Statistics, 2020).

Report data was available on the page http://www.kemkes.go.id. Data used were family health data, namely data on health services for pregnant women (4^{th} antenatal care coverage), maternal health services (coverage of delivery in health care facilities), data on prevention and treatment of nutritional problems (early initiation of breastfeeding and breastfeeding exclusive) based on routine data and survey data from specialized units within the Ministry of Health.

Meanwhile, data on smoking mothers were obtained from the percentage of mothers who smoked last month by province based on the March 2020 national socio-economic survey data. We changed the Indonesian health profile report data and maternal and child health profiles in raw form (basic data) and processed them using the program computer. The data that has been obtained was carried out by tabulating and checking for missing data until the data was ready for analysis.

Correlation or ecological analysis was a way for researchers to see the large-scale impact of a particular policy or intervention on the health of the population in a region (Boskey, 2019). The unit of analysis in this study was 34 provinces in Indonesia. The dependent variable as the focus of the study was the coverage of infants receiving exclusive breastfeeding. There were four independent variables projected as predictors. They were the coverage of visit antenatal care 4th (visit antenatal care 4th ratio per number of pregnant women by province), coverage of parturition in healthcare facilities (ratio of deliveries at health facilities per number of mothers giving birth by province), early commencement of breastfeeding (ratio of babies receiving early commencement of breastfeeding per number of newborns by province), and smoking mothers (percentage of mothers who smoked during the last month by province) (Ministry of Health RI, 2020)(Central Bureau of Statistics, 2020).

Data were analyzed using scatter plots and Pearson correlation test (r). It was carried out to ensure a relationship between two variables after previously the variables that numerical data scale (ratio-interval). It was examined with the One-Sample Kolmogorov-Smirnov Test, which showed that $p = 0.952$ means that the facts were normally distributed. The research has gotten approval from the Health Research Ethics Committee of the Faculty of the Public Health University of Jember with No.100/KEPK/FKM-UNEJ/IX/2021.

Table 1. Descriptive Statistics Coverage of Newborn getting Exclusive Breastfeeding and Associated Variables in Indonesia 2019

Variables	N	Minimum(%)	Maximum(%)	Mean(%)	Std. Dev(%)
Antenatal Care Visit 4th	34	37.1	103.6	82.14	14.45
Delivery in Health Care Facilities	34	46.6	103.8	81.37	14.08
Early Initiation of Breastfeeding	34	3.1	94.9	73.17	17.55
Mothers Smoking	34	0.2	2.8	0.91	0.65
Exclusive Breastfeeding	34	41.1	86.3	64.05	11.55

RESULT

Table 1 shows the disparities in including babies getting exclusive breastfeeding and related variables. The inclusion of newborn children getting exclusive breastfeeding showed a high disparity. The province of West Papua has the lowest coverage, namely 41.12%, while the province of West Nusa Tenggara accomplished the most elevated inclusion at 86.26%.

Coverage of The 4th Antenatal Care Visit

Figure 1 shows the distribution of coverage plots for exclusive breastfeeding infants and coverage of visits antenatal care fourth. In the variable coverage of the visit antenatal care 4th, which was seen to be higher in an area, there was a likelihood for the coverage of infants to receive exclusive breastfeeding to be higher. The outcome of the Pearson correlation test in table 2 manifests that between the coverage variables of the visit antenatal care 4th and the inclusion of babies getting exclusive breastfeeding, there was a correlation fairly strong with the direction of the positive relationship (r = 0.370 p = 0.031).

Coverage of Parturition in Healthcare Facilities

Figure 2 shows the allocation of the coverage plots of babies receiving exclusive breastfeeding and the inclusion of parturitions in healthcare facilities. In the variable coverage of parturition in health care facilities, the higher in a territory, the higher the probability of the inclusion of babies receiving exclusive breastfeeding was also higher. The after-effects of the Pearson relationship test in Table 2 manifested a correlation between the variable inclusion of parturition in healthcare facilities and the inclusion of infants receiving exclusive breastfeeding strong (r = 0.466 p = 0.005).

Coverage of Early Commencement of Breastfeeding

Figure 3 shows the distribution of the coverage plots of babies receiving exclusive breastfeeding and the coverage of babies receiving early commencement of breastfeeding. In the variable coverage of early commencement of breastfeeding, which was seen to be higher in an area, there was an inclination that the inclusion of infants receiving exclusive breastfeeding is also getting higher. The after-effects of the Pearson correlation test in table 2 manifested that between the variables of coverage of infants receiving early commencement of breastfeeding and coverage of infants receiving exclusive breastfeeding, there was a correlation strong with the direction of a positive relationship (r = 0.592 p = 0.000).

Percentage of Mothers Smoking

Figure 4 shows the distribution of the coverage plots of infants receiving exclusive breastfeeding and the percentage of moms smoking. In the variable percentage of smoking mothers, which looks high in an area, there was a propensity that the inclusion of babies receiving exclusive breastfeeding was getting lower.

The consequences of the Pearson correlation test in Table 2 manifested a relationship in the middle of the percentage of moms smoking and the inclusion of babies getting exclusive breastfeeding strongly in the negative direction (r = -0.608 p = 0.000). The correlation with the negative direction means that if the percentage of mothers who smoke were high, it would decrease the coverage of babies receiving low exclusive breastfeeding.

DISCUSSION

The inequality of exclusive breastfeeding coverage is quite high in several regions in Indonesia. Implementing strategies in increasing exclusive breastfeeding coverage ignores factors related to increasing coverage for infants receiving exclusive breastfeeding. This study proves the connection in the middle of the coverage of the visit fourth antenatal care, the inclusion of deliveries in healthcare facilities, the coverage of early commencement of breastfeeding, the percentage of smoking mothers, and the inclusion of babies getting exclusive breastfeeding in Indonesia.

Table 2. Pearson Correlation Test Variables related to Exclusive Breastfeeding in Indonesia 2019

Variables		Exclusive Breastfeeding
Antenatal Care Visit 4th	'Pearson Correlation'	0.370*
	P-value	0.031
	N	34
Delivery in Health Care Facilities	'Pearson Correlation'	0.466**
	P-value	0.005
	N	34
Early Initiation of Breastfeeding	'Pearson Correlation'	0.592**
	P-value	0.000
	N	34
Mothers Smoking	'Pearson Correlation'	-0.608**
	P-value	0.000
	N	34

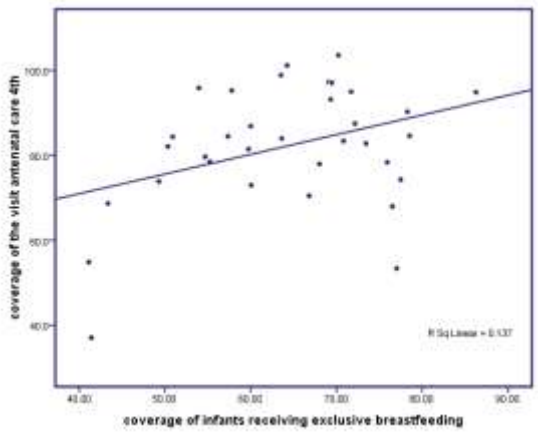

Figure 1. *Scatter plot* coverage of infants receiving exclusive breastfeeding and coverage of the visit *antenatal care* 4th in Indonesia, where R is 0.137(Ministry of Health RI, 2020)

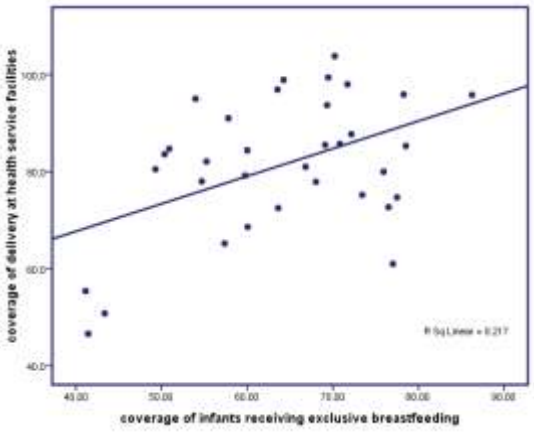

Figure 2. *Scatter Plot* coverage of infants receiving exclusive breastfeeding and coverage of delivery at health service facilities in Indonesia, where R is 0.217 (Ministry of Health RI, 2020)

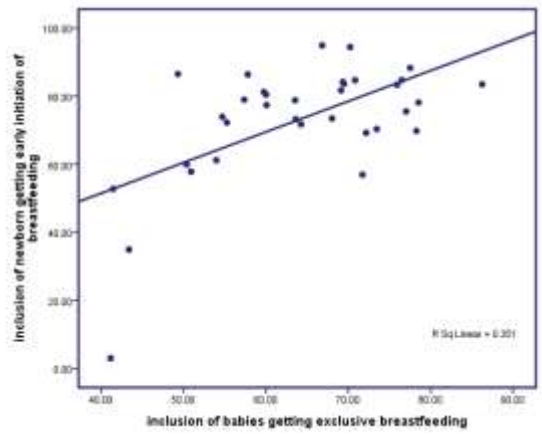

Figure 3. *Scatter plot* inclusion of babies getting exclusive breastfeeding and inclusion of newborn getting early initiation of breastfeeding in Indonesia, where R is 0.351 (Ministry of Health RI, 2020)

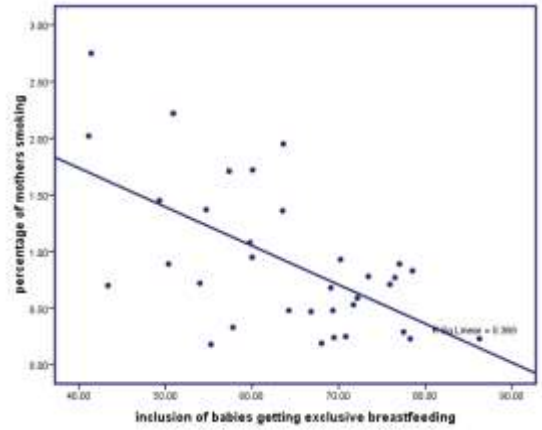

Figure 4. *Scatter plot* inclusion of babies getting exclusive breastfeeding and percentage of mothers smoking in Indonesia, where R is 0.369

(Central Bureau of Statistics, 2020; Ministry of Health RI, 2020)

The Relationship between Inclusion of the 4th Antenatal Care Visit and Coverage of Infants receiving Exclusive Breastfeeding

The results showed that the higher coverage visits of antenatal care 4th, the higher the coverage of infants receiving exclusive breastfeeding. Preparation of exclusive breastfeeding starts from the antenatal care third trimester, due to the first lacto genesis process when breast milk begins to be produced. In the first lacto genesis, the breasts produce colostrum, a thick yellowish liquid. At that time, high progesterone levels prevent actual milk production (Asih, 2016).

So the importance of health promotion during the period antenatal is a fairly good strategy in increasing exclusive breastfeeding coverage. The counseling strategy with informal communication and non-formal conditions, providing complete information about exclusive breastfeeding, and combining discussion with counseling targets, is quite good in motivating and maintaining exclusive breastfeeding behavior. The implementation of counseling strategies in promoting exclusive breastfeeding requires the commitment of all health workers to support by involving husbands, parents-in-law, and traditional birth attendants as counseling targets (Widodo et al., 2019). Another study also found similar results that breastfeeding tutoring the termantenatal was a successful method to expand breastfeeding self-efficacy that could increase the practice of exclusive breastfeeding (Piro and Ahmed, 2020).

This result is also in order with research in Nigeria, which declared that antenatal care seriously expanded the application of exclusive breastfeeding for half a year (OR=2.54, 95%CI=1.49-4.35) (Okafor, Olatona and Olufemi, 2014). A study in Ethiopia (Ahmed et al., 2019) proved that four or more visits to antenatal care had a 2.26 times chance of exclusive breastfeeding contrasted to moms who did not visit antenatal care attend (aOR=2.26, 95%CI=1.46 -3.50). Studies in the same country confirmed that moms who had at minimum one overtake antenatal care had a much higher probability of exclusively breastfeeding for half a year than mothers who did not attend antenatal care. This is possible because health workers provide guidance and counseling about breastfeeding during visits to antenatal care (Habtewold, Sharew, and Alemu, 2019). A

study in Ethiopia also explained that antenatal care received counseling on nutrition and health education during visits regarding the benefits of exclusive breastfeeding (Jino, Munyanshongore, and Birungi, 2013).

A study conducted in Bangladesh (Rahman et al., 2020) provides evidence that areas with a high level of antenatal care have a positive relationship with increasing opportunities for exclusive breastfeeding practices. The study also explains that the increase in antenatal care at the regional level affects the application of exclusive breastfeeding at a different level.

Regions in Indonesia with the inclusion of babies getting exclusive breastfeeding that have not met the target are related to the low coverage of antenatal care in these areas. This shows that the regional approach that does not meet the coverage of infants receiving exclusive breastfeeding requires a strategy to improve antenatal care by considering the substance of health promotion during the period antenatal and methods of effective communication practices involving related parties and elements.

The Relationship between Delivery Coverage in Health Care Facilities and Coverage of Infants Receiving Exclusive Breastfeeding

The place of delivery is an option for mothers to give birth to their children. This study explains that the higher the inclusion of deliveries in healthcare facilities, the higher the inclusion of babies getting exclusive breastfeeding. The place of parturition in healthcare facilities is related to the role of health workers in the accomplishment of exclusive breastfeeding. This is in a row with the research results in Ethiopia (Biks, Tariku, and Tessema, 2015) that delivery in a health care facility was positively connected to exclusive breastfeeding (AOR=1.29, 95%CI=1.80-3.07). The research results in Tanzania (Nkala and Msuya, 2011) also explained that deliveries in healthcare facilities had a 2.2 times chance of exclusive breastfeeding contrasted to mothers who permit childbirth at home.

The present is because mothers who give birth in health care facilities receive health education during treatment, including nutrition education, education on the benefits of breastfeeding, right breastfeeding position and attachment, and breast care (Sefene et al., 2013)(Yeneabat, Belachew, and Haile, 2014). Healthcare facilities are good sources of knowledge about breastfeeding practices.

Health workers in health services promote exclusive breastfeeding—delivery in health care facilities as a forum for breastfeeding promotion. WHO/UNICEF has started '*The Baby-Friendly Hospital Initiative'* (BFHI) as a capable implement to increase breastfeeding assess. Breast-feeding is a safety component for health (Victora *et al.*, 2016).

Accordingly, the advancement of breastfeeding remains a significant stage to work on maternal and kid wellbeing in both created and non-industrial nations. 'The Baby-Friendly Hospital Initiative' is the best mediation to increment breastfeeding rates at the wellbeing framework level (Sinha et al., 2015).

The execution of the procedure in supporting fruitful breastfeeding emphatically affects breastfeeding results (Pérez-Escamilla, Martinez, and Segura-Pérez, 2016). Nations that have carried out 'The Baby-Friendly Hospital Initiative' include Sweden, the Netherlands, the United States, Canada, Switzerland (Labbok, 2012), and Ethiopia (Habtewold, Sharew, and Alemu, 2019) with the reveal of a supported reaction on the rate and span of breastfeeding nationally. Breastfeeding achievement stays extremely high when healthcare facilities practice breastfeeding monitored. Implementation of health care facilities for 'The Baby-Friendly Hospital Initiative' program, precisely the principal endeavor to breastfeed within 1 hour after birth, is directed on breastfeeding methods. It is not giving food or beverages other than

bosom milk, joining mother and baby in 24 hours, breastfeeding according to the baby's request (on-demand), and not using a pacifier (Spaeth et al., 2018). With the increasing coverage of mothers who give birth in health care facilities, more and more mothers are encouraged by health workers to exclusively breastfeed and do not use pacifiers so that they can help mothers achieve the goal of exclusive breastfeeding (Perrine et al., 2012).

A study in Bangladesh (Rahman et al., 2020) also proves that in areas where delivery in a health facility impacts the success of the act of exclusive breastfeeding. This is because health facilities play a role in providing knowledge about the importance of exclusive breastfeeding practices and subsequent maternal health services identified to childbirth services postnatal, which likewise assume a part in working on the act of exclusive breastfeeding.

Regions in Indonesia that have not reached the target of delivery coverage in health care facilities are related to the low coverage of infants receiving exclusive breastfeeding. A strategic approach is needed in areas with low inclusion of deliveries in healthcare facilities by promoting the benefits received in labor in healthcare facilities. The role of health workers in health care facilities optimally encourages the success of the implementation of exclusive breastfeeding.

The Relationship between Coverage of Early Commencement of Breastfeeding and Coverage of Babies Getting Exclusive Breast-feeding

The coverage of infants receiving exclusive breastfeeding is associated with the high coverage of early breastfeeding initiation. It places the child on her abdomen on the mother's breast or midsection so the child's cutis contacts the mother's cutis, completed something like one hour following birth. If the contact is impeded by a fabric or done in under 60 minutes, it is considered inadequate and does not start early breastfeeding (Ministry of Health RI, 2020). So it is expected that the baby gets breast milk as soon as possible in the second lactogenesis process, which occurs during childbirth and the expulsion of the placenta, which causes a sudden decrease in levels of the hormones progesterone estrogen human placental l*actogen* (HPL). In contrast, levels of the hormone prolactin are still high, which causes the production of Massive breast milk. When the breast is stimulated, the blood prolactin level rises, peaks over 45 minutes, then returns to pre-stimulation levels three hours later. The release of the hormone prolactin stimulates cells in the alveoli to produce breast milk (Asih, 2016).

Another study explains that appropriate breastfeeding techniques are needed, namely the correct attachment between mother and baby, which impacts increasing prolactin levels so that milk production is abundant (Eidelman and Schanler, 2012). One global study manifested that early commencement of breastfeeding was seriously under in mothers with problems ingestion and cesarean parturition (Takahashi *et al.*, 2017).

The benefit of breastfeeding immediately after birth is to prevent infant death and is the first step that determines the success of breastfeeding in children. The enabling factor that causes the disappointment of exclusive breastfeeding is that the mom does not receive early commencement of breastfeeding facilities. Mothers who provide immediate breastfeeding are 2-8 times bound to solely breastfeed for four months, contrasted with mothers not breastfeeding (Bai, Fong, and Tarrant, 2015). In line with this theory, mothers who carry out early inception of breastfeeding can apply the act of exclusive breastfeeding, and moms who do not do early commencement of breastfeeding cannot make a difference in the act of restrictive breastfeeding. Moms who start early breastfeeding will, in general, have the option to apply the act of restrictive

breastfeeding because moms have the certainty and eagerness to have the option to only breastfeed their infants for as long as a half year (Pusporini, Pangestuti, and Rahfiludin, 2021). This statement is reinforced by a study (Permatasari and Syafruddin, 2016) that the early commencement of breastfeeding within 24 hours of birth can decide restrictive breastfeeding and the term of breastfeeding. A study in Haiti (Walsh *et al.*, 2019) added that mothers with early commencement of breastfeeding were 1.35 occasions bound to rehearse exclusive breastfeeding.

Regions in Indonesia that have not reached the objective of exclusive breastfeeding for babies are related to the low coverage of early breastfeeding initiation. Therefore, a strategic approach is needed in areas with low coverage of early commencement of breastfeeding with an expanded comprehension of the significance of early inception of breastfeeding facilities. It includes an understanding of appropriate breastfeeding techniques, namely the correct attachment between mother and baby, which impacts increasing prolactin levels to increase milk production and successful practice exclusive breastfeeding.

The Correlation the middle of The Percentage of Moms Smoking and The Coverage of Infants Receiving Exclusive Breastfeeding

The inclusion of babies getting exclusive breastfeeding is related to the percentage of mothers who smoke. Clinical trials have also shown that smoking hurts breastfeeding. A systematic study review (Macchi *et al.*, 2021)explains a transformation in the construction of breast milk in breastfeeding mothers who smoke. In smokers, the content of lipids, calories, and protein is lower. In addition, it is characterized by a decrease in antioxidants and an altered immune status.

Smoking in pregnancy is generally and reliably recognized as a factor related to non-commencement of breastfeeding and early suspension of breastfeeding (Lechosa Muñiz *et al.*, 2019)(Cohen *et al.*, 2018). This statement was added by a study in Spain (Lechosa-Muñiz *et al.*, 2020) that moms who smoke identity are more averse to breastfeeding their kids than moms who do not smoke (Pineles *et al.*, 2016)(Pereira *et al.*, 2017)(Soneji and Beltrán-Sánchez, 2019). Another study confirmed that moms who smoke are multiple times bound to give equation milk to their infants contrasted with breastfeeding (Lechosa Muñiz *et al.*, 2019). This is in line with a study (Timur Taşhan, Hotun Sahin, and Omaç Sönmez, 2017) which expressed that moms who smoke are 3.9 occasions bound to give correlative food varieties to newborn children matured four months or sooner than moms who do not smoke.

One study also explained the connection between the middle of mom smoking and the early termination of exclusive breastfeeding. Nicotine is known to expand dopamine discharge in the hypothalamus, which causes a decrease in prolactin levels, impacting milk production (Amir and Donath, 2002). On the other hand, moms who smoke might be less mindful of their wellbeing and are less spurred to breastfeed solely (Donath, Amir, and Team, 2004). This statement is reinforced from a study (Tavoulari *et al.*, 2016) that mothers who smoke do early weaning due to uncertainty about the safety of breastfeeding, reluctance to seek advice in helping breastfeeding problems from health workers, and concerns about the reaction of health workers to smoking behavior from mothers.

Indonesia is a country with a culture that is still quite strong in the tradition of giving breast milk after giving birth. However, this is associated with the high percentage of mothers smoking in some Indonesian areas that have not yet reached the exclusive breastfeeding target for infants. The strategic approach in areas with a high percentage of smoking mothers is education on the negative impact of cigarette content on children's health.

Research shows that not achieving inclusion of newborn children getting exclusive breastfeeding is a multifactorial problem, indicating the need for cross-sectoral coordination. Increasing the inclusion of newborn children getting exclusive breastfeeding will support progress in achieving the 3rd SDGs in diminishing baby mortality and further developing youngster sustenance (Sudfeld and Fawzi, 2017)(Ministry of Health RI, 2015).

This study uses secondary facts that the Indonesian Ministry of Health has officially produced, so the facts used have good credibility. However, this study using aggregated data by the province in Indonesia tends only to discuss superficially. A more comprehensive study is required by considering the study results related to the causes of inequality in coverage of infants receiving exclusive breastfeeding. It should be conducted in areas that have not reached the minimum target of coverage visit *antenatal care* for the 4th, including conveyances in medical care offices, early inception of breastfeeding, and a high percentage of smoking mothers.

CONCLUSION

Because of the consequences of the research and discussion, it was reasoned that the coverage of the visit antenatal care 4th and the coverage of deliveries in health care facilities had a sufficient correlation and positive relationship to the inclusion of infants receiving exclusive breastfeeding. Early commencement of breastfeeding has a strong and positive relationship, while smoking mothers have a strong and negative relationship with the inclusion of babies getting exclusive breastfeeding. It is recommended that the government formulate a special policy related to strategies to expand the inclusion of infants receiving exclusive breastfeeding in targeted areas with the visit antenatal care fourth, delivery in health care facilities, and early initiation of breastfeeding with low coverage, as well as in areas with a high percentage of smoking mothers.

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