

## Evaluation of Total Fertility Rate (TFR) North Sumatera Province, 2017 – 2019

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### ABSTRACT

*This study aims to look at evaluating fertility increases from factors that affect fertility. The data processed and presented in this paper constitutes RPJMN Indicator Survey and the Program Performance and Accountability Survey (SKAP) of the North Sumatera Province BKKBN from 2017 to 2019. The target population of this survey is households, women of childbearing age 15 to 49 years, families and unmarried adolescents aged 15 to 24 years in selected clusters in the province. The sampling design used was stratified multistage sampling and for the province of North Sumatera the number of selected clusters was 78 clusters spread across 33 regencies and cities. Each cluster is listed (enumerated) and 35 eligible households are selected using systematic random sampling techniques to retrieve data. The SRPJM/ SKAP sample target in North Sumatera Province covers 2,730 households. Information on fertility rates in this survey is based on the number of births collected from all women aged 15-49 years. The results are the increase of number TFR until 20.3% in three years, the number of ASFR also increase every year. Namely first married in the age range of 15-17 years (60%) in three years. And it also find the number of using contraception In the last 3 years (2017 - 2019) for the Province of North Sumatera, the use of a FP method / device has increased from 49.42% in 2017 to 56.25% in 2019.*

### KEYWORDS

*TFR; ASFR; contraception; Unmetneed; North Sumatera; Indonesia.*

## INTRODUCTION

Fertility is the ability of the population to reproduce or also called the number of live births owned by women. Birth in this case is a live birth, babies born show signs of life even if only for a short time. Fertility is the main determining factor in increasing the number of residents in an area. The Province of North Sumatera in 2019 had a population of 14.4 million inhabiting an area of 71,981 square km which continues to grow each year. Based on data from Program Accountability Performance Survey (SKAP) conducted by BKKBN, North Sumatera TFR data reached 3.04. The Total Fertility Rate in North Sumatera Province increased by 0.38 when compared to the RPJMN Indicator Survey data for 2017. The increase of TFR is a problem that must be considered together because it has a direct impact on various needs in the future if we cannot be controlled by us together.

TFR is influenced by demographic and non-demographic factors expressed by Mantra (1985). Demographic factors that influence include the composition or structure of age, age of first marriage, marital status, proportion of married population, and marriage or fecundity. While non-demographic influences some factors. They are the condition of education, the economy, urbanization, industrialization and improvement of women's status.

Fertility is also related to several factors including age at first birth, distance between births, and fertility. Postponing first births and sparing births can reduce fertility rates in various regions. This factor also has a positive impact on health. Conversely, short birth spacing (less than 24 months) will have a negative impact on babies and mothers, including premature births, low birth weight, and death. Childbirth at a young age increases the risk of complications during pregnancy and childbirth and neonatal death.

TFR is the calculation of birthrate by age (Age Specific Fertility Rate), reflecting the average age of marriage. ASFR is a birth indicator with a calculation that distinguishes fertility from women who are exposed to childbirth, namely women of childbearing age with regard to age groups. Scientifically the potential for women to give birth varies according to age, and does not enter fertile age again after women of childbearing age enter the age above 49 years.

This study aims to look at evaluating fertility increases from factors that affect fertility. The results of this study are expected to provide information and consideration in determining policies for the Government of North Sumatra Province and the BKKBN in an effort to reduce fertility

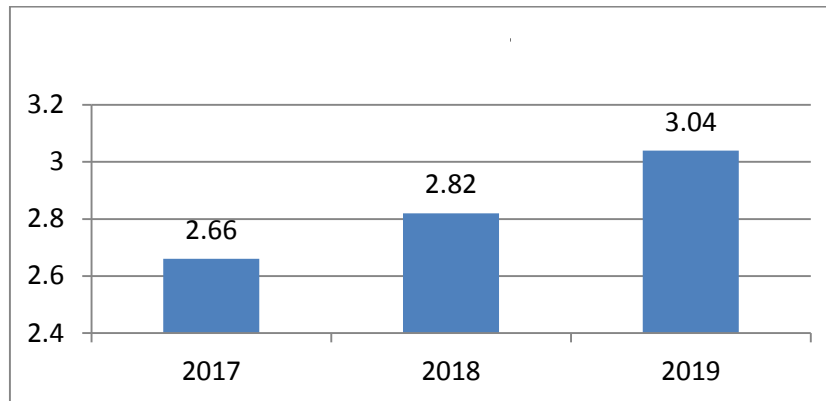
## **RESEARCH METHODS**

The data processed and presented in this paper constitutes RPJMN Indicator Survey and Program Performance and Accountability Survey (SKAP) of the North Sumatra Province BKKBN from 2017 to 2019. SRPJM/ SKAP is designed to provide an overview of the estimated achievement of programs at the National and the province. The target population of this survey is households, women of childbearing age 15 to 49 years, families and unmarried adolescents aged 15 to 24 years in selected clusters in the province. The sampling design used was stratified multistage sampling and for the province of North Sumatra the number of selected clusters was 78 clusters spread across 33 regencies and cities. Each cluster is listed (enumerated) and 35 eligible households are selected using systematic random sampling techniques to retrieve data. SRPJM/ SKAP sample target in North Sumatra Province covers 2,730 households. Information on fertility rates in this survey is based on the number of births collected from all women aged 15-49 years. This survey does not ask about the birth history for each child. Female respondents were directly asked the number of live births experienced during their lifetime. Then the number of children who were still alive during the survey was asked. Birth history information is collected only at the time of the birth of the first child and the last two children born alive. The next fertility measure is the Age Specific Fertility Rate (ASFR) which is a measure of fertility in women of a certain age, contraceptive use, unwanted birth control needs and unwanted pregnancies.

## **RESULTS AND DISCUSSION**

### ***Total Fertility Rate (TFR)***

The North Sumatra Province's Total Fertility Rate (TFR) is based on the 2019 SKAP results of 3.04 children per woman, meaning that a woman in North Sumatra Province has an average of 3.04 children during her lifetime. During the last 3 years (2017-2019) for the Province of North Sumatra the total fertility rate has increased every year as shown in the following chart:



**Figure 1.** TFR North Sumatra

The increase in TFR number, when viewed from the results of SKAP data analysis in North Sumatra Province, there are still found Fertile Women who have children over 5, which is around 20.3%, and some even have children 12. Furthermore, if traced more further the average of 3 children in North Sumatra was still higher than the national average of 2 children. Aspects that affect fertility (Arsyad, 2016) in the Population Journal, there are 11 dominant variables affecting the number of children born alive by influencing demographic factors, namely: wealth index, number of dead children, media exposure, contact with family planning officers, husband's opinion of family planning, relationship first sexual intercourse, immediately having sexual relations after giving birth, age at first birth, infertility/ infertility, miscarriage/abortion. Eleven of these variables contributed to ALH by 66 percent.

When viewed from the social and cultural aspects (Raharja, 2017), it is said that women in Batak ethnic group have the highest number of children born alive (2.56) compared to other ethnic groups. This means that women who have been married to Batak ethnic group generally have two to three children born alive during their reproductive period. This is consistent with the results of research conducted by Pangaribuan (1991) on fertility and family planning practices in Batak tribe. It was explained that the patrilineal system is still very strong influence on fertility. The fertility is also closely related to the environment in which a person lives. For example, Batak ethnic has a high fertility rate, on average children born live (ALH) 2.66 in those who live in North Sumatra Province. But on the contrary, if women are of Batak ethnic but migrate and live outside the Province of North Sumatra, the average number of children born alive they have is low (the average ALH is below 2.66). This shows that fertility rates in certain ethnic groups are also influenced by the community where they live. Although there are a number of ethnic groups in Indonesia who still adhere to their cultural principles regarding large family size, if they migrate to other regions outside their original communities, their fertility preferences will adjust to the ethnic groups that make up the majority in the region. This is in line with the results of research conducted by Dasgupta (2000) and Kohler (2001) which show that the number of children in fertile age couples can be influenced by the fertility level of other fertile age couples in a particular society. In other words, it is a social interaction in the context of fertility. Social interaction between individuals in a community occurs because they see and observe the fertility of one another. This will change their social environment, which in turn influences their personal decision making about fertility.

Based on the evaluation of SKAP Data Collection activities by the 2019 North Sumatra SKAP Team related to fertility divided into 3 regions with different characteristics. They are east coast region of North Sumatra, the central mountain region, the west coast of North Sumatra, and Nias islands. From the results of the analysis of data collection in the field by

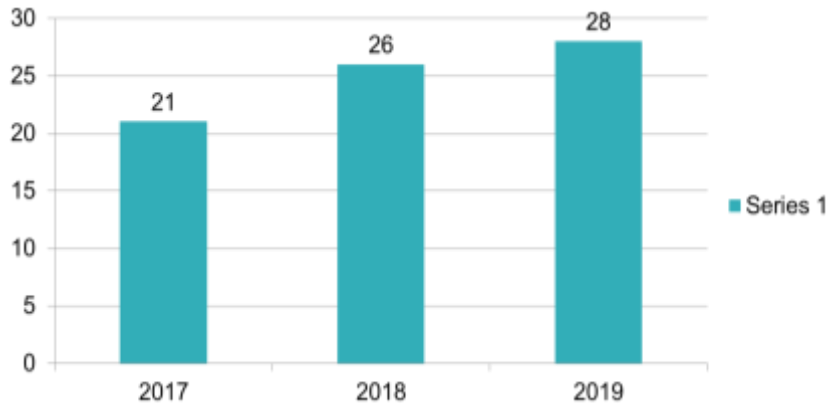
supervisors and enumerators, the average number of children increased from the east to west of North Sumatra, the average number of children 2-3 children per woman on the east coast increased to 3-4 children per woman in the central mountains and west coast and increased again to 4-5 children per woman in Nias Islands region. For the east coast region of North Sumatra from interviews with enumerators it was found that knowledge related to family planning programs was already higher than the other two regions and for consideration of the ideal number of children affected by economic factors by looking at the burden and responsibility for children. For the number of children in the central and western coastal regions and Nias Islands, the value of children is important according to research conducted by Raharja (2017). The value of tradition and culture is still strong in these two regions, by making boys as the successors to the clan and having higher values so that the presence of boys in the family is considered important.

For Nias Islands region based on SKAP field data collection, the large number of children currently associated is also related to past events with high mortality due to limited access to health services. Culturally, the average respondent's household consists of several families (2 to 3 families in the household). Limited access to health services and also information about family planning programs has an effect on increasing the number of children and contraceptive use. In some data collection locations there are programs which are translated differently in the community. The Family of Hope Program is a social ministry program by providing conditional social assistance to Poor Families which are designated as Beneficiary Received Families Program (PKH). PKH opens access for poor families, especially pregnant women and children, to utilize various health service facilities and education service facilities available around them. The benefits of PKH have also begun to be encouraged to include people with disabilities and elderly people by maintaining their level of social welfare. Poor families are encouraged to have access to and utilize basic social services in health, education, food and nutrition, care, and assistance, including access to various other social protection programs that are complementary programs in a sustainable manner. PKH is directed to become an epicenter and center of excellence in poverty reduction that synergizes various national social protection and empowerment programs.

The PKH was good in the field, but there was a misperception in the community which increased the number of births. The illustration of family planning membership (Hasrullah, 2015) that received PKH beneficiaries are reluctant to use contraception, because the husband is prohibited even though their child is still small. Women tend not to dare to argue. This condition is exacerbated by their low knowledge and awareness about reproductive rights. This condition is in accordance with several areas in the SKAP data collection location, related to this found a kind of conflict or contradiction in the community, between the PKH program and the family planning program even though both are government programs. Therefore it is necessary to synchronize policies and programs from the central level to the technical level in the field. For example, in determining the criteria for PKH beneficiaries, it is limited to second or third children. The same contradiction was felt by field workers who did not respond to the community and caused jealousy in the community between the recipients of the two program benefits. On the one hand the community as family planning acceptors who have participated in government programs in building quality small families feel unappreciated and feel unappreciated because they do not receive assistance from the government, while people who have many children, who are deemed not to have supported government programs, instead receive assistance to support their lives economically from the government

### **Young Age (ASFR 15-19 Years)**

Regarding fertility, early marriage contributes to a higher birth rate because of the long reproductive period of married couples under 19 years. For ASFR 15-19 data can be seen through the following table



**Figure 2.** ASFR 15-19 Age North Sumatra

ASFR 15-19 years in North Sumatra Province has increased every year. Increased ASFR 15-19 years This is closely related to cases of early marriage (Malinda, 2012) adolescents with the status of marriage aged 15-19 years many who live in rural areas (67.40%), the last educational status is graduated from junior high school (38.20 %), not working (65.80%), and very poor (27.60%). Based on fertility characteristics, it is known that many teenagers who have the number of children born alive are 1 child (68.70%), first married in the age range of 15-17 years (60%), and using contraception (55.70%).

The occurrence of this early marriage is closely related to knowledge (Pohan, 2017), young women with less knowledge have 6.19 times the risk of getting married early than well-knowledge young women. For this, a family life preparation program for teenagers becomes important. Based on SKAP results, for North Sumatra Province adolescents who have heard of youth program or called GenRe (Generasi Berencana) amounted to 19.3% and listened to Counseling Information Center Youth Program or called as PIK R (Pusat Infomasi Konseling Remaja) by 13% in 2017. In 2018, adolescents have heard of GenRe going up to 30% and hearing PIK Teenagers rose to 20% (2019 SKAP data not yet available).

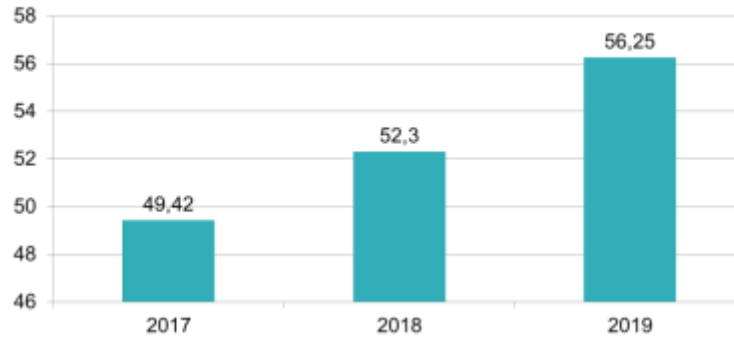
The Adolescent Reproductive Health Knowledge Index (KRR) in 2019 was 52.1%, down from the 2018 KRR Index of 59.8%. In 2017, adolescents had sexual intercourse in North Sumatra Province by 1.2%, rising to 5.1% in 2018. When viewed from the National Socio-Economic Survey data, the percentage of women whose first marriage age was less than 17 years in North Sumatra was 5.53 % of the total female population who have ever married with the largest percentage are in the districts of South Nias, Coal, Mandailing Natal, Padang Lawas, Langkat and Tanjung Balai.

### **Use of Contraception**

Understanding and information about patterns and rates of contraceptive prevalence are important in measuring the success of family planning programs. The equality of family planning or the prevalence of contraceptive use is as a proportion of married women aged 15-49 years using one of the methods/ methods of family planning. The use of contraceptive contraception involves the use of modern and traditional family planning methods. To include modern methods of family planning involving female sterilization/ tubectomy, male sterilization/ vasectomy, implants, IUD/spiral, injections, pills, condoms and lactation

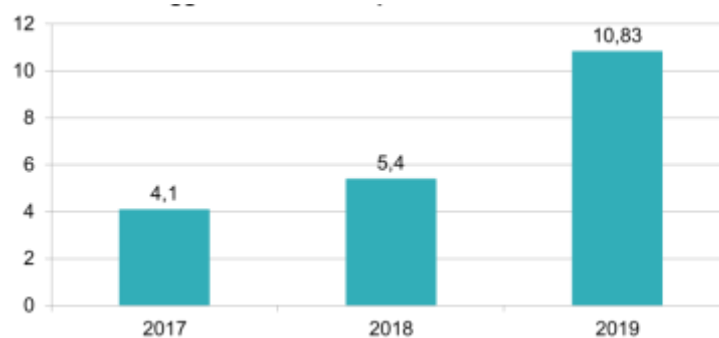
amenorrhoea/ MAL. Meanwhile, including traditional Family planning methods are bead bracelets, periodic abstinence, interrupted intercourse, and others.

The use of all methods / tools for family planning for North Sumatra Province in 2019 was 56.25% and was still below the national figure of 58.71%. In the last 3 years (2017 - 2019) for the Province of North Sumatra, the use of a FP method / device has increased from 49.42% in 2017 to 56.25% in 2019.



**Figure 3.** Use of Methods or Tools Contraceptions

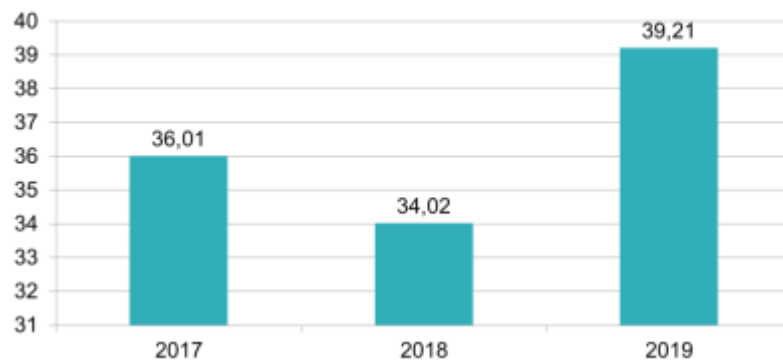
The participation of Modern Family Planning of married women aged 15-49 years based on this survey shows that the figure is 45.42%, lower than the national figure, which is 54.97%. In the last 3 years (2017 - 2019) for the Province of North Sumatra in the use of modern contraception has decreased from 49.42% in 2017 to 45.42% in 2019.



**Figure 4.** Use of Traditional Contraceptions Methods

For the use of traditional contraception, the rate is 10.8 higher than the national rate of 3.7%. In the last 3 years (2017-2019) the use of traditional contraception in North Sumatra Province has increased from 4.1% in 2017 to 10.83% in 2019.

For long-term use of contraceptive methods, in 2019 the figure shows 39.21% higher than the national figure of 24.6%. In the last 3 years (2017-2019) the use of long-term contraception in North Sumatra Province has increased from 36.01% in 2017 to 39.21% in 2019



**Figure 5.** Use of Mix Long Term Contraception Methods (MKJP)

From graphic above can be concluded that the increasing use of contraception every year is contributed by using traditional contraception. If seen from the Family Planning methods used by couple of childbearing in North Sumatra Province, it turns out that most of them are still classified as using family planning methods whose effectiveness is relatively low. This indicates that although family planning participation is relatively high, the FP methods used are still found to be less effective so as to enable leakage of effectiveness from contraceptive devices/ methods.

Related to the selection of contraceptive methods (Setiasih, 2016) are the most influential factor in the selection of the Long-Term Contraception Method in Kendal District is the attitude factor. In addition to attitude, factors that influence sequentially are knowledge, availability of family planning services, and support of family planning services staff.

Based on the evaluation of the 2019 SKAP data collection, the use of contraception when collecting data on the east coast of North Sumatra is dominated by the use of modern contraception with access to easy contraception and the use of contraception is considered to be a necessity for couples of childbearing age. For the central mountain region, in general women in EFA already knew about the family planning program, but cultural factors became more important and most used non-MKJP contraception. For Nias Islands region, on average couple of childbearing uses non-MKJP contraception (injection) and many contraceptive users also drop out (above 20%).

Changes in EFA knowledge, attitudes and behavior in the use of contraception are closely related to coaching conducted by officers and cadres. For PLKB (Rahman, 2019) the implementation of the communication of family planning field workers (PLKB) still needs to be improved. Meanwhile the observation results that the implementation of family planning field workers (PLKB) communication was not optimal. Efforts to increase the participation of fertile age couples in the use of contraception have been made various efforts but the participation of fertile age couples is still not achieving the expected target. From the results of the study, there is the effect of PLKB communication on the participation of fertile age couples in the use of contraceptives. This is evidenced by the calculation results obtained by the coefficient of determination of 57.19%, meaning that 57.19% of the participation of fertile age couples in the use of contraceptives is influenced by the communication of family planning field workers (PLKB).

In addition, related to the development of family planning participation (Setyowati, 2016), it was conveyed that the role of PLKB and Role of The Help of Family Village Planners or called as PPKBD had carried out their duties and functions in accordance with the rules, but there were some field staff employees whose responsiveness was slow so that it affected the guidance of acceptors, the division of regions that was not according to the

rules due to the small number of field officers and the existence of dual positions, so that the delivery of program information to the community experienced obstacles. The few staffs are caused by the retirement of employees due to the age factor and the recruitment of KB field workers who do not meet the needs of the program in the field.

Based on the evaluation of SKAP data collection related to coaching officers, at all levels the area of guidance is still not optimal because of the limited number of officers, limited facilities and access, staff ratios and field coverage are still not appropriate. The coaching is conducted by PLKB by collaborating with the local government also by utilizing existing groups in the community such as recitation groups, Family welfare empowerment or called as PKK groups etc. In addition, field officers are also expected to be able to establish emotional closeness with their target communities, especially Women of Childbearing age as acceptor candidates. This closeness is expected to be a way to influence the assessment of prospective acceptors of contractions that are actually part of their needs in building quality small families. Or in other words, field officers become a kind of Family Planning Ambassador who continues to introduce the concept of family planning to the community in informal meetings on the ground, not just limited to official group meeting forums.

Regarding the performance of Field Officers, it is necessary to focus on the community development plan in the target area. This is intended as one of the strategies to overcome the limited number of field staff. From the results of the field survey, many people have not been touched by the program because of the wide scope of the work area, but there are also people who have received guidance from field officers but with modest quality. Therefore, field officers can focus on the development of certain areas to obtain maximum guidance until they are independent, after that field officers can continue coaching to the next area by still paying attention to the previous area.

The role of cadres in family resilience activity groups as a fostering of KB participants (Sitorus, 2017) Facilitators (PKB/PLKB and Cadres) in presenting the activity group material still plays an important role, that is why the competency of the facilitator is very important, his ability to master the material, how to present the material, his ability to know the condition of the audience with the right approach, the tools used to the presentation method to be able to convey program material properly. Fostering Participation in family planning among members of the highest resilience is in the BKB group compared to the BKR and BKL groups. For the BKB group, the family planning participation from the sample taken reached 70%, while for the BKR 50% and BKL by 20% (because the BKL group is not only the elderly family but also the elderly themselves). For this, competency enhancement, both PLKB and cadres must always be increased in stages starting from the Province to the Village

### ***Needs of Family Planning-Unfulfilled***

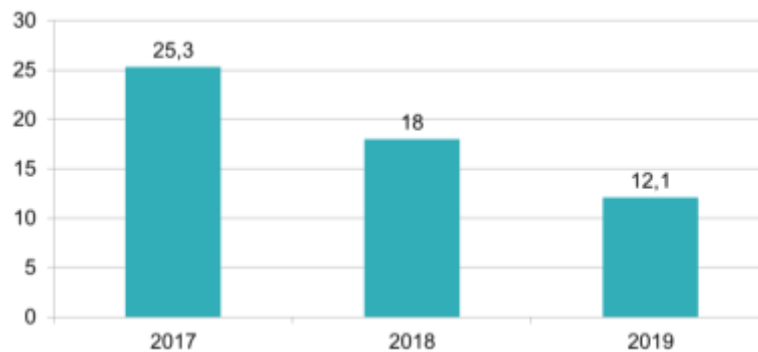
Unmet need for family planning/unmet need in the DHS program has been revised by Bradley et al (2012) is an estimate of unmet needs, needs that are met and requests for contraceptive services in married women aged 15-49 years using a new definition. Specifically, women are considered to have unmet need for postponement of pregnancy if:

1. Risk of getting pregnant because of not using contraception and also not wanting to get pregnant within the next two years or not sure whether you want to get pregnant or when you want to get pregnant.
2. Pregnant with an unwanted pregnancy
3. The puerperium is up to two years after birth is not desirable and does not use contraception

Women are considered to have unmet need for pregnancy restrictions if:

1. Risk of pregnancy because you do not use contraception and do not want more children
2. Pregnant with an unwanted pregnancy
3. The puerperium up to two years after birth is undesirable and does not use contraception.

Women who are categorized as infertile (infecund) do not have unmet need because they are not at risk of becoming pregnant. Women who use contraception are considered to have fulfilled their needs. Women who use contraception and do not want any more children are also considered to have fulfilled the need for pregnancy restrictions and women who use contraception and want to postpone having children or do not know whether they want more children are also considered as having fulfilled the need for postponement of pregnancy. The trend of unmet need for family planning program in North Sumatra province can be seen in the following table:



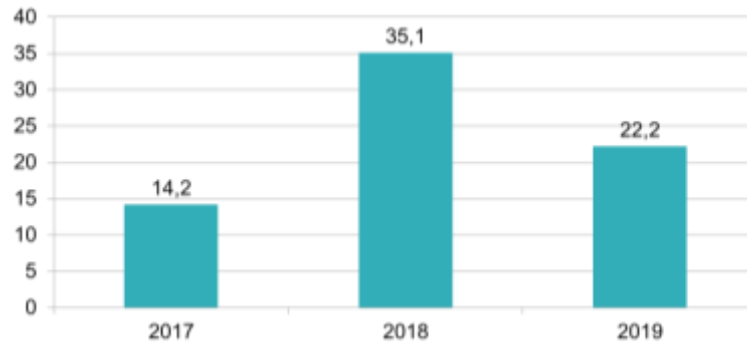
**Figure 6.** Unmet need KB Sumut

Based on the table above, it can be seen that since 2017 there has been a decline in the number of unmet need for family planning from 25.3% to 12.1% in 2019. Related to Unmet Need (Mutiara, 2017), there is a relationship between knowledge, media exposure and official visits with unmet need KB. The greatest determinant of unmet need is age, especially those aged 15-19 years who have a 12.5 times chance of experiencing unmet need compared to those aged 36-49 years. Unmet Need is found in EFAs who do not work (38.7%), women who have 3 or more children where the status of unmet need reaches 44.7%, live in urban areas (60.5%), and upper middle income groups are 43, 8%, good knowledge of 42.3%, exposed to mass media (40.2%) and not visited by family planning officials as much as 41.2%. This is in line with Santosa's research (2017) is about Unmet family planning needs occur in those who already have children 3 and older with a percentage of 61.3%. This pattern also occurs when compared to the national situation. The number of unmet need for family planning tends to increase along with the number of living children owned to reach 26% in women who have five or more children. Most of the unmet need for birth control in women who do not have three or more children is intended to limit births.

### **Unwanted Pregnancy**

Unwanted Pregnancy or always called KTD is an unwanted pregnancy by couples of childbearing age. For example due to a failure in the use of contraception, a pregnancy occurs for women with unmet need for family planning. In the discussion of the KTD in this article is about pregnancy at the birth of the last desired child later (2 years or more) or actually no

longer desired, and in pregnancy during the actual interview the pregnancy is desired later 2 years or more, or the pregnancy is no longer desired.



**Figure 7. KTD Sumut**

From the data above, we see the number of unwanted pregnancies in North Sumatra Province increasing from 14.2% in 2017 to 22.2% in 2019 and this figure is still above the national rate of 17.5%. Family planning program is one of the efforts to prevent unwanted pregnancies, Diasanty (2014) states that the risk of KTD increases at the age of under 20 years and above 35 years. 18% of pregnant women at gestational age are at risk of having an unwanted pregnancy tendency. Contraceptive failure tends to have 8.5 times the chance of an unwanted pregnancy in terms of age, number of children, economic status, family planning knowledge and access to health services.

## CONCLUSION

The following are conclusions that can be given from the results of the analysis and discussion:

1. Increase in total fertility rate (TFR) for North Sumatra Province is affected by births under 19 years of age, contraceptive use, unwanted pregnancies and fulfill to use KB that is not met.
2. An increase in births below 19 years over the past 3 years was followed by a decrease in the knowledge of the adolescent reproductive health index.
3. The use of traditional contraception for 3 years has increased and the use of modern contraception has decreased.
4. Unmet family planning needs and unwanted pregnancies over the past 3 years have experienced fluctuating figures and remain above national figures.

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