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ACHIEVING THE SDGs TARGETS: WOMEN'S AUTONOMY AND THE CONTINUUM OF MATERNAL AND CHILD HEALTH SERVICES UTILIZATION IN INDONESIA USING IDHS 2017

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Abstract

A reduction of child and maternal mortality is among the targets of the Sustainable Development Goals (SDGs), namely the third goal. An important determinant of child and maternal mortality risk is the utilization of maternal and child health (MCH). This study aims to analyze the relationship between women's autonomy and the continuum of MCH services utilization in Indonesia using IDHS 2017. The unit of analysis was women of childbearing age who were married or living together, gave birth to at least one child in the five years before the survey, and had the last child aged 1 to 3 years, totalling as many as 6,575 samples. The analytical method used is multinomial logistic regression. The dependent variable in this study is the continuity of MCH services utilization and is divided into three categories, namely not a continuum, partial continuum, and whole continuum. The primary independent variable used in this study is women's autonomy with the demographic and socioeconomic factors as control variables. The results show that the proportion of mothers who used all MCH services continuously in Indonesia was 22.14 percent. Utilization of PNC and K4 became the most dominant services from disconnection of every mother from utilizing all MCH services continuously. Mothers with higher autonomy had a higher probability of taking advantage of some and all stages of the continuum of MCH services utilization. Therefore, the government must continue to increase women's autonomy to increase the continuum of MCH services utilization and achieve the SDGs targets.

Keywords: Continuum; Multinomial Logistic; Utilization of MCH Services; Women's Autonomy.

1. Introduction

Maternal and child mortality continues to be a significant health problem, especially in developing countries. A reduction of child and maternal mortality is among the targets of the Sustainable Development Goals (SDGs), namely the third goal. The results of the 2015 *Survei Penduduk Antar Sensus* (SUPAS) stated that Indonesia's maternal mortality ratio was 305 per 100,000 live births. This magnitude made Indonesia as the country with the second-highest maternal mortality ratio in ASEAN after Laos (ASEAN Secretariat, 2017). In

addition, this magnitude also shows that the decline in the maternal mortality ratio in Indonesia is only about 22% during the period 1990-2015. One of the aims of the third goal of the SDGs, is a maternal mortality ratio of fewer than 70 deaths per 100,000 live births. This relatively slow decline is thought to be related to the low coverage of utilization of essential health services and referrals, the lack of distribution of health workers, as well as the lack of public knowledge about immunization and reproductive health (ASEAN Secretariat, 2020). Meanwhile, according to the UN IGME (2020), the under-five mortality rate in Indonesia is 24 deaths per 1000 live births in 2019. This amount has reached the SDGs target, although it is still ranked fifth highest in ASEAN.

An important determinant of child and maternal mortality risk is the utilization of maternal and child health (MCH). The continuum of health services utilization is one of the keys to improving maternal health and reducing child mortality, fighting infectious diseases, and improving child nutrition (Kerber et al., 2007; Martines et al., 2005; Tinker et al., 2005). The advantage of this sustainability concept is that success at a particular stage is closely related to success at other locations (Shibanuma et al., 2018). Meanwhile, success indicators of the continuum of MCH services utilization in Indonesia are still quite challenging to obtain. The 2012 research results in Indonesia show that only 25.5% were using MCH services continuously (Saptarini & Setyonaluri, 2018). This coverage is more diminutive than Afghanistan, which is a low-income country. The scope of a continuum of MCH services utilization in Afghanistan reached around 45.3% in 2010 (Akseer et al., 2016).

There are many aspects of the continuum of MCH services utilization, one of which is women's autonomy. Women with high autonomy tend to have children who can survive well, access health services, and receive health care when needed (WHO, 2013). In addition, women with higher decision-making power will also be more likely to access health services and have control over health resources (Pratley, 2016).

This research is essential to filling the gap in some previous studies. Previous studies on the continuum of MCH services utilization often focus only on maternal health services (Ameyaw et al., 2021). In Indonesia, a study on the continuum of MCH services utilization has also been conducted but has not included women's autonomy and the unit of analysis at the provincial level (Ulfa et al., 2017). In addition, studies on the continuum of the utilization of existing MCH services generally use the Composite Coverage Index (CCI) measurement method. This measurement method compares many countries with time series analysis

(Boerma et al., 2008). Existing research studies generally also analyze without looking at women's continuous behavior to use MCH services (Puspitasari, 2019; Rizkianti et al., 2020) and without considering other determinants in the use of MCH services (Ewerling, 2018). In addition, the method of measuring women's autonomy used in the previous study was only limited to the ability to make decisions in the household. Therefore, the measurement of women's autonomy in this study is not only based on their ability to make decisions in the household, but also their freedom of mobility and attitudes towards violence. In addition, this study will also consider other determinants of the utilization of MCH services, such as socioeconomic and demographic factors, which are included in the model as control variables. Therefore, this study aims to study the relationship between women's autonomy and the continuum of MCH services utilization with the unit of analysis at the individual level using coverage and co-coverage adaptation method of Victora et al. (2005).

Based on the SDGs targets, the third goal is to reduce the maternal mortality ratio to less than 70 per 100,000 live births and reduce under-five mortality to 25 per 1000 births (Bappenas, 2017). One of the efforts made by the government is through increasing access to the utilization of maternal and child health services. The practical and relevant reference model for health services utilization is the the "Three Delays Model," (Thaddeus & Maine, 1994). This model states that maternal mortality is closely related to the interrelatedness of the three phases of delay, namely:

1) Phase 1: Delay in deciding to seek health services. Barriers in phase I are influenced by social, economic, and cultural characteristics and access to health facilities.
2) Phase II: Delay in achieving adequate health facilities. Barriers in phase II are influenced by access to health facilities, and
3) Phase III: Delay in receiving adequate health services at health facilities. The obstacles in phase III are related to the adequacy of the referral system, the adequacy, the supply of drugs and medical equipment, as well as trained and competent health workers.

This model becomes a framework for developing research models, especially in determining the independent control variables that are thought to be correlated with the continuum of MCH services utilization in Indonesia, namely demographic, social, and economic characteristics. Meanwhile, according to Andersen's Behavioral Model the utilization of health services is determined by three main elements (Andersen, 1995), namely:

1) Predisposing Characteristics includes demographic factors; social structure factor; and the belief factor (health beliefs).
2) Enabling Characteristics include family resource factors and community resource factors.
3) Characteristics of Needs include factors of individual perception of personal health status (perceived need) and factors of objective assessment of competent health workers regarding the patient's health status (evaluated need).

Andersen's Behavioral Model becomes a reference for determining the main independent variables in this study. The social structure factor in this model is mentioned as being correlated with the sustainable use of maternal and child health services. Women's autonomy which is the embodiment of the social structure factor is the primary independent variable in this study. Model of sustainability in the use of health services defines sustainability into two dimensions (Kerber et al., 2007), namely:

1) Time Dimension (Throughout the Life Cycle) namely the use of complementary health services from time to time and comprehensive health services for each mother and child.
2) Dimensions of Place (Level of Care) including health care facilities, namely homes and communities, first-level facilities, and hospitals.

This model is the primary reference for determining the dependent variable in this study, namely the continuity of MCH services utilization status in Indonesia. Based on the Kerber model, the utilization of MCH services continually is one embodiment of the continuity of the time dimension.

2. Methods

This study was conducted in 2021 using cross-sectional data sourced from the Indonesia Demographic and Health Survey (IDHS) in 2017. The unit of analysis in this study is women of childbearing age (15-49 years) married or living together who gave birth to at least one child within five years before the survey up to the time of survey data collection and had the last child aged 1 (one) to 3 (three) years, which totalled to as many as 6,575 samples. Meanwhile, the data analysis method is descriptive and used multinomial logistic regression for inferential analysis with a significance level of 5%.

The dependent variable in this study is the continuity of MCH services utilization. The coverage and co-coverage adaptation method of Victora et al. (2005) was chosen to measure the continuity of the utilization of MCH services because it adjusts the unit of analysis at the individual level. The advantages of this method are in terms of simplicity of calculation and the ability to show the magnitude of coverage of mothers and children who utilize a small part, most or even all MCH services (Barros & Victora, 2013). In addition, this method can also be used to simultaneously analyze the distribution of MCH service utilization from various policy interventions (Kerber et al., 2007).

This dependent variable is divided into three categories, namely not a continuum, partial continuum, and whole continuum. It is included in the not continuum category if the mother does not continuously utilize all stages of MCH services. At the same time, the category of the partial continuum is if the mother continually uses some stages of health services (at least one stage). The whole continuum category includes mothers who continuously utilize all stages of MCH services. There are four stages of MCH services used in this study.

Table 1. Description of Control Independent Variables

No	Variable	Operational Definition	Symbol	Measurement Results
1	Education Level of Women	The highest level of education ever completed by a woman	PEND	0 = Elementary School (SD) and below*; 1 = Junior high school (SMP); 2 = >= High School (SMA)
2	Insurance Ownership	Ownership of health insurance programs by women	ASRNS	0 = No Insurance*; 1= Have Insurance
3	Residence	Area of residence at the time of survey	WIL	0 = Rural*; 1=Urban
4	Wealth Quintile	Household wealth index	KAYA	0 = Low*; 1=Medium; 2=High
5	Perception of Distance to Health Facilities	Perception of the distance from residence to health facilities as a barrier to the use of health services for women	JARAK	0 = Problem*; 1 = Not a Problem
6	Parity	The serial number of the birth of the last child	PAR	0 = >= 4*; 1 = 2-3; 2 = 1
7	Mother's Age at Birth	Mother's age at birth of last child	UMR_LHR	0 = < 20 years*; 1 = 20-34 years; 2 = >= 35 years
8	Pregnancy Status	Information about whether the pregnancy of the last child was a wanted or unwanted birth	STTS_HML	0 = Unwanted*; 1= Wanted
9	Working Status	Working status of women in the last 12	KERJA	0 = Not Working*; 1 =

No	Variable	Operational Definition	Symbol	Measurement Results
		months		Working
10	Internet	Internet usage status	INTER	0 = Never*; 1= Ever
11	Husband/Partner's Education Level	The highest level of education ever completed by the Husband/Partner	PENDS	0 = Elementary School (SD) and below*; 1 = Junior high school (SMP); 2 = >= High School (SMA)

Note: * = *reference category*

Continuum of stage I is defined as mothers who simultaneously take advantage of health services during K1 and K4 pregnancy. K1 is defined as a pregnancy examination carried out by a competent health worker at least once regardless of the examination period. Meanwhile, K4 is defined as pregnancy examinations carried out by qualified health personnel at least four times and carried out according to the following examination time criteria: one time in the first trimester, one time in the second trimester, and two times in the third trimester (Badan Litbangkes, 2018).

Continuum stage II is defined as mothers who take advantage of K4 services and give birth at health facilities with the help of competent health workers at the same time. Delivery assisted by health personnel is defined as delivery carried out with the help of qualified health personnel such as doctors, midwives, and nurses. Meanwhile, deliveries at health facilities are defined as deliveries carried out in hospitals, clinics, maternity homes, *puskesmas*, and the practice of health workers (Badan Litbangkes, 2018).

Continuum stage III is defined as mothers who give birth in health facilities with the help of competent health workers and take advantage of KF1 Postnatal Care (PNC) services at once. Postpartum health services include health checks on mothers that are carried out for the first time before three days postpartum by competent health workers, namely doctors, midwives, and nurses commonly referred to as KF1. Continuum stage IV is defined as mothers who take advantage of KF1 services and have their last child complete basic immunizations at once. Complete primary immunization for children includes one dose of HB vaccine at birth, one dose of BCG vaccine, three doses of DPT-HB vaccine, four doses of the polio vaccine, and one dose of measles vaccine (Badan Litbangkes, 2018).

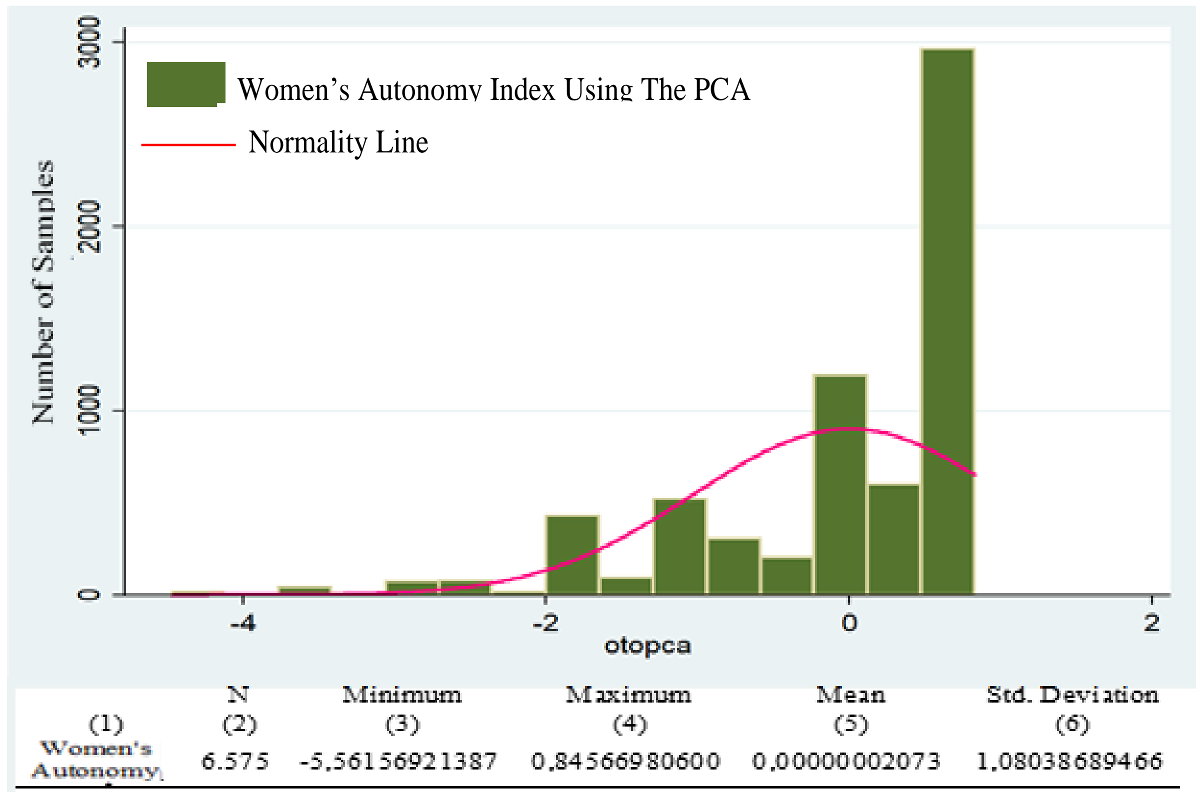
The primary independent variable used in this study is women's autonomy defined as the ability to make decisions, freedom of mobility, and attitudes towards violence. Principal Component Analysis (PCA) method was used to form the index of women's autonomy. At

the same time, the operational definition of demographic and socioeconomic factors as control variables used are presented in table 1.

3. Results and discussion

The results of the women's autonomy variable formation using the PCA method show that there are two principal components with an eigenvalue of more than one. The first and second components can explain the variation or diversity by 31.30 percent and 21.09 percent. The first component describes the mother's attitude/action towards domestic violence. Meanwhile, the second component includes an overview of maternal mobility decisions and mother's participation in household decisions. Based on the two major components, questions regarding attitudes towards violence perpetrated by husbands/partners for leaving without informing and decisions to carry out mobility (e.g., visits to family/relatives) are the most dominant factors in the formation of women's autonomy variables in components one and two. Furthermore, the two components of the PCA results are used to form the women's autonomy variable, whose result is a continuous value.

The descriptive results of the women's autonomy formation variables are presented in Figure 1. The results show that mothers dominate the sample characteristics with high autonomy or above the average, 61.2 percent. In contrast, the remaining 38.8 percent have low autonomy or less than the average. Based on the combination of the two major components, the average women's autonomy in this research sample is 2.073×10^{-8}. The value of women's autonomy is -5.56, indicating that mothers have the lowest autonomy. Meanwhile the value of women's autonomy of 0.84 suggests that the mother has the highest autonomy.



(1)	N (2)	Minimum (3)	Maximum (4)	Mean (5)	Std. Deviation (6)
Women's Autonomy	6.575	-5,56156921387	0,84566980600	0,00000002073	1,08038689466

Figure 1. Descriptive Results of the Establishment of Women's Autonomy Variables, Indonesia IDHS 2017

An overview of the sample characteristics according to demographic and socioeconomic variables is presented in table 2. The results show that the following characteristics dominate the sample: mother's education high school; have health insurance; living in the countryside; being in a household with a poor wealth quintile; have the perception that distance to facilities is not a problem; have 2-3 children; the age of the mother at the time of delivery is 20-34 years; desired pregnancy status; work; never access the internet; and have a husband with high school education level.

Table 2. Sample Distribution by Demographic, Social and Economic Characteristics, Indonesia IDHS 2017

Characteristics		Total	
		n	%
(1)	(2)	(3)	(4)
Education Level of Women	<= Elementary School (SD	1.702	25,89
	Junior high school (SMP)	1.735	26,39

Characteristics		Total	
		n	%
(1)	(2)	(3)	(4)
	High School (SMA)	3.138	47,73
Insurance Ownership	No Insurance	2.462	37,44
	Have Insurance	4.113	62,56
Residence	Rural	3.332	50,68
	Urban	3.243	49,32
Wealth Quintile	Low	3.082	46,87
	Medium	1.226	18,65
	High	2.267	34,48
Perception of Distance to Health Facilities	Problem	756	11,50
	Not a Problem	5.819	88,50
Parity	>= 4	1.100	16,73
	2-3	3.455	52,55
	1	2.020	30,72
Mother's Age at Birth	< 20 years	482	7,33
	20-34 years	4.818	73,28
	>= 35 years	1.275	19,39
Pregnancy Status	Unwanted	1.071	16,29
	Wanted	5.504	83,71
Mother's Working Status	Not Working	3.230	49,13
	Working	3.345	50,87
Internet	Never	3.525	53,61
	Ever	3.050	46,39
Husband/Partner's Education Level	<= Elementary School (SD	1.825	27,76
	Junior high school (SMP)	1.505	22,89
	High School (SMA)	3.245	49,35

An overview of the continuum coverage flow and discontinuation of MCH services utilization in Indonesia is presented in figure 2. The results show that only 22.14 percent of mothers use all MCH services continuously, starting from examinations during pregnancy, namely K1, to having children with complete basic immunizations. In addition, these results also show that the use of PNC is the most dominant service in terms of disconnection from mothers to be able to utilize all MCH services continuously. The percentage of mothers who

stopped continuously from PNC services was 32.42 percent. Meanwhile, mothers who stopped continuously from K4 services, giving birth at health facilities, and complete basic immunizations were 19.71 percent, 11.86 percent, and 11.04 percent, respectively.

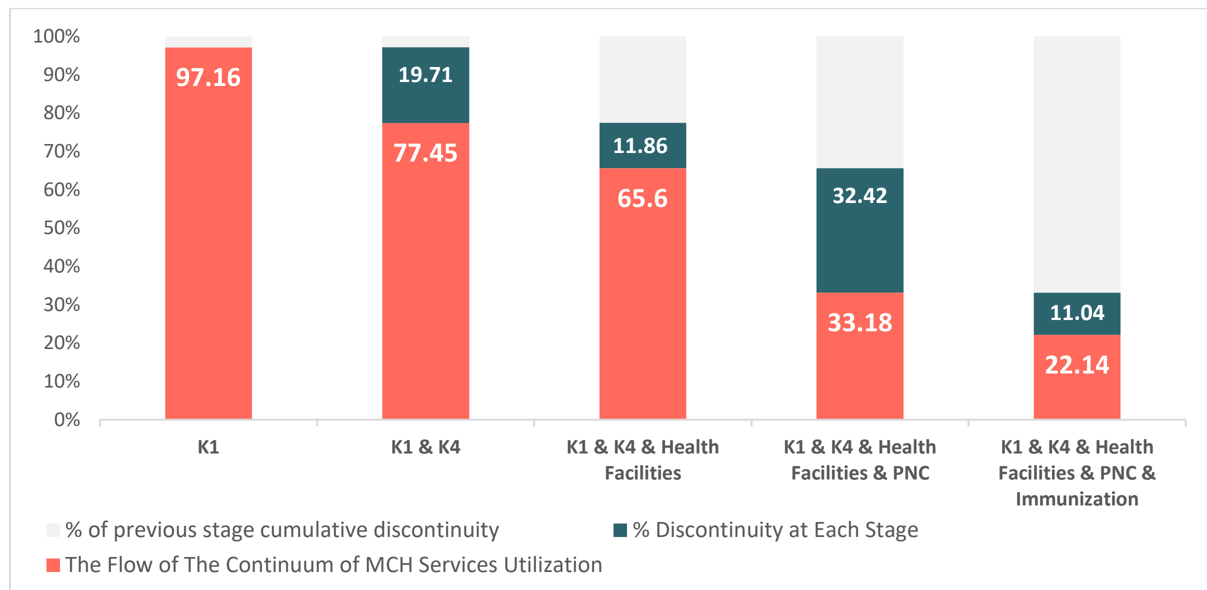


Figure 2. Percentage of Continuity and Discontinuity of Utilization of Maternal and Child Health Services, Indonesia IDHS 2017

The coverage of of MCH services utilization continuum in Indonesia in 2017, as presented in figure 2, is lower than the results of research in Indonesia in 2012 (Saptarini & Setyonaluri, 2018). These differences are related to differences in the unit of analysis and at the stage of service delivery. This study also includes information about the place of delivery at health facilities. In addition, this result is in line with findings that indicate the coverage of complete primary immunization in 2018 has indeed decreased compared to 2013 (Badan Litbangkes, 2018).

When compared with other countries, despite using a different method, the coverage of the continuum of MCH service utilization in Indonesia in 2017 was higher than the Gambia (Oh et al., 2020) and Laos (Sakuma et al., 2019), but lower than the 36 countries in Sub-Saharan Africa (Ewerling, 2018) and Nepal (Thapa et al., 2020). Meanwhile, the coverage of the continuity of special maternal health services in this study, namely K1 pregnancy checks to postpartum care, was 33.18 percent. This result is higher than in Pakistan (Iqbal et al., 2017), Ethiopia (Emiru et al., 2020), Chad (Kim & Kim, 2019), and Bangladesh (Khan et al., 2020). However, this result is also significantly lower than Cambodia (Wang & Hong, 2015), Ghana (Enos et al., 2021), and Egypt (Hamed et al., 2018). These different results may be

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related to differences in policies, regional conditions in terms of accessibility of health services, as well as differences in demographic and socioeconomic characteristics of the community.

In addition, this study also shows that the use of postpartum services is the most dominant service when every mother is disconnected from using all MCH services continuously, as presented in figure 2. The dominance of postpartum services is in line with research in Ethiopia and Ghana (Ameyaw et al., 2021; Muluneh et al., 2020), which shows that the gap and the most significant contributor to the discontinuity of the utilization of MCH services are in the period between the use of services during childbirth to postpartum care.

An illustration of the percentage of mothers who are disconnected from using MCH services continuously at each service stage according to the characteristics of women's autonomy is presented in figure 3. The results show that mothers with low autonomy dominate disconnected mothers at all stages of continuous MCH services utilization. The service that offers the highest percentage difference for the continuous disconnection between mothers with high autonomy and low autonomy is the utilization of childbirth at health facilities, which is around 7.9 percent. Meanwhile, the service that shows the most inferior percentage difference for continuous discontinuation between mothers with high autonomy and low autonomy is in postpartum care, numbering around 1.7 percent. This result shows that both mothers with low and high autonomy are equally discontinued in the utilization of MCH services, especially in postpartum services.

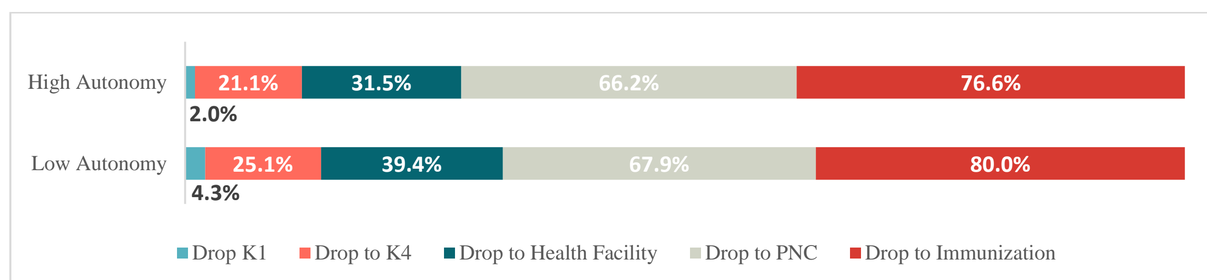

Figure 3. Percentage of Discontinued Utilization of MCH Services in a Sustainable manner by Women's Autonomy, Indonesia IDHS 2017

The results in figure 3 also show that mothers with low autonomy are the most dominantly disconnected in utilizing MCH services continuously compared to mothers with high autonomy. In addition, when viewed based on its constituent components, the results in table 3 show that attitudes towards violence are the dominant component that is strongly

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related to the continuum of MCH services utilization. In other words, one of the efforts to increase women's autonomy in Indonesia is through increasing the ability of a mother to act and firmly reject any violence that occurs in the household so that it can increase access and use of MCH services continuously.

The definition of MCH services utilization in this study is divided into four stages. A general description of the number of stages of continuity of health services utilized by mothers is presented in figure 4. The results show that approximately 65.27 percent of mothers continuously use several stages of MCH services (at least one stage). Mothers who utilize two stages of continuity of MCH services are the most dominant, numbering at 41.95 percent. Meanwhile, mothers who take advantage of the three stages of continuity of MCH services have the smallest percentage of 11.04 percent.

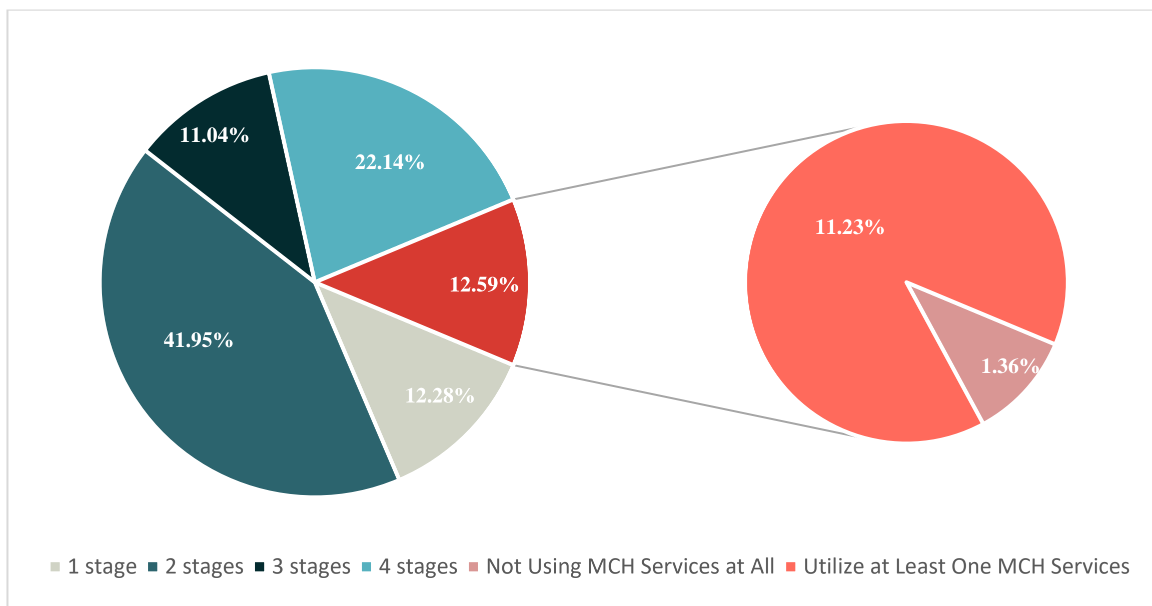

Figure 4. Percentage of Total Stages of Continuity of Maternal and Child Health Services Utilization, Indonesia IDHS 2017

Around 12.59 percent of mothers do not take advantage of all stages of the continuity of MCH services. Further, mothers who do not take advantage of all stages of the continuity of MCH services are broken down into 2 (two). First are mothers who do not use MCH services at all, namely 1.36 percent. Second are mothers who use only one MCH service and or utilize more than one MCH but doing so not sequentially, starting from examination during pregnancy, namely K1, to having children with complete basic immunizations, 11.23 percent.

The bivariate analysis results according to the components of women's autonomy and the continuity of the use of MCH services are presented in table 3. The results show that women who disagree with all reasons for violence have the largest percentage to use some and all MCH services continuously, which is 64.28 percent and 21.72 percent respectively. Meaning that the attitude component towards violence is the most potent variable associated with the continuity of some and all stages of MCH service utilization compared to mothers who do not use all stages of MCH services continuously before being controlled by other variables. However, all these components will be seen as a value as a unitary constructor of women's autonomy variables in the future.

Table 3. Continuity of Utilization of Maternal and Child Health Services by Components of Women's Autonomy, Indonesia IDHS 2017

Variable		Not Continuum	Partial Continuum		Whole Continuum		Total	
		%	%	t-stat	%	t-stat	n	%
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
Maternal Health Care Decisions	Not Participating	18,22	64,93	1,455	16,85	5,627**	730	100
	Participating	14,49	64,05		21,45		5.845	100
Big Household Expenditure Decision	Not Participating	16,38	64,10	0,112	19,52	0,092	1.557	100
	Participating	14,45	64,17		21,38		5.018	100
Maternal Mobility Decision	Not Participating	17,65	64,38	1,104	17,97	2,857*	918	100
	Participating	14,46	64,12		21,42		5.657	100
Attitudes toward violence	Agree at least 1 reason	16,41	63,94	10,516***	19,64	3,960**	2.449	100
	Disagree All Reasons	14,01	64,28		21,72		4.126	100

Note: ***=p<0,01; **=p<0,05; *=p<0,1

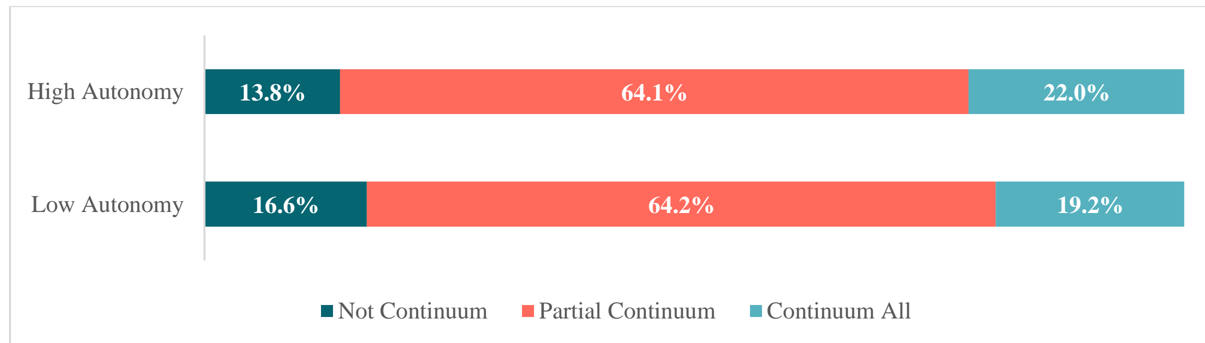

Figure 5. Continuity of Utilization of Maternal and Child Health Services by Level of Women's Autonomy, Indonesia IDHS 2017

The pattern of the relationship between women's autonomy and the continuity of utilization of MCH services is presented in figure 5. The results show that mothers with high autonomy have a higher percentage of continuity in all stages of the utilization of MCH services than mothers with low autonomy, which is numbered at 22 percent. Meanwhile, mothers with low autonomy have a higher percentage of discontinuity in all stages of using MCH services than mothers with high autonomy, amounting to 16.6 percent. Before being controlled with other variables, the tendency of mothers with high autonomy to use all stages of MCH services continuously than mothers who did not use all stages of MCH services continuously was 1.15 times higher than mothers with low autonomy. Meanwhile, the tendency for continuity at some stages of the utilization of MCH services is relatively not much different between women with high autonomy and low autonomy.

An overview of the patterns and differences in the continuity of MCH service utilization according to demographic and socioeconomic characteristics is presented in table 4. The results show that all demographic and socioeconomic characteristics provide a relatively consistent pattern. Mothers with this characteristic: high school education; have health insurance; living in urban areas; being in a household with a high wealth quintile; have the perception that distance to facilities is not a problem; have one child; the age of the mother at the time of delivery is 20-34 years; desired pregnancy status; work; have accessed the internet; and have a husband with an education level of high school has the highest percentage of continuity of all stages of MCH services utilization. Meanwhile, mothers included in the reference group have the highest percentage of discontinuous use of MCH services continuously.

Table 4. Continuity of Utilization of Maternal and Child Health Services Based on Demographic and Socioeconomic Characteristics, Indonesia IDHS 2017

Variable		Not Continuum		Partial Continuum		Whole Continuum		Total	
		n	%	n	%	N	%	n	%
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Education Level of Women	<= SD	407	23,91	1.037	60,93	258	15,16	1.702	100
	SMP	256	14,76	1.116	64,32	363	20,92	1.735	100
	>= SMA	317	10,10	2.065	65,81	756	24,09	3.138	100
Insurance Ownership	No Insurance	435	17,67	1.557	63,24	470	19,09	2.462	100
	Have Insurance	545	13,25	2.661	64,70	907	22,05	4.113	100
Residence	Rural	645	19,36	2.073	62,21	614	18,43	3.332	100
	Urban	335	10,33	2.145	66,14	763	23,53	3.243	100
Wealth Quintile	Low	679	22,03	1.913	62,07	490	15,90	3.082	100
	Medium	152	12,40	792	64,60	282	23,00	1.226	100
	High	149	6,57	1.513	66,74	605	26,69	2.267	100
Perception of Distance to Health Facilities	Problem	163	21,56	472	62,43	121	16,01	756	100
	Not a Problem	817	14,04	3.746	64,38	1.256	21,58	5.819	100
Parity	>= 4	276	25,09	665	60,45	159	14,45	1.100	100
	2-3	444	12,85	2.271	65,73	740	21,42	3.455	100
	1	260	12,87	1.282	63,47	478	23,66	2.020	100
Mother's Age at Birth	< 20 years	109	22,61	302	62,66	71	14,73	482	100
	20-34 years	653	13,55	3.110	64,55	1.055	21,90	4.818	100
	>= 35 years	218	17,10	806	63,22	251	19,69	1.275	100
Pregnancy Status	Unwanted	220	20,54	665	62,09	186	17,37	1.071	100
	Wanted	760	13,81	3.553	64,55	1.191	21,64	5.504	100
Mother's Working Status	Not Working	530	16,41	2.041	63,19	659	20,40	3.230	100
	Working	450	13,45	2.177	65,08	718	21,46	3.345	100
Internet	Never	705	20,00	2.200	62,41	620	17,59	3.525	100
	Ever	275	9,02	2.018	66,16	757	24,82	3.050	100
Husband/Partner's Education Level	<= SD	389	21,32	1.144	62,68	292	16,00	1.825	100
	SMP	258	17,14	947	62,92	300	19,93	1.505	100
	>= SMA	333	10,26	2.127	65,55	785	24,19	3.245	100

The results of the inferential analysis with multinomial logistic regression are presented in table 5. In general, the results show that all independent variables are significantly related to

the continuity of some and all stages of MCH service utilization. In addition, all independent variables are also following the hypothesis formulated in this study. Based on variable coefficient, when compared between the two models or logit functions, it is seen that almost all independent variables have a higher magnitude of relationship in the logit function for the continuity of all stages of MCH service utilization than the logit function for the continuity of some stages of MCH service utilization.

This result shows that the continuity of all stages of the utilization of MCH services still requires much greater effort. In line with these results, based on the coefficient value of women's autonomy changes in one unit of women's autonomy, were respective association with a 6.5 percent and 10.6 percent higher probability of using some and all stages of MCH services continuously than mothers who did not utilize all stages of MCH services continuously. Meanwhile, the 3 (three) control variables that have the most substantial relationship to the continuity of some and all stages of MCH services sequentially are wealth quintile, mother's age at delivery, and parity or number of children owned.

The results presented in table 5 show that most of the independent variables are statistically significant with the continuity of some stages of the utilization of MCH services. The independent variables that are not statistically related to the continuity of some stages of using MCH services are the husband's/spouse's education level and the mother's perception of the distance to health facilities. The variable of women's autonomy is significantly related to the continuity of some stages of the utilization of MCH services. The relationship of women's autonomy to the continuity of some stages of using MCH services is positive. The higher the autonomy of women, the higher the tendency to use some stages of MCH services continuously. The RRR (relative risk ratio) value of 1.065 indicates that the probability of mothers using some stages of MCH services continuously compared to mothers who do not use all stages of MCH services continuously will increase by 1.065 times if there is an increase in the autonomy of women by one unit.

The results presented in Table 5 also show that most of the independent variables are statistically significant with the continuity of all stages of the utilization of MCH services. The independent variable that is not statistically related to the continuity of all stages of using MCH services is the husband's/spouse's education level at the junior high school level. The variable of women's autonomy is significantly related to the continuity of all stages of the utilization of MCH services. The relationship of women's autonomy to the continuity of all

stages of using MCH services is positive. The higher the autonomy of women, the higher the tendency to use all stages of MCH services continuously. The RRR value of 1.106 indicates that the probability of mothers using all stages of MCH services continuously compared to mothers who do not use all stages of MCH services continuously will increase by 1.106 times if there is an increase in the autonomy of women by one unit.

Table 5. Results of Multinomial Logistics Regression of Women's Autonomy & Control Variables on the Continuum of MCH Services Utilization, Indonesia IDHS 2017

Variable	Partial Continuum			Whole Continuum		
	Koef. (β)	exp (β)	t-stat.	Koef. (β)	exp (β)	t-stat.
(1)	(2)	(3)	(4)	(6)	(7)	(8)
Constant	-0,772***	0,462	-3,75	-3,200***	0,041	-11,78
Women's autonomy	0,063**	1,065	2,01	0,101**	1,106	2,54

Note: All control variables are statistically significant.
***=p<0,01; **=p<0,05; *=p<0,1

As the results presented in Table 5, women's autonomy shows a significant and positive relationship to the sustainability of some or all stages of the utilization of MCH services. This result is in line with the research in South Asia and Sub-Saharan Africa, which finds that mothers with higher autonomy have a more significant opportunity to utilize some and or all types of health services (Singh et al., 2016). Other research also shows that mothers with low autonomy have a lower probability of using MCH services continuously (Iqbal et al., 2017; Oh et al., 2020).

Women's high autonomy can change views and minimize perceptions of barriers to health facilities to increase the tendency to utilize MCH services continuously (Agbanyo, 2019). Women's high autonomy also illustrates social independence because it reflects their life history and access to information, increasing their opportunities to utilize health services (Ewerling, 2018). Women with high autonomy tend to have better and stronger communication with their partners to discuss and make decisions regarding the number of children and their care (Upadhyay et al., 2014).

Women with high autonomy also illustrate the magnitude of their influence in the family and society (Kc & Neupane, 2016). This significant influence will make women more empowered in making decisions and have control over health resources. High control over

resources can give women the ability to weigh the costs and benefits of various alternative options to make the most efficient decision. This reason makes women with high autonomy have a greater possibility of taking advantage of any health services and further reducing the risk of their reproductive behavior (Haque et al., 2012).

The low utilization of MCH services for women with low autonomy might be related to one of the components of women's autonomy, namely experiences and attitudes towards violence perpetrated in the household (Mohammed et al., 2017). Women who experience domestic violence will have a lower tendency to take advantage of health services both for themselves and for their babies. Women's low autonomy also reflects limitations or constraints regarding social norms related to women's freedom of mobility, such as having to ask for permission and or be accompanied by a husband/partner Haque et al. (2012). Therefore, high autonomy, in the end, can improve the ability of mothers to access appropriate and adequate health care services without having to depend on decisions from other parties.

Indonesia is still thick with patriarchal culture (Sakina, 2017). The patriarchal culture makes women less autonomous, especially regarding health services (Okedo-Alex et al., 2019). In addition, this culture also places men in a dominant position so that women tend to be placed in a more vulnerable and inferior position. This matter has implications for the assumption that there are different roles and responsibilities between men and women. Men act as the backbone and ruler of the family, while household chores, child care are considered to be entirely the responsibility of women.

4. Conclusion

This study finds that the continuum coverage of all utilization of MCH services in Indonesia in 2017 is still relatively low at 22.14 percent. Meanwhile, PNC and examinations during K4 pregnancy became the most dominant services in terms of disconnection from every mother using all MCH services continuously. The results of the inferential analysis using the multinomial logistic regression method showed that mothers with higher autonomy had a higher probability of taking advantage of some and all stages of the continuum of MCH services utilization after controlling the effects of demographic and socioeconomic factors. Meanwhile, the three control variables that have the most substantial relationship to the continuity of some and all stages of MCH services sequentially are wealth quintile, mother's

age at birth, and parity or number of children owned. Therefore, the government must continue to increase women's autonomy, especially for mothers with low autonomy, to improve the continuum of MCH services utilization and achieve the SDGs targets, especially in PNC and K4 services.

This study has several limitations when interpreting the results and findings. First, this study uses the 2017 IDHS cross-sectional data. Hence, it only shows conditions in 2017 and cannot show a causal relationship. In addition, this study also assumes information on women's autonomy and demographic characteristics and Socio-economic conditions are fixed so that the information obtained at the time of the survey or enumeration can describe the condition of sustainable behaviour in using MCH services in the past. Meanwhile, another limitation is the control of data quality. This is because the IDHS data is based on self-reported information, and no validation of information has been carried out based on other objective sources. Fourth, this research is still limited to the component of women's autonomy at the household level (individual approach). Meanwhile, the components of women's autonomy at the community level, such as participation in the community and political participation, have not been included in this study.

Some suggestions for further research are the use of longitudinal data, time-series data, and qualitative research. In addition, further research should also analyze the sustainability of the utilization of MCH services according to the dimensions of the place and based on the services received. It is also recommended to include information at the village, district, provincial, and national (macro) levels with the multilevel analysis method to study the continuum of health services utilization from two sides, namely the demand and supply sides.

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Author Contribution

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