The Impact of Childbearing-Age Married Women's Behavior on Fertility in Tambakbayan Hamlet, Neighborhood Unit 012/004

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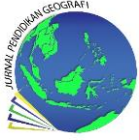
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Abstract

Fertility represents one of the demographic components that influence population dynamics. The factors that determine fertility conditions include social norms, culture, and demographic characteristics, as well as the economic conditions of married women of childbearing age. These factors then develop within the context of the community environment, ultimately influencing the fertility behavior of the society. As a consequence of the agglomeration area, childbearing age married women in Tambakbayan Hamlet, Indonesia, are considered to be the majority with a low desire to have children. Consequently, further studies are required to investigate the fertility conditions and behavior of childbearing-age women in the region. The results indicated that the most of childbearing age women had less than two children, had completed high school, and had an income below the minimum wage. The majority of childbearing age women who had less than two children and used contraceptives turns out had the highest level of education at the high school level. Meanwhile, the childbearing-age women with incomes below and above the minimum wage, all of whom had less than two children. The data were collected through an interview process with a closed questionnaire. The objective of this study is to examine the characteristics of childbearing-age married women (WUS) in Tambakbayan Hamlet, particularly in neighborhood association of 012/004, focusing on sociodemographic aspects and identifying their fertility behavior.

Keywords: population dynamics; fertility; women of childbearing-age; fertility behavior; socio-demographic aspects

1. Introduction

Population management represents an essential stage in the development of human resources. It is because human resources are regarded as a form of development capital, which serves as an orientation framework for determining and directing human actions (Noviyanti & Rangkuti, 2022). Population control may be achieved through quality and quantity control measures. Population management aims to alter and enhance the number, structure, and composition of the population in a manner that optimizes the potential for human resource development (Riniwati, 2016). Once population able to control, this will further exert pressure on social and economic conditions, thereby leading to an increase in community welfare. Further, the significance of human resource development is inextricably linked to the administration of health, education, and socioeconomic conditions within the population, which can enhance the value of human capital, a pivotal aspect of human resource development. In this context, it can manifest as augmented productivity and income.

A high rate of population growth that does not complement adequate infrastructure will result in a significant development burden (Harsoyo & Sulistyaningrum, 2018). One of the available measures of population control in terms of quantity is an examination of the fertility rate in a particular area. In this context, women carry a significant role in fertility conditions in an area, as well as in human resources for development (Penga et al., 2023). Fertility represents one of the principal elements influencing population dynamics. Fertility is defined as the number of children born alive to a woman (Central Bureau of Statistics of Sleman, 2023). The high birth rate in Indonesia represents a significant challenge that requires targeted intervention to control (Huda et al., 2016). Local government policy adjustments have been found to be ineffective in reducing the birth rate (Guangzong, 2018). Xiaohua's (2016) research also supports Guangzong's (2018) assertion that the implementation of family planning policies, which allow for two children, has no influence on people's preferences for the number of children.

Studies on fertility determinants in peripheral areas appear as one of the strategies for regulating population size through fertility conditions. There have been numerous studies on fertility. Arsyad and Nurhayati (2017) conducted research on fertility determinants by examining the dynamics of fertility in Indonesia and adopting David and Blake's theory on intermediate variables. The similarity between this study and the research conducted lies in the presence of sociodemographic influencing factors on fertility conditions, including age and education of women of childbearing age. However, aside from those factors, this study also examines other possible influencing factors for fertility conditions, such as knowledge and use of contraceptives, income, as well as the number of children. Research conducted by Xuefeng (2014) indicated urbanization as a significant determinant of the preference for the number of children in rural communities. Conversely, research conducted by Fujun (2014) posited that fertility patterns will undergo a transformation in tandem with economic growth. Furthermore, research by Shuiying and Shiqi (2022) demonstrated a correlation between economic growth and a decline in fertility rates. Furthermore, the Guangzhou (2022) study posits that the education factor also exerts an influence on fertility preferences.

Depok Sub-district has the largest population in Sleman Regency, Indonesia. In 2019, the population of Depok Sub-district constituted 11.37% of the total population in Sleman Regency, equating to 122,305 individuals. This Sub-district is comprised of three villages and 58 hamlets, each exhibiting distinct demographic characteristics. Table 1 presents the total population by gender per village in Depok Sub-district.

Table 1. Number of Residents Based on the Gender in Depok Sub-district in 2022

No	Village	Male (People)	Female (People)	Total (People)
1	Caturtunggal	21.821	22.508	44.329
2	Maguwoharjo	18.141	18.701	36.842
3	Condongcatur	21.459	21.935	43.394
4	Kecamatan Depok	61.421	63.144	124.565

Source: Central Bureau of Statistics of Sleman (2023)

The Caturtunggal Village has the largest population of 44,482 people. It is, therefore, essential to ensure that the health, education, and socioeconomic dimensions are aligned with this high population. This alignment is expected to encourage the human development index to reach the optimal number. One way to measure the health dimension is through the

condition of regional fertility, which can be expressed as the Total Fertility Rate (TFR). A low TFR can indicate the government's success in distributing contraceptives and easy access to health infrastructure.

Aside from having the largest population, Caturtunggal village also presents a greater proportion of women than men, as presented in Table 1. Consequently, the empowerment and population control of a community can be achieved by analyzing the fertility conditions of the area. The fertility conditions of an area can be influenced by various factors, including social norms, culture, as well as demographic and economic conditions of married women of childbearing age. These factors further evolve into the community environment and form the fertility behavior of the society.

In addition, Tambakbayan Hamlet is one of the hamlets in the administration of Caturtunggal Village. This hamlet is situated in a suburban area. Its geographical location, which is a peripheral area, is influenced by topographic conditions, including its proximity to the river, a relatively steep slope elevation level, and its administrative location on the border. This suggests that Tambakbayan Hamlet may potentially evolve into an agglomeration area of Depok Subdistrict, which has been a popular migrant destination with regional conditions that serve as the economic and educational center of the Special Region of Yogyakarta Province. Consequently, it is plausible that the majority of residents in Tambakbayan Hamlet are migrants who are oriented towards economic conditions. Further, the natives of this area may also be influenced by these migrants. This may indicate that the majority of married women of childbearing age in Tambakbayan Hamlet have a low desire to have children. Therefore, further studies are needed to examine the fertility conditions and behaviors of women of childbearing age in the region. Accordingly, this study explores the characteristics of women of childbearing age in Tambakbayan Hamlet, particularly in the neighborhood association 012/004, focusing on sociodemographic aspects. Additionally, the study also aims to identify the fertility behavior of women of childbearing age in the region.

2. Method

2.1. Material and Instrument

The following tools were employed in the research process: computers, internet connections, Microsoft Office, Microsoft Excel, and SPSS software. The material utilized in this research was the raw data from the sociodemographic survey of residents in Tambakbayan Hamlet, neighborhood association of 012/004, Caturtunggal Village, in 2023.

2.2. Data Collection

The research was conducted on October 24-26, 2023, at Tambakbayan Hamlet, neighborhood association of 012/004 Caturtunggal, Depok, Sleman, Yogyakarta, Indonesia. The research was conducted by studying literature related to the research topic, identifying problems, and choosing a research location. The problem identification process was carried out by reviewing previous research and examining various literature studies. Additionally, regional data references sourced from the Central Bureau of Statistics were employed in the problem identification process. Data collection was conducted through interviews using closed-ended questions. The interview target was all married women of childbearing age, ranging between 15-49 years old, who reside in Tambakbayan Hamlet, neighborhood

association of 012/004, with a total of 37 residents. The data obtained were then tabulated systematically and processed using the SPSS program.

Interviews were conducted using a structured questionnaire format. The research questionnaire comprises nine main chapters, including an introduction to the place, enumeration description, and a summary. It also covers the demographic conditions of family members, information on education and technology migration, and employment. Additionally, the questionnaire addresses health and reproduction, decision-making, and housing.The questions were organized in a manner that would facilitate the provision of responses aligned with the research objectives. An illustrative example of how to complete the research questionnaire is provided in Figure 1.

Figure 1. Example of Filling Out Questionnaire

2.3.   Data Processing and Analysis

The data utilized in this study was derived from primary sources, specifically raw data on the results of sociodemographic surveys of residents in Tambakbayan Hamlet neighborhood association of 012/004, Caturtunggal Village in 2023. The data parameters were employed to ascertain the characteristics of married women of childbearing age in the location, with a focus on sociodemographic aspects. This analysis aimed to identify the fertility behavior of married women of childbearing age, following the parameters presented in Table 1.

Table 1. Research Parameters

No	Parameter	Purposes
1	Maternal age	Characteristics of Married Women of Fertile Age in Tambakbayan Hamlet neighborhood association of 012/004 based on sociodemographic aspects and identifying fertility behavior of married women of fertile age.
2	Maternal education	Characteristics of Married Women of Fertile Age in Tambakbayan Hamlet neighborhood association of 012/004 based on sociodemographic aspects and identifying fertility behavior of married women of fertile age.
3	Knowledge concerning and usage of contraception	Characteristics of Married Women of Fertile Age in Tambakbayan Hamlet neighborhood association of 012/004 based on sociodemographic aspects and identifying fertility behavior of married women of fertile age.
4	Income	Characteristics of Married Women of Fertile Age in Tambakbayan Hamlet neighborhood association of 012/004 based on sociodemographic aspects and identifying fertility behavior of married women of fertile age.
5	Number of children	Identifying fertility behavior of women of childbearing age.

A descriptive and inferential analysis of the sociodemographic characteristics of married women of childbearing age and their fertility behavior was performed using quantitative methods, while data accuracy testing was completed through inferential analysis. The descriptive analysis method employed in this study involved the display of information related to the object of research in the form of cross-tabulations, diagrams, and graphs. The quantitative approach utilized in this research involved the processing and visualization of data through the distribution of numbers. This method was selected as it facilitates the attainment of research objectives. Inferential analysis was carried out using the Chi-Square test using the SPSS program. Further, the Chi-Square test results were used to determine the influence between variables.

3. Results and Discussion

Fertility is one of the demographic components that affect the quantity and quality of human resources in a region, as it also serves as a driving agent of development. Fertility is defined as the real birth rate of a woman of childbearing age or in the reproductive period (Andini & Ratnasari, 2019). The Total Fertility Rate (TFR) is a commonly used indicator of fertility conditions. Married women of childbearing age present a significant role in the determination of high and low Total Fertility Rates (TFR)of a region. The Tambakbayan Hamlet neighborhood association 012/004 comprises 37 married women of childbearing age who exhibit certain sociodemographic characteristics that influence their fertility behavior.

Maternal age is a significant factor influencing the number of children among women of childbearing age. In Indonesia, the Indonesian Central Bureau of Statistics defines women of childbearing age as those between the ages of 15 and 45. This study categorizes maternal age into three categories, namely <20 years, 20-35 years, and more than 35 years. This age grouping is based on epidemiological data indicating that women under the age of 20 and above 35 have a high risk of pregnancy, particularly a high possibility of maternal and infant mortality. In contrast, the age of 20 to 35 years is considered to be the ideal age to have a baby (Oktaviani & Nurfitriana, 2023).

The population of women of childbearing age residing in Tambakbayan Hamlet, neighborhood association 012/004, is predominantly comprised of individuals aged >35 years, as illustrated in Figure 2. This indicates a need for further counseling or programs related to the use of contraceptive methods, as this age category is at a high risk of experiencing pregnancy complications (Rangkuti & Harahap, 2020). The elevated risk of pregnancy at the age of 35 years and above is associated with a decline in endurance and the prevalence of various age-related diseases, as reported by Rangkuti and Harahap (2020). The results demonstrated that women of childbearing age in the study area exhibited a sufficient level of knowledge regarding contraceptives, as presented in Figure 3. The high level of public knowledge related to the use of contraceptives indicates the success of the local government in improving the public's health through increased access to health infrastructure, particularly in the field of reproductive health. The findings align with the conclusions of Octavi et al. (2022), which posited that the extensive familiarity of the community with contraceptives was associated with a high prevalence of contraceptive use.
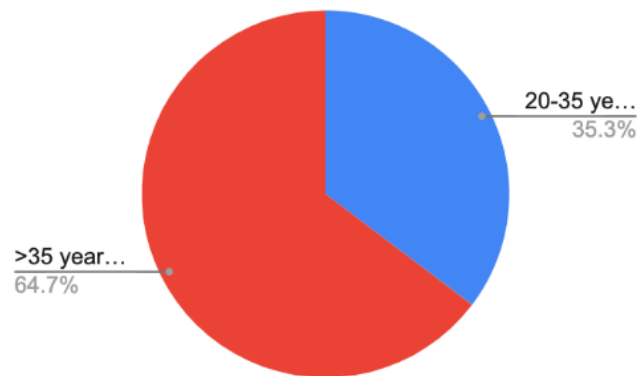

Figure 2. Number of Married Women of Childbearing Age

Figure 3. Number of Married Women of Fertile Age Based on Knowledge of Contraceptives in Tambakbayan Hamlet

The education of married women of childbearing age in Tambakbayan Hamlet, neighborhood association of 012/004, is dominated by women with high school diplomas, as presented in Figure 4. Research conducted by Arikunto (2010) indicates that an increase in maternal education levels is associated with more excellent knowledge of pregnancy risks.

This, in turn, is likely to result in more effective strategies for preventing, avoiding, and overcoming pregnancy complications (Arikunto, 2010).

Figure 4. Number of Married Women of Childbearing Age Based on the Last Level of Education in Tambakbayan Hamlet

The majority of married women of childbearing age in Tambakbayan Hamlet, neighborhood association of 012/004, have incomes below the provincial minimum wage of Rp. 1,981,782 (Central Bureau of Statistics of Sleman, 2023). Machiyama et al. (2017) suggests that economic ability influences access to health infrastructure facilities. The analysis results presented in Figure 5 indicate that the majority of married women of childbearing age have incomes below the provincial minimum wage. However, Figure 6 demonstrates that the majority of women of childbearing age have used contraceptives. This suggests that local government health programs have reached the lower-class level. It can be observed that even though women of childbearing age have incomes below the provincial minimum wage, they can still access health facilities.

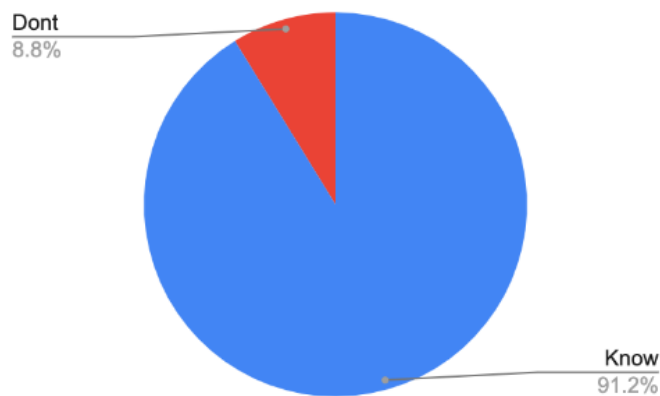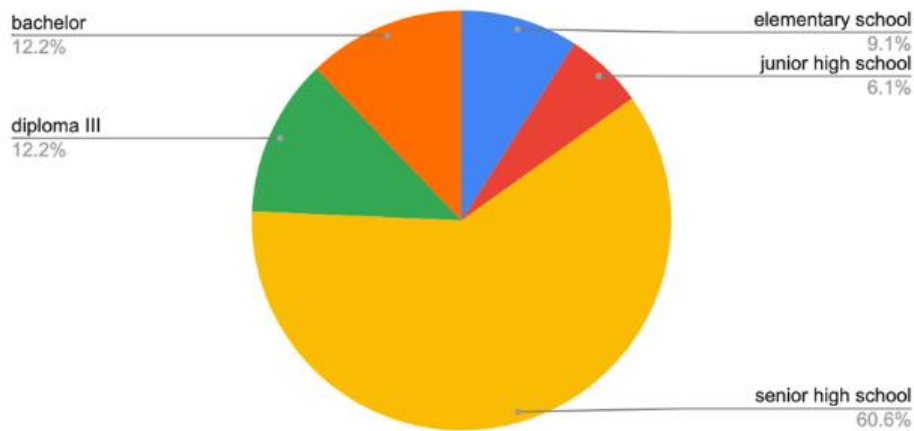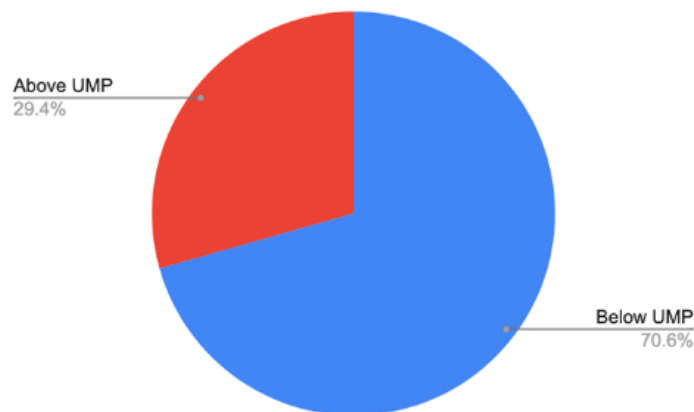**Figure 5. Number of Married Women of Childbearing Age Based on Income in Tambakbayan Hamlet**
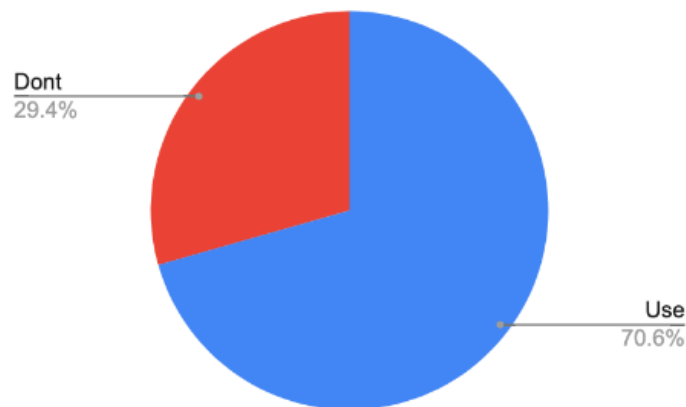
Figure 6. Number of Married Women of Fertile Age Based on the Use of Contraceptives in Tambakbayan Hamlet

It is evident that women of childbearing age have different rationales for having children. Accordingly, this study seeks to identify the influencing factors for different numbers of children born alive by women of childbearing age. These factors include the use of contraceptives, maternal education, maternal age, and income.

Research conducted by Rabbi (2014) indicates that maternal age is inversely proportional to fertility preferences. This inverse relationship is observed in all age groups, with the probability of having children decreasing with increasing maternal age. The results of survey data processing in Table 3 demonstrate that mothers in all age ranges tend to have fewer than two children. This finding is inconsistent with the theory put forth by Rabbi (2014). The data indicates that at the age of 20-35 years, the majority of women have less than two children, while at the age of >35 years, the majority of women have more than two children. Table 4, which details contraceptive usage and the number of children among women of childbearing age in Tambakbayan Hamlet, further supports these findings. Additionally, Trommsdorff's theory (2001) suggests differences in fertility perceptions between generations, similar to the findings of this research. A number of factors contribute to the preference for a large number of children among women with a childbearing age above 35 years old. One such factor is customary and cultural factors. In traditional societies, the concept of having many children for the purpose of providing sustenance is still prevalent, which explains the majority of individuals in this age group having more than two children.

Table 3. Table of Mother's Age and Number of Children in Tambakbayan Hamlet

Mother's Age	Number of Children	
	≤2	>2
15-20 years old	0	0
20-35 years old	42	20
>35 years old	58	80
Total	100	100

Table 4. Contraceptive Usage and Number of Children among Women of Childbearing Age in Tambakbayan Hamlet

Contraceptive Usage	Number of Children	
	≤2	>2
Yes	63	90
No	38	10
Total	100	100

The data indicates that women of childbearing age with fewer and more than two children are more likely to use contraceptives. This suggests that women are aware of the need to limit births, whether through contraceptive use or non-use. Factors that influence the success of the family planning program are the level of compliance and awareness from within, which is consistent with research conducted by Retanti et al. (2019). Table 5, which shows the level of education and number of children, suggests that women with fewer than two children have the highest level of education at the senior high school level. Similarly, the majority of women with more than two children are also high school graduates. This may be attributed to the data, which indicates that 60% of women with the highest education at the senior high school level have more than two children. Table 6, which details the education level and number of children among women of childbearing age in Tambakbayan Hamlet, further supports this observation. Hanum and Andiny (2018) posits that the level of education affects the number of children a woman has. This is because women with higher levels of education tend to have greater awareness of the value of children. Furthermore, higher education levels also affect the level of knowledge related to reproductive health, enabling women to make informed decisions about the number of children they have.

Table 5. Education Level and Number of Children among Women of Childbearing Age in Tambakbayan Hamlet

Level of Education	Number of Children	
	≤2	>2
Elementary School	9	10
Junior High School	0	20
Senior High School	61	60
Diploma	17	0
Bachelor	13	10
Total	100	100

Table 6. Education Level and Number of Children among Women of Childbearing Age in Tambakbayan Hamlet

Income of Mothers	Number of Children		Total
	≤2	>2	
Below provincial minimum wage	67	33	100
Above provincial minimum wage	80	20	100

The majority of women in the study area have incomes below the provincial minimum wage, thereby influencing their number of children. However, the analysis results suggest that the majority of women of childbearing age with income below and above the minimum

provincial wage have less than two children. This demonstrates the efficacy of the government in disseminating the Family Planning program to a diverse range of socioeconomic groups, including the lower class and the upper middle class.

4. Conclusion

The demographic profile of the women of childbearing age population in Tambakbayan Hamlet, neighborhood association of 012/004, reveals a clear dominance of women of childbearing age in the age range of 36-49 years. A significant proportion of women of childbearing age in this hamlet have less than two children. Besides, the majority of women of childbearing age in this hamlet have attained a high school education and have an income below the minimum wage. The age ranges of women of childbearing age in Tambakbayan Hamlet, neighborhood association of 012/004 tend to have fewer than two children. Both of the women of childbearing age with fewer and more than two children tend to use contraceptives. Women of childbearing age with fewer and more than two children also tend to have the highest level of education at the senior high school level. The majority of women with incomes below and above the minimum wage had fewer than two children.

The objective of this research is to provide recommendations to the local government regarding the formulation of policies in related areas. The research findings are also expected to serve as a reference for similar research in the future. The deficiencies in research, both in terms of content and writing systematics, are expected to be corrected by future researchers. The results of the research are expected to be disseminated to the community so that they can be aware of the condition of the surrounding environment.

Author Contributions

All authors have accepted responsibility for the entire content of this manuscript and approved its submission.

Conflict of Interest

Authors state no conflict of interest.

Data Availability Statement

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

References

Andini, N., & Ratnasari, V. (2019). Pemetaan total fertility rate (TFR) di Jawa Timur menggunakan pendekatan regresi logistik biner dengan efek interaksi. *Jurnal Sains dan Seni ITS*, *7*(2), 168–175.

Arikunto, S. (2010). *Prosedur penelitian suatu pendekatan praktek*. Prima Cipta.

Arsyad, S. S., & Nurhayati, S. (2017). Determinan fertilitas di Indonesia. *Jurnal Kependudukan Indonesia*, *11*(1), 1–14.

Central Bureau of Statistics of Sleman. (2023). *Kecamatan Depok dalam Angka Tahun 2022*. Central Bureau of Statistics of Sleman.

Fujun, F. (2014). Economic growth, fertility policy and fertility rate-an empirical study based on cross-country panel data. *Northwest Population*, *44*(5), 35–39.

Guangzhou, H. Y. (2022). Viewing the low fertility rate in China from the 7th census. *Journal of Population Science*, *44*(6), 1–14.

Guangzong, M. (2018). What is the effect of the implementation of the universal two-child policy. *People's Forum*, *14*, 46.

Hanum, N., & Andiny, P. (2018). Pengaruh tingkat pendidikan, usia perkawinan pertama dan kematian bayi terhadap fertilitas di Kabupaten Aceh Timur. *Jurnal Samudra Ekonomi dan Bisnis*, *9*(2), 160–170.

Harsoyo, A., & Sulistyaningrum, E. (2018). Pengaruh fertilitas terhadap partisipasi tenaga kerja perempuan. *Jurnal Ekonomi Kuantitatif Terapan*, *11*(2), 147–162.

Huda, A. N., Widagdo, L., & Widjanarko, B. (2016). Faktor-faktor yang berhubungan dengan perilaku penggunaan alat kontrasepsi pada wanita usia subur di puskesmas jombang-kota tangerang selatan. *Jurnal Kesehatan Masyarakat*, *4*(1), 461–469.

Machiyama, K., Casterline, J. B., Mumah, J. N., Huda, F. A., Obare, F., Odwe, G., Kabiru, C. W., Yeasmin, S., & Cleland, J. (2017). Reasons for unmet need for family planning, with attention to the measurement of fertility preferences: protocol for a multi-site cohort study. *Reproductive Health*, *14*, 1–11.

Noviyanti, N., & Rangkuti, B. A. F. (2022). Peranan sumber daya manusia dalam meningkatkan pembangunan masyarakat di Desa Klumpang Kebun Kecamatan Hamparan Perak Kabupaten Deli Serdang. *PRAJA Observer: Jurnal Penelitian Administrasi Publik*, *2*(01), 151–158.

Octavi, F. D., Lestari, F., & Munir, R. (2022). Hubungan tingkat pengetahuan ibu dengan minat terhadap penggunaan Alat Kontrasepsi Dalam Rahim (AKDR) pasca bersalin. *Journal of Midwifery Care*, *2*(02), 133–142.

Oktaviani, V., & Nurfitriana, F. L. (2023). *Pengaruh edukasi dengan media audio visual tentang Unmet need terhadap tingkat pengetahuan pada wanita usia subur di Kelurahan Kragan*. Universitas Kusuma Husada Surakarta.

Penga, B., Xiub, J., Xiaoc, T., & Zhengd, H. (2023). Research on fertility desire and influencing factors of women of childbearing age based on Bongaarts's low fertility theory model. *International Conference on Economics, Education and Social Research (ICEESR 2023)*.

Rabbi, A. M. F. (2014). Factors influencing fertility preference of a developing country during demographic transition: Evidence from Bangladesh. *South East Asia Journal of Public Health*, *4*(2), 23–30.

Rangkuti, N. A., & Harahap, M. A. (2020). Hubungan pengetahuan dan usia ibu hamil dengan kehamilan risiko tinggi di puskesmas labuhan rasoki. *Jurnal Education and Development*, *8*(4), 513.

Retanti, D. A., Rakhmawati, P., Ningsih, F. H., Aliyah, Z. S., Nurcholida, R. D., Khoir, A. Z., Pujiastuti, D., Ardita, M. A., Nisa, S. K., & Ilmiah, L. Q. (2019). Hubungan tingkat pengetahuan terhadap keberhasilan penggunaan alat kontrasepsi pil KB. *Jurnal Farmasi Komunitas*, *6*(1), 23–29.

Riniwati, H. (2016). *Manajemen sumberdaya manusia*. UB Press.

Shuiying, Z., & Shiqi, W. (2022). Interpretation and enlightenment of the "anti-J" relationship between economic development and fertility rate. *Statistics and Decision-Making*, *38*(5), 43–49.

Trommsdorff, G. (2001). Eltern-Kind-Beziehungen aus kulturvergleichender Sicht. In S. Walper & R. Pekrun (Eds.), *Aktuelle Perspektiven der Familienpsychologie* (pp. 36–62). Hogrefe.

Xiaohua, Z. (2016). *Evaluation and optimization strategy of the implementation effect of the 'comprehensive two-child 'policy-based on the survey of the fertility desire of urban ' double non ' couples*. China Administration.

Xuefeng, W. C. (2014). Export and women's labor force participation rate - a study based on the data of Chinese industrial enterprises. *Journal of Beijing Normal University (Social Science Edition)*, *6*, 95–110.