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ORIGINAL ARTICLE

A Mixed Methods Evaluation of Adolescent Friendly Health Clinic Under National Adolescent Health Program, Puducherry, India

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Abstract

Objectives To assess the awareness and utilization of Adolescent Friendly Health Clinic (AFHC) services among school going adolescents (14–19 y) and to explore the forces 'for' and 'against' the utilization of AFHC services in Puducherry, India.

Methods This mixed-methods study was conducted in two primary health centres. Record review assessed the utilization of AFHC service. Survey assessed the awareness on AFHC services and self-reported illnesses and their treatment seeking behavior. Group interviews were conducted with adolescent girls, boys and healthcare providers. A summative content analysis was done to organize the 'for' and 'against' forces for service utilization.

Results Of the 311 adolescents, less than 50% were aware of the services available at AFHC. Utilization of Weekly Iron and Folic Acid Supplementation was good. Only 2–10% of adolescents consulted the outpatient services of the Primary Health Centre for the treatment of their health problems. The authors found low utilization of AFHC services (15% among girls, zero among boys). One of the reasons for low utilization was poor awareness. Though free sanitary napkins motivated the girls to avail the services, boys considered the AFHC as a girl's clinic. Healthcare providers suggested that building rapport and trust with adolescents and their parents, involving school teachers and ensuring privacy in the clinic would increase the utilization.

Conclusions There is a huge gap between the awareness and utilization of AFHC services. The reasons for non-utilization were poor awareness and misconceptions about the clinic. Training of health staffs on communication skills, and supportive supervision could improve the utilization.

Keywords Adolescent friendly health clinic · India · Mixed methods · Awareness · Utilization

Introduction

Adolescents (10–19 y) constitute one-sixth of the world's population and one-fifth of the Indian population [1, 2]. They share 6% of the global burden of disease [1]. Adolescence is a phase of rapid growth, independence and experimentation and presents unique needs which are mostly neglected. Also, many of the diseases of adulthood have their roots in adolescents, hence they require preventive services [3]. The World Health Organization's Global Accelerated Action for the health of adolescents re-emphasizes on an inclusive development of adolescents for achieving Universal Health Coverage and Sustainable Development Goals [4]. A study by Sheehan et al. states, for interventions targeting physical, mental and sexual health, an investment of US$ 4.6 per capita each year from 2015 to 2030 will yield a ten-fold rise in economic benefits by preventing premature adolescent deaths [5].

Responding to the health requirement of the adolescents, Adolescent Friendly Health Services (AFHS) were initiated across countries. India launched the National Adolescent Health Programme called Rashtriya Kishor Swasthya Karyakram (RKSK) in 2014 to address the health needs of

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253 million adolescents [2]. RKSK envisages a paradigm shift from a clinic-based curative approach to a holistic approach with preventive, promotive and curative services. Adolescent friendly health clinics are conducted on fixed days at all levels of health care delivery. The functions include distribution of iron and folic acid tablets, sanitary napkins, contraceptives and medicines along with counselling services on nutrition, puberty, menstrual hygiene, contraception, age of marriage and age of child bearing, to name a few [6, 7]. Studies have pointed out that implementation of the programme is still fragmentary in the country and utilization of AFHC services is minimal [8, 9].

RKSK intensified adolescents' service in terms of increased coverage and provision of wholesome adolescent health. Evaluation of the new initiative will facilitate to improve the quality of service [10, 11]. Mixed method evaluation, which uses both qualitative and quantitative methods is recommended. Mixed method evaluation provides complete picture and valid and reliable results than the conventional evaluation done with single evaluation method [12, 13]. Qualitative methods aid to identify and understand the barriers to change thereby facilitating development of successful strategies for change [14]. But, there is limited information available on these since there are no systematic and comprehensive assessments done. The current study was conducted with the objectives to determine the awareness about and utilization of the AFHC services among school going adolescents (14–19 y) and to explore the forces 'for' and 'against' the utilization of the AFHC services as perceived by adolescents and health care providers in Puducherry.

Material and Methods

This was a mixed-methods evaluation of explanatory type. Quantitative method (record review, survey) was followed by qualitative method (group interviews) to get the complete picture and explanation of the quantitative findings [15]. The result of quantitative method was used to develop the topic guide for the group interviews.

Puducherry district, of Puducherry Union Territory (India) has implemented RKSK since 2014. Puducherry district has high child literacy rate (89%), female sex ratio (1038) and good health indicators like 100% institutional delivery and low infant mortality rate (11/1000 live births) [16, 17]. In Puducherry district, adolescents contribute to 17% of the total population (Total population = 950,289). The district has 27 primary health centres (PHCs) and two community health centres [18]. These PHCs organize AFHC every Saturday from 8 am to 12 pm. AFHC are conducted in separate room other than the out-patient consultation room. The medical officer and the health care workers provide services at the AFHC. As per the RKSK guidelines, AFHC provides preventive, promotive and curative services on nutrition, sexual and reproductive health, injuries and violence, non-communicable diseases, mental health and substance misuse [6, 19]. The study was done in two PHCs which are the field practice areas of a medical college. The two PHCs cater to around 10,000 population each. The PHCs were accessible with the farthest distance of the service area from the PHC being around 5 km.

The monthly clinic attendance and utilization of various AFHC services in the last 3 mo was extracted from the AFHC registers.

The knowledge on AFHC services and treatment seeking behavior was assessed using a semi-structured questionnaire among sampled adolescents of age 14–19 y. The calculated sample size was 290 (using OpenEpi Version 3.03) for the assumption of 10% AFHC service utilization (based on past 3 mo clinic attendance), 5% absolute precision at 95% confidence limit, a design effect of 2 and 5% allowance for missing data. Cluster random sampling was done considering each class in the school as a cluster. Based on the sample size and strength of the school one or two classes were selected randomly from six schools in the service area of the centre. Using this sampling method, 311 adolescents out of 769 adolescents (14–19 y) studying in schools located in the service area of the PHCs were surveyed.

Pre-tested, self-administered questionnaire was used. The questionnaire was developed in English and translated into the local language (Tamil). The translated questionnaire was reviewed by the school teachers and healthcare providers (HCP). It was pre-tested among three female students using cognitive interview technique [20]. The questionnaire included socio-demographic characteristics, knowledge on AFHC and the services available, health problems in the last 3 mo, utilisation of (i) outpatient services of PHC (ii) AFHC (iii) anemia prophylaxis program implemented through the schools. Health problems of students in last 3 mo were determined by means of symptom checklist of the health issues addressed in RKSK. The symptom checklist was reviewed by two experts in the field of community medicine and pediatrics. They were also given an open-ended question to report the presence of any other symptoms.

Data collection was done anonymously in the schools after obtaining permission from the school authorities, informed consent from the parents and assent from the adolescents.

Three 'group interviews' were conducted (one each with adolescent girls, boys and HCP) [21]. The interview of girls and boys were done at respective schools and HCP were interviewed at PHC. The Principal Investigator (female, TM) who was formally trained in qualitative research and fluent in local language conducted the group interview with students and HCP. Vocal and willing adolescents were invited to participate in group interviews. After consent and briefing about the purpose of the study, the group interview was conducted using a topic guide. The topic guide was reviewed by three experts who were experienced in qualitative research and had

worked in the cultural setting for more than 5 y. Participants were given a plain paper to list the 'for' and 'against' forces for the utilization of AFHC services. It was followed by a discussion on these forces. HCP were asked for suggestion to improve utilization of AFHC services. The interviews were audio recorded after obtaining consent. Verbatim transcripts were prepared within 3 d of interviews to prevent the loss of information. Since HCP were not comfortable with the audio recording, the interviewer took notes. At the end of the interviews, the discussion summary was presented to the participants for participant validation.

Ethical clearance was obtained from Institute Ethics Committee of Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry, India and Ethics Advisory Group of the International Union Against Tuberculosis and Lung Disease, Paris, France.

The quantitative data was double-entered, validated and analyzed using EpiData version 3.1 for entry and version 2.2.2.182 for analysis (EpiData Association, Denmark). Variables were summarized using means (standard deviation) or frequencies (percentages). The awareness and utilization of the AFHC by boys and girls were compared using prevalence ratio (PR) and 95% confidence interval.

Summative content analysis of the group interviews was done to identify 'for' and 'against' forces as perceived by each group of participants [22]. The unit of analysis was participant's statements. Statements with similar meanings were grouped together till a point was reached where further collapsing would cause a loss of qualitatively relevant information. Lewin's framework was used for classification of 'for' and 'against' operating forces [23]. The authors classified these 'for' and 'against' forces under categories of individual, peers, family, school and health services/system as per the framework of the RKSK for better understanding and organization of information [7]. In order to understand the pattern of 'for' and 'against' forces across clients and providers, a framework analysis was done [24]. To increase the integrity of the process, the other investigators (ARD, KS) who were trained in qualitative research method reviewed the analysis. The disagreements were resolved through discussions. The authors followed consolidated criteria for reporting qualitative research (COREQ) [25].

Results

PHC records evidenced that in the last 3 mo only 15% of the adolescent girls from the PHC service area visited the AFHC. None of the boys attended the AFHC. Among the adolescent girls who attended the clinic, all received sanitary napkins, free of cost; 1–2% were investigated for anemia; 4% were treated for skin problems, and 4% were given counselling on common health issues.

Among the 311 adolescents included in the study, 155 (50%) were girls. Study participants' mean age was 14 (SD = 0.9) y, and 65% were below poverty line. Around 12 and 15% of their mothers and fathers were illiterate respectively. Around 36% participants' mothers were not employed and 77% of their fathers were working as unskilled labourers. Half of the students were studying in Government aided schools (Table 1). Around 30% of the students were from the government schools which had Tamil as the medium of education.

Of all study participants, 60% of the adolescents were aware of AFHC. However, less than 50% of the adolescents were aware of the various services at AFHC. Girls had a better knowledge than the boys (Table 2). Only 19% of the adolescent girls reported that they visited the AFHC in the last 3 mo. However, none of the boys visited the clinic. Adolescents are given weekly iron and folic acid tablets through the schools under the RKSK. More girls (97%) than boys (88%) received at least one iron and folic acid tablet in the last 1 mo. Parents (60%) were the main source of information regarding AFHC followed by peers (18%), teachers (13%), media (4%) and health workers (3%).

Anemia (67%) was the most common self-reported health problem followed by reproductive tract (39%), skin (31%), injury (29%), nutrition (18%), and mental health (18%) problems. But only 2 to 10% of the adolescents with health issues consulted the outpatient of the PHC (Table 3).

Three group interviews were done among the adolescent girls, boys and HCP (one each). There were ten adolescent girls and eleven adolescent boys in the group interviews. Age of the girls/boys were between 14 and 17 y. There were 11 HCP (male medical officers-2, female health assistants-3, and female health workers-6). They were working in the PHC for around 3 y. Each group interview lasted for approximately 60–90 min.

According to girls, provision of sanitary napkin free of cost, measurement of their weight which they are eager to know, motivated them to avail services at AFHC. An adolescent girl commented "*In the Saturday clinic they check our weight. Some girls go to know their weight. We all like to be slim like heroines. All type of costumes suit thin girls*." Girls liked the counselling sessions especially on the sensitive topics such as menstrual hygiene, puberty which they could not discuss with their parents [due to social norms]. An adolescent girl mentioned "*They do blood test and give tablets. They also tell us about what to eat, we can discuss some things freely with them… when I talk about these things to my mother, she starts doubting me and tells me to concentrate in my studies*." Their busy school schedule, parental restriction and poor quality of napkins were the 'against' forces in the utilization of AFHC services. As perceived by the group of boys, lack of awareness, the misconception that AFHC is only for girls and peer pressure (fear of getting teased) were the

Table 1 Socio-demographic characteristics of the sample of school-going late adolescents from selected schools in Puducherry, India

Characteristics	Frequency (%)
Total	311 (100)
Age, mean (SD)*	14 (0.9)
Gender	
Male	156 (50)
Female	155 (50)
Residence	
Rural	168 (54)
Urban	143 (46)
Characteristics of the current school of the child	
Government aided	154 (50)
Government	122 (39)
Private	35 (11)
Mother's education[#]	
Illiterate	39 (12)
Upto primary school	43 (14)
Middle and high school	186 (60)
Higher secondary school and above	30 (10)
Not recorded	13 (4)
Father's education[#]	
Illiterate	48 (15)
Upto primary school	46 (15)
Middle and high school	157 (50)
Higher secondary school and above	41 (14)
Not recorded	19 (6)
Mother's occupation	
Not employed	113 (36)
Manual work	172 (55)
Professional	5 (2)
Not recorded	21 (7)
Father's occupation	
Not employed	21 (7)
Manual work	239 (77)
Farmer or clerical or skilled labour	22 (7)
Professional	5 (1)
Not recorded	24 (8)
Socioeconomic status	
Below poverty line	202 (65)
Above poverty line	74 (24)
Not recorded	35 (11)

*Depicts Mean and Standard Deviation

[#] Primary school – less than or equal to 5 y of schooling, middle and high school – six to 10 y of schooling, higher secondary school – 11 to 12 y of schooling

'against' forces for availing AFHC services. A adolescent boy commented "*Friends will tell why are you going there. It is for girls. Friend circles should be motivated together to attend the clinic*." Another adolescent boy commented "*Sometimes lady doctor are there in PHC. I feel shy to consult lady doctors. When we tell our problem to opposite gender doctor we are not sure if they will understand our problem. We hesitate to consult them.*" A adolescent boy told "*We go to private clinic. Do government hospitals provide services for counselling services for weight problem and our special problems?* (sexual health)." Except one, other boys in the group did not mention even a single 'for' force (Tables 4 and 5).

As visible in the framework analysis, the group of HCP mentioned almost all 'for' and 'against' forces stated by the group of boys and girls. The HCP highlighted that provision of sanitary napkin is the chief motivating factor for girls to attend the clinic, mentioning "*When there is no stock of sanitary napkins the attendance in the clinic is very poor.*" They also added "*Sometimes mother or grandmother come along without the girl to collect the napkins on Saturday.*" The HCP suggested that conducting sports activities for adolescents will develop trust and rapport with them and would improve the AFHC services. They also suggested that school teachers should be involved to create awareness among adolescents. A health worker on highlighting the importance of parents told "*Mothers come to us and tell, 'sister (addressing the health worker) my child is still behaving like a small girl. I will send her to the hospital (health centre) on Saturday (fixed day for AFHC) please, advise her.'*" Health care providers felt that it is important to build rapport with parents as they are the decision-makers for the adolescents in Indian scenario. They also recommended to organize separate clinics for boys and girls as it is needed to ensure privacy (Tables 4 and 5).

Discussion

Only 15–19% of the adolescent girls and none of the boys utilized the AFHC. One of the main reasons for non-utilization was poor awareness about the AFHC services. The boys considered the AFHC as a girl's clinic. Provision of free sanitary napkin was the major motivator for adolescent girls to attend the clinic. The HCP suggested building rapport and trust with the adolescents and their parents, involvement of school teachers, ensuring privacy in the clinic would improve the utilization of services. Utilization of Weekly Iron and Folic acid Supplementation, which is implemented through the schools was good. Only 2–10% of adolescents consulted the outpatient services of the PHC for their health problems.

None of the boys visited the adolescent clinic. Boys perceived AFHC as a facility for girls. It is also supported by the fact that boys attended the OPD services of the PHC as noted in the quantitative survey in the school. But, they did not attend the adolescent clinic. As gender separation is the cultural norm of the study setting, boys did not visit the clinic. Similar behavior was observed in the HIV/AIDS clinics in South Africa [26, 27].

Table 2 Awareness on adolescent friendly health clinic (AFHC) conducted at primary health centre among school-going adolescents, Puducherry, India

Awareness on AFHC (missing data)[a]	Total n (%)	Girls n (%)	Boys n (%)	PR [b] (95% CI) Boys as reference
Total	311 (100)	155 (100)	156 (100)	
Heard about the AFHC	186 (60)	105 (68)	81 (52)	1.3 (1.1–1.6)[d]
Aware of the AFHC OPD day	122 (39)	73 (47)	49 (31)	1.5 (1.1–2.0)[d]
Aware of the AFHC timings	115 (37)	70 (45)	45 (29)	1.5 (1.2–2.1)[d]
Awareness on the AFHC services				
Provision of Sanitary napkins (5)	62 (40)[c]	62 (40)	NA	NA
Height and weight measurement (5)	156 (50)	89 (57)	67 (43)	1.4 (1.1–1.8)
Hemoglobin testing facility (1)	110 (35)	64 (41)	46 (29)	1.4 (1.0–1.9)[d]
Prophylactic iron & folic acid tablets (6)	140 (45)	86 (55)	54 (35)	1.4 (1.1–1.8)[d]
Treatment for anemia (5)	140 (45)	39 (25)	31 (20)	1.3 (0.9–2.0)
Treatment for irregular periods (6)	33 (21)[c]	33 (21)	NA	NA
Treatment for injuries (6)	152 (49)	75 (48)	77 (49)	1.0 (0.8–1.3)
Treatment for skin conditions (9)	65 (21)	23 (15)	42 (27)	0.6 (0.4–0.9)[d]
Counselling regarding				
Menstrual hygiene (6)	53 (34)[c]	53 (34)	NA	NA
Injury prevention (6)	146 (47)	53 (34)	93 (60)	0.6 (0.4–0.7)[d]
Nutrition (8)	133 (43)	62 (40)	71 (46)	0.6 (0.5–0.8)[d]
Prevention of NCDs (10)	84 (45)	32 (20)	52 (33)	0.7 (0.5–1.0)[d]
Drug abuse (8)	79 (25)	39 (25)	40 (26)	1.0 (0.7–1.5)
Utilization of adolescent clinic	29 (9)	29 (19)	0 (0)	Not calculated
Received WIFS through schools	288 (93)	151 (97)	137 (88)	1.1 (1.0–1.2)[d]

NA Not applicable; *PR* Prevalence ratio; *CI* Confidence interval; *NCDs* Non communicable disease prevention; *WIFS* Weekly iron and folic acid supplementation

[a] Numbers in the parenthesis indicates number of missing data

[b] Missing data was excluded in the calculation of the PR

[c] Denominator is number of girls

[d] Statistically significant at $p < 0.05$

Separate boy's clinic at a different location or time with male health staff as recommended by Sivagurunathan et al., [9] would encourage boys to attend the clinic.

As a move towards improving hygienic menstrual practises of women in India, Ministry of Health and Family Welfare of India, supplied subsidized sanitary napkin through the PHC [28]. In Puducherry district, sanitary napkins are given free of cost to all adolescents who attend the AFHC [29]. In the present study authors found that the provision of sanitary napkins in the adolescent clinic acted as a double edged sword. On one hand it

Table 3 Self-reported health problems of the school-going adolescents during the last 3 mo, Puducherry, India

Health problems	Number (%) with the health problem in the last 3 mo			Number who consulted the outpatient service of the Primary Health Centre		
	Total ($n = 311$) A	Girls ($n = 155$) B	Boys ($n = 156$) C	Total (% of A)	Girls (% of B)	Boys (% of C)
Anemia (17)[a]	208 (67)	108 (70)	100 (64)	20 (10)	7 (7)	13 (13)
Reproductive tract problem (20)[a]	121 (39)	96 (62)	25 (16)	4 (3)	4 (4)	0 (0)
Skin problems (20)[a]	96 (31)	56 (36)	40 (26)	7 (7)	5 (9)	2 (5)
Injury (20)[a]	90 (29)	33 (21)	57 (37)	7 (8)	4 (12)	3 (5)
Mental health problems (20)[a]	55 (18)	37 (24)	18 (12)	1 (2)	1 (3)	0 (0)
Excess/less body weight (20)[a]	47 (15)	28 (18)	19 (12)	1 (2)	0 (0)	1 (5)

[a] Numbers in the parenthesis indicate number of missing data

Table 4 Forces 'for' utilisation of AFHC at the Primary Health Centre, Puducherry, India

Categories	'For' forces for utilisation of AFHC	Girls	Boys	HCP
Individual	Awareness of the AFHC and the services	√		
	Eagerness of adolescent girls to know weight	√		√
	Adolescents feel free to clarify doubts on menstruation from health care providers than from parents or relatives	√		√
	Familiarity with the primary health centre	√		√
Peer	Adolescents staying in the neighbourhood come as group and enjoy the activity of coming to the centre			√
Family	Confidence and rapport of the parents on the ANM			√
School	Sensitisation regarding AFHC in the schools by the ANM and also through teachers			√
Health services and system	Provision of sanitary napkin	√		√
	Good rapport of the health care provider with the community	√		
	Same gender of the health care provider	√	√	√
	Counselling regarding nutrition and menstrual hygiene	√		√
	Availability of services to check height, weight and hemoglobin			√
	Treatment success with the health problems of the adolescents			√
	Health education on facility at AFHC through Anganwadi workers	√		
	Easy accessibility of the PHC			√

AFHC Adolescent friendly health clinic; *ANM* Auxiliary nurse midwife; *PHC* Primary health centre; *HCP* Health care provider

Table 5 Forces 'against' utilisation of AFHC at the Primary Health Centre, Puducherry, India

Categories	'Against' forces for utilisation of AFHC	Girls	Boys	HCP	Suggestions given by the HCP
Individual	Lack of awareness about AFHC	√	√	√	*Rapport building*
	Lack of awareness on the services provided at AFHC	√	√	√	1. Build trust and rapport with parents (as they are decision makers for the adolescents in the given cultural context)
	Adolescents are shy to talk about their problems	√		√	
	Laziness of the adolescents to go to the clinic	√		√	2. To build rapport, health staff should organize sports activity for adolescents
	Adolescents from higher socio-economic status			√	
	Misconception that the nutritional supplementation tablets given in the clinic may make them obese	√			*Create awareness*
	Since sanitary napkin is given, boys assumed that the clinic is only for girls		√		1. Awareness creation through schools
Peer	Fear of being teased by friends if they attend AFHC		√		2. Sign board at anganwadi and PHC about the AFHC services
Family	Parents not aware of the other services at AFHC and parents come to get the sanitary napkins			√	*AFHC location and staff*
	Parents feel that adolescents need to attend clinic only if they are ill and illness occurs at old age only			√	1. Separate clinic location/timings for boys and girls
	Parents do not allow adolescents to attend the AFHC	√			2. Male and female staff for boys and girls respectively
School	Busy school schedule and exams does not give them sufficient time to attend the AFHC	√		√	3. Maintaining privacy during individual consultation
Health services and system	Inadequate number and poor quality of sanitary napkins	√		√	*Services at AFHC*
	Gender difference of the health staff and adolescents	√	√	√	1. Use of audio-visual aids for engagement and involvement of the adolescents in the clinic
	Adolescents prefer private clinic as they look clean and privacy is ensured	√	√		2. Provide adequate number and better quality napkins
	Unsure of privacy at AFHC		√	√	
	PHC far away from the house			√	
	Non-availability of sanitary napkins at times			√	

AFHC Adolescent friendly health clinic; *HCP* Health care provider; *PHC* Primary health centre

motivated the adolescent girls to come to the clinic. On the other hand, it prohibited boys from attending the clinic because they felt that the clinic is for girls as napkins were distributed. Even among girls, it diluted the other objective of the clinic and sometime only mothers came to the clinic to collect the napkins. Providing the napkins at the anganwadi and encouraging adolescent girls and boys to attend the AFHC for other services would circumvent the disadvantage to some extent.

Awareness and utilization of the AFHC in the present study was better than that reported in other States of India [8, 11, 30]. Similar to other studies authors in present study also found that health awareness was better among girls than boys [31]. AFHC predominantly provides preventive services. Community's belief that PHC has to be consulted only in case of ill-health contributes to poor utilization of AFHC. Hence, educating the community about the need for preventive services for adolescents will facilitate adolescents to visit the AFHC not only for ill-health (illness-seeking) but also for preventive services (health-seeking).

The utilization of the services provided at the schools was better as observed in other studies [10, 32–34]. Organizing AFHC in schools at regular intervals will improve the reach to adolescents. In Indian cultural setting, parents are the decision makers for health care seeking. The authors also found that the trust of the parents on the health system facilitated utilization of AFHC. Hence, adolescent program should have strategies to actively involve teachers and parents in the planning and service delivery [9]. Adolescent boys highlighted that the fear of being teased by a friend was a hindering factor for attending the AFHC. Hence, peer group approach through youth clubs should be considered for improving utilization of AFHC by boys.

HCPs emphasized the need to build rapport with community to enhance services utilization. Observation of 'Adolescent health day' as prescribed by the RKSK will provide an opportunity to build rapport with the community [6]. Noteworthy, HCPs were aware of almost all the 'for' and 'against' forces mentioned by the adolescent girls and boys. The suggestions provided by the HCPs to improve the service utilization were similar to that reported by health care providers in Andhra Pradesh. Most of these solutions can be managed by the local health team. Hence, health care providers would require training on communication, change management and supportive supervision.

A major strength of this evaluation was its mixed-methods design which offered a complete picture on the pattern of awareness, service utilization, barriers to service utilization and actionable solutions for it. It also explored the 'for' forces of the program which need to be reinforced to consolidate the gains so far achieved. The double data entry and validation ensured accuracy in data entry. Since it was a context-specific evaluation, the findings cannot be generalized. As the data was collected through a self-administered questionnaire, there were some inconsistencies in provided responses which could not be cross-verified leading to missing data. However, there was one trained person for every ten students during the data collection to clarify their doubts.

Conclusions

The study found that there was a gap between the awareness and utilization of the AFHC services by both the genders. Provision of sanitary napkins motivated the girls to attend the clinic. The primary reasons for non-utilization of AFHC services were poor awareness and the misconceptions about the clinic. The solutions offered by HCPs to improve the utilization were focussed on individual/team level changes which could be achieved by training on communication skills and supportive supervision.

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Contributions TM conceptualised the study. TM, KCP, KS, ARD designed the study. TM, VM collected the data. All the authors have reviewed and finalized the protocol. The first author was involved in conceptualisation, designing, data collection, analysis and manuscript preparation. All authors critically reviewed and finally approved the manuscript. KCP will act as guarantor for the paper.

Compliance with Ethical Standards

Conflict of Interest None.

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