

The influence of adolescent characteristics toward the knowledge about generation planning in sub-village of family planning

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Abstract. Adolescent knowledge is the optimizing capital of the condition of demographic dividend in Indonesia which will be culminated in 2035. Adolescent behavior such as early marriage, premarital sex, and drug abuse pushed the National Population and Family Planning Commissions's to implement the Generation Planning "Generasi Berencana (GenRe)" Program for preparing teen family life. This research aims to determine the influence of adolescent characteristics on knowledge about GenRe in the Sub-village of Family Planning Ngepring. The primary data collection method is a census which the unit of analysis are the adolescent individual in Ngepring. Data from the adolescent census are processed by multiple linear regression test. The results showed that adolescent characteristics proved that the significant influences the knowledge about GenRe with a contribution of 50,5%. The last education of adolescent characteristics (Beta = 0,435; $p < 0,01$) is stronger in influencing the knowledge about GenRe than gender variable (Beta = 0,147; $p < 0,01$) and work experience variable (Beta = -0,195; $p < 0,01$). This research proves the hypothesis that the education and work experience characteristics affect the knowledge.

1 Introduction

The sub-village of Family Planning chosen as the research area is in the Ngepring Village. Sub-village Family Planning Ngepring is located in Purwobinangun Village, Pakem District, Sleman Regency, Special Region of Yogyakarta. The geographical location of the sub-village of Family Planning Ngepring is in the coordinates 7°36'52.88" South Latitude 110°24'29.58" East Longitude, with a UTM Zone 49M coordinate system, Transverse Mercator projection, WGS 1984. The northern boundary of the sub-village of Family Planning Ngepring is bordered by Turgo Village; the southern is bordered by Ngelosari Village; the western is bordered by Girikerto Village, Turi District; and the eastern is bordered by Kemiri Village and Hargobinangun Village. The sub-village of Family Planning Ngepring consists of two hamlets namely Ngepring and Kratuan [1], which the boundaries based on Administrative Boundary Maps are presented in Figure 1. Purwobinangun village is located at an altitude of 400-900 masl with an average rainfall of 3,908 mm per year [2]. The research location which is sub-village of Family Planning Ngepring located on the Central Slope of Mount Merapi with a slope of 8-15%.

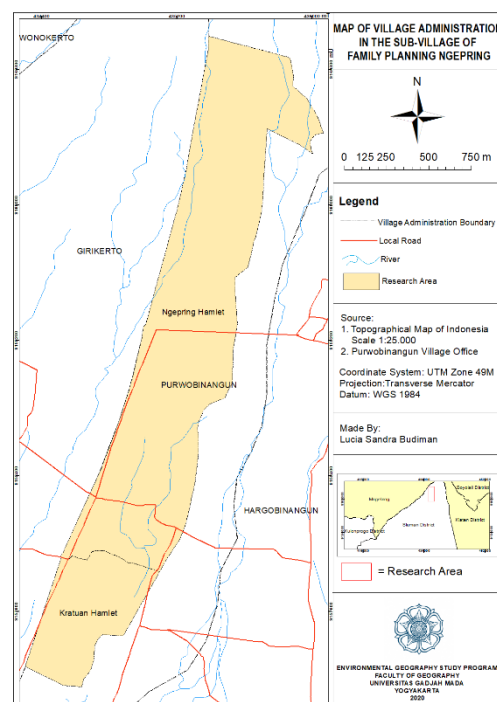


Fig. 1. Sub-village of Family Planning Ngepring Administrative Boundary Map

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The population structure of the sub-village of Family Planning Ngepring according to the group of age and gender is presented in Figure 2. The population pyramid shows a comparison of the population composition per age group based on gender. The most prominent age group is the age group 40-44 year-old-male and the age group 15-19 year-old-female. This indicates that the population in the sub-village of Family Planning Ngepring with the most male gender is in the age group of 40-44, while the most female gender is in the age group of 15-19 years old.

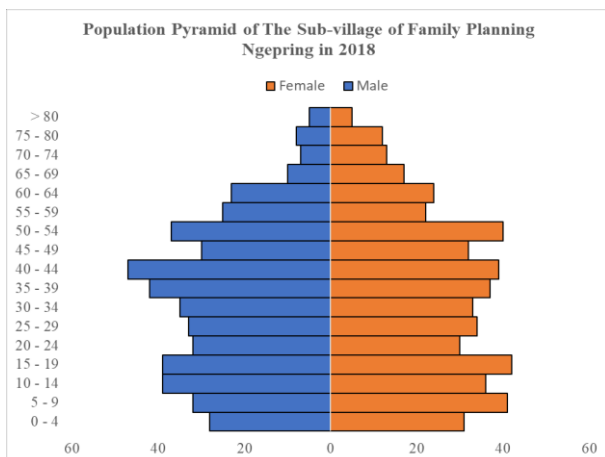


Fig. 2. Population Pyramid of The Sub-village of Family Planning Ngepring in 2018

The type of the formed population pyramid is constructive which mostly structured by the adult population. The constructive pyramid form shows that the number of young populations is lower than the number of adults which indicates that population growth was beginning to decrease. The start of the decrease of birth number in sub-village of Family Planning Ngepring shows that the awareness of family planning had begun to increase. The population of the productive age group (15-64 years) tends to be high in terms of the pyramid that obtrusive, while the non-productive age group (0-14 and > 65 years) tends to be low in terms of the pyramid that is less obtrusive.

Adolescents are included in the age group of the productive age range so that it contributes to the demographic dividend. Adolescents are individuals, both men and women who have an age range of 10-24 years old [3]. Demographic dividend is a condition of a country that has a composition of productive age greater than non-productive age. Indonesia is currently in the period of demographic dividend and it will be culminated in 2035. One of the efforts that can be done to optimize the condition of demographic dividend is by increasing the knowledge and skills of adolescents.

The lack of adolescent knowledge about reproductive health and risk behaviour indicates the scope and role of the Youth Information and Counselling Centre has not implemented yet optimally. The pathetic adolescent behaviour such as the trend of early marriage, premarital sex, and drug abuse pushed the National Population and Family Planning Commissions's (BKKBN) to implement

the Generation Planning "Generasi Berencana (GenRe)" Program to prepare teenage family life [4]. This program provides opportunities for adolescents to pursue the planning of education and career. Furthermore, adolescents can get married and have a family by planning according to the reproductive health cycle.

The challenge of providing reproductive services in rural areas in general, especially with high levels of poverty, is the difficulty associated with the relatively long distances that must be taken by women to access services, lack of community presence, and conservatism and negative stigma of society about sexuality [5]. Difficult access of contraceptive services and rural reproductive health facilities in Indonesia are a challenge to realize population control. Therefore, the increasing of the rural adolescent knowledge about reproductive health and family life preparation become very important for control the number of births and reducing the risk of maternal mortality.

The population control efforts in this study were measured using an adolescent knowledge approach about Generation Planning in the sub-village of Family Planning Ngepring which is assumed to have obtained an intervention. Each adolescents individual unique characteristics has an influence so that there are differences in the knowledge possessed by adolescents about Generation Planning. This study wanted to determine the effect of adolescent characteristics on adolescent knowledge about Generation Planning in the sub-village of Family Planning Ngepring has been programmed according to BKKBN directives.

1.1. Research Hypothesis

There are several factors that affect the general knowledge including education, age, and work experience [6]. Each factor influences knowledge as follows:

1. Education

The effect of education on knowledge is that someone who is educated will have more rational thought about the information received. Thus, someone with such education has the right knowledge for the based action.

2. Experience

The effect of experience on knowledge is that a person in the process of development acquires experience from the living environment in order to produce knowledge. Experience can include age and occupation.

Based on the research previously presented, the hypotheses that can be submitted for this research are as follows:

1. There is a positive influence of educational characteristics on knowledge.
2. There is a positive influence of age characteristics on knowledge.
3. There is a positive influence of the work experience characteristics on knowledge.

2 Methods

The chosen research area is the sub-village of Family Planning Ngepring. The selection of the study area was determined purposively. The method used in primary data collection is a census with an analysis unit of adolescents in the sub-village of Family Planning Ngepring. The census method was chosen because it has a high accuracy in which overall data collection in all populations. The population was obtained through the calculation of overall adolescents in the sub-village of Family Planning Ngepring. Individuals who included into the population are the population aged 10-24 years old who have not married yet and domiciled in the sub-village of Family Planning Ngepring. The population of adolescents who met the criteria as research respondents were 123 adolescents.

Data reliability test needs to be done as a requirement to do multiple linear regression tests. Tests carried out include the Normality Test, Autocorrelation Test, Multicollinearity Test, and Heteroskedacity Test. Kolmogorov-Smirnov One-Sample Normality Test results shows Asymp numbers. Sig. (2-tailed) that is 0.2 which means $p > 0.05$ so it shows that the data is normally distributed. The first regression test requirement is accepted normally distributed data. The results of the Autocorrelation Test of the Durbin-Watson (DW) model shows the number 1,681. This number is greater than 1 and smaller than 3, which is $1 < 1,681 < 3$. Because DW is between the two autocorrelation boundary numbers, it can be concluded that the data of this research did not experience autocorrelation which means that it was in accordance with the terms of the multiple linear regression test. Multicollinearity Test results shows a tolerance value that is between 0.0 - 1 in all IV are not less than 0 and more than 1. VIF is also lower than 10 in all IV. Thus, it can be concluded that the research did not experience multicollinearity according to the terms of the multiple linear regression test. Heteroskedacity Test results shows a graphic which the points are spread evenly above the number 0 and below the number 0 on the Y line indicating the pattern does not experience Heteroscedacity in accordance with the terms of the multiple linear regression test. All four requirements of the Multiple Linear Regression Test have been fulfilled.

Data obtained through questionnaires are arranged into two categories, namely adolescent characteristics data and adolescent knowledge about Generation Planning data. Each category has several variables that has function to assess adolescents according to the category which will be achieved. Categories of adolescent characteristics use a variable approach in the form of gender, age, last education, activities of the past week, work experience, recent migration experience, media access of information sources, participation of the Youth Information and Counselling Centre, and knowledge of population issues. The adolescent knowledge category about Generation Planning uses the variable approach of "Youth Tough" by National Population and Family Planning Commission. These variables include Age

Marriage Maturation, Reproductive Health behaviours, away from the Three Basic Risks of Adolescent Reproductive Health, actualizing Small, Happy, and Prosperous Families, and being a role model for others. Data from adolescent census results are then processed by multiple linear regression tests. The dependent variable in this study was processed by classification based on the percentage referred to the Table 1.

Table 1. Knowledge Classification.

| Classification | Percentage |
|----------------|------------|
| Good | 76-100% |
| Fair | 56-75% |
| Less | 0-55% |

General formula for multiple linear regression model as follows:

$$y = b_0 + b_1x_1 + b_2x_2 + \dots + b_px_p \tag{1}$$

$$y = b_0 + \sum_i b_ix_i \quad i=1,2,\dots,p \tag{2}$$

which:

- y: dependent variable (predicted by a regression model)
- p: number of independent variables/coefficients
- x_i ($i=1,2, \dots,p$): independent variable total of p variables
- b_i ($i=1,2, \dots,p$): coefficient corresponding to x_i
- b_0 : intercept (or constant)
- $i=1,2 \dots p$: independent variables' index

3 Results and Discussions

The different characteristics of adolescent cause effect so there are differences of knowledge had by adolescents about Generation Planning. The effect of adolescent characteristics on knowledge about Generation Planning is known by the statistical tests which is multiple linear regression tests. The hypothesis used in this study is that the characteristics of education, age and work experience affect general knowledge.

3.1. The Influence of Adolescent Characteristics towards Adolescent Knowledge of Generation Planning in General

The results of the multiple linear regression test showed a significance value (Sig.) of 0,000 as shown in Table 2. The significance value shows the influence of all independent variables on the dependent variable that is proven very significant because (Sig.) smaller than 0.01 (0,000 < 0.01). Which means, the characteristics of gender, age group, recent education, activities of the past week, work experience, migration experience, media access of information, participation of the Youth Information and Counselling Centre, and knowledge of population issues have a significant effect towards the knowledge of Generation Planning had by adolescents in the the sub-village of Family Planning Ngepring.

Table 2. Significance Results of the Multiple Linear Regression Test.

| <i>ANOVA^a</i> | | | | | |
|--|-----------------------|-----------|--------------------|----------|--------------------|
| <i>Model</i> | <i>Sum of Squares</i> | <i>df</i> | <i>Mean Square</i> | <i>F</i> | <i>Sig.</i> |
| <i>Regression</i> | 32,073 | 9 | 3,564 | 12,800 | 0,000 ^b |
| <i>Residual</i> | 31,459 | 113 | 0,278 | | |
| <i>Total</i> | 63,532 | 122 | | | |
| a. <i>Dependent Variable:</i> Adolescent Knowledge about Generation Planning | | | | | |
| b. <i>Predictors:</i> (Constant), Knowledge of Population Issues, Migration Experience, Gender, Media Access of Information, Work Experience, the Youth Information and Counselling Centre Participation, Activities of the Past Week, Latest Education, Adolescents Group | | | | | |

The characteristics of adolescents in the sub-village of Family Planning Ngepring in general have been shown gives effect on knowledge about Generation Planning. This happened because the characteristics both in general and specific describe the condition of the individual adolescent. Adolescence period is a transition period from child to adulthood so it consists of various emotional levels of adolescents from immature to mature [7]. Various experiences which had by adolescent formed characters that can influence how far the knowledge had by each individual adolescent. The development experienced during adolescence period includes cognitive, emotional, social, and sexual development which is very important to be understood by adolescents so it requires understanding from the correct source [8]. Adolescents need assistance in the development of their lives in order to form the quality characteristics so they have good and correct knowledge and do not deviate.

3.2 Contribution of the Adolescent Characteristics Influence towards Adolescent Knowledge of Generation Planning

The large percentage of contributions from the characteristics of gender, age groups, recent education, activities a week ago, work experience, migration experience, media access of information, participation of Youth Information and Counselling Centres, and knowledge about population issues to knowledge about Generation Planning identified from the value of R Square (R^2). The test results show the value of R Square (R^2) of 0.505 as shown in Table 3. This value indicates that the magnitude of the contribution of the independent variable to the dependent variable is equal to 50.5% ($0.505 \times 100\%$), while the rest 49.5% ($= 100\% - 50.5\%$) is influenced by other variables.

Table 3. R Square Multiple Linear Regression Test Results.

| <i>Model Summary^b</i> | | | | |
|--|-----------------|--------------------------|-----------------------------------|----------------------|
| <i>R</i> | <i>R Square</i> | <i>Adjusted R Square</i> | <i>Std. Error of the Estimate</i> | <i>Durbin-Watson</i> |
| 0,711 ^a | 0,505 | 0,465 | 0,52764 | 1,681 |
| a. <i>Predictors:</i> (Constant), Knowledge of Population Issues, Migration Experience, Gender, Media Access of Information, Work Experience, Participation in Youth Information and Counselling Centres, Activities of the Past Week, Latest Education, Adolescents Group | | | | |
| b. <i>Dependent Variable:</i> Adolescent Knowledge about Generation Planning | | | | |

The overall variable characteristics of adolescents in the sub-village of Family Planning Ngepring contribute to an effect of 50.5%. This indicates that some knowledge is formed by the influence of the characteristics had by adolescents. Knowledge has a close relationship with the characteristics and attitudes carried out by someone so the adolescents who have good knowledge about premarital sex tend to avoid premarital sexual behaviour [9]. The influence of characteristics towards knowledge is strong enough to be able so it can influence the determination of adolescent behaviour which shows that true knowledge is really needed by adolescents.

3.3 The Influence of Adolescent Characteristics towards Adolescent Knowledge of Generation Planning Per Variable

The significance value per variable is shown in the (Sig.). Table 4 shows that the last education variable (0,000), gender (0.034), and work experience (0.036) have a significant effect compared to other variables. Adolescent age group variables (0.578), participation of Youth Information and Counselling Centres (0.423), activities a week ago (0.323), migration experience (0.266), media access of information (0.187), and knowledge of population issues (0.163) did not significantly affect the population knowledge of Generation Planning. Comparison of the significant three independent variables influence the dependent variable which is determined from the Standardized Coefficients Beta column of Table 4. The value of Standardized Coefficients Beta of the three variables which more strongly influences Generation Planning knowledge is the last education variable. The last education variable with the value of Standardized Coefficients Beta 0.435 is greater than the gender variable (0.147) and the work experience variable (-0.195) so that the strongest influence on adolescent knowledge about Generation Planning is the last education as in Table 4.

Table 4. Significance Results per Variable Multiple Linear Regression Test.

| <i>Coefficients^a</i> | | | | |
|--|------------------------------------|-------------------|---------------------------------------|-------------|
| <i>Model</i> | <i>Unstandardized Coefficients</i> | | <i>Standardized Coefficients Beta</i> | <i>Sig.</i> |
| | <i>B</i> | <i>Std. Error</i> | | |
| <i>(Constant)</i> | 7,317 | 1,051 | | 0,000 |
| Gender | 0,512 | 0,239 | 0,147 | 0,034 |
| Age Group | 0,185 | 0,332 | 0,071 | 0,578 |
| Last Education | 0,867 | 0,233 | 0,435 | 0,000 |
| Activities of the Past Week | -0,325 | 0,328 | -0,094 | 0,323 |
| Work Experience | -0,706 | 0,334 | -0,195 | 0,036 |
| Recent Migration Experience | -0,311 | 0,279 | -0,078 | 0,266 |
| Media Access of Information | 0,431 | 0,325 | 0,100 | 0,187 |
| Participation of the Youth Information and Counselling Centre | 0,124 | 0,154 | 0,062 | 0,423 |
| Knowledge of Population Issues | 0,345 | 0,246 | 0,113 | 0,163 |
| a. <i>Dependent Variable:</i> Adolescent Knowledge about Generation Planning | | | | |

Through the multiple linear regression test, gender characteristics, adolescent age groups, last education, activities a week ago, work experience, migration experience, media access of information, Youth Information and Counselling Centres participation, and knowledge of adolescent population issues proved that significance influences knowledge about Generation Planning with a contribution of 50.5%; $R^2 = 0.505$. The results of the multiple linear regression test also found that the latest education characteristics of adolescents in the the sub-village of Family Planning Ngepring ($\beta = 0.435$; $p < 0.01$) more strongly influenced knowledge about Generation Planning than gender variables ($\beta = 0.147$; $p < 0.01$) and work experience variable ($\beta = -0.195$; $p < 0.01$). In addition, the variable age group of adolescents, Youth Information and Counselling Centres participation, activities a week ago, migration experience, media access of information, and knowledge on population issues did not significantly influence knowledge about Generation Planning.

The influence of adolescent characteristics on knowledge about Generation Planning that was reviewed per variable showed that the characteristics of last education, gender, and work experience proved significant influence knowledge about Generation Planning. The characteristics of last education have also

been shown more significant influences the knowledge than gender and work experience characteristics. This because education is the main source of the knowledge of adolescents so that it is the most influencing. The knowledge of adolescents are mostly obtained from schools which form the moral personality so that the adolescents are away from the deviant behaviour [10]. Through the education in schools, adolescents gain knowledge, communication skills, knowledge of good and right behaviour, and specific knowledge about reproductive health from socialization. Thus, the last education is the variable that most significantly influences the knowledge about Generation Planning owned by adolescents in the sub-village of Family Planning Ngepring.

Gender characteristics have also been proved significantly influencing the adolescent knowledge about Generation Planning in the sub-village of Family Planning Ngepring even though it is not as strong as the last education. There are several things that distinguish the knowledge of male and female adolescents about reproductive health, including the risk of pregnancy which only experienced by women causing the women better to maintain their reproductive health but tend to be more afraid and shy about discussing reproductive health issues, on the contrary men are less likely to maintain their reproductive health and tend to be curious about that information [11]. This condition causes knowledge about Generation Planning especially regarding the reproductive health information had by men and women will be different. Male adolescents tend to know more about reproductive health information but still lack of the knowledge implementation while the female adolescents are the opposite.

Work experience characteristics become the next variable that is proven significantly influencing the knowledge about Generation Planning. Based on the results of the interviews, adolescents who have worked also received a socialization about preparation for having a family and being responsible of the reproductive health in order to be able in influencing the knowledge about Generation Planning owned by adolescents in the sub-village of Family Planning Ngepring. This research proves the hypothesis that the characteristics of education and work experience affect knowledge, but the characteristics of age are not proven significantly influencing the knowledge. Age characteristics were not proven but in this study gender characteristics were proven significantly influencing the knowledge. These results are expected to be the basis for taking policy on the delivery of information about Generation Planning which is delivered by adjusting the method for these three characteristics.

4 Conclusion

The influence of adolescent characteristics in the sub-village of Family Planning Ngepring towards the knowledge about Generation Planning has been shown that in general adolescent characteristics proved

significantly influencing the knowledge about Generation Planning with a contribution of 50.5%. The last education characteristics of adolescents more strongly influence the knowledge about Generation Planning than gender variables and work experience variables. In addition, the variable age group of adolescents, Participation of the Youth Information and Counselling Centre, activities of the past week, migration experience, media access of information, and knowledge on population issues did not significantly influence knowledge about Generation Planning. This study proves the hypothesis that the characteristics of education and work experience affect knowledge, but the characteristics of age have not been proven significantly influencing the knowledge, but the characteristics of gender which have been proven significant. These results are expected to be the basis for taking policy on the delivery of information about Generation Planning which is delivered by adjusting the method for these three characteristics.

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References

1. National Population and Family Planning Commission. *Profile of Ngepring Family Planning Village*, accessed via <http://kampungkb.bkkbn.go.id/> (2019)
2. Central Bureau of Statistics of Sleman Regency. *Kecamatan Pakem Dalam Angka 2018*. Yogyakarta: Central Bureau of Statistics of Sleman Regency. (2018)
3. National Population and Family Planning Commission. *Pedoman Pengelolaan Pusat Informasi dan Konseling (PIK R/M)*. Jakarta: Directorate of Youth Resilience Development. (2014), *In Bahasa*
4. National Population and Family Planning Commission. *Laporan Hasil monitoring dan Evaluasi*. Surabaya: National Population and Family Planning Commission. (2016), *In Bahasa*
5. C. H. Chuang, S. W. Hwang, J. S. McCall-Hosenfeld, L. Rosenwasser, M. M. Hillemeier, C. S. Weisman, *Primary Care Physicians' Perceptions of Barriers to Preventive Reproductive Health Care in Rural Communities*. *Perspect. Sex. Reprod. Health*, **44(2)**, hal. 78-83. (2012)
6. S. Notoatmodjo, *Konsep Perilaku Kesehatan*. Jakarta: Rineka Cipta. (2010), *In Bahasa*
7. S. Rumini, S. Sundari, *Perkembangan Anak dan Remaja*. Jakarta: PT Rineka Cipta. (2004), *In Bahasa*
8. Soetjiningsih. *Tumbuh Kembang Remaja dan Permasalahannya*. Jakarta: Sagung Seto. (2004), *In Bahasa*
9. B. Walgito, *Psikologi Sosial (Suatu Pengantar)*. Yogyakarta: Andi Offset. (2003), *In Bahasa*
10. F. Faturochman, *Why People Move: A Psychological Analysis of Urban Migration*. *Populasi*, **3(1)** (1992)
11. S. P. W. P. Wisdyana, T. Setiowati, *Hubungan Karakteristik Remaja dengan Pengetahuan Remaja Mengenai Kesehatan Reproduksi di Kota Cimahi*. In: *Prosiding Industrial Research Workshop and National Seminar*. **6**, hal. 184-190 (2015), *In Bahasa*