

Determinants of family planning service utilization among adolescents

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ABSTRACT

Efforts to improve adolescents' access to basic health services are very important for community health centers and their networks at the first level of service. So that access to adolescents in utilizing family planning services determines whether the program runs or not. The aim of this study was to identify factors influencing adolescents use of family planning services. This study is an observational study with an analytical survey method, with the cross-sectional approach. The objects in this study were all adolescents in class XI at SMK Bakti Utama Pati, totaling 38 people. The independent variables in this study were age, knowledge about reproductive health, access to family planning services, quality of family planning services, and the dependent variable in this study was Utilisation of Family Planning Services in Adolescents. The instrument used was a questionnaire that had been tested. Univariate analysis using frequency distribution, bivariate analysis using chi-square, and multivariate analysis using multiple logistic regression. The results of the analysis with Chi-Square showed that there was a significant relationship between age ($X^2 = 8.306$ and $p=0.031$), knowledge ($X^2 = 6.756$ and $p=0.009$), access ($X^2 = 5.158$ and $p=0.023$), and service quality ($X^2 = 15.454$ and $p = <0.001$) with the utilization of family planning services in adolescents. The results showed that the independent variables in the multiple logistic regression model, namely age, knowledge, access, and service quality together were able to explain the utilization of family planning services in adolescents by 69.8% with an $X^2 = 28.156$ with $p < 0.001$.

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INTRODUCTION

In the context of increasing global population growth, issues related to family planning have become very relevant. According to the World Population Prospects (WPP), the world population is projected to grow from 7.7 billion in 2019 to around 8.5 billion in 2030 and is expected to reach 9.7 billion by 2050 (UN DESA, 2019). High population growth can create a cycle of poverty and impact access to education, skills, and opportunities for future generations (WHO, 2017).

The importance of family planning issues is becoming increasingly prominent in Asia, which is the most populous region, reaching 4.6 billion by 2019, with Southeast Asia alone projected to have a population of around 647.45 million (UN DESA, 2019). Adolescents, who make up about 18% of the entire global population or about 1.2 billion individuals, hold a crucial role in this regard (BPS, 2021). To address the potential problem of population growth rate, the government implements a family planning program as a strategy to regulate the timing, spacing, and number of future births (BKKBN, 2021).

However, the 2017 Indonesian Basic Health Survey (IDHS) report noted an increase in the proportion of adolescents who were not interested in contraception, with an increase from 4% in 2012 to 7% in 2017 among unmarried female adolescents, and from 15% in 2012 to 20% in 2017 among unmarried male adolescents (Kemenkes, 2018). These findings are in line with research by Adella et al. (2021), in the context of unmarried male adolescents, it was found that those who did not need family planning services, were exposed to mass media, and had knowledge of fewer than 4 contraceptives tended to have lower intentions to use contraception in adulthood (Adella et al., 2021).

A study by Zepro et al. (2023) showed that two-thirds or 513 (67%) of respondents were aware of sexual and reproductive health services in Ethiopia. However, only a quarter (24.5%) of registered adolescents used at least one of these services in the past 12 months (Zepro et al., 2023). The results of Wakjira and Habedi's (2022) study showed that the low access to and use of reproductive health services among adolescents is caused by several factors, namely the barriers to access and use of sexual and reproductive health services found at the facility level, service provider level, community level, and personal level (Wakjira & Habedi, 2022).

Based on a preliminary survey conducted at SMK Bakti Utama Pati on 10 adolescent girls, it is known that 7 people (70%) have never received family planning services that focus on adolescent reproductive health checks at the Puskesmas, and only 3 people (30%) have received counseling on reproductive health. Adolescents and young adults are very important in mobilizing young people to know clearly about the family planning program as the government's priority program in controlling population growth and increase. The implementation of the family planning program covers all lines of community life. So that the role of adolescents and young adults who are vulnerable to the impact of social problems can be overcome with the knowledge, access, and availability of family planning services.

From the analysis, it is clear that there is an in-depth need to know the factors that influence the utilization of family planning services, especially among adolescents at SMK Bakti Utama Pati. In this context, family planning services are not only key in slowing down population growth but also a vital strategy to organize family plans and a better future. Understanding the factors that influence adolescents' use of family planning services helps in designing and implementing more effective programs, ensuring better outcomes in terms of access and utilization.

RESEARCH METHOD

The type of research used was observational with an analytical survey research method with a sectional approach. The research was conducted at SMK Bakti Utama Pati, in July 2023. The population in this study were all adolescent girls in class XI at SMK Bakti Utama Pati, totaling 62 people. The sampling technique used in this study was probability sampling with a simple random sampling technique, with a total sample of 38 people.

The independent variables in this study are age, knowledge about reproductive health, access to family planning services, and quality of family planning services. The dependent variable in this study is the utilization of family planning services at Puskesmas by adolescents. The instrument used in this study is a questionnaire consisting of 28 questions that have been tested for

validity and reliability to 15 adolescents, with the results of the Cronbach Alpha value of $0.759 > \alpha$ (0.6).

Data collection began by giving questionnaires to respondents to be filled in independently. All data that has been obtained is then processed and analyzed. Data analysis techniques used univariate analysis in the form of frequency distribution, bivariate analysis was performed with Chi Square to determine the relationship between each independent variable and the dependent variable, then continued with multivariate analysis with multiple logistic regression to determine the relationship between variables together.

RESULTS AND DISCUSSIONS

The results of the study in the form of frequency distribution of each variable are shown in Table 1.

Table 1. Frequency distribution of research variables

Variables	f	%
Age (years)		
15	4	10,5
16	17	44,7
17	12	31,6
18	5	13,2
Knowledge		
Less	20	52,6
Good	18	47,4
Acces		
>5 km	19	50
≤5 km	19	50
Service quality		
Less	22	57,9
Good	16	42,1
Utilisation		
Inactive	19	50
Active	19	50

Based on Table 1, it can be seen that the study participants were divided into several age groups, with the majority (44.7%) aged 16 years. A total of 52.6% of them had a poor level of knowledge about reproductive health. The study participants' access to health services analyzed based on distance >5 or ≤5 km had an equal number of 50%. The majority (57.9%) considered the health services they had received related to family planning to be poor. As many as 50% of them actively used the services, while the same number were not active in the utilization of health services. The results of bivariate analysis of independent variables and dependent variables are shown in Table 2.

Table 2. Bivariate analysis of research variables

Variables	Utilisation				Total		X ²	p-value
	Inactive		Active		f	%		
	f	%	f	%				
Age (years)								
15	3	75,0	1	25,0	4	100,0	8,306	0,031
16	12	70,6	5	29,4	17	100,0		
17	3	25,0	9	75,0	12	100,0		
18	1	20,0	4	80,0	5	100,0		
Knowledge								
Less	14	70,0	6	30,0	20	100,0	6,756	0,009
Good	5	27,8	13	72,2	18	100,0		
Acces								
>5 km	13	68,4	6	31,6	19	100,0	5,158	0,023
≤5 km	6	31,6	13	68,4	19	100,0		

Variables	Utilisation				Total		X ²	p-value
	Inactive		Active		f	%		
	f	%	f	%				
Service quality								
Less	17	77,3	5	22,7	22	100,0	15,545	<0,001
Good	2	12,5	14	87,5	16	100,0		

Based on Table 2, it can be seen that 75% of respondents aged 15 years are not active in the utilization of adolescent family planning services, while 80% of adolescents aged 18 years are active in the utilization of adolescent family planning services. The results of the Chi-Square analysis showed the Fisher Exact value for X² = 8.306 and p-value = 0.031. These results indicate that there is a relationship between age and the utilization of family planning services for adolescents at SMK Bakti Utama Pati.

In terms of knowledge, 70% of respondents who had poor knowledge were not active in the utilization of adolescent family planning services, while 72.2% who had good knowledge about reproductive health were active in the utilization of adolescent family planning services. Chi-Square analysis results showed the value of X² = 6.756 and p-value = 0.009. These results indicate that there is a relationship between knowledge and the utilization of family planning services for adolescents.

In terms of access, the number of respondents who had access to health services between those with a distance of >5 km and ≤5 km was the same at 68.4% each and had the opposite active utilization. Chi-square analysis showed a value of X² = 5.158 and p-value = 0.023. These results indicate that there is a relationship between access and utilization of family planning services for adolescents.

In terms of service quality, 77.3% of respondents who reported poor service quality were not active in adolescent family planning service utilization, while 87.5% who reported good service quality were active in adolescent family planning service utilization. Chi-Square analysis results showed the value of X² = 15.545 and p-value = <0.001. These results indicate that there is a relationship between service quality and adolescent family planning service utilization. The results of multivariate analysis between independent variables and dependent variables are shown in Table 3.

Table 3. Multivariate analysis between study variables

Variables	Model			Utilization				
	X ²	Sig	R ²	B	Coefficients Sig	Exp B	95% CI for EXP(B)	
							Lower	Upper
Age				2,691	0,027	14,75	1,353	160,841
Knowledge	28,156	<0,001	0,698	1,295	0,248	3,65	0,406	32,79
Acces				2,829	0,075	16,925	0,752	381,162
Service quality				2,732	0,032	15,362	1,267	186,196

In determining the hypothesis of this study using the Coefficients Sig value, which in Table 3 shows that together the variables of age (p=0.027) and service quality (0.032) are statistically significant, while the variables of knowledge (p=0.248) and access (p=0.075) are not statistically significant. The results of the analysis in Table 3 show the value of X² of 28.156 with a p-value <0.001 which is smaller than 0.05 so this regression model is good enough to explain the relationship between variables in the sample data.

The analysis results in Table 3 show an R-value of 0.698. The results showed that the independent variables in the multiple logistic regression model, namely age, knowledge, access, and service quality together were able to explain the utilization of family planning services in adolescents by 69.8%, while the remaining 30.2% was explained by other factors.

Relationship Between Age and Utilization of Adolescent Family Planning Services

In this survey, it was found that out of the total respondents aged 15 years old, 75% of them were not active in utilizing adolescent family planning services. However, this trend changed drastically among 18-year-olds, where 80% of them were active in utilizing adolescent family planning services.

Utilization of all reproductive health services increases with age. Adolescents aged 17-19 years were three times more likely to use reproductive health services than those aged 15-16 years. Respondents in grades 11 and 12 were 2.7 times more likely to use SRH services than their peers in grades 9 and 10 (Sharma et al., 2023; Wakjira & Habedi, 2022). This finding is consistent with a study by Banerjee, who reported low utilization of reproductive health services among adolescents due to poor understanding of their changing bodies and lack of awareness of the risks associated with early sexual debut, STI/HIV, pregnancy, and shame (Banerjee et al., 2023). These findings are also consistent with the KDHS, which showed increased use of family planning services among older adolescents aged 20-24 years compared to those aged 10-19 years (Statistics, 2023).

Age plays an important role in adolescent family planning service utilization. While only focusing on the age group (15 to 18 years), these results provide an initial insight into how adolescents' awareness of adolescent family planning services may change with age.

Relationship Between Knowledge and Utilization of Adolescent Family Planning Services

A significant p-value of 0.009 indicates that respondents with poor knowledge were less active in using adolescent family planning services compared to those with good knowledge. The relationship between knowledge and active use of family planning services among adolescents is an important aspect of understanding how knowledge can influence reproductive health service use behavior. Behavioral health theory states that knowledge can be an important factor influencing an individual's decision to adopt certain health behaviors, including the use of family planning services. Good knowledge about family planning methods, their benefits, as well as risks and side effects can encourage adolescents to be more active in utilizing family planning services (Sleet & Dellinger, 2020).

Previous studies have described a significant association between knowledge and family planning service utilization among adolescents (Pleaner et al., 2022; Tiruneh et al., 2023; Wani et al., 2019). This finding is consistent with the concept of behavioral health theory which indicates that individuals who have better knowledge are more likely to adopt positive health behaviours. For example, research by William et al. (2023) showed that adolescents with better knowledge about family planning methods tend to be more active in using family planning services (William et al., 2023).

However, while knowledge has a significant impact, other factors can also influence the active utilization of family planning services among adolescents. Social, cultural, service accessibility, and convenience aspects can also play an important role in adolescents' decision to utilize family planning services (Uchenna et al., 2020). Some studies have shown that in addition to knowledge, social stigma factors associated with family planning use can also influence adolescents' decision to utilize the service (Håkansson et al., 2020; Makenzius et al., 2019, 2023; Sorhaindo & Loi, 2022).

Research results often show that adolescents with better knowledge about family planning tend to be more active in the utilization of these services. However, it is important to remember that improved knowledge alone is not always enough to encourage the active use of family planning services. Broader education efforts, social support, and provision of youth-friendly family planning services are also crucial to increasing active family planning utilization among adolescents (Silumbwe et al., 2020). Therefore, a holistic and comprehensive approach is needed to ensure that good knowledge about family planning is followed by concrete and positive actions in utilizing reproductive health services.

Relationship Between Access and Utilization of Adolescent Family Planning Services

A significant association exists between access to and use of family planning services among adolescents, with the same percentage of adolescents (68.4%) having access to health services beyond and within 5km, respectively, and opposite patterns of active use.

The relationship between physical access, such as distance to health institutions, and active utilization of family planning services among adolescents has a significant impact on understanding the factors that influence the accessibility of reproductive health services. Social-ecological theory supports the concept that the physical environment in which individuals live can influence their accessibility and participation in health services (Caperon et al., 2022).

Several studies have revealed that geographical accessibility has a strong influence on adolescents' use of family planning services. This finding is consistent with the theory that long distances between where adolescents live and health service centers can be a significant barrier. Some studies have shown that adolescents who live closer to family planning centers tend to be more active in using the services (Abate et al., 2019; Abdurahman et al., 2022; Addisu et al., 2023)

However, other factors may also moderate the relationship between physical access and active use of family planning services. Social context, availability of transportation, and costs associated with traveling to health centers can also affect accessibility and adolescent uptake of family planning services. Research by Ninsiima et al. (2021) found that while geographical access has an influence, cost, and availability of transport are also important factors that affect the accessibility of family planning services among adolescents (Ninsiima et al., 2021)

In addition, there are differences in research outcomes depending on the geographical and social context. For example, research in rural areas may face different access barriers than research in urban areas. Research by Banerjee et al. (2023) showed that in urban areas, physical distance access is not always a major factor in influencing adolescents' active utilization of family planning services, as they have more choice of service sites (Banerjee et al., 2023).

Overall, physical access plays an important role in adolescent uptake of family planning services. However, it is important to recognize that other factors also play a role in shaping this relationship. The provision of affordable and accessible family planning services, education on the importance of family planning, and facilitation of transport can contribute to increasing active family planning uptake among adolescents, especially in areas with geographical barriers.

Relationship Between Service Quality and Utilization of Adolescent Family Planning Services

A significant correlation was found between the quality of care and the use of family planning among young people with $p < 0.001$. The relationship between service quality and active utilization of family planning services among adolescents is an important aspect in understanding how service quality can influence their intentions and actions in using reproductive health services. Health Service Theory states that service quality plays an important role in influencing individual satisfaction and trust in health services (Jain et al., 2019).

Based on the results of previous studies, service quality has a significant impact on adolescents' active use of family planning services. This finding is in line with theory which indicates that friendly, affordable, and high-quality services tend to encourage individuals to be more active in using these services. Several studies have shown that adolescents who are satisfied with the quality of family planning services tend to be more active in using the services (Abate et al., 2019; Arije et al., 2022; Sharma et al., 2023).

Factors such as the availability of clear information, confidentiality, physical accessibility, good communication between providers and adolescents, and positive experiences during visits to health centers are key components of service quality that can influence the uptake of family planning services among adolescents. Research by Zenebe et al. (2023) showed that adolescents who were comfortable and satisfied with their interactions with health workers and their experiences during visits to family planning centers were more likely to use the services again (Zenebe et al., 2023).

However, it is important to remember that perceptions of service quality can vary between individuals and contexts. What one individual perceives as good service quality may not necessarily be the same for another. Therefore, health providers need to understand adolescents' preferences and expectations of service quality to increase their satisfaction and engagement with family planning services (Tobey et al., 2023).

Overall, service quality has a significant impact on the active utilization of family planning services among adolescents. Providing services that are quality, youth-friendly, and responsive to their needs will be an important factor in increasing adolescents' intention and action in using reproductive health services. In this context, an approach that focuses on fulfilling the needs and preferences of adolescents will be crucial to ensure effective and sustainable service quality.

Associations of Age, knowledge, Access and Quality of Services with Adolescent Family Planning Service Utilization

The relationship between age, knowledge, access, and quality of services with active utilization of family planning services among adolescents is an important aspect in understanding the factors that influence their level of participation in reproductive health services. This integrative approach allows the identification of interrelated elements that contribute to adolescents' decisions and behaviors in utilizing family planning services.

Based on Behavioural Health Theory, knowledge about the benefits, risks, and methods of family planning can influence an individual's actions in utilizing these services (Sleet & Dellinger, 2020). Research shows that adolescents with good knowledge about family planning tend to be more active in using the service. This finding is consistent with research by Pleaner et al. (2022), where a good knowledge of family planning methods was associated with the active utilization of family planning services in adolescents (Pleaner et al., 2022).

In addition to knowledge, access also plays a key role in the active utilization of family planning services. According to Social Ecological Theory, environmental factors, including physical and social access, influence an individual's ability to access health services (Caperon et al., 2022). Several studies have shown that adolescents who live close to family planning service centers tend to be more active in utilizing these services (Abate et al., 2019; Addisu et al., 2023).

Service quality is also an important element in adolescent decision-making. Health Service Theory states that service quality can affect individual satisfaction and trust in health services. Research by Arije et al. (2022) found that adolescents who were satisfied with the quality of family planning services were more likely to actively utilize the services (Arije et al., 2022).

Age can also influence the active utilization of family planning services. Research shows that older adolescents tend to be more active in utilizing family planning services than younger ones. This finding is consistent with research by Wakjira & Habedi (2022), who found that age is a factor associated with modern contraceptive use among adolescents (Wakjira & Habedi, 2022).

Overall, the relationship between age, knowledge, access, and service quality with active family planning service utilization among adolescents is interrelated and complex. Good knowledge, easy access, and satisfactory service quality can be key factors in increasing adolescent participation in family planning services. Therefore, a holistic approach that takes into account these factors needs to be implemented to ensure the effectiveness and sustainability of reproductive health services aimed at adolescents.

CONCLUSION

In conclusion, this study revealed that age, knowledge, access, and service quality play an important role in influencing the active utilization of family planning services among adolescents. These findings are consistent with behavioral health theory, which suggests that good knowledge, easy accessibility, and adequate service quality can encourage adolescents to be more active in utilizing family planning services. Ultimately, the research contributes to the broader goal of

advancing public health, particularly among adolescents, by providing evidence-based recommendations for interventions that can positively impact their reproductive health outcomes.

An integrated approach is needed to increase adolescents' participation in family planning services, taking into account improvements in knowledge, accessibility, and service quality, while taking into account differences in age and social context. To improve adolescent awareness of family planning, prioritize comprehensive reproductive health education. Health workers must approach them with empathy, ensuring a confidential and comfortable counseling environment. Healthcare institutions should strategically locate accessible and youth-friendly family planning services. Families must foster open discussions on reproductive health. Communities play a vital role in raising awareness, advocating for a culture that respects adolescents' rights, and supporting education programs to reduce stigma and empower informed decision-making.

Limitations of the study include a lack of in-depth exploration of cultural, religious, and social factors that influence adolescents' decisions about family planning services, which may limit a comprehensive understanding of the social context that influences their active use. In addition, the regional focus suggests caution in generalizing findings to a broader adolescent population. Future research should expand the range of variables and consider additional factors to improve understanding of adolescents' active use of family planning services.

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References

- Abate, A. T., Ayisa, A. A., & W/Mariam, T. G. (2019). Reproductive health services utilization and its associated factors among secondary school youths in Woreta town, South Gondar, North West Ethiopia: a cross sectional study. *BMC Research Notes*, *12*(1), 90. <https://doi.org/10.1186/s13104-019-4129-z>
- Abdurahman, C., Oljira, L., Hailu, S., & Mengesha, M. M. (2022). Sexual and reproductive health services utilization and associated factors among adolescents attending secondary schools. *Reprod Health*, *Jul*(19), 161. <https://doi.org/https://doi.org/10.1186%2Fs12978-022-01468-w>
- Addisu, S., Eyeberu, A., Bete, T., Yadeta, E., Lami, M., Balcha, T., Berhanu, B., Alemu, A., Meseret, F., Mohammed, H., Alemu, A., Husen, A. M., Ahemed, F., Birhanu, A., Gemechu, K., Debella, A., Getachew, T., Nigussie, K., Nigussie, S., & Negash, A. (2023). Reproductive health service utilization and associated factors among secondary school students in Harari regional state, eastern Ethiopia, 2022: a multicenter study. *Reprod Health*, *20*(1), 45. <https://doi.org/10.1186/s12978-023-01592-1>.
- Adella, T., Damayanti, R., & Makful, M. R. (2021). Hubungan Kebutuhan Pelayanan Keluarga Berencana pada Remaja Belum Kawin dengan Niat Menggunakan Kontrasepsi di Masa Dewasa (Analisis SDKI 2017). *Indonesian Journal of Health Promotion and Behavior*, *3*(1), 1-7. <https://journal.fkm.ui.ac.id/ppk/article/download/4146/1172>
- Arije, O., Madan, J., & Hlungwani, T. (2022). Quality of sexual and reproductive health services for adolescents and young people in public health facilities in Southwest Nigeria: a mystery client study. *Glob Health Action*, *15*(1), 2145690. <https://doi.org/10.1080/16549716.2022.2145690>
- Banerjee, A., Paul, B., Das, R., Bandyopadhyay, L., & Bhattacharyya, M. (2023). Utilisation of adolescent reproductive and sexual health services in a rural area of West Bengal: A mixed-method study. *Malays Fam Physician*, *Apr*(18), 26. <https://doi.org/https://doi.org/10.51866%2Foa.224>
- BKKBN. (2021). Pedoman Pelayanan Kontrasepsi dan Keluarga Berencana. *Paper Knowledge . Toward a Media*

- History of Documents*, 3(April), 49-58.
- BPS. (2021). *Hasil sensus penduduk 2020*. [https://www.bps.go.id/pressrelease/2021/01/21/1854/hasil-sensus-penduduk-2020.html#%3A~%3Atext%3DHasil Sensus Penduduk \(SP2020\) pada%2Csebanyak 141 jiwa per km2](https://www.bps.go.id/pressrelease/2021/01/21/1854/hasil-sensus-penduduk-2020.html#%3A~%3Atext%3DHasil+Sensus+Penduduk+(SP2020)+pada%2Csebanyak+141+jiwa+per+km2)
- Caperon, L., Saville, F., & Ahern, S. (2022). Developing a socio-ecological model for community engagement in a health programme in an underserved urban area. *PLoS One*, 17(9), e0275092. <https://doi.org/https://doi.org/10.1371%2Fjournal.pone.0275092>
- Håkansson, M., Super, S., Oguttu, M., & Makenzius, M. (2020). Social judgments on abortion and contraceptive use: a mixed methods study among secondary school teachers and student peer-counsellors in western Kenya. *BMC Public Health*, 20(1), 493. <https://doi.org/https://doi.org/10.1186/s12889-020-08578-9>
- Jain, A., Aruldas, K., Mozumdar, A., Tobey, E., & Acharya, R. (2019). Validation of Two Quality of Care Measures: Results from a Longitudinal Study of Reversible Contraceptive Users in India. *STUDIES IN FAMILY PLANNING*, 50(2), 179-193. <https://doi.org/https://doi.org/10.1111/sifp.12093>
- Kemenkes, R. (2018). *Riset Kesehatan Dasar*.
- Makenzius, M., Loi, U. R., Otieno, B., & Oguttu, M. (2023). A stigma-reduction intervention targeting abortion and contraceptive use among adolescents in Kisumu County, Kenya: a quasi-experimental study. *Sex Reprod Health Matters*, 31(1), 1881208. <https://doi.org/10.1080/26410397.2021.1881208>
- Makenzius, M., McKinney, G., Oguttu, M., & Romild, U. (2019). Stigma related to contraceptive use and abortion in Kenya: scale development and validation. *Reprod Health*, 16(1), 136. <https://doi.org/10.1186/s12978-019-0799-1>
- Ninsima, L. R., Chiumia, I. K., & Ndejjo, R. (2021). Factors influencing access to and utilisation of youth-friendly sexual and reproductive health services in sub-Saharan Africa: a systematic review. *Reproductive Health*, Jun(18), 135. <https://doi.org/https://doi.org/10.1186%2Fs12978-021-01183-y>
- Pleaner, M., Kutwayo, A., Beksinska, M., Mabetha, K., Naidoo, N., & Mullick, S. (2022). Contraception knowledge and uptake among in-school adolescents in three South African townships: Baseline findings from the Girls Achieve Power (GAP Year) Trial. *Gates Open Research*, Jul(6), 67. <https://doi.org/https://doi.org/10.12688%2Fgatesopenres.13636.2>
- Sharma, M., Khatri, B., Amatya, A., Subedi, N., Upadhyaya, D. P., Sapkota, B. P., & Bista, P. (2023). Utilization of adolescent friendly health services and its associated factors among higher secondary students in mid-western Himalayan mountainous district of Nepal. *PLOS Glob Public Health*, 3(3), e0001616. <https://doi.org/https://doi.org/10.1371%2Fjournal.pgph.0001616>
- Silumbwe, A., Nkole, T., Munakampe, M. N., Cordero, J. P., Milford, C., Zulu, J. M., & Steyn, P. S. (2020). Facilitating community participation in family planning and contraceptive services provision and uptake: community and health provider perspectives. *Reproductive Health*, 17(1), 119. <https://doi.org/https://doi.org/10.1186/s12978-020-00968-x>
- Sleet, D. A., & Dellinger, A. M. (2020). Using behavioral science theory to enhance public health nursing. *Public Health Nursing*, 37(6), 895-899. <https://doi.org/https://doi.org/10.1111%2Fphn.12795>
- Sorhaindo, A., & Loi, U. R. (2022). Interventions to reduce stigma related to contraception and abortion: a scoping review. *BMJ Open*, 12(11), e063870. <https://doi.org/https://doi.org/10.1136%2Fbmjopen-2022-063870>
- Statistics, K. N. B. of. (2023). *Kenya Demographic and Health Survey 2022*. <https://dhsprogram.com/pubs/pdf/PR143/PR143.pdf>
- Tiruneh, G. A., Erega, B. B., T/mariam, A. B., Abebe, E. C., Ayele, T. M., Baye, N. D., Tilahun, Z., Taye, A., & Kassa, B. G. (2023). Level of knowledge, attitude, and practice on modern contraceptive method and its associated factors among housemaids living in Debre Tabor town, northwest Ethiopia: a community-based cross-sectional study. *BMC Women's Health*, Nov(23), 632. <https://doi.org/https://doi.org/10.1186%2Fs12905-023-02783-5>
- Tobey, E., Jain, A., & Mozumdar, A. (2023). Differences in Quality of Care of Family Planning Services Received by Age and Contraceptive Continuation Among Young Mothers in India. *Journal of Adolescent Health*, 72(1), 88-95. <https://doi.org/https://doi.org/10.1016/j.jadohealth.2022.08.024>
- Uchenna, E., Mbachu, C., Ezumah, N., Eze, I., Agu, C., Agu, I., & Onwujekwe, O. (2020). Exploring factors constraining utilization of contraceptive services among adolescents in Southeast Nigeria: an application of the socio-ecological model. *BMC Public Health*, Jul(20), 1162. <https://doi.org/https://doi.org/10.1186%2Fs12889-020-09276-2>
- UN DESA. (2019). *World Population Prospects*. <https://www.un.org/development/desa/en/news/2019>

- Wakjira, D. B., & Habedi, D. (2022). Barriers to access and utilisation of sexual and reproductive health services among adolescents in Ethiopia: a sequential mixed-methods study. *BMJ Open*, 12(11), e063294. <https://doi.org/https://doi.org/10.1136%2Fbmjopen-2022-063294>
- Wani, R. T., Rashid, I., Nabi, S. S., & Dar, H. (2019). Knowledge, attitude, and practice of family planning services among healthcare workers in Kashmir – A cross-sectional study. *Journal of Family Medicine and Primary Care*, 8(4), 1319–1325. https://doi.org/https://doi.org/10.4103%2Fjfmpc.jfmpc_96_19
- WHO. (2017). *Global Accelerated Action for the Health of Adolescents (AA-HA!)*. <https://apps.who.int/iris/bitstream/handle/10665/255415/9789241512343-eng.pdf?sequence=1>
- William, N., Ismail, H., Yongolo, E. P. U. N. M., Kagoye, S., & Msuya, S. E. (2023). Factors Associated with Modern Contraceptive Use Among Out of School Adolescent Girls in Majengo and Njoro Wards of Moshi Municipality, Tanzania. *The East African HEALTH RESEARCH JOURNAL*, 7(1), 32–39. <https://doi.org/https://doi.org/10.24248%2Feahrj.v7i1.706>
- Zenebe, G. A., Ewunie, T. M., Belay, M. M., & Abose, A. M. (2023). Quality of adolescent and youth-friendly sexual and reproductive health services and associated factors in Ethiopia: a systematic review and meta-analysis. *Frontiers in Public Health*, July(11). <https://doi.org/https://doi.org/10.3389/fpubh.2023.1191676>
- Zepro, N. B., Ali, N. T., Tarr, N., Medhanyie, A. A., Paris, D. H., Probst-Hensch, N., & Merten, S. (2023). Sexual and reproductive health services use among adolescents in pastoralist settings, northeastern Ethiopia. *BMC Health Services Research*, 23(1), 677. <https://doi.org/10.1186/s12913-023-09616-z>