RESEARCH REPORT

Barriers to sexual and reproductive health service coverage for pregnant adolescents and teenage mothers in Kenya and Kakamega County

CISP

With the technical support of the Italian National Institute of Health and Masinde Muliro University of Science and Technology

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Acronyms and abbreviations

ASRH: Adolescent Sexual and Reproductive Health

CHWs: Community Health Workers

FDGs: Focus Discussion Groups

HCWs: Healthcare workers

KIIs: Key Informant Interviews

MoH: Ministry of Health

SRH: Sexual and Reproductive Health

WHO: World Health Organisation

Acknowledgements

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This research was performed with the technical lead of Dr Maria Grazia Dente and Dr Claudia Robbiati from the Italian National Institute of Health (Istituto Superiore di Sanità, ISS). Dr Rose Olayo and Dr Rose Opiyo from Masinde Muliro University of Science and Technology (MMUST) supported the field investigation together with a team of research assistants.

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1. Introduction

This research study is about barriers and facilitating factors for pregnant adolescent and teenage mother accessing and utilizing health care services in Kakamega county (Kenya). The study highlighted best practices and challenges that pregnant adolescents and teenage mothers face while accessing adolescent sexual and reproductive health (ASRH) services in Kenya with a specific focus on Kakamega county, to create an enabling environment for evidence-based planning and action towards improved ASRH services provision.

This research was included in a 3-year project (October 2019 - December 2022) titled "Safe Communities for safe Children and Adolescents in Kenya" in Kakamega and Nakuru Counties (Mumias West, Matungu, Naivasha and Gilgil sub counties respectively). The project was implemented by the NGO CISP, with support from AICS (Agenzia Italiana per la Cooperazione allo Sviluppo/Italian Agency for Development Cooperation). It involved different partners and collaborators, namely ISS (Istituto Superiore di Sanità/ Italian National Institute of Health), MMUST (Masinde Muliro University of Science and Technology), MARPA (Matungu Rural Poverty Alleviation), KNOTE (Kenya National Outreach Counselling and Training Program), TriM (Translate into Meaning,) and a strong collaboration with the Department of Children Services, the Ministry of Health and the Ministry of Education of Kenya. The general objective of the project is to contribute to strengthening the child protection system in Kenya to prevent and respond to violence, abuse, exploitation and harmful cultural practices on children and adolescents, while promoting their physical, mental and social well-being.

2. Background

The World Health Organization defines an adolescent as any person aged 10-19 years (WHO, 2021). Adolescents make up 1.2 billion (or 16%) of the world's population (UNICEF, 2019).

Adolescent sexual and reproductive health is a global health challenge, mainly for adolescent girls that may experience unwanted sex or marriage, unintended pregnancies, and unsafe abortions (UNFPA, 2015). In Sub-Saharan Africa teenage pregnancy is a widespread emergency that needs to be addressed to reduce the health and socio-economic consequences that it entails (Melesse et al., 2020).

Studies have shown that women who become mothers in their teens are more likely to drop out of school and have reduced career progression and economic empowerment, decision-making power and autonomy (UNFPA, 2015). Also, there is an increased risk of maternal and new-born deaths and disability (Ganchimeg et al., 2014).

Adolescents in Kenya are around 12 million and account for the 24.5% of the country's population (Kenya National Bureau of Statistics, 2019). Despite adolescents being a quarter of Kenya population, coverage of health facilities offering adolescent friendly services is 62% (Kenya MOH, 2018).

Adolescent pregnancy is a major issue in Kenya with a pregnancy rate among teenage girls of 18% (Kenya National Bureau of Statistics, 2014). The COVID-19 pandemic containment measures, especially the closure of learning institutions, has worsened the teenage pregnancy situation in Kenya, according to recent media reports and studies (OCHA, 2020; Zulaika et al., 2022).

Childbearing begins early in Kenya, with almost a quarter of women giving birth by age 18 and nearly half by age 20 (Kenya National Bureau of Statistics, 2014). Contraceptive prevalence rate among married adolescent girls is 36.8% and among sexually active unmarried adolescents is 49.3% (Kenya National Bureau of Statistics, 2014).

Teenage girls also are victim of sexual violence that is experienced by 15.6% of girls before the age 18 years in Kenya (Ministry of Labour and Social Protection of Kenya, 2019). Furthermore, adolescent girls account for 33% of the total number of new HIV infections (National AIDS Control Council, 2016).

Kenya's government produced a broad policy framework about adolescent sexual and reproductive health. In 2003 the "Adolescent Reproductive Health and Development Policy" (NCPD, 2003) was

Kenya's first policy specifically addressing adolescents' health. In 2005, the "National Guidelines for Provision of Adolescent Youth-Friendly Services" outlined essential SRH services that adolescents should be able to access and how to improve their implementation, monitoring and evaluation (Kenya MOH, 2005). The "National Reproductive Health Policy" in 2007 promoted a multi-sectoral approach to address adolescents' SRH needs and the right of adolescents to access SRH information and youth-friendly reproductive health services (Kenya MOH, 2007). The "2010–2012 Reproductive Health Communication Strategy" underscored that young people should have access to appropriate information and SRH services (Mumah et al., 2014). In 2015, the "National Adolescent Sexual and Reproductive Health Policy" (Kenya MOH, 2015) promoted adolescent sexual and reproductive health and rights and an increased access to information and age-appropriate comprehensive sexuality education, with particular attention to vulnerable groups.

Despite the huge policy-making efforts of the Kenya government about ASRH, the implementation of such policies has been hampered by different type of barriers, resulting in an inadequate provision and access to SRH services for adolescents, especially for the most vulnerable populations like pregnant adolescents (Mutea et al., 2020).

Kakamega county is located 360 km from Kenya's capital city, Nairobi. Kakamega is the second most populous county in Kenya with a population of 1,867,579 people, a fertility rate of 4,4 and one in four people being an adolescent (Kenya National Bureau of Statistics, 2019).

Kakamega county has a high burden of teen pregnancy of 19,4 % (Kenya National Bureau of Statistics, 2014). A previous study showed that for adolescents in Kakamega the access and utilization of ASRH services remains a challenge and the main barriers include negative health workers' attitudes, distance to the health facility, unaffordable cost of services, negative social cultural influences, lack of privacy and confidentiality (Mutea et al., 2020).

A recent assessment performed by the NGO CISP in July 2020 within the project "Safe communities for children and adolescents in Kenya" explored social norms affecting children and adolescents in Mumias West and Matungu sub-counties (Kakamega County) and showed that the main barriers for pregnant adolescents and teenage mothers to SRH services are related to stigma associated with reproductive health services utilization, and the perception of teenage pregnancy as a curse and shameful, unfriendly attitude of service providers, myths and misconceptions associated with

reproductive health services, lack of awareness and guidance on when and where to seek the services and fear of COVID-19 infection (CISP, 2020).

3. Aim and objectives

The purpose of this research study was to explore and synthesize available information about the national and county context (Kakamega), regarding access to ASRH services for pregnant adolescents and teenage mothers.

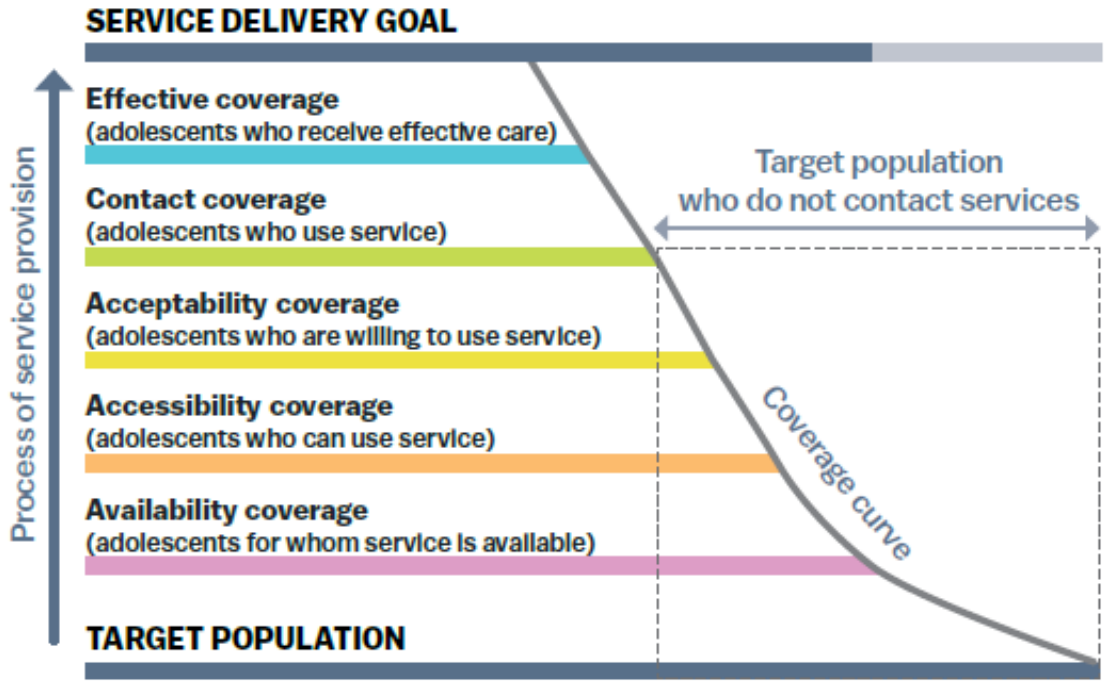
Objectives:

1. To carry out a desk review about barriers to ASRH services for pregnant adolescents and teenage mothers within Kenya.
2. To perform a qualitative investigation in Kakamega County to validate and contextualise the desk review findings.
3. To coproduce a “pathways to impact” framework together with the stakeholders engaged in the research.

4. Methodology

This research study is primarily grounded in the Tanahashi framework, which provides a stepwise approach to assessing health service coverage (WHO, 2019). The Tanahashi framework includes the following dimensions (Fig. 1): availability, accessibility, acceptability, contact/use and effective coverage.

Fig. 1: The five dimensions of the Tanahashi framework.



From "*Handbook for conducting an adolescent health services barriers assessment (AHSBA) with a focus on disadvantaged adolescents*. Geneva: World Health Organization; 2019".

The study is composed of two parts:

1. A desk review about barriers to effective ASRH services coverage for pregnant adolescents and teenage mothers in Kenya.
2. A qualitative investigation about contextual barriers to ASRH services for pregnant adolescents and teenage mothers in Kakamega county.

The desk review included peer-reviewed literature and grey literature and retrieved 13 documents (7 reports and 5 research articles) up to the 15th of June 2021.

The qualitative investigation included:

- ✓ 32 FGDs with pregnant adolescents and adolescent mothers, adolescent girls, adolescent fathers, family members of pregnant adolescents and adolescent mothers in Kakamega County (Mumias West and Matungu sub-county).
- ✓ 49 KIIs were also conducted with representatives of Ministry of Health at national/county/subcounty level, Department of Children Services county/subcounty, International Organizations, HCWs, village elders, teachers, traditional birth attendants/ community birth champions, community organisations between June and July 2022.

The study received ethical approval (No: PKU/2342/E1481) and NACOSTI License (No: NACOSTI/P/22/16611).

5. Desk review

The desk review retrieved 13 documents highlighting that barriers to ASRH friendly services are encompassing the acceptability, availability, accessibility, contact/use dimensions of coverage of the services (Table 1). No information was retrieved for the effectiveness dimension.
Only one research study in Nairobi highlighted some facilitating factors related to the acceptability and accessibility dimensions.

- ✓ Acceptability: the main barriers were socio-cultural norms and stigma, negative attitudes of HCWs, poor gender-responsiveness, age-appropriateness and quality of services perceived, Gender norms like limited self-efficacy and decision-making power of adolescent girls, and self-stigma, are also a barrier to access ASRH services.
- ✓ Availability: low coverage of youth friendly SRH services, few HCWs are equipped with the necessary knowledge and skills, lack of commodities and supplies and dedicated spaces
- ✓ Accessibility: long distance, high costs and availability of transport, long waiting times and inconvenient hours of the services, high cost of services

- ✓ Contact/use: lack or limited awareness about SRH services provided and their location, incorrect knowledge of adolescents about their SRH needs
- ✓ No information was retrieved for the effectiveness dimension

Table 1: Summary of findings (barriers) for the grey literature

GREY LITERATURE		
DOCUMENT	COVERAGE DIMENSION	FINDINGS (barriers)
Report: *End term evaluation of the UN H6 joint programme on reproductive, maternal, new-born, child and adolescent health (RMNCAH) 2015-2020* (RMNCAH, 2020)	AVAILABILITY	Low coverage of youth friendly health services (p. 19).
	ACCESSIBILITY	Long distances to health facilities, high costs (p. 19)
	ACCEPTABILITY	Sexual and reproductive health matters are resisted by parents, religious and political leaders (p. 19). Interventions like appropriate sexuality education targeting teenagers are also often dismissed with the view that they would encourage young people to indulge in sex (p 19) Low status of women (p 58). Negative provider attitudes (p 58). Poor quality and limited integration of services (p 58).
	CONTACT/USE	Lack of knowledge and information (p 58).
Report: *Realising sexual and reproductive health rights in Kenya: A myth or reality* (KNCHR, 2012)	AVAILABILITY	No skilled attendance during delivery, which result in higher rates of maternal and perinatal mortality (p. XXIII).
	ACCESSIBILITY	Lack easy access to quality and friendly health care services (p.109).
	CONTACT/USE	Adolescents lack relevant accurate information on sex, sexuality and reproductive health (p.109).
Report: *Unintended pregnancies and HIV among adolescents and young people situation analysis of Homa Bay, Kenya* (Samuels et al., 2020)	AVAILABILITY	Lack of staff and resources to cater specifically for adolescents. Adolescent girls are not provided with tailored services (p. 38).
	ACCESSIBILITY	Distance to health clinics and hospitals (p. 40).

GREY LITERATURE		
DOCUMENT	COVERAGE DIMENSION	FINDINGS (barriers)
Report: *Factors influencing teenage pregnancy among Maasai girls in Kajiado West Sub-County, Kenya* (Olenja et al., 2019)	AVAILABILITY	Available services were minimal and were not able to meet the needs of young girls (p.33).
	ACCEPTABILITY	Adolescent girls may not be receptive to the services of a male health-worker (p. 44)
	CONTACT/USE	Lack of knowledge of services available to potential users, particularly girls (p. 35)
Report: *Final Report for Teenage Pregnancy Research in Kilifi County* (Faith to Action Network, 2017)	AVAILABILITY	Health facilities do not have youth friendly services due to shortage of staff and space (p. 23).
	ACCEPTABILITY	All mothers are treated equally yet teenage mothers should be handled in a special manner according to their age and maturity (p. 23).
Guidelines: *National Guidelines for the provision of adolescent and youth friendly services in Kenya 2016* (Kenya MOH, 2016)	AVAILABILITY	Lack of necessary commodities at health facilities, (p. 12)
	ACCESSIBILITY	Long wait times for services, inconvenient hours, distance from facilities, costs of services and/or transportation (p. 12).
	ACCEPTABILITY	Lack of privacy and confidentiality (p. 12). Restrictive norms and stigma around adolescent and youth sexuality; inequitable or harmful gender norms; and discrimination and judgment of adolescents by communities, families, partners, and providers (p. 12). Limited self-efficacy and individual agency, limited ability to navigate internalized social and gender norms (p. 12).
	CONTACT/USE	People's limited or incorrect knowledge of SRH services (p. 12). Limited information about what kind of SRH services are available and where to seek services (p. 12).
Policy brief: *Improving Sexual Reproductive Health Information and Services for Youths – It's Worth It!!* (NCPD, 2012)	ACCESSIBILITY	Location of the clinic, costs, or policies that restrict youth's access to services (p. 3).
	ACCEPTABILITY	Young people are reluctant to discuss reproductive health issues, seek information fearing that knowledge will be interpreted as promiscuity (p. 3).

GREY LITERATURE		
DOCUMENT	COVERAGE DIMENSION	FINDINGS (barriers)
		Stigma at the health clinic and inappropriate treatment, including negative and unsupportive attitudes of service providers (p.3).

Table 2: Summary of findings (barriers) for the peer-reviewed literature

Peer-reviewed literature		
DOCUMENT	COVERAGE DIMENSION	FINDINGS (barriers)
Research article: *Factors influencing access of HIV and sexual and reproductive health services among adolescent key populations in Kenya* (Robert et al, 2020)	ACCEPTABILITY	Negative health provider attitudes, stigma and discrimination in public health facilities.
Research article: *Barriers and Facilitators of Adolescent Health in Rural Kenya* (Secor-Turner et al. 2014)	AVAILABILITY	” Health services, especially preventive services, were difficult to access for participants because they were not available in close proximity to the area in which they lived or were too expensive (p. 274).
	ACCEPTABILITY	Participants consistently reported strong social and religious taboos against talking openly about sexuality. The presence of these taboos created a context of shame and embarrassment when adolescents needed information or services related to sexual health (p. 274).
Research article: *Adolescent Pregnancy and Challenges in Kenyan Context: Perspectives from Multiple Community Stakeholders (Kumar et al.,2017)*	AVAILABILITY	Health care workers’ and community health workers’ training and capacities about SRH services for pregnant adolescents and teenage mothers were very limited.

Peer-reviewed literature		
DOCUMENT	COVERAGE DIMENSION	FINDINGS (barriers)
Research article: *Access to information and use of adolescent sexual reproductive health services: Qualitative exploration of barriers and facilitators in Kisumu and Kakamega, Kenya.* (Mutea et al., 2020).	AVAILABILITY	Distance to the health facility
	ACCESSIBILITY	Unaffordable cost of services
	ACCEPTABILITY	Negative HCWs attitudes, negative social cultural influences, lack of privacy and confidentiality
Research article: *Young people's perception of sexual and reproductive health services in Kenya*. (Godia et al., 2014)	ACCESSIBILITY	Long waiting time – long queues
	ACCEPTABILITY	HSP attitude sometimes judgmental ▪ Provider gender – not always female Corruption in health facilities
	AVAILABILITY	Lack of essential drugs

Table 3: Summary of findings (facilitating factors) for the peer-reviewed literature

Peer-reviewed literature		
DOCUMENT	COVERAGE DIMENSION	FINDINGS (facilitating factors)
Research article: *Young people's perception of sexual and reproductive health services in Kenya*. (Godia et al., 2014)	ACCESSIBILITY	HCWs were friendly and helpful. They provided good advice on pregnancy care and nutrition.
	ACCEPTABILITY	Low cost of services.

6. The qualitative investigation

The qualitative investigation in Kakamega county explored the five dimensions of the Tanahashi framework related to access and utilization of health services for pregnant adolescents and teenage mothers, possible improvements and Covid-19 impact.

Acceptability coverage

The most frequent barrier for pregnant adolescents and teenage mothers highlighted by the interviewees are socio-cultural norms accepted at community level and community judgmental attitudes against pregnant adolescent girls and their need to access SRH services. Generally, knowledge and utilization of SRH services are viewed as a sign of sexual promiscuity and are resisted by families and community members. Adolescent girls looking for SRH support face stigma and discrimination, they fear to be seen by people they know while accessing SHR and they fear judgment and negative consequences.

"They are usually looked down upon by everyone and they are seen as if they have already messed up their lives" (Teacher)

"The belly is protruding so you fear walking. So sometimes I just go say am going to the clinic and I sit in a certain bush then I come back home" (Pregnant girl)

A big barrier described by the girls, families and community representatives is the negative and discriminatory attitudes of heath care workers towards pregnant adolescents and the lack of privacy and confidentiality. HCWs being rude and discriminatory towards pregnant adolescents was a common finding during the interviews and FGDs.

"The first challenge is nurses harsh speech" (Family member)

"Maybe you are going for antenatal services and there is a nurse who is a neighbour. The moment she sets her eyes on you, the whole village will know that you are pregnant" (Pregnant girl)

"If they check on your ethnicity and if you are not related in one way they won't handle you" (Adolescent girl)

Availability coverage

Lack of drugs, equipment, and doctors are the main barriers described for the availability dimension. Perception of coverage of youth friendly SRH services is low among adolescents and there is also a shortage of staff providing tailored services for pregnant adolescent. Few HCWs are equipped with the knowledge and skills to provide adolescent-friendly services and they often face heavy workloads and competing priorities. Lack of dedicated spaces for adolescent SRH is also limiting adolescents' access and utilization of ASRH services.

"I feel that the majority of adolescents do not attend services because of we don't have room for youth, like the youth friendly services they are supposed to be activated" (HCW)

Accessibility coverage

Long distances to health facilities offering SRH services for adolescents, high costs and availability of transport are limiting the possibility for teenagers to access these services. Long waiting times, inconvenient hours of the services, lack of ambulance service are barriers to the services accessibility. HCWs are reported to be late or on strike due to poor salaries conditions.

Adolescents cannot access SRH services also because they are asked to pay for services or medications, or to have parental consent (if they are under 18 years of age).

"We are strained at point that we are not able to separate the services adults from adolescents" (HCW)

"Y*ou pay 500 shillings so that the patient is registered before being treated. If you don't pay for registration there will be no service"* (Adolescent father)

"So, I was told to go buy two sets of gloves, yet I had nothing. I explained to the nurse and she told me to go away" (Teenage mother)

"If they are under 18 years of age they need parents consent to receive contraceptive methods" (CHW)

Contact/use coverage

Lack or limited awareness about ASRH services provided and their location and incorrect knowledge of adolescents about their SRH needs, are limiting their contact and use of these services. Health-seeking behaviour among adolescents is also compromised by fear of questions and cultural or religious beliefs.

"There are churches that forbid going to the hospital. They believe the Lord is the creator and protector of the baby" (Family member)

Covid-19 impact

Covid-19 pandemic starkly impacted access to health services for the adolescent girls. One of the main barrier described was that masks were requested to enter the health facilities, however the girls couldn't afford them or masks weren't available on the market. Also curfew, travelling restrictions, long waiting time and lack of money hampered accessibility to the health services. Fear of contagion and social distance between the girls and the HCWs meant less privacy. For the girls Covid-19 also meant loss of employment, less money available, less food available, increased cost of life, schools closure and deaths in the community.

"Before then you could afford soap at twenty shillings currently you cannot" (Community organisation)

In particular, school closure meant more time spent with boys bringing to an increase in the number of teenage pregnancies and school dropout.

"So when we were recalled to schools, many didn't come back because some were nurturing children, others were almost giving birth, others were in hospitals nearing birth. And other even wrote their national exams while in hospital" (Teacher)

Improvements to coverage of ASRH services

"The first thing is that they need to understand us and know our needs" (Adolescent girl)

A common improvement suggested is to increase the number of HCWs, the availability of drugs, equipment and ambulances, and to extend opening time. Also increase HCWs salary could avoid strike and disruption and increase motivation. At the same time, HCWs need to be trained about ASRH and how to deliver adolescent friendly services. Adolescent dedicated spaces and a special day of attendance could improve privacy and make girls feel at ease. Support girls with transport costs could also facilitate their attendance.

"There should be a special day for the pregnant adolescents and teenage mothers where they attend their clinical services to enable all of them to attend to the services without fear" (Community Chief)

Reaching adolescents within communities is also pivotal, mobile clinics could visit each community in coordination with CHWs, health facilities and schools and increase awareness of adolescents, family and community members.

"*Mobile hospital should be brought so that they go to each area"* (CHW)

Schools have also a pivotal role in educating adolescents and their family and to contribute together with community leaders to fight stigma about ASRH. Engaging adolescents who went through the same experience could enhance this process. Schools need to be inclusive and support pregnant adolescents and teenage mothers.

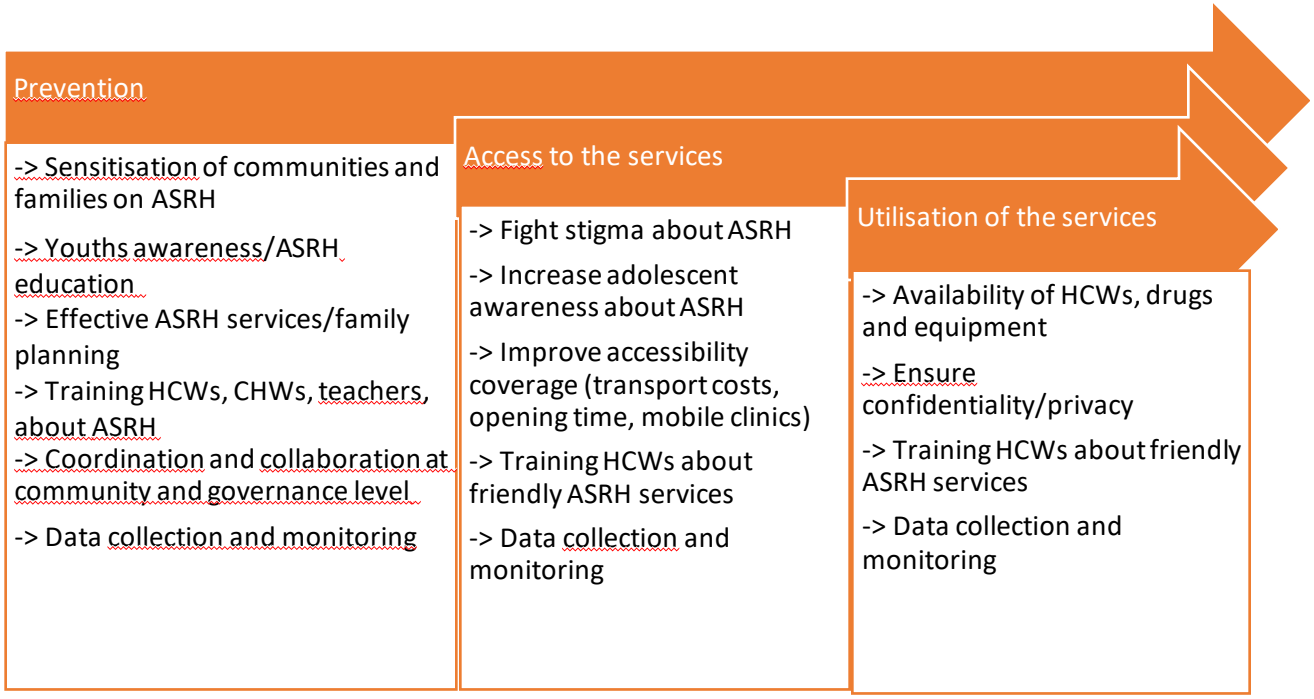
"Some schools restrict them, like they did not give them a chance to study when they're pregnant" (Teacher)

A major improvement would be to enhance coordination and collaboration at community and governance level, among different sectors and stakeholders. At community level good networking between the stakeholders like the CHWs, the HCWs, private clinics, and teachers could support adolescent girls to access ASRH services. At governance level an enabling environment to support the operationalization of the policy framework is sought together with a multi-program approach, whereby relevant sectors like reproductive health, education, children protection work together by

sharing data and pursuing common objectives. To support this collaboration, the quality of the collected data needs to be increased.

"Girls would go to this clinic today, and because of the stigmatization, they will move to another and another clinic. So that sequence could not be followed because they may not use the card they used in the previous clinic" (Health officer)

Fig. 2: The main improvements highlighted by the qualitative investigation



7. The stakeholder workshop

On the 17th of November a 3-hour workshop has been organised in Kakamega town and 53 attendees joined from Ministries, Government, health system, research institutions, civil society and media. The workshop adopted a participatory approach to discuss the research results and coproduce recommendations. The salient points that emerged from the discussion are:

- ✓ Promote intergovernmental collaboration and intersectorality between all the different actors;
- ✓ Adapt the policy framework to be more attentive to the girls needs and include community views;
- ✓ Support adequate financing to continuously supply commodities to health facilities;
- ✓ Empower CHWs to act as an effective interface between communities and health facilities;
- ✓ Engage communities about ASHR, leveraging on CHWs and using participatory approaches;
- ✓ Enhance awareness of girls about their health needs and health services available (school health programs, peer to peer education, girls' groups etc).

8. Pathways to impact

The preliminary results of this research study suggest that main barriers to access and utilisation of youth friendly ASRH services are related to the following Tanahashi dimensions: acceptability (stigma and socio-cultural influences, negative health workers' attitudes, lack of privacy and confidentiality), accessibility (distance to the health facility, costs for transport and drugs, opening times), availability (lack of staff, drugs and equipment, low coverage of SRH services specific for adolescents), contact/use (lack of information about SRH services offered). An effective strategy to promote pregnant adolescents and adolescents mothers' SRH services coverage, requires a package of interventions that addresses contextually relevant factors contributing to the poor access and utilization. It is therefore compelling to develop and implement interventions to improve ASRH services coverage that address these four components and to deliver more research about the effectiveness dimension.

As the Lancet Commission on Adolescent Health and Well-being has suggested, 'the most powerful

actions for adolescent health and wellbeing are intersectoral, multilevel, and multi-component (Patton et al., 2016). Thus, the action needs to involve different governmental and societal actors at different levels (education sector, health sector and public and private institutions) and include all the relevant components relative to the specific context. Having a clear picture of the components that need to be involved and the barriers that need to be targeted will contribute to deliver interventions that are effective.

Moreover, interventions would need to be guided by the strongest available evidence and by previous experiences gained about efficient youth-friendly health service provision and involve adolescents in their design and implementation.

Evidence about effective strategies on how to increase demand and community support for ASRH services suggest that interventions that aim at training health care workers about welcoming and non-judgmental attitudes, privacy and confidentiality along with clinic establishment or enhancement to improve youth friendliness, showed a steady increase in the demand for these services (Denno, 2015). Also, a community behaviour change component involving schools, communities and mass media should be promoted by peer educators and teachers.

The "National guidelines for provision of adolescent and youth friendly services in Kenya" suggest some practical recommendations to improve adolescents' access and utilization to SRH services (Kenya MOH, 2016).

Based on the scientific evidence, the Kenya policy framework and context, and the results of this research study, we suggest to develop and pilot a locally tailored package of interventions aimed at improving the coverage of youth friendly SRH services, particularly for vulnerable groups like pregnant adolescents and teenage mothers, involving all the relevant stakeholders to ensure ownership and alignment with other adolescent health programs.

The intervention package should include the following components:

1) Availability: Promote adequate financial and technical investments to ensure sustainability of a network of Youth Empowerment Centres, one in each constituency, as envisaged by the Vision 2030 flagship project; '*One Stop Shop*' for youth to access SRH information, guidance and services (NCPD, 2012). These centres should function as the main hub for a network of mobile clinics that will train and supervise HCWs working at health facilities. The mobile clinics should be composed of skilled HCWs and peer educators that would visit the health

facilities once a month to support and supervise the ASRH services provided and deliver awareness raising campaigns in the communities within the catchment area of the facility. The Youth Empowerment Centres should also provide an anonymous telephone line and the creation of youth groups to support adolescent access and utilization of SRH services.

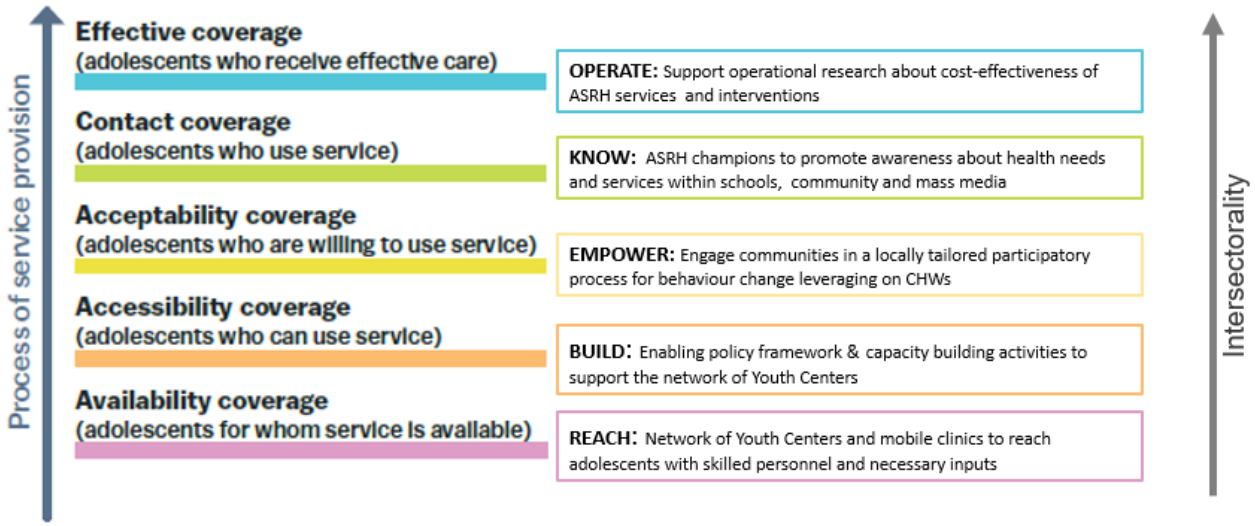
2) Accessibility: The Youth Empowerment Centres should support capacity building activities aimed at train HCWs of the health facilities of the constituency, establish or reinforce ASRH services, and ensure a continuous supply of basic commodities for adolescents SRH needs. The mobile clinics should ensure monthly supervision to the health facilities to carry out monitoring and evaluation activities and to verify that standards of quality in delivering ASRH services, including those based on age and gender appropriateness, are respected. AN enabling policy framework should support girls' free access to these services and to receive an effective family planning.

3) Acceptability: Gain community-wide acceptance of ASRH needs involving all the relevant stakeholders (religious leaders, village leaders, teachers, parents) in a participatory process to support behaviour change about ASRH services utilization, leveraging on the CHWs network. Adolescents and SRH services providers would also need to be engaged in the process and locally relevant participatory methods, like theatre, should be utilized. Specific interventions should target vulnerable groups of adolescents like pregnant girls and adolescent mothers, to empower them to recognize their health needs and to utilize ASRH services.

4) Contact/Use: Develop comprehensive communication and information strategies about ASRH needs and services available involving schools, churches, mass media, social media. ASRH champions should be part of the mobile clinic team and reach out to local communities during the supervision activities to perform routine awareness raising activities.

5) Effectiveness: Promote operational research led by national and international research centres about SRH providers compliance to standards and guidelines, and cost-effectiveness of strategies and interventions to improve access and utilization of adolescents SRH services.

Fig. 2: "Pathways to impact" framework



To expand on this framework, a further step needs to be planned considering the Covid-19 pandemic impact. As this research suggests, Covid-19 dramatically impacted the lives of adolescent girls. When designing pandemic preparedness strategies a special attention needs to be focused on vulnerable groups, such as adolescent girls and pregnant adolescents, in order to prevent possible pregnancies and support access to health services (i.e. distributing masks to patients accessing health services) and education.

9. Way forward

Adolescent pregnancy in Kenya and Kakamega county is a public health and socio-cultural emergency. This research study gave an overview about barriers that pregnant adolescents and teenage mothers face while accessing and utilizing ASRH services in Kenya and Kakamega county. The preliminary pathways to impact framework developed would need to be further validated for feasibility by all the involved stakeholders.

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