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STI Services for Adolescents and Youth in Low and Middle Income Countries: Perceived and Experienced Barriers to Accessing Care

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Abstract

Access to sexual and reproductive health services (SRH) is vital for sexually active adolescents; yet, their SRH care needs are often unmet. We conducted a qualitative systematic review of mixed methods studies to assess adolescent and provider views of barriers to seeking appropriate medical care for sexually transmitted infection (STI) services for adolescents. We searched peer-reviewed literature for studies published between 2001–2014 with a study population of youth (aged 10–24 years) and/or health service providers. Nineteen studies were identified for inclusion from fifteen countries. Thematic analyses identified key themes across the studies. Findings suggest that youth lacked knowledge about STIs and services. Additionally, youth experienced barriers related to service availability and a lack of integration of services. The most reported barriers were related to acceptability of services. Youth reported avoiding services or having confidentiality concerns based on provider demographics and some behaviors. Finally, experiences of shame and stigma were common barriers to seeking care.

Adolescents in low and middle income countries experience significant barriers in obtaining STI and SRH services. Improving uptake may require efforts to address clinic systems and provider attitudes, including confidentiality issues. Moreover, addressing barriers to STI services may require addressing cultural norms related to adolescent sexuality.

Keywords

Adolescent; Youth; STI; STD; Health Services; Access; Barriers

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Implications and Contributions

This review provides an overview of perceived and experienced barriers for youth seeking STI services in low and middle income countries. We identify themes related to persisting barriers to seeking care for STI services that should be considered when assessing and designing sexual and reproductive health systems and services.

Background

It has been estimated that there were approximately 489 million new cases of curable STIs (e.g., chlamydia, gonorrhea, syphilis, and trichomoniasis) among adolescents and adults (15–49) worldwide in 2008[1]. In high income countries such as the United States (US), robust disease surveillance systems demonstrate adolescents and young adults are disproportionately affected by STIs[2]. Thus, access to sexual and reproductive health (SRH) services is vital for sexually active youth and adolescents. However, research indicates that health services in many countries may not fully address their SRH needs [3–5]. This is especially true for sexually transmitted infections (STIs) and may be heightened in countries with fewer resources dedicated to health care.

In 2001, the World Health Organization (WHO) organized a global consultation on adolescent friendly health services. One of ten consensus statements was, 'for a variety of reasons, adolescents are unable and or unwilling to obtain the (general) health services they need'[6]. A 2005 review of research through 1999 focused on the need for adequate STI services and identified barriers that adolescents experience in obtaining needed STI services [7]. Such barriers have been classified into four categories—availability, accessibility, acceptability and equity [8].

Understanding what the current barriers are globally, and by region, could provide an understanding of what challenges still exist. STI services are often grouped in a larger cadre of SRH services in many settings and thus for the purposes of this review we have sought to understand barriers to adolescent access to STI services including the context of SRH services. Additionally, it is important to determine whether the barriers that adolescents experience have changed in the new millennia.

Thus, we conducted a qualitative systematic review of studies with a variety of methods (quantitative, qualitative, and mixed methods) to assess adolescent and provider views about the experienced and perceived barriers for youth seeking appropriate medical care for STI services. Specifically, we sought to answer the following key questions:

1. In seeking appropriate care for STIs, what barriers do adolescents experience or perceive in relation to accessing and using STI-related care?
2. What are providers' views about adolescent access to SRH care? How do providers feel about providing adolescent SRH care?

Methods

We conducted a systematic review of peer-reviewed literature for studies published between 2001 and 2014 (inclusive) with a study population that included adolescents and youth (aged 10–24 years)[9], who we will refer to as 'youth' throughout, and health service providers (Table 1). Inclusion and exclusion criteria are provided in Table 2. We included studies that (1) focused on youth or providers (i.e., those who provide sexual and reproductive health services to adolescents), (2) focused on barriers experienced by adolescents in accessing SRH care, and (3) included STI services or referenced STI services in the results. Studies that included adolescents as a sub-population were not included in this review.

We identified 2,932 studies through database search, hand-searches, and reference or related article search (Supplemental Figure 1). After removal of duplicates, title and abstract review, 2,790 studies were excluded because of irrelevance, language, population, geographic location or primary focus. An additional 45 papers were excluded after a second full-text review. In total, 19 studies were identified for inclusion in the review from 15 countries and four world regions (Sub-Saharan Africa, South Asia, Southeast Asia and the Pacific). An overview of the 19 studies is provided in Table 4.

Critical Appraisal

We assessed study quality by adapting several previous models [10–12] into a framework that assessed studies on 7 key criteria: research aims, appropriate methodology, sampling and recruitment strategy, data collection, data analysis, statement of findings, and reflexivity[1], and consideration of bias [10, 12–14] (Table 3). Mixed methods studies were assessed on both qualitative and quantitative criteria as well as on the integration of results [11]. Studies were classified as either primary (met all criteria) or secondary (lacked key methods information) quality (Table 5). Secondary studies were included in thematic analysis but were not used to develop analytical themes.

Thematic Analysis has been used previously in qualitative systematic reviews of health related and similar topics [15–17]. Thematic analysis involves identifying descriptive themes from the original data of other studies and developing overarching analytic themes that develop new concepts or explanations that apply across them [17]. The results sections and accompanying tables of all studies (qualitative, quantitative, and mixed methods) were coded and analyzed qualitatively using thematic analysis. Study results were analyzed using NVivo10 software to code and to organize themes. We identified key themes using both deductive structural codes, developed by the researchers and guided by the research questions and existing literature, as well as inductive codes that emerged from the data[18]. A pilot sample of primary quality studies was then coded independently by two researchers [ANL, JSL] and themes were further refined. Results or quotes that focused on specialized SRH services not related to STIs were not included in analysis. Once initial thematic analysis was complete, we grouped themes according to WHO classifications of quality health services[8] and those that were cross-cutting for the framework.

Results

Of the 19 studies we analyzed (Table 4), 10 used qualitative methods only, 3 were quantitative only, and 6 used mixed methods. Twelve articles were published between 2008 and 2014. Six studies included health care providers as participants. Most studies included both boys and girls; one focused on married females and another on unmarried males only. Four studies focused on rural youth only, but the majority included youth from urban and rural areas. Five studies included young adolescents aged 10–12 years as participants.

[1]Reflexivity, in qualitative studies, is the degree to which the authors are reflective on their own bias or judgement in conducting qualitative research [13].

Health care providers were included in the study population in eight of the studies (Table 4). Providers included health service providers (doctors, nurses, health workers, etc.), NGO workers, and teachers. We analyzed provider perceptions of the barriers that youth experience in accessing services and the providers' own perceptions of their SRH/STI service to youth.

An overview of themes identified in each study is provided in Table 5. Themes are grouped into overarching categories based on WHO classifications of quality health services[8], as well as by inductive cross-cutting themes that emerged from the data related to drivers of barriers such as knowledge and cultural influences. Adolescent and provider perspectives are both given for each theme and providers' views on providing services to adolescents are discussed. Quotes are provided from original papers to illustrate themes.

STIs among Youth

For the purposes of this review 'having an STI' included those who reported that they had STI symptoms or indicated symptoms such as burning, itching, genital discharge, and those who had been diagnosed with an STI. Seven studies mention or give estimates of youth who have had an STI. The rates of infection varied widely, potentially due to the different time periods and subgroups studied [19–25].

Knowledge & Awareness

Ten studies discussed knowledge and awareness as barriers to seeking care. In many, youth reported having limited knowledge of SRH problems [25–27], and specifically STIs [20–23, 27, 28]. Some youth had heard of STIs, but a majority were unable to name symptoms or had misconceptions about them. Additionally, youth were often more knowledgeable about contraception or HIV than STIs. A lack of knowledge was often associated with not seeking care or with delaying treatment.

> "Everybody might have heard about HIV/AIDS. But very few have heard about other sexually transmitted diseases" (NGOs/Leaders, India) [27].

Lack of knowledge about STI services was also a significant obstacle for youth [27]. Not knowing where to go for services or a lack of understanding about the services provided were identified as barriers to seeking SRH or STI care [20, 21, 29, 30]. In some studies, youth reported that they were afraid to seek services because they didn't understand what would happen during a clinic visit [22, 30].

Parents and providers also presented impediments to knowledge if they were unwilling or unable to provide information about SRH. Youth reported that they wanted to get information from parents and providers but that they did not provide it [22, 28–31].

Knowledge of STIs continued to be an issue over time for youth and did not seem to vary significantly by study publication date. This was problematic for both males and females; however, specific knowledge did vary by sex across studies; some found that boys knew more about STI symptoms [20, 21, 29] while others found that girls were more knowledgeable about SRH or where to go for services [20]. Knowledge barriers were also discussed more frequently in rural than urban settings.

Availability

Available health services mean that services and supplies exist at health centers[8]

In nine studies, both urban and rural youth and providers reported specific barriers related to availability of products and services. Staff shortages (including number of staff and staff time) were among the most commonly identified barriers [29, 31–33]. Stock outs (running out of supplies) or limited funds were also noted as obstacles. Availability was an issue throughout regions but was most frequently discussed by East African studies.

Accessibility

Accessible health services mean that youth are able to obtain health services that are available[8]

Sixteen studies (Table 5) discussed accessibility of services, and among them, twelve identified accessibility as a barrier. Among the accessibility barriers most frequently mentioned were those related to cost of services[19–21, 27–30, 32], hours services were offered[19, 21, 29, 31, 33], and waiting times to receive services[21, 29, 31, 32]. The locations of services, or issues related to transportation, were also sometimes mentioned. Providers also noted obstacles with accessibility [23, 27, 28, 30–33] Accessibility issues were discussed by both sexes, though more frequently discussed by males, and were mentioned in both rural and urban settings, though more frequently in urban settings. Accessibility was an issue noted consistently over time.

System barriers: Clinic Systems are ‘not for youth’

Several studies identified system-specific barriers that prevented accessible care. Clinic systems often limited youth’s access to services or were not set up to provide streamlined care for youth. Services sometimes lacked accommodations for age[21, 22] or sex[29] or were not integrated with other services such as maternal health, family planning, or primary care, requiring youth to seek out specialized STI or sexual health services elsewhere. Having to seek specialized care often resulted in concerns about confidentiality [22, 25, 33].

> “It is apparent that the health needs of youth are ignored by the health care system. Once I went to one of the health institutions for a health problem. I was referred back and forth between adult and pediatric units because they both claimed serving only specific age categories…” (Adolescent, 15–24, Ethiopia) [21].

That clinic systems were not usually oriented to providing youth with sexual health services, frequently led to the perception that SRH services and the systems themselves were ‘not for youth,’ which overlapped with barriers related to acceptability of services [21, 22, 25, 27, 30].

Many providers felt that they needed more training in working with youth and sometimes felt that those being trained were not necessarily those most in need of it [22, 30, 32, 33]. Some providers saw barriers in national health policies and guidelines. Other providers reported limited knowledge of national health policies and guidelines for providing SRH services to youth [28, 32]. Discussions about policy frequently focused on ‘youth rights’

with respect to SRH services and revealed a mixed level of acknowledgement that youth had a right to services or to confidentiality [28, 30, 32].

Acceptability

Acceptable health services mean that youth are willing to obtain the health services that are available[8]

Provider Attributes—Fourteen studies noted the importance of provider attributes for youth seeking SRH care. Many youth and providers noted that youth did not feel comfortable speaking with a provider who they perceived to be much older [19, 22, 25, 28, 29, 31–34].

> "I do not think that most young people go there for services because there are a very few young service providers. How can we express our feelings to the people who are similar to our parents' age?" (Urban unmarried male aged 21 years, Nepal) [25].

Some studies mentioned that having young providers (especially at youth centers or NGOs) was perceived by youth as facilitating access to care. Nine studies also noted that the provider's sex was a significant factor for youth [19, 22, 24, 25, 29–31, 34, 35]. The ability to see a provider of the same sex was particularly a barrier for girls [20, 22, 25, 30, 31]. A few studies stated that some youth saw providers as having insufficient or no skills related to providing SRH services, counseling, etc. [21, 28–30, 35]. Provider attributes were referenced among both rural and urban populations and more frequently discussed by girls than boys.

Provider Behavior—Thirteen studies cited provider behavior toward youth during SRH services. The majority described providers as 'judgmental' or 'having a poor attitude'. Negative behaviors included: rude or unfriendly treatment, blaming, lecturing or scolding, or yelling at youth (Table 6). Barriers related to provider behavior were discussed by both boys and girls, and in both rural and urban settings, with studies in urban settings referencing these barriers more frequently. Reported provider behavior toward youth, however, varied by type of service provider. NGOs or specific youth service facilities were often noted as having friendlier providers [29, 30]. Public services, on the other hand, were more often discussed in relation to provider treatment barriers. In one study, youth mentioned that there had been an improvement among providers at public government clinics, potentially due to increased training [29].

Provider Perspectives on Delivering Services—Providers also discussed their own attitudes about delivering SRH/STI services to youth. Health services providers frequently mentioned that attributes such as age and sex [22, 28, 30–33], as well as provider behavior toward youth, could be impediments to youth seeking SRH care. Some providers acknowledged that youth needed to feel welcomed to come back for services [30–32]. While this was recognized by some providers, others (and even some of the same providers themselves) also acknowledged that they judged or lectured youth when they came in for STI/SRH care [22, 30, 32].

> "Because if you are a young boy or young girl and you go there asking for family planning or condoms and the nurse might say "you are a young girl or young boy so you don't need to use that. Like if I was a nurse in community and see young people coming, I will not agree for young people to be practicing sex at a very early age. Because some of our nurses in our communities they will not allow and they will talk. If the nurse's attitude is different to what young people are thinking then it's a barrier" (Nurse, Vanuatu) [30].

This judgment was related to role definition. Providers often mentioned that they felt that youth saw them as a parental figure or that they saw themselves as taking on a parental role [28, 31, 32]. Challenges with regard to role definition were linked to difficulty in communicating with youth and providing them appropriate SRH counseling.

Confidentiality—A total of 16 studies discussed confidentiality and 14 specifically noted confidentiality as a barrier to care. Youth's concerns with confidentiality were both about the potential of being seen or overheard and about the provider's ability to ensure confidentiality [19, 21, 22, 25, 26, 29–33]. Youth frequently feared being seen by friends and other members of the community, particularly by those who could tell their parents.

Some youth also discussed that services or condoms were provided without privacy where one could be observed and that names were called loudly by the clinic staff [28, 33, 36]. Several studies noted that youth were actually concerned that providers would tell someone about their STI:

> "If you go with an STD to the local clinic, they may send the information to our headmaster (male student, FGD). The nurses will send [your] name to the school and the issue will be discussed by teachers (female student, FGD)" (Youth, 16–19, Zimbabwe) [28].

Confidentiality issues were tied to larger fears related to community perceptions and ultimately to stigma. Providers frequently noted youth's fears as well [22, 27, 28, 30, 32, 33].

> "The reason they may not go to the community is because in the village information spreads like bushfire … by the time I buy the condom or go to the health unit-the person in the health unit is well known to everyone-and if I go there to get a condom, I will be tagged as a wrong person in the community because our society is not yet fully open to discussing sex freely … " (Provider, Uganda) [33]

Youth in both urban and rural settings described barriers related to confidentiality, though in some instances urban youth claimed that they were able to access services, especially condoms, anonymously [25]. Confidentiality concerns did not seem to vary significantly by region or over time. Both male and female youth were concerned with confidentiality. Confidentiality concerns were also more frequently mentioned in relation to public services, while private services were sometimes seen as better at protecting it.

Stigma & Shame—The prevailing barrier, discussed in every study, to accessing SRH/STI services was stigma and shame. Shame and stigma are related but distinct. *Stigma* can be

defined as “an attribute or label that sets a person apart from others and links the labeled person to undesirable characteristics” [37, 38]. Stigma occurs in the public sphere and is manifest at a community or society level. *Shame* occurs at an individual level and has been defined as a negative emotion having to do with the experience of failure in relation to personal or social standards and the feeling of responsibility for such failure[38].

Twelve studies discussed stigma in relation to seeking SRH or STI care. As noted previously, youth were often very concerned about being recognized by their communities, parents/relatives, friends, or community leaders; being seen could result in gossip and judgment both associated with stigma [30, 33].

Youth most frequently described experiencing stigma from providers, feeling they were being labeled as promiscuous or ‘a bad person’ or telling stories about being openly humiliated [19, 28, 30, 33, 34, 36].

> “Sometimes they [nurses] talk strongly to young people and tell them ‘it’s good you are getting this [STI] because you sleep around too much’” (Female 18– 19, Vanuatu) [30].

Seeking services for SRH or STIs was also noted as problematic because it served as evidence of sexual behavior. This resulted in stigma, often from providers—who did not condone sexual behavior for youth, either because they were seen as too young or because they were having sex before marriage [22, 28, 30, 34, 36].

> “Respondent (R2): The nurse-midwife only goes to see married people and women who are pregnant. Who comes to ask what we want? We’re very shy to even approach these people for a condom. It would mean that we were doing something wrong. […]
>
> If someone saw me buying a condom, word would spread” (Unmarried Male, India) [26]

In some cases, youth and providers reported that stigma resulted in providers denying services to youth [22, 30, 34].

For the purposes of this review, we have combined results for shame and embarrassment. Feelings of shame experienced by youth in accessing SRH/STI services included those of embarrassment, self-stigma, fear, and feeling ‘ashamed’. Youth and providers frequently reported embarrassment as a driving factor in delaying or not accessing care [22, 30–33]. This included embarrassment about seeking care, answering questions from providers related to symptoms or sexual activity, or buying condoms [19, 20, 22, 25, 29, 30, 36]. In six studies, shame was also expressed as fear of seeking services [20, 22, 25, 29, 30, 35]:

> “We have a belief that doctors may ask different questions. We always feel fear when answering these questions; so, we rarely go to them [clinics]. We especially feel too shy to share our sexual behaviours with those doctors” (Rural married females, 15–24, Nepal) [25].

In a few instances shame was also associated with infidelity. Youth (both married and unmarried) feared seeking services for STIs because it would signify infidelity [22, 30]. This shame was especially a concern to women:

> "[…] How can I seek healthcare for STIs while I am married and still living with my husband? It is a shame for me' (Male Nurse quoting a female patient, Ethiopia) [22].

Studies also noted that young women experienced more shame and stigma and were often judged more harshly than young men [22, 30, 34, 36].

> "I really didn't understand why the nurse yelled at me when I told her that it hurt when she gave me a vaginal examination. I felt like she didn't want to provide services to an indecent girl like me [said with tears in her eyes]… She [the nurse] said I should behave well, so I wouldn't get into trouble next time" (Female, High school student, Thailand) [34].

Culture

Culture, social norms, and taboos related to adolescent sexuality were described as barriers by both youth and providers. The prevailing norm, that youth should not be sexually active or use SRH services, frequently made it hard for youth to access care and for providers to deliver it [23, 26, 28, 30, 32, 33]. This norm was often related to youth being 'too young' or unmarried.

Taboos about adolescent sexuality were also frequently tied to pressures from religious leaders or parents in the community. Parents were noted as being against youth sexual activity, as evidenced by their refusal to discuss sex or to provide sexuality education [28, 30, 33]. Providers too felt that they could not discuss sexuality due to cultural and often religious norms.

> "….the important reproductive health issues I don't talk about because I am not allowed to talk about condoms. I don't feel good. We have many problems but we don't talk about them…..some communities and churches you can't" (Nurse, Vanuatu) [30].

While norms and sexual taboos were challenges for both young men and women, young women were subject to higher expectations related to their sexuality, and these cultural challenges have persisted over time. Studies published prior to 2007 and after noted that community norms and the providers' own values posed significant barriers to youth. One study in Kenya, however, found that providers supplied condoms readily:

> "For the male [condom] if at all she ask me for it, I can give, and because she is asking for a family planning method. If at all, I test a client and she becomes [HIV] positive I normally provide the condoms so that they can use with the partner,…. so that I normally give them the condoms for prevention of STI and other problems" (Provider, Nairobi)[32].

Providers from the same study, however, reported that they viewed family planning as something that should not be given to youth. It should be used by married people only.

Taboos and social norms drove many other barriers for youth seeking STI/SRH care. Cultural and social norms deepened fears about confidentiality and community judgement, impacted provider behavior toward youth, and were a primary source of youth's experiences of stigma and shame.

Discussion

Our review of qualitative and mixed methods research focusing on barriers to STI services among youth in low and middle income countries identified several studies conducted in Africa and Asia. Young people in these countries continue to experience significant barriers in accessing STI/SRH services, including a lack of knowledge about STIs and lack of awareness of STI services. Previous research focusing on in-school adolescents in Europe and the US also found a lack of awareness and knowledge about STIs [39, 40]. Our review also identified reported barriers to STI services among young people in each of the WHO categories focusing on quality and friendliness in health services: availability, accessibility, acceptability, and equity. Several studies, for example, found issues related to service availability (e.g., supplies, staff shortages), and in the majority of studies, young people identified barriers to accessibility, including cost of services and in some studies clinic system barriers related to a lack of service integration. A previous review of various health services in Uganda also found that cost and shortages were barriers to accessing healthcare. Additionally, a study in the US found that cost was also a barrier to STI services; however, young people were often aware of free services provided by health departments [41]. In their non-systematic review, Hock-Long and colleagues found that cost was less of a barrier for adolescents accessing reproductive health services in Western Europe. A previous review of school health services identified studies in the US and United Kingdom (UK) which found fewer barriers related to cost and availability of other SRH services [42, 43].

The most common barriers identified in our review were related to acceptability of services. Provider characteristics and behaviors led some young people to fear accessing services. Clinic systems and provider actions also resulted in significant concerns about confidentiality. These findings are supported by several previous studies that reported fears about confidentiality as barriers to youth seeking STI services in the US, UK, and Canada [42–44]. Furthermore, a study in Uganda found that confidentiality was a concern of STD patients of all ages [45]. Ultimately, experiences of shame and stigma were the most powerful barriers to seeking STI & SRH services for young people. These findings were supported by other reviews focusing on SRH services across the world and various health services in Uganda [4, 45]. Previous research in the US has shown that stigma about STIs can result in delayed care seeking [46, 47]. A separate study found that shame may be a greater barrier to seeking services for asymptomatic as compared to symptomatic STI [41]. While these barriers are similar to those experienced by young people in seeking other reproductive health care (e.g. contraception), youth lack knowledge related to STIs and STI services and this can lead to a lack of recognition and use of services.

In terms of equity in access to services, some populations did experience more barriers than others, notably young females were reported to experience stigma from providers more frequently than young males [22, 30, 34, 36]. Barriers to appropriate STI care persist for

both young males and females and for both urban and rural populations. Little variation in barriers was found over time, suggesting that efforts to address access to STI services have been limited. STI services, moreover, are not integrated within the health care system. Because services are siloed, young people cannot access services easily and risk being identified as seeking STI care. They often perceive STI and SRH health care as not for them because systems do not exist, cultural taboos forbid adolescent sexuality, or services are not youth-friendly.

Themes identified as barriers for youth were also reflected in the providers' own assessments. Providers knew youth lacked knowledge of SRH/STI services and reported they often felt uncomfortable providing services to youth. Many acknowledged that they judged youth when they sought care. A study of youth-friendly services in South Africa found that providers reported lack of confidentiality, staff shortages, and the need for a separate space as barriers to STI services [48]. Providers are an essential component to increasing adolescent access to services. Adolescents need providers with whom they feel comfortable sharing intimate details. Gender considerations are especially important, but so is the treatment that adolescents receive when they come in for services. Many providers also voiced discomfort with their competency in providing services, a discomfort which might be mitigated through appropriate training. In some of the most recent studies, we also found a shift occurring for some, where youth reported that they were treated well especially by NGO workers, [31]or noted recent improvements in treatment from other providers [23]. Some providers also acknowledged a shift in their understanding of youth rights [30].

Our study has some limitations. Given our exclusion criteria, we excluded studies evaluating interventions and community projects. By excluding these studies, we may have missed nuances in barriers to services and could have missed some information on what the most significant or changeable barriers are for adolescents. We were also unable to identify any English language studies from Latin America and thus were unable to include any studies that represent that region of the world. Finally, our review consists mainly of qualitative studies, and may not be generalizable to all youth in these areas.

Our findings have substantive implications for STI and SRH health services for youth in middle and low income countries. The most significant barriers to youth's access to STI services are rooted in cultural norms and stigma. Increasing adolescent access to STI services will require significant work to address clinic systems and provider attitudes, especially with respect to protecting adolescent confidentiality. Addressing barriers to STI services, moreover, will necessitate addressing cultural norms related to adolescent sexuality. The complementary issues of strengthening both the quality of health service provision and of improving community support for the provision of health services to adolescents are in line with the recommendations of by Denno et al.[49].

Adolescent SRH is higher on the global development agenda than ever before. In 2010, for example, the United Nations Secretary General launched the Global Strategy for Women's and Children's Health to increase efforts to achieve Millennium Development Goals 4 and 5. As we move from Millennium Development Goals to new Sustainable Development Goals, a new Global Strategy for Women's Children's and Adolescents' Health has been developed

and agreed upon[50]. The renewed Strategy has a strong focus on adolescents. In the United Nations Secretary General's words: *"The updated Global Strategy includes adolescents because they are central to everything we want to achieve, and to the overall success of the 2030 Agenda."*

The Strategy focuses on survival (ending preventable mortality), on thriving (enabling children, adolescents and adults to achieve the highest standard of health) and on transformation (achieving transformative and sustained change). This focus provides a critical opportunity for support of policy reform, integrated health services delivery, and innovative approaches to health system staffing and structure to more adequately address STI prevention for adolescents in low and middle income countries.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Search Protocols

Databases
MEDLINE, Google scholar, PsychInfo, Web of Science, EMBASE, CINAHL,
Hand Searches
International Perspectives on Sexual and Reproductive Health, Sexually Transmitted Infections, Culture, Health and Sexuality, Journal of Adolescent Health, Lancet
Search Terms
Adolescent Terms
○ Adolescent(s), Youth/young people/young adults, teen/teenage, student, juvenile, boy/girl, young men/women,
Health Service & Access Terms
○ Sexual, Sexual health, Reproductive health
○ Condom, contraception, family planning
○ Services, youth friendly services, confidential services, care, treatment, care, clinic/clinics, treat Barriers, legal/policy barriers, access, use/nonuse, utilization/utilise, seeking, ‘health services accessibility’
○ Acceptability/acceptance, health knowledge/attitudes/practice, perception, belief, ‘attitude of health personnel’
STD Specific Terms
○ Sexually Transmitted Disease (STD)/Sexually Transmitted Infection (STI)/Reproductive Tract Infection (RTI), Chlamydia, Gonorrhea, Syphilis, HPV, HSV, HIV

Table 2

Inclusion & Exclusion Criteria

Criteria	Inclusion	Exclusion
Time Frame	2001-Present	Pre-2001
Study Population	Studies where the primary population of interest is: Adolescents (10–24)[1], male or female. Health Care Providers (e.g. doctors, nurses, midwives, community health workers, etc.)	Studies on the general or adult population.
Study Design	Qualitative studies using methods such as: interviews, focus groups, or group activities. The studies include participants' own words about their perspectives and use qualitative analysis methodology. OR Quantitative studies that use surveys to capture attitudes related to access and services.	Articles that use quantitative methods that do not address attitudes/perceptions of barriers (e.g. demographic variations in use of services, or modeling). Book reviews, literature reviews, conference papers, clinical trials, or intervention studies, policy documents. Gray literature, unpublished reports, or theses.
STI/SRH Care	Studies with a major focus on barriers to or perceptions of STI services. Or articles on barriers to sexual and reproductive health (SRH) services that, at a minimum, include STIs/STDs in the definition of SRH care in the introduction and include some reference to STDs in the results (e.g. burning symptoms, STI services, condoms access, STI education etc.).	Studies with a major focus on access to specific SRH services such as HIV or contraception.
Barriers/Use	The focus of the study is on identifying perceived factors that impede or significantly delay accessing appropriate health care services. Studies that assess youth perceptions (or services provider perceptions) related to SRH/STI services for youth. Or the study solicits input on what would make services more youth friendly (e.g. perceptions of services, 'youth friendliness' etc.)	Studies that focus on increasing use of services through specific program interventions.
Knowledge/Behavior (Not necessary for Inclusion)	Studies reporting knowledge of STIs and services as related to accessing care. Studies on individual SRH behaviors (e.g. condom use) as related to access to SRH care.	Studies solely on knowledge of SRH/STI issues. Studies solely on SRH related behaviors.
Geographic Scope	Developing Countries: Including the regions of Africa (North and Sub-Saharan), Asia (South and Southeast), Oceania, Central and South America.	Studies in the following countries/regions: U.S., Canada, Europe, Australia, New Zealand, China, Japan, Hong Kong
Language	Articles written in English	Articles in all other languages

[1]Note: Youth up to age 24 years were included per UNESCO definition of youth (http://www.unesco.org/new/en/social-and-human-sciences/themes/youth/youth-definition/). Married and unmarried youth were also included given high rates of HIV among married women in some countries.[9] "

Table 3

Critical Appraisal Criteria *

	Criteria
Aims	1. Was there a clear statement of aims for the research?
Appropriate Methodology	2. Is there justification provided for specific methods? • Does the research seek to interpret or illuminate the actions and/or subjective experiences participants?
Sampling & Recruitment	3. Is there a clear explanation of sampling and recruitment strategy? (Including sample size, characteristics, ethical issues, etc.) Quantitative • Was a representative sample achieved (e.g. was the response rate sufficiently high)?
Data Collection	4. Is it clear how the data were collected? (Including specific methodologies used, context, and who collected?)
Analysis	5. Is there a clear description of the analysis methods and process?
Findings	6. Is there a clear statement of findings? • Does the study present sufficient data to support the stated findings, and demonstrate that findings are grounded in data? Mixed Methods • Does the paper integrate findings from both methods?
Reflexivity	Qualitative 7. Do the researchers reflect on how their own perspectives, research questions, data collection methods, or analysis influence or shape their results? [14]

* Adapted from CASP (2014), Pluye (2009), and JBI (2014) [10–12]

Table 4

Overview of studies included in synthesis (n=19)

Study Author (Date)	Research Aim	Population of Interest	Data Collection Methods	Context	Country	Region	Quality
Sub-Saharan Africa							
Alli (2013)	To explore to what extent interpersonal relations form a barrier to young people's access to and satisfaction of health services among university students and providers.	Adolescents * (18–24) Providers **	**Qualitative**: 204 IDIs [1]	University health services	South Africa	South Africa	Primary
Berhane (2005)	To describe the health service utilization pattern of adolescents, assess their attitudes towards existing services, and their preference of services in terms of place, person and time.	Adolescents (10–24)	**Quantitative:** Survey (n=2647)	Secondary school	Ethiopia	East Africa	Secondary
Biddlecom (2007)	To assess adolescents' use of sexual and reproductive health services, the barriers they face in accessing such services and their opinions and preferences regarding	Adolescents (12–19)	**Quantitative: S**urvey n=5,955 (BF) n=4,430 (G) n=4,031 (M) n=5,112 (U)	National surveys	Burkina Faso(BF) Ghana (G) Malawi (M) Uganda (U)	South Africa	Primary

Study Author (Date)	Research Aim	Population of Interest	Data Collection Methods	Context	Country	Region	Quality
	different sources of care.						
Cherie (2012)	To assess **a**dolescents' knowledge of STI symptoms and identify perceived barriers to seeking STIs services among high school adolescents.	Adolescents (15–24)	**Mixed Methods:** Survey (n=316) 4 FGDs[2] (n=38)	Urban high schools and clubs	Ethiopia	East Africa	Primary
Godia (2013)	To assess perspectives and experiences of health service providers on the SRH needs of young people.	Providers	**Qualitative:** 19 IDIs 2 FGDs (n=38)	Health Facilities	Kenya	East Africa	Primary
Godia (2014)	To explore the SRH problems young people face as well as their perceptions of available SRH services. Compared experience with integrated and youth targeted SRH services.	Adolescents (10–24)	**Qualitative:** 18 IDIs 39 FGDs (n=57)	Health facilities & youth centers	Kenya	East Africa	Primary
Kipp (2007)	To assess providers' perceptions and attitudes of important barriers for adolescents in receiving good quality RH services. Also to assess providers' attitudes related to	Providers	**Qualitative:** 10 IDIs	Health facilities	Uganda	East Africa	Primary

Study Author (Date)	Research Aim	Population of Interest	Data Collection Methods	Context	Country	Region	Quality
	adolescent sexual behavior and RH.						
Langhaug (2003)	To explore the views of young people, nurses, and parents on the accessibility of existing reproductive health services for young people and the means for improving this.	Adolescents (16–19) Providers	**Qualitative:** 10 FGDs 16 Direct Observations	Community FGDs	Zimbabwe	South Africa	Secondary
Miles (2001)	To understand the social processes that inform young people's sexual health seeking behavior in rural areas with a focus on the influences of decision making in relation to seeking advice and treatment for STIs.	Adolescents (14–25)	**Qualitative:** 12 FGDs (n=97)	Village FGDs	Gambia	West Africa	Primary
Molla (2009)	To assess youth's use, perceptions of, and preferences for STI services from the perspective of both youth and providers.	Adolescents (15–24) Providers	**Mixed Methods:** Survey (n=3,743) 10 Provider IDIs	Village survey & health clinic interviews	Ethiopia	East Africa	Primary
Okereke (2010)	To examine the unmet reproductive health needs and health-seeking	Adolescents (10–19) Providers	**Mixed Methods:** Survey (n=896) 4 FGDs 15 IDIs with Providers	Secondary school & community FGDs & survey	Nigeria	West Africa	Secondary

Study Author (Date)	Research Aim	Population of Interest	Data Collection Methods	Context	Country	Region	Quality		
	behavior of adolescents.								
Asia & the Pacific									
Char (2011)	To investigate whether young unmarried rural men in India are underserved in terms of SRH issues. To review their knowledge, attitudes, and perceptions about SRH.	Adolescents (17–22) *Unmarried Men*	**Mixed Methods:** Survey (n=316) 4 FGDs	Village FGDs and survey	India	South Asia	Primary		
Kennedy (2013)	To assess barriers to accessing SRH services and describes the features of a youth friendly health service as defined by adolescents.	Adolescents (15–19) Providers	**Qualitative:** 12 IDIs 66 FGDs (n=353)	Community FGDs	Vanuatu	Pacific	Primary		
Nair (2013)	To explore the perceived reproductive health problems, health seeking behaviors, knowledge about available services and barriers to reach services among adolescents.	Adolescents (15–24) Providers *Community*	**Qualitative:** 15 FGDs	Community FGDs		India	South Asia	Secondary	
Prasad (2005)	To investigate the prevalence of RTIs in young married women and understand treatment seeking behavior.	Adolescents (16–22) *Married women*	**Mixed Methods:** Cross-sectional survey (n=451), 17 IDIs, 8 FGDs	Community FGDs & Survey	India	South Asia	Primary		

Study Author (Date)	Research Aim	Population of Interest	Data Collection Methods	Context	Country	Region	Quality
Regmi (2010)	To explore young people's perceptions of barriers to accessing sexual health services and information, including condom-use.	Adolescents (18–22)	**Qualitative:** 10 FGDs 31 IDIs (n=50)	Colleges and youth clubs	Nepal	South Asia	Primary
Talpur (2012)	To assess attitudes towards services, awareness of and perceived barriers for sexual health services and education among young adults.	Adolescents (16–25)	**Quantitative:** Cross sectional survey (n=150)	Academic institutions	Pakistan	South Asia	Secondary
Tangmunkongvorakul (2005)	To describe the experiences and perspectives of young people with regard to obstacles to their safe sexual health outcomes and desirable health services.	Adolescents (17–20)	**Qualitative:** 82 IDIs	Community interviews	Thailand	Southeast Asia	Primary
Tangmunkongvorakul (2012)	To understand gender double standards and the ways in which these constitute barriers to successfully accessing sexual and reproductive health services.	Adolescents (14–20)	**Mixed Methods:** Cross-sectional survey, 30 IDIs, 16 FGDs (n=1745)	Community, non-formal educational centers, and schools	Thailand	Southeast Asia	Primary

[1] IDI: In-depth interview

[2] FGD: Focus group discussion

[*] Adolescents are defined as 10–24 for the purposes of this review

[**] Providers category includes health service providers (doctors, nurses, health workers, etc.), NGO workers, and teachers. Some studies also include community and parental attitudes but these are not the focus of this analysis.

Table 5

Overview of studies and Major Themes: Barriers to Appropriate Care-Seeking (n=19)

Study Author (Date)	Population		Cross-Cutting Drivers		WHO Barriers					
			Knowledge	Culture	Availability	Accessibility	Acceptability			Equity*
	Adolescents	Providers					Confidentiality	Shame & Stigma	Provider Factors & Treatment	Girls
Sub-Saharan Africa										
Alli (2013)	(18–24)	❖	X	•	X	X	•	X	X	X
Berhane (2005)	(10–24)		•	•	•	X	X	X	X	•
Biddlecom (2007)	(12–19)		X	•	•	X	•	X	X	X
Cherie (2012)	(15–24)		X	•	X	X	X	X	X	•
Godia (2013)	--	❖	•	X	X	X	X	X	X	•
Godia (2014)	(10–24)		X	•	X	X	X	X	X	•
Kipp (2007)	--	❖	•	X	•	•	•	X	•	•
Langhaug (2003)	(16–19)	❖	X	X	X	X	X	X	X	•
Miles (2001)	(14–25)		•	•	•	X	•	X	•	•
Molla (2009)	(15–24)	❖	X	•	X	X	X	X	X	X
Okereke (2010)	(10–19)	❖	X	X	•	X	X	X	X	X
Asia & the Pacific										
Char (2011)	(17–22)		X	X	•	•	X	X	•	•
Kennedy (2013)	(15–19)	❖	X	X	X	X	X	X	X	X
Nair(2013)	(15–24)	❖	X	•	X	X	X	X	•	•
Prasad (2005)	(18–22)		•	•	•	X	X	X	X	•
Regmi (2010)	(16–25)		X	•	X	X	X	X	X	X
Talpur (2012)	(17–20)		•	•	•	X	X	X	X	•
Tangmunkongvorakul (2005)	(14–20)		•	•	•	•	•	X	X	X
Tangmunkongvorakul (2012)	(16–22)		•	•	•	X	X	X	X	X

*Equity is included in the WHO categories of quality services but this review did not find significant discussion of this theme to merit a separate section. Discussion of differences in barriers experienced by males and females as well as urban and rural youth throughout the other sections of the paper.

-- No youth included in study

❖ Providers included in study

X Theme identified in study

• Theme not found in study

Table 6

Provider behavior with young clients

Theme	Quote*
Rude or unfriendly [19,21,25, 31]	"The staff are too tense and not friendly enough. They do not give you advice; it is more like they judge you" (Female Client, 18, South Africa). [31]
Yelling or shouting[[25, 28, 34]	"I had a friend who once got an STI. He tried to get condoms but the nurses would not allow him. Later he went with an STI and they shouted at him. He [reminded] them that he came trying to find condoms and information and they had refused saying he was still young (Male Student, 16–19, Zimbabwe)." [28]
Lecturing, or scolding [29,30, 33]	"Sometimes they [nurses] talk strongly to young people and tell them "it's good you are getting this [STI] because you sleep around too much'" (Female 18– 19, FGD, Vanuatu). [30]
Blaming	"I need someone to talk to me nicely. My friend used to go to the hospital. When she got a vaginal exam, she was scared. The nurse yelled at her. The hospital staff were not so nice although we paid for the service. They asked us "why didn't you think before sleeping with somebody?" That hurt." (Female, 16, Thailand) [34]

* Citations illustrative not inclusive