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ORIGINAL ARTICLE

# Utilisation of adolescent reproductive and sexual health services in a rural area of West Bengal: A mixed-method study

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## Abstract

**Introduction:** Despite policy actions and strategic efforts for improving the reproductive and sexual health of adolescents by promoting the uptake of adolescent reproductive and sexual health (ARSH) services, the utilisation rate remains significantly low, especially in rural areas of India. This study aimed to assess the utilisation of these services by adolescents in rural West Bengal and its associated determinants.

**Methods:** This mixed-method study was conducted from May to September 2021 in the Gosaba rural block of South 24 Parganas, West Bengal. Quantitative data were collected from 326 adolescents using a pre-tested structured questionnaire. Qualitative data were collected via four focus group discussions among 30 adolescents and key-informant interviews among six healthcare workers. Quantitative data were analysed using SPSS, while qualitative data were analysed thematically.

**Results:** Ninety-six (29.4%) adolescents had utilised ARSH services at least once during adolescence. The factors associated with non-utilisation of ARSH services were younger age, female sex, increasing reproductive health stigma and decreasing parent–adolescent communication related to sexual health. Qualitative exploration revealed that unawareness regarding services, perceived lack of privacy and confidentiality at healthcare facilities and disruption of services post-emergence of the COVID-19 pandemic were some major barriers to ARSH service utilisation.

**Conclusion:** A multi-component strategy, including promotion of adolescent-friendly health clinics, community support interventions associated with motivation and counselling of parents regarding the importance of adolescent reproductive health, is needed to improve the utilisation of ARSH services. Necessary steps to correct the deficiencies at the facility level should also be prioritised.

## Introduction

Adolescence, encompassing the age range of 10–19 years, is a critical phase in the life of an individual. In developing countries such as India, adolescents constitute about 20% of the country's population profile. Despite the popular perception that adolescence is one of the healthiest phases of life, adolescents face some major public health issues. With rapid cognitive, physical and psycho-sexual maturation taking place simultaneously, this transition phase has the potential to pose serious challenges to the health and well-being of adolescents. Approximately 1.7 million adolescent deaths occurred in 2015 accompanied by a loss of 21,783 disability adjusted life years (DALYs) per 100,000 adolescents in the Southeast Asian region.[1] Among the top five major causes, adolescent reproductive and sexual health (ARSH) issues deserve special mention, as they have currently emerged as an important public health concern in Southeast Asia.[2]

Recent data as per the National Family Health Survey-5 of India have demonstrated that the prevalence of early pregnancies and childbirths among adolescents is quite high, especially in rural areas. The scenario in the state of West Bengal is quite alarming: The adolescent fertility rate is high, with 81 births per 1000 women aged 15–19 years compared with the national average of 43 births per 1000 women.[3] Moreover, over the past decade, there have been an increasing number of cases of sexually transmitted infections (STIs), including human immunodeficiency virus (HIV) infections, among adolescents.[4] Numerous researchers across the country have thus emphasised the need to promote healthy practices among adolescents, as an investment in adolescent health is essential for the health

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of not only the present generation but also the succeeding generations.[5]

A comprehensive package of ARSH services under the Reproductive and Child Health Programme has been initiated in India since 2006. To ensure a more holistic approach, the Government of India launched the Rashtriya Kishor Swasthya Karyakram in 2014, under which preventive, therapeutic and counselling-related services (including ARSH services) are provided across a gamut of adolescent health issues at Adolescent Friendly Health Clinics (AFHCs) at every level of care.[6] Although such services have been implemented through multiple strategic efforts, their utilisation rate has been noted to be below par, especially in rural areas of India.[7,8] Moreover, the multi-sectoral impact of the COVID-19 pandemic has the potential to impair the utilisation of these services.[9,10] Thus, the current scenario mandates the need for mixed-method research to explore the emerging barriers to the utilisation of such services. Accordingly, this study aimed to determine the magnitude of the utilisation of ARSH services in a rural area of West Bengal and its associated determinants.

## Methods

This cross-sectional study with mixed-methods approach (convergent parallel design) was conducted from May to September 2021 in a rural area of Gosaba block situated in South 24 Parganas, West Bengal. There are three co-educational government high schools in the study area along with two primary health centres, which provide basic health services to the community residing in the rural block. The quantitative strand of the study was conducted among 326 school-going adolescents aged 15–19 years residing in the study area for at least 5 years. Participants who did not provide written assent (less than 18 years of age)/written informed consent (age more than or equal to 18 years) or whose parents/guardians did not provide written informed consent were excluded from the study. For the qualitative strand of the study, focus group discussions (FGDs) were conducted among 30 adolescents, and six healthcare workers in the study area were selected for conducting key-informant interviews.

### *Sample size estimation*

A previous study conducted among adolescents in the Dang district of Nepal demonstrated the utilisation rate of ARSH services to be 48.7%.[11] Considering a P-value of 0.487 and an absolute error of precision of 7%, the minimum sample size estimated using standard Cochran's formula was 196.[12] With a design effect of 1.5 and a non-response allowance of 10%, the final sample size for the quantitative strand was 326. For the qualitative strand, the sample size was determined using the theory of data saturation.

### *Sampling technique*

Multi-stage probabilistic sampling was utilised to select the study participants for the quantitative strand of the study. A list of all adolescents aged 15–19 years studying in the three co-educational government high schools situated in the study area along with their residential addresses was obtained at the initiation of data collection. From the list, the number of male and female participants needed from each school was selected as per proportionate allocation. In the second stage, the requisite number of participants from each school was selected via simple random sampling with the help of computer-generated random number tables. For the qualitative strand of the study, the study participants were selected purposively.

### *Data collection, study tools and parameters*

Since physical classes at the schools were suspended in the study area owing to the COVID-19 pandemic, the selected participants were approached at their residences with the help of field-level health workers for data collection. The quantitative strand of the study was conducted via face-to-face interviews among the adolescents using a pre-designed pre-tested self-administered questionnaire translated into the local language (Bengali). Since sensitive issues were explored, the adolescents were taken to a separate room for interviewing after consulting their parents/guardians to ensure privacy and confidentiality during data collection. The questionnaire consisted of the following sections.

a) Socio-economic and demographic characteristics of the study participants, such as age, sex, religion, socio-economic status, and type of family.
b) Reproductive health stigma was assessed using a 20-item questionnaire (Cronbach's alpha=0.78) consisting of the following three domains: internalised stigma (six

items), enacted stigma (seven items) and stigmatising lay attitudes (seven items).[13] Response options are on a 3-point Likert scaling as shown in **Table 1**. Responses marked as 'agree' are given a score of '1', while the rest are given a score of '0'. The total scores range from 0 to 20, and higher scores indicate higher reproductive health stigma.

c) Parent–adolescent communication related to sexual issues was assessed using a 7-item questionnaire (Cronbach's alpha=0.75).[14] The participants were asked whether they had discussed any of the following issues with their parents/guardians in the past 1 year: puberty-related changes, sexual intercourse, menstruation, contraception, unintended pregnancy, STI/HIV, and condom usage. A response of 'yes' and 'no' in each item is given a score of '1' and '0', respectively. The total scores range from 0 to 7, with higher scores indicating increasing parent–adolescent communication.

d) The outcome variable was the utilisation of ARSH services by the participants. The adolescents were asked whether they had ever utilised any of the following services available at the AFHCs situated in the study area during adolescence: family planning/contraceptive-related services, STI/HIV-related counselling or treatment services, sexual and reproductive health (SRH) information and counselling, antenatal or abortion-related services and post-partum care-related services. In addition, the participants were enquired about their awareness regarding the different ARSH services available at the health facilities.

**Table 1.** Responses of the participants on the Reproductive Health Stigma Scale (N=326).

| Subscales | Items | Agree n (%) | Neutral n (%) | Disagree n (%) |
|---|---|---|---|---|
| Enacted stigma (Six items) | People behave differently towards a teen who they know has had sex. | 223 (68.4) | 57 (17.6) | 46 (14.0) |
| | People behave differently towards a teen who they know has had an abortion. | 274 (83.9) | 33 (10.2) | 1(5.9) |
| | People behave differently towards a teen who they know has used modern family planning methods. | 207 (63.5) | 66 (20.1) | 53 (16.4) |
| | Having sex as a teen often leads to getting beat or physically hurt by one's parents. | 173 (53.2) | 118 (36.1) | 35 (10.7) |
| | Becoming pregnant or having a baby as a teen would cause people to behave differently around me. | 243 (74.5) | 70 (21.6) | 13 (3.9) |
| | Becoming pregnant or having a baby as a teen would cause others to tease, insult, swear or gossip about me. | 222 (68.1) | 67 (20.5) | 37 (11.4) |
| Internalised stigma (seven items) | Having sex as a teen is a form of disobedience. | 220 (67.4) | 61 (18.6) | 45 (14.0) |
| | Young women who have abortions are bad girls. | 193 (59.2) | 82 (25.1) | 51 (15.7) |
| | Young persons who use modern family planning are promiscuous. | 169 (52.1) | 92 (28.1) | 65 (19.8) |
| | Teens who use modern family planning are viewed as bad. | 218 (66.8) | 46 (14.2) | 62 (19.0) |
| | Having sex as a teen brings disgrace and shame to an individual and his/her family. | 195 (59.8) | 68 (21.0) | 63 (19.2) |
| | Becoming pregnant or having a baby as a teen would bring disgrace to my family. | 236 (72.5) | 55 (16.9) | 35 (10.6) |
| | Becoming pregnant and having a baby as a teen would make me feel ashamed and bad about myself. | 200 (61.2) | 69 (21.3) | 57 (17.5) |
| Stigmatising lay attitudes (seven items) | Young women who have abortions will encourage others to have abortions. | 204 (62.5) | 60 (18.3) | 62 (19.2) |
| | Modern family planning is not acceptable for unmarried persons. | 94 (28.7) | 116 (35.6) | 116 (35.7) |
| | Modern family planning methods have bad effects on an individual's health. | 173 (53.1) | 83 (25.3) | 70 (21.6) |
| | Having an abortion is committing murder. | 276 (84.6) | 43 (13.2) | 7 (2.2) |
| | The media, including the television, internet, or magazines, has a strong impact on teens' sexual behaviour. | 255 (78.3) | 40 (12.3) | 31 (9.4) |
| | When teens have sex for the first time, it is usually because they were pressured by their friends or partners to do so. | 208 (64.2) | 69 (21.3) | 47 (14.5) |
| | Children born to teen parents are worse off than those born to adults. | 190 (58.2) | 59 (18.1) | 77 (23.7) |

The qualitative strand of the study was conducted to explore the barriers to the utilisation of ARSH services in the study area. Thirty adolescents, including 15 boys and 15 girls, with a median age of 16 years (IQR=15–18 years) studying in the three selected schools were interviewed via four FGDs (two FGDs each were performed separately for boys and girls, respectively) using a semi-structured FGD guide. The FGDs were conducted at the nearest community hall while maintaining appropriate COVID-19 protocols and physical distancing. Appropriate privacy and confidentiality of data were ensured, and each FGD was performed for approximately 45 mins. For conducting key-informant interviews using a semi-structured interview guide, six healthcare providers were selected purposively among healthcare workers who had been working in the two primary health centers for at least 1year (two doctors, two auxiliary nurse midwives and two accredited social health activists). Both the FGDs and key-informant interviews were audio-recorded after obtaining consent from the participants.

### *Data analysis*

Quantitative data were analysed using Microsoft Excel (Microsoft Corp. Microsoft Excel for Windows. Released 2016 Washington, USA) and SPSS (SPSS Inc., released 2007; SPSS for Windows, version 16.0. SPSS Inc., Chicago, IL). Continuous variables were described as means with standard deviations (SDs) or medians with interquartile range (IQRs), while categorical variables were presented as frequencies with percentages. After exclusion of multicollinearity among the variables (variance inflation factor of >10), the factors associated with non-utilisation of ARSH services were determined using a test of significance ($P<0.05$) at a 95% confidence interval via a univariate logistic regression analysis to estimate the unadjusted odds ratios. All biologically plausible significant variables in the univariate model were then included in the final multivariable model for estimating the adjusted odds ratios (AORs).

Qualitative data were entered into Microsoft Word (2016) and were analysed manually using a thematic approach. Participant data were taken as the unit of analysis. Data were transcribed verbatim, from which codes were generated. Appropriate codes were then placed under appropriate themes.

### *Ethical considerations*

All procedures were conducted in accordance with the protocols set by the Institutional Ethics Committee of All India Institute of Hygiene & Public Health (approval no.: PSM/2021/173). The participants were assured that their data would be kept confidential. All ethical principles as per the Declaration of Helsinki were strictly adhered to. The female participants were interviewed in the presence of a female attendant. Written assent was obtained from the participants aged <18 years along with written informed consent from their parents/guardians. Meanwhile, written informed consent was obtained from the participants aged ≥18 years.

## Results

Background characteristics of the participants

The median age of the 326 adolescent participants was 16 years (IQR=14–18 years). There were 184 male participants (56.3%). Most of the participants were Hindus (85.9%), while 191 (58.7%) participants belonged to class IV or below socio-economic status (BG Prasad Scale 2021).[15] Thirty-one (9.5%) participants declared themselves to have experienced sexual contact at least once in their lifetime.

### *Reproductive health stigma and parent–adolescent communication related to sexual issues*

The median reproductive health stigma score was 13 (IQR=12–15). The mean subscale scores were 4.34 (±1.24 SD) for internalised stigma, 4.12 (±1.52 SD) for enacted stigma and 4.26 (±1.8 SD) for stigmatising lay attitudes (**Table 1**). The median parent–adolescent communication score was 3 (IQR=2–5). The most discussed items were puberty-related changes (37.4%), menstruation (29.1%) and condom usage (25.5%) (**Figure 1**).

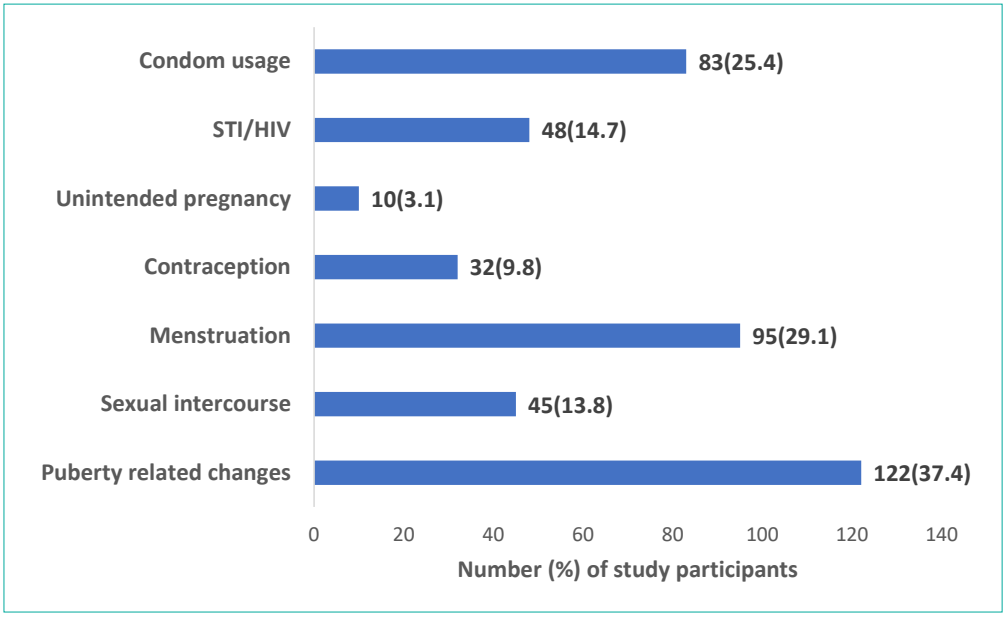


**Figure 1.** Topics discussed with the participants during parent–adolescent communication related to sexual issues (N=326). (Multiple responses allowed).

*Utilisation of ARSH services by the participants*

Approximately 182 (55.8%) participants were aware of the availability of ARSH services at the AFHCs. Of the 326 participants, 230 (70.6%) had never utilised any of the available ARSH services during their lifetime, while 96 (29.4%) had ever utilised any type of ARSH services at least once during their adolescence. The most commonly utilised services were SRH information and counselling (23.3%), followed by STI/HIV-related counselling and treatment services (18.1%) (**Table 2**).

**Table 2.** Utilisation pattern of ARSH services by the participants.

| Type of services utilised* | Never utilised in their lifetime | | | Ever utilised during their lifetime | | |
|---|---|---|---|---|---|---|
| | Boys (n=184) n (%) | Girls (n=142) n (%) | Total (N=326) n (%) | Boys (n=184) n (%) | Girls (n=142) n (%) | Total (N=326) n (%) |
| **Family planning/ contraceptive-related services** | 154 (83.7) | 120 (80.3) | 274 (84.1) | 30 (16.3) | 22 (15.5) | 52 (15.9) |
| **STI/HIV-related counselling or treatment services** | 145 (78.8) | 122 (85.9) | 267 (81.9) | 39 (21.2) | 20 (14.1) | 59 (18.1) |
| **SRH information and counselling** | 132 (71.7) | 118 (83.1) | 250 (76.6) | 52 (28.3) | 24 (16.9) | 76 (23.3) |
| **Antenatal or abortion-related counselling or treatment services** | 184 (100.0) | 137 (96.5) | 321 (98.5) | 0 (0.0) | 5 (3.5) | 5 (1.5) |
| **Post-partum care-related counselling or treatment services** | 184 (100.0) | 141 (99.3) | 325 (99.7) | 0 (0.0) | 1 (0.7) | 1 (0.3) |

* Multiple responses allowed

*Factors associated with non-utilisation of ARSH services among the participants*

Univariate and multivariable logistic regression analyses were performed to determine the factors associated with non-utilisation of ARSH services among the participants (Table 3). The final multivariable model demonstrated that younger age (AOR=1.21, 95% CI=1.08–1.91), female sex (AOR=2.98, 95% CI=1.13–5.92), increasing reproductive health stigma (AOR=1.74, 95% CI=1.21–2.12) and decreasing parent–adolescent communication related to sexual issues (AOR=1.33, 95% CI=1.02–1.42) were significantly associated with non-utilisation of ARSH services. There was goodness of fit in the model (non-significant Hosmer–Lemeshow test of significance, P>0.05), and 36–42% of the variance of the dependent variable could be explained by this multivariable model (Cox and Snell's R2=0.361, Nagelkerke's $R^2$=0.423) (**Table 3**).

**Table 3.** Logistic regression analysis of the factors associated with non-utilisation of ARSH services among the participants (N=326).

| Variables | Categories | Total number (N) | Non-utilisation of services n (%) | Unadjusted OR (95% CI)# | Adjusted OR (95% CI)# |
|---|---|---|---|---|---|
| Decreasing age (year)* | | | | 1.25 (1.17–1.81) | **1.21 (1.08–1.91)** |
| Sex | Male | 184 | 114 (61.9%) | 1 (Ref) | 1 (Ref) |
| | Female | 142 | 116 (81.5%) | 2.74 (1.63–4.6) | **2.98 (1.13–5.92)** |
| Religion | Hindu | 280 | 197 (70.4%) | 1 (Ref) | - |
| | Muslim | 46 | 33 (71.7%) | 1.07 (0.54–2.13) | - |
| Socio-economic status (as per modified BG Prasad Scale 2021) | Above class IV | 135 | 99 (73.3%) | 1.26 (0.77–2.05) | - |
| | Class IV or below | 191 | 131 (68.6%) | 1 (Ref) | - |
| Type of family | Nuclear | 200 | 140 (70%) | 1 (Ref) | - |
| | Joint | 126 | 90 (71.4%) | 1.07 (0.66–1.75) | - |
| History of sexual contact | Present | 31 | 20 (64.5%) | 1 (Ref) | - |
| | Absent | 295 | 210 (71.2%) | 1.36 (0.62–2.96) | - |
| Increasing reproductive health stigma* | | | | 1.82 (1.43–1.96) | **1.74 (1.21–2.12)** |
| Decreasing parent–adolescent communication related to sexual issues* | | | | 1.46 (1.21–1.71) | **1.33 (1.02–1.42)** |

* Continuous variables
# P<0.05 considered as significant
OR, odds ratio; CI, confidence interval
Hosmer–Lemeshow test of statistical significance=0.451 (P>0.05)
Cox and Snell's $R^2$=0.361, Nagelkerke's $R^2$=0.423

*Qualitative exploratory findings*

Qualitative exploration revealed two major themes: health service-related barriers and stigma-related barriers (**Figure 2**). Under the health services theme, there were two subthemes: one from the adolescents' perspective and the other from the health workers' perspective. Under the first subtheme, the major codes were lack of awareness regarding the availability of ARSH services and perceived lack of privacy and confidentiality at healthcare facilities. For the perceived lack of privacy at healthcare facilities, a notable verbatim by a 17-year-old boy was as follows:

*'There is very little privacy in the health centre. It is very difficult to discuss such private issues in front of everyone. It is not easy to trust anyone these days, as they can easily spread the news all over my neighbourhood.'*

Barriers from the healthcare workers' perspectives were lack of availability of certain services at the facility level, disruption of certain services in the healthcare facility owing to the emergence of the COVID-19 pandemic and fear of contagion while coming to the healthcare facility post-emergence of the COVID-19 pandemic. Concerning disruption of health services owing to the COVID-19 pandemic, a female doctor aged 36 years commented the following:

*'Blood testing for some sexually transmitted diseases has been hampered post-emergence of the COVID-19 pandemic'.*

The second major theme, which encompassed stigma-related barriers, comprised the following codes: fear of parents and cultural norms, shyness and stigma and lack of parent–adolescent communication related to sexual issues. Regarding the lack of parent–adolescent communication, a 16-year-old female participant said the following:

*'My parents are very conservative, and they do not allow discussion about sexual issues at home. Whenever any discussion arises, they either change the topic or forbid me from discussing sexual issues in the future'.*

## Discussion

This mixed-method study made a novel attempt to determine the level of utilisation of ARSH services and its associated determinants in rural West Bengal. Moreover, the study provided an insight into the newly emerging barriers to the utilisation of these

services. Herein, approximately 56% of the participants were aware of the availability of the services. A similar study conducted in rural areas of Bangalore and Varanasi, India, demonstrated rates of awareness of ARSH services of 56% and 67%, respectively.16 The utilisation rate of ARSH services in the current study was found to be below par, as only 29.4% of the participants had ever utilised ARSH services at least once during their lifetime. This proportion is quite similar to that in the study conducted in central Ethiopia by Tlaye et al.: 33.8% of adolescents have ever utilised at least one of the available reproductive and sexual health services.[17]

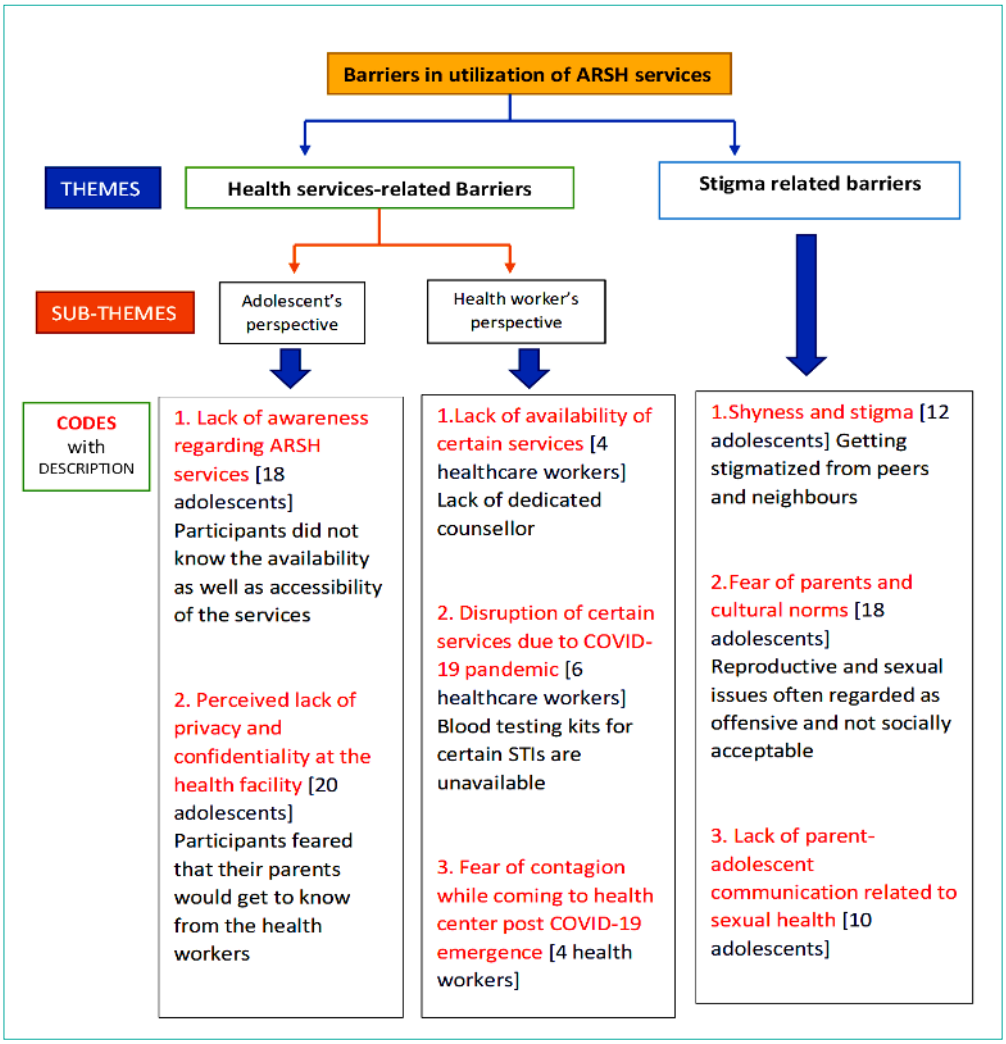


**Figure 2.** Barriers to the utilisation of adolescent reproductive and sexual health services: Qualitative findings.

Age was found to be a significant factor of ARSH service utilisation, as the younger participants showed poor utilisation of these services. This finding is quite similar to that by the study conducted in Haryana (Northern India) by Gupta et al. among adolescents aged 10–19 years: Older participants showed higher utilisation of the services than their younger counterparts.[8] The study conducted in Western Ethiopia by Wachamo et al. found female sex to be significantly associated with utilisation of reproductive health services among adolescents.[18] However, discordant findings emerged from the current study, as the girls showed poor utilisation of services compared with the boys.

The stigma associated with adolescent sexual behaviour, abortion, pregnancy and STIs has negative consequences on the mental and social well-being of an individual mainly owing to shame and social marginalisation, especially in rural areas of India. Consequently, this has a great potential to impair the utilisation of ARSH services. Similar findings were discovered in the current study, as increasing reproductive

health stigma was found to be significantly associated with the non-utilisation of the services. Qualitative exploration revealed concordant findings, as shyness and stigma appeared as major barriers to service utilisation by the participants. The previous qualitative research conducted by Birhanu et al. in Ethiopia also found that fear of shame and shyness acted as a major barrier to the utilisation of ARSH services.[19]

Parents/guardians play a major role in determining the health of their adolescent, as they primarily act as a potential source of SRH information to their children, which affects their attitude and behaviour towards sexual issues. However, owing to cultural barriers in India, they often neglect to talk about psycho-sexual maturation with their children.[20] Appropriate knowledge regarding sexual health prevents adolescents from adopting unhealthy sexual practices, thus acting as a facilitator for the uptake of ARSH services. The current study found that decreasing parent–adolescent communication related to sexual issues had a significant association with the non-utilisation of ARSH services among the participants. Concordant findings also emerged from the qualitative exploration, as lack of awareness and decreasing parent–adolescent communication related to sexual issues were found as major hindrances to the uptake of such services. Previous studies among adolescents have also demonstrated similar findings: The study conducted in Nepal by Bhatta et al. demonstrated parent–adolescent communication as a major predictor of ARSH service utilisation.14 The qualitative exploratory study conducted by Thongmixay et al. among adolescents in Lao PDR demonstrated that poor knowledge regarding sexual health affected the utilisation of services.[21]

Previous exploratory studies conducted in Ethiopia by Birhanu et al. and in Nigeria by Nmadu et al. found that fear of cultural norms, negative attitude of healthcare workers and perceived lack of privacy and confidentiality at healthcare facilities had a negative impact on health service uptake.[19,22] In developing countries such as India, cultural barriers, and perceived lack of confidentiality at healthcare facilities serve as major hindrances to the utilisation of ARSH services. This has been highlighted in the review on health aspects among Indian adolescents by Sivagurunathan et al., who commented that adolescents have limited knowledge regarding ARSH and fear discussing personal issues or getting examined by health workers.[20] This acts as a major obstacle to the utilisation of the services. The current qualitative findings also revealed similar issues. The widespread social and economic shifts owing to the ongoing pandemic worldwide have the potential to disrupt adolescent sexual behaviour and the availability and accessibility of different preventive and curative or counselling-related ARSH services at healthcare facilities.[9,10] This emerging issue was evident during the qualitative exploration of the present study, as disruption of services was opined by healthcare providers as a major barrier to the utilisation of ARSH services.

### *Limitations*

This study had a cross-sectional design, and hence, the causal relationship between the non-utilisation of ARSH services among the participants and its associated factors could not be determined. Since most of the responses were recall-based, bias is possible. Since only school-going adolescents were included, the level of utilisation of the services in the area might have been underestimated. Some other determinants, such the relationship status, schooling status and other reasons for not availing the services, could not be explored in the current study.

## Conclusion

The present study revealed poor utilisation of ARSH services in a rural area of West Bengal. A multi-component strategy is needed to improve the utilisation of such services. Awareness campaigns for promoting AFHCs and community support interventions by mobilising field health workers can be organised at the community level. Parents/guardians must be motivated and counselled regarding the importance of ARSH with an emphasis to empower their children with relevant knowledge to break the chain of stigma and any cultural taboos. Improving privacy as well as confidentiality of information at healthcare facilities will improve the patient–provider relationship, which will increase the utilisation rate of the services. Regularisation of ARSH services at AFHCs disrupted owing to the COVID-19 pandemic should also be given utmost priority.

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## Author contributions
Ankush Banerjee was involved in conceptualisation of the study, proposal drafting, data collection, data analysis, and writing of the original as well as the revised manuscript. Bobby Paul was involved in conceptualisation of the study, proposal drafting, data analysis, and writing of the original as well as the revised manuscript. Ranjan Das was involved in conceptualisation, data analysis and writing of the original manuscript. Lina Bandyopadhyay and Madhumita Bhattacharyya were involved in conceptualisation and writing of the original manuscript. All the authors have agreed to the publication of this manuscript

## Ethical approval
This study was approved by the Institutional Ethics Committee of All India Institute of Hygiene and Public Health, Kolkata with the approval ID: PSM/2021/173

## Conflicts of interest
None

## Funding
None

## Data sharing statement
Data generated and analysed in the study are available upon reasonable request to the corresponding author

**How does this paper make a difference in general practice?**

- ARSH is an important public health issue in India. This mixed-method study assessed the utilisation of ARSH services in rural West Bengal and its determinants.
- Since qualitative research was conducted, a deeper insight into the challenges for uptake of these services could be explored both from the beneficiaries and providers' perspectives.
- The importance of parent-adolescent communication as well as reduction of reproductive health stigma by motivation and counselling for improving utilisation of services was highlighted.
- Moreover, this study adds to the literature on ARSH and may serve as a basis for further research on this domain in primary healthcare settings.

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