



## DETERMINANTS OF FERTILITY IN WEST SULAWESI PROVINCE FURTHER ANALYSIS OF INDONESIA HEALTH DEMOGRAPHY SURVEY DATA (IDHS) 2017

Irma Muslimin<sup>1\*</sup>, Hadzmawaty Hamzah<sup>2</sup>, Kaprawi Rahman<sup>3</sup>, Sukardi<sup>3</sup>, Fajar akbar<sup>4</sup>

<sup>1</sup>Department of Nursing, Poltekkes Kemenkes Mamuju, Jl. Poros Mamuju - Kalukku Km. 16, Tadui, Mamuju, Sulawesi Barat 60172, Indonesia

<sup>2</sup>Faculty of Public Health, Universitas Patria Artha, Jl. Tun Abdul Razak, Paccinongang, Somba Opu, Gowa, Sulawesi Selatan 90235, Indonesia

<sup>3</sup>Population Research Center, National Research and Innovation Agency, Jl. M.H. Thamrin No. 8, Jakarta Pusat 10340, Indonesia

<sup>4</sup>Department of Environmental Health, Poltekkes Kemenkes Mamuju, Jl. Poros Mamuju - Kalukku Km. 16, Tadui, Mamuju, Sulawesi Barat 60172, Indonesia

\*[irmamuslimin.poltekkes@gmail.com](mailto:irmamuslimin.poltekkes@gmail.com)

### ABSTRACT

The fertility rate is one of the most decisive demographic factors in reducing the population growth rate in Indonesia. The level of fertility is influenced by several factors, both socio-economic factors and sociodemographic factors. This study aims to look at the determinants of fertility in West Sulawesi. This research was conducted through secondary data analysis from the 2017 Indonesian Health Demographic Survey data. The research sample analyzed was Women of Reproductive Age totaling 1,682. Data were analyzed using the chi square test to see the relationship between the independent variables and the dependent variable that had been determined. The results of the data analysis showed that the age group, education level, place of residence, socioeconomic status, literacy knowledge about the fertile period and use of contraceptives were significantly related to the number of children born alive. Based on the results of this research data analysis, it is necessary to have cross-sector collaboration to improve the socio-economic population, increase the level of education in reducing fertility in West Sulawesi.

**Keywords:** fertility; knowledge; fertile period; use of contraceptives

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## INTRODUCTION

Indonesia as a developing country will face various problems in the development process, one of which is the population problem. In demography, the population in an area is influenced by 3 factors including: fertility (birth rate), mortality (death rate) and migration (movement). One indicator to measure the success of a region in efforts to build the quality of human life is through the human development index (IPM). HDI has 3 main characteristics, namely health, level of education and economy (Toward et al., 2022). The fertility rate indicates the number of births born to women of reproductive age in the region (Nuraini, 2010). In each region, fertility trends are influenced by various factors, including social and economic conditions that are interrelated (Nuraini, 2010). A study conducted by the World Health Organization (WHO) showed that two-thirds of women who wanted to delay or limit childbearing stopped using modern contraceptives for fear of side effects, health problems,

and underestimated the chances of conception (Wolde et al., 2022). A study conducted in 29 African countries on fertility knowledge, contraceptive use, and unintended pregnancies revealed that in all models, increasing age reduces the likelihood of a mismatched pregnancy or intentional child regardless of marital status. Parity or number of children increases the probability of pregnancy or unintended children for both currently married and previously married but not for young women who have never been married. Unexpectedly, women who had no education or basic education and who lived in rural areas were less likely to become pregnant or give birth accidentally than those who had higher education and lived in non-rural areas (Iyanda et al., 2020). This study aims to present the results of a more in-depth analysis of data originating from the 2017 Indonesian Health Demographic Survey to look at factors directly related to fertility.

**METHOD**

This research is a follow-up analysis of data from the 2017 Indonesian Demographic Health Survey (IDHS). The samples analyzed in this study were all women of childbearing age in the West Sulawesi Province IDHS, totaling 1,682 people. Data analysis was carried out using the chi-square test between the dependent variable, namely the number of children and the independent variables including age group, education level, place of residence, socioeconomic status, literacy, knowledge of the fertile period and use of contraceptives. The stages of data analysis carried out were univariate and bivariate.

**RESULTS**

Tabel 1  
Frequency Distribution of Respondent Characteristics

Variable	Amount	Percent
Age Group (Years)		
15-19	310	18.4
20-24	234	13.9
25-29	247	14.7
30-34	215	12.8
35-39	248	14.7
40-44	242	14.4
45-49	186	11.1
Tingkat Pendidikan		
No School	64	3.8
Elementary school	503	29.9
First Middle School	793	47.1
Senior High School	322	19.1
Residence		
Urban	491	29.2
Rural	1191	70.8
Socioeconomic Status		
The poorest	682	40.5
Poorer	342	20.3
Middle	239	14.2
Richer	232	13.8
richest	187	11.1
Literacy		
Can't read at all	113	6.7
Can only read part of the sentence	58	3.4
Able to read whole sentences	1496	88.9
No cards with required language	11	.7

Variable	Amount	Percent
Missing Data	4	.2
Profession		
Doesn't work	729	43.3
Professional / technical / managerial	136	8.1
Religious leaders	84	5.0
Sale	276	16.4
Agriculture - self-employed	281	16.7
Farm - employees	71	4.2
Service	104	6.2

Table 1 shows that the characteristics of the sample in this study consisted of the age group, educational level, place of residence, socioeconomic status, literacy and employment. The description of the data shows that based on the age group, ages 15-19 years show the largest percentage, namely 18.4%, junior high school is the level of education with the largest percentage, namely 47.1%, respondents living in rural areas dominate by 70.8%, the highest socioeconomic status is in the poorest strata, namely 40.5%, literacy skills by being able to read entire sentences is 88.9%, employment status is not working, namely 43.3%.

Table 2.

Distribution Number of children born alive

Number of children ever born	f	%
0 Children	569	33.8
1-2 children	550	32.7
3-4 children	381	22.7
> 5child	182	10.8

Table 2 shows the number of children ever born. This variable shows that the respondents in this study with 0 children were 33.8%, 1-2 children were 32.7%, 3-4 children were 22.7%, >5 children were 10.8%.

Table 3.

Results of Cross Analysis Tabulation of Characteristic Variables with Fertility

Variable	Significance		Cramer Correlation Coefficient	
	Value	p	Value	p
Age group	1114,6	0,000	0,470	0,000
Level of education	254,886	0,000	0,225	0,000
Residence	20,22	0,000	0,110	0,000
Socioeconomic Status	55,01	0,000	0,104	0,000
Literacy	104,5	0,000	0,144	0,000

Table 4

Results of Bivariate Analysis Variables Knowledge of fertility and Alcon use with Fertility

Variable	Significance		Cramer Correlation Coefficient	
	Value	p	Value	p
Knowledge of fertile period	117,09	0,000	0,152	0,000
Use of contraceptives	503,04	0,000	0,387	0,000

## DISCUSSION

The results showed that based on the characteristics of the respondents in the age group variable, there was not much difference between each group. The number of age groups of the respondents had a not much different percentage which was sorted by the status of

women of childbearing age, namely ages 15-49 years. The minimum percentage is 11.1% and the maximum percentage is 18.4%. Education level variable consisting of no school, elementary school, junior high school, high school 70.8% of respondents live in rural areas which means that access to any facility still has many drawbacks. The economic status of the four categories shows almost the same percentage, but the economic status of the respondents is dominated by the status of the poorest. This means that the level of economic ability of the respondents is generally dominated by the level of economic less. Even so, the average respondent has good reading skills as indicated by being able to read whole sentences, this is also supported by the description of the level of education that most are at the end of junior high school, which means that a person's reading ability is already good. Most of the respondents are housewives. In this study the level of fertility was seen from the number of children owned by the respondents. There were 1,862 children from 569 respondents. The results of the analysis of the significance of the characteristics of the respondents with the number of children show a relationship with the level of fertility.

Age group, age is one of the determining factors for making a person's decision to have children. The more mature a person's age, theoretically, each decision will be wiser and have complex considerations for his decision. The results of this study indicate the significance value of the age group with the number of children is 0.000. This result is in line with research conducted by (Ekawati et al., 2019) that age at marriage has a significant relationship to an increase in the number of children ever born. Education level is a factor that can also contribute to a person's behavior and decisions. Because theoretically that the higher the level of education, one's knowledge will increase, thus that the higher the level of education, the decision to have or not have children will be more complex. The results of this study indicate that the value of  $p = 0.000$  which means that there is a relationship between the level of education and the number of children the respondent has. The results of research conducted by (Arsyad et al., 2022) show that women with primary and secondary education have a 3.43 chance of using contraception compared to women who do not attend school. This means that women with higher education will consider the number of children they have in the future. The significance between education level and fertility is different from research conducted by (Sendy et al., 2013) that education level has a negative effect on fertility. Besides education, place of residence is an important variable to be studied. With regard to place of residence, other factors will follow, such as for example where you live with village status, it is likely that access to information is more difficult so that it will then be related to knowledge compared to those who live in urban areas. The results of the study in Sudan stated that Furthermore, regarding place of residence, the results showed that all fertility indices were high in urban areas and lower in rural areas. (Hassan et al., 2019).

Knowledge is a person's provision which basically becomes the basis of decision making. Knowledge of the fertile period will theoretically influence the decision to have children. The results of research conducted by (Hampton & Mazza, 2015) state that the level of knowledge about fertility has a relationship with a person's pregnancy status. In this study it was found that knowledge about the fertile period had an effect on fertility. Talking about knowledge, of course knowledge is also implicitly influenced by other factors such as characteristic factors that are inherent in individuals, for example education. The use of contraceptives is one of the factors which is a supporting variable for fertility rates. Family planning programs or the use of contraceptive programs are activities that aim to build prosperous and healthy families by limiting births (Solang et al., 2021). In each region, fluctuating and varied levels of use of contraceptives are made possible by stronger public awareness in choosing contraceptives (Listyaningsih & Satiti, 2022). The results of this study also showed that there was a

significant relationship between the use of contraceptives and the number of children the respondents had. Specifically, it shows that the use of contraceptives, both modern and traditional methods, has an average number of children between 1 to 2 children with a percentage of 48.2% and 40.1%. In general, all the independent variables in this study have a relationship with the level of fertility, which is supported by existing theories.

## CONCLUSION

There is a significant influence between characteristic variables, knowledge about the fertile period, and the use of contraceptives on fertility. There is a need for cross-sector collaboration to improve the socio-economic population, increase the level of education in reducing fertility in West Sulawesi.

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