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# Engaging adolescents for sexual and reproductive health and rights and family planning advocacy in Pakistan: a qualitative study protocol

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## ABSTRACT

**Introduction** Adolescents and young people aged 10–24 years comprise 32% of the total population of Pakistan. Adolescents and young people are a heterogeneous group—in different stages of development, living in different circumstances and with differing and changing needs. Neglect of specific adolescents' sexual and reproductive health (SRH) needs can pose serious challenges and affect physical and mental health, future employment, economic well-being and adolescents' ability to reach their full potential. Evidence suggests that adolescents in Pakistan have poor access to SRH services, including access to contraception and limited knowledge of SRH and rights (SRHR), contributing to unplanned pregnancies, very early childbearing, short birth intervals, pregnancy complications, maternal death and disability. Despite recognising adolescence as an important developmental period, research on SRHR needs and access to SRH information among adolescents in Pakistan is scarce. This project will use a participatory action research (PAR) approach based on the principles of public engagement in science and innovation to develop a national SRHR and Family Planning Advocacy Toolkit for adolescents in Pakistan.

**Methods and analysis** We will use the PAR framework to guide our study. This research project will be conducted in three stages with cyclical recurring activities involving planning, acting, observing and reflecting, as informed by the PAR framework. The three stages are: (1) establishment of youth advisory groups and identification and prioritisation of SRHR concerns, (2) planning and co-designing an appropriate intervention (ie, SRHR and Family Planning Advocacy Toolkit) and (3) implementation and usability testing of advocacy Toolkit. This project leverages strong, well-established partnerships among researchers, clinicians, lady health workers (LHWs) and adolescent communities living in rural parts of Pakistan.

**Ethics and dissemination** This study has received ethics approval from the University of Alberta Research Ethics Board (Pro00129101_REN1) and the Ethics Review Committee at Aga Khan University (2023-8671-26021). We will actively engage adolescent advisory group members, youth partners and LHWs in the dissemination of the Toolkit to ensure that it will reach end users in the rural community. In collaboration with governmental platforms, community non-governmental organisations and educational campaigns, the Toolkit will be disseminated to ensure SRH knowledge is readily available to young adolescents. We will also publish our study findings for peer-reviewed publications, digital stories and conference presentations.

## STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ This study will strengthen the limited knowledge base on participatory action research (PAR) methods, highlighting their effectiveness in engaging adolescents to co-create solutions for sexual and reproductive health (SRH) and adolescent health research.
⇒ Meaningful adolescent engagement in the co-design and delivery of a knowledge translation Toolkit will promote SRH and rights (SRHR) awareness, foster greater social acceptance and encourage the adoption of family planning methods among adolescents in Pakistan.
⇒ The collaborative nature of PAR strengthens trust between researchers and adolescents, creating a safe space for open dialogue and addressing sensitive SRHR issues more effectively. The use of PAR in this project will foster active participation from adolescents, empowering them to contribute directly to the research process and ensuring the findings reflect their lived experiences and needs in SRHR.
⇒ However, the PAR method is inherently time-intensive, requiring significant efforts to build trust and engagement and may face challenges such as cultural resistance, resource limitations and limited generalisability beyond specific contexts.

## INTRODUCTION

WHO defines adolescents as people aged 10–19 years.[1] According to the National Institute of Health, adolescence is the time between the beginning of sexual maturation (puberty) and adulthood.[2] The transition from adolescence to adulthood is exciting and complex, as new responsibilities materialise and confidence and independence emerge.[3 4] As part

of their physical, psychological and social development, adolescents commonly explore their sexual identities and feelings through sexual experimentation.[5–7] Sexual and reproductive health (SRH) is a fundamental human right, an important aspect of adolescent health and well-being, and it interconnects with various physical and mental health issues. Neglecting adolescents' SRH needs and SRH and rights (SRHR) can affect their physical and mental health, social and economic well-being and ability to reach their full potential.[8–10]

Pakistan has one of the highest total fertility rates (3.6 children per woman) in South Asia.[11 12] Approximately 50% of all births in Pakistan occur among girls and women younger than 20 years of age residing in rural areas.[13] The prevalence of early marriage among girls contributes to high fertility levels.[13] Close to 15% of girls aged 15–19 years were married in 2018, compared with 3% of boys in Pakistan.[11] Compared with their male counterparts, women in Pakistan typically have little to no decision-making power, fewer educational opportunities, and less control over assets and resources.[14] Unsurprisingly, the country has long been a challenging setting for sexuality education, reproductive health, youth engagement and women's empowerment programmes. Schools rarely include SRHR content in their curricula, the lack of knowledge and misconceptions about SRH are common, and adolescent-friendly SRH services are largely absent in the public sector.[15–17] Religious resistance is a major barrier to implementing SRHR programmes.[17] Within the local social context, human sexuality is considered a societal taboo, restricting open discussion.[18] There are misconceptions among lower- and middle-income groups that unmarried adolescents are too young to access SRH-related information and services.[19] Furthermore, laws and policies in Pakistan are typically restrictive, creating an environment that does not support the recognition of adolescent SRHR for healthy development.[20 21]

A small but growing body of literature suggests that many young people (aged 10–24 years) in Pakistan lack SRH knowledge, use fewer SRH services and receive fewer sexual health education resources.[15 16 22 23] Adolescents in Pakistan possess little to no information on puberty and menstruation, gender equality and empowerment, and gender-based violence and abuse.[17 21 24] Their situation is influenced by a lack of information sources, taboos, fears, and cultural and religious stigmas. In conservative societies like Pakistan, where cultural sensitivities discourage the discussion of SRH and sexuality education is controversial, it is even more challenging for young people to access reproductive health services, especially if they are not married. Access to basic SRH services, such as family planning and sexuality education, remains low, both in urban and rural areas but more often in remote rural areas.[15 25]

Government and non-governmental organisations in Pakistan deliver programmes addressing various aspects of adolescent SRH (eg, contraceptive use and SRH literacy) in different settings (eg, schools and health facilities). However, these have been implemented mostly in urban areas/cities. Organisations are working in isolation from one another, and very few have comprehensively evaluated their programmes using rigorous methods. The lack of information on implementation makes it difficult to determine what works, for whom and under what circumstances. Despite efforts and progress by organisations and governments in increasing the uptake of SRH services in Pakistan, adolescents in rural areas do not have access to SRH information, resources and services.[15 25 26] Moreover, there are no programmes that engage adolescents in developing and implementing SRHR and family planning interventions, which can improve the quality and responsiveness of SRH programmes and policies.[27] Many programmes and policies in Pakistan are based on perceptions of what is considered 'proper' or 'best' for young people rather than their actual needs.[15 28] There is an 'urgent need to empower adolescents to take control of their sexuality through improved knowledge and access to adolescent-centred, culturally safe SRH services, that will support them to make informed SRH decisions'.[15 25 28] In response to this demand, we will engage adolescents to develop a culturally relevant and easy-to-use SRHR and Family Planning Advocacy Toolkit to enhance the uptake of evidence-based SRHR and family planning information and services among adolescents in rural Pakistan. Our overarching research question is: 'By understanding SRH knowledge, information needs and priorities of adolescents in rural Pakistan, how can we improve SRHR and empower adolescents to exercise their reproductive rights?' Our study is unique because we aim to address the SRHR and family planning needs of an underserved population. The research will focus on the full spectrum of gender diversity, including male, female, transgender and gender non-conforming adolescents. By incorporating cultural knowledge and agency, we will develop an adolescent-centred knowledge translation (KT) strategy, creating an SRHR and Family Planning Advocacy Toolkit. This toolkit will be co-designed with adolescents to ensure its usability and effectiveness. We will also evaluate the tool's usability, paving the way for future pragmatic effectiveness trials.

- Focus on an under-researched population to identify their SRHR and family planning needs.
- Consider voices of the full spectrum of gender diversity (including transgender and gender non-conforming adolescents), cultural knowledge and agency.
- Develop an adolescent-centred KT strategy (ie, SRHR and Family Planning Advocacy Toolkit) by engaging adolescents as partners to ensure they are aware of and know how to use this Toolkit. Development and evaluation of the usability of the tool will lead to future pragmatic effectiveness trials.

## METHODS AND ANALYSIS

A participatory action research (PAR) approach based on the principles of public engagement in science and innovation will be used to develop an SRHR and Family Planning Advocacy Toolkit for adolescents in Pakistan. Our objectives are:

1. To better understand adolescents' information, educational support and service access needs related to SRHR and family planning.
2. To engage adolescents in the co-design of the SRHR and Family Planning Advocacy Toolkit.
3. To evaluate the Toolkit's usability and usefulness in improving the SRHR of adolescents in Pakistan.
4. To disseminate the research outputs to a variety of stakeholders (such as government and non-government organisations) working to improve the SRHR of youth in Pakistan.

### PAR framework

PAR is a framework for conducting research and generating knowledge, centred on the belief that those who are most impacted by research should be the ones who take the lead in framing the questions, the design, methods and the modes of analysis.[29] Importantly, PAR legitimises the active role of communities in knowledge generation, as it can lead to the participants developing abilities to analyse, reflect and trigger collective action.[29] PAR embraces a dialectic shifting of understandings, subjectivity and coexistence of multiple realities that depend on context and circumstance.[30] It is responsive and committed to meaningfully engage and incorporate the end-user's voices into designing and developing interventions that provide solutions to real-world problems. PAR involves recurrent planning, action, reflection and observation stages.[31 32] In this project, adolescent participants will be meaningfully engaged in all the PAR steps by the study team. The KT Tool (SRHR and Family Planning Advocacy Toolkit) will reflect the experiences and voices of adolescents and/or communities.

### Setting and participants

The project will be implemented in Matiari, Saeedabad and Hala, rural areas of Sindh province that have greater gender disparities. In 2021, 18.6% of adolescent girls were attending school versus 57.6% of adolescent boys, based on a survey of 8920 adolescents.[33] While 63% agreed there should be SRH educational sessions in their areas, 57% had never heard of such sessions available in their community. A third of adolescents reported they found discussing SRH issues with their parents and/or healthcare providers embarrassing; 80.2% agreed with the idea of conducting SRH sessions with strict confidentiality.[33] There are deep-rooted societal, religious, parental and cultural barriers to discussing adolescent SRHR, specifically with unmarried adolescents, and community support must be built first.

Lady health workers (LHWs) are an important part of communities in rural Pakistan.[34–36] They visit households to increase awareness of reproductive health and nutrition, facilitate registration of births and deaths, distribute contraceptives, support children's immunisation and provide maternal and child health services. This allows them to develop rapport and trust with adolescents, women and community members, which is vital for ensuring that the community is open, receptive and accepting of SRHR and family planning for young girls and women. In collaboration with LHWs, we will recruit participants aged 10–19 years (married and unmarried) for the various stages of the research project. Moreover, stakeholders, such as service providers, programme managers, policymakers and members of the communities' informal support channels (eg, parents, teachers and religious leaders), will also be consulted to provide their expertise throughout the development of the advocacy Toolkit. Adolescent participants and stakeholders will be approached individually via telephone or in-person to introduce the study objectives and activities and invite them to participate. The details on the participants and recruitment for each stage are mentioned in detail in the following sections.

### Study design

The study will take place in three stages using the PAR framework: (1) establishing adolescent advisory groups (AAGs) and identifying and prioritising SRHR concerns, (2) planning and co-designing the intervention tool (ie, SRHR and Family Planning Advocacy Toolkit) and (3) implementing and usability testing of the advocacy Toolkit.

PAR and human-centred design (HCD) principles[31 32 37 38] will be used in the Toolkit design to understand the issues and possible solutions from adolescents' perspectives. Table 1 presents a summary of the PAR and HCD stages, activities and session plans for the study. In addition, it is ensured that the Toolkit is culturally appropriate, understandable, usable and acceptable to end users. HCD of KT products is a well-established method that involves ideation, rapid prototyping, and iterating on the strengths and weaknesses of prototypes so that innovations may be designed quickly and with the direct input and preferences of actual 'end users'.[37 38]

### Stage 1: Establishing AAGs and identifying and prioritising SRHR concerns

#### Recruitment

To recruit adolescents for the AAG, we will collaborate with LHWs and youth champions who work closely with communities. With support from Canadian Institutes of Health Research bridge funding, we identified and recruited five youth champions (three women and two men; aged 18–24 years) who will work in areas not served by LHWs. Youth champions will support the recruitment of adolescent participants for the study and also participate in AAG meetings and training sessions.

The project team, LHWs and participating youth champions will first conduct orientation sessions for

Table 1 Summary of participatory action research and human-centred design stages, activities and session plans for the proposed study

| PAR and HCD stages | Cyclical activities | Descriptions |
|---|---|---|
| Stage 1 (empathise and define)—establishment of AAGs and identification and prioritisation of SRHR concerns | Planning | Project team members work with LHWs to identify and establish AAGs that serve as reference groups and work with project team members.<br>Getting AAG members and agreeing on a time and place for regular sessions.<br>Develop training sessions on SRHR.<br>Develop a summary of findings from projects completed by NPA and Co-PAs. |
| | Action | Deliver training sessions on SRHR in collaboration with youth research assistants and youth champions.<br>Present and discuss foundational studies in a consultative workshop with AAGs.<br>Systematically identify thematic concerns through small homogenous AAGs and heterogeneous AAGs.<br>Identify and prioritise top thematic concerns. |
| | Observation | Collect key thematic concerns and priorities generated through AAG discussions, through audio-recording, capture minutes and field notes.<br>A research assistant will record field notes on AAG dynamics and interactions and the discussion's context. |
| | Reflection | Reflect within AAGs, compare the reports of each group.<br>The AAGs make sense of what has happened by thinking about how it fits with their experiences and local contexts using criteria. |
| Stage 2 (ideate and prototype)—planning and co-design the intervention | Planning | Reach a common understanding between AAG and the researchers and assistants on what the research involves and ensure consent to participate.<br>AAG agrees on the time, place, number of sessions per week and duration of the design thinking workshops.<br>Review the thematic priorities identified in Stage 1, discuss, select and prioritise thematic concerns for action as the trial of proof of concepts.<br>Generate a set of solutions and design intervention strategies (ie, Toolkit). |
| | Action | Conduct design thinking workshops with AAG and develop viable and realistic Toolkit design and content considering their local realities and culture; set evaluation strategies for actions. |
| | Observation | Observe and document the process through notes and audio-recordings.<br>Evaluate participation and representation. |
| | Reflection | Continuous reflection throughout the action planning phase on data from observation and field notes and reflection on the action options.<br>Examine whether the proposed improvement methods (ie, Toolkit) are feasible in terms of time, additional resources availability and local experiences. |
| Stage 3 (test)—implementation and usability testing | Planning | Review of the plan action with AAG and reach an agreement about the way strategies would be put into operation and how to document observations.<br>Designing implementation strategies and action.<br>Discuss and set implementation indicators.<br>Discuss and research consensus on how the AAG will continue with the PAR processes on own. |
| | Action | Implementation meeting with AAG.<br>Reach an agreement about the way the Toolkit would be put into operation and how to document observations/usability testing.<br>Discuss and research consensus on how the AAG will participate in the Toolkit revisions and continue with the PAR processes on their own. |
| | Observation | Document the revision process by taking detailed field notes, observing and discussing with AAG members.<br>Preliminary analysis and findings of the feasibility evaluation process will be collected.<br>Conduct informal interviews with AAG to ascertain their perceptions and experiences of the process of PAR. |
| | Reflection | Conduct evaluation meetings with AAG and collect feedback about the process of the PAR process and reflect on the process of implementation.<br>Identify options for further PAR and action with or without academic researchers. |

AAG, adolescent advisory group; Co-PA, Co-Prinicipal Applicant; HCD, human-centred design; LHW, lady health worker; NPA, Nominated Principal Applicant; PAR, participatory action research; SRHR, sexual and reproductive health and rights.

the community to discuss adolescent SRHR and family planning needs and to prepare them for youth to participate in our project. We will invite parents, grandparents, teachers, and community and religious leaders. The sessions will address the unique SRHR needs, how to address those needs and concerns, and the purpose of adolescent engagement in SRHR health promotion and awareness programmes. The project team members will help LHWs and youth champions organise and lead these sessions. Following the orientation sessions, LHWs and youth champions will map out the population of male and female adolescents in their respective catchment areas in the targeted project districts and compile a list of information relating to adolescents (eg, name, age and marital status). Youth research assistants in this project will collaborate with LHWs and youth champions to recruit AAG participants. Participants aged 12–19 years (married and unmarried) will be invited to participate in the AAG. A significant body of literature will help conceptualise and operationalise the elements of adolescent engagement,[7 36 39] and we intend to engage adolescents as collaborators and active participants.

Based on these young people's physiological, psychological and social developmental stages, it is anticipated that younger adolescents may find it difficult to share common cultural beliefs and values. To provide equal opportunity to all participants and engage participants actively in the AAG and the project, we will make separate age and gender groups. We will establish 6–8 AAGs to cover the 18 reporting health facilities in Matiari, with practical considerations (eg, the number of adolescents who may be interested in participating) and as per the recommendations of research team members with extensive experience working with youth advisory groups in Canada and Pakistan. We anticipate that 8–12 adolescents will create meaningful engagement,[39 40] and we will meet for 2 hours every month for approximately 18–24 months. This timeline will be adapted reflecting the AAGs' progress and needs.

### Training activities

The AAG meetings will take place in LHWs health houses and Village Health Committees (VHCs); these venues serve as safe, inclusive and private spaces for young girls and boys (in close proximity). AAG members will receive training in SRHR, social determinants of health, and qualitative and quantitative methodologies. The training package will be designed to develop core skills in adolescents, and they will advise on priority problems to improve SRHR from their local community perspectives. We will provide AAG members with an introduction to engage and critically draw on their expertise (see online supplemental appendix A for training activities). After the core skills training, AAG will be engaged in the prioritisation of SRHR concerns and Toolkit development. The AAG will prioritise the topics for the Toolkit in consultation with the youth research assistants, youth champions and the research team. Any disagreement between AAG participants about the prioritisation list will be resolved through discussion and consensus among the AAG members. The prioritisation list will be used in the Toolkit development. AAG participants will be remunerated for their time and contributions ($C50–100/person).

## Stage 2: Planning and co-designing the intervention

Building on the findings from previous research projects by the nominated principal application and principal applicant[25 26 33 41–43] and continuous input from the AAGs, a picture book and story-based SRHR and Family Planning Advocacy Toolkit will be developed for adolescents in the local and national languages (ie, Sindhi and Urdu) written at the fourth or fifth grade level. This Toolkit will represent a paradigm shift from a risk-based perspective to one that embraces adolescent sexuality as a positive and normative stage of development. The AAG will derive the format and content of the Toolkit to meet their needs and preferences. Some essential elements will be included as: (a) healthy sexuality and healthy relationships, (b) teenage marriages and pregnancy and its impact on adolescents, (c) family planning/contraception, (d) integration of sexual health of all young people, including LGBTQ+ youth and youth with disabilities, (e) gender-based violence, (f) menstrual hygiene, (g) unsafe abortions and (h) cousin marriages and transmission of familial diseases.

The Toolkit will be meticulously crafted from a local context perspective to foster an environment of inclusiveness, characterised by profound respect for multifaceted identities and an unwavering commitment to non-discriminatory principles. This strategic design guarantees that both male and female adolescents are equipped with the requisite support and guidance essential for making well-informed decisions on their SRHR. Moreover, the Toolkit will be inclusive and gender-sensitive, aiming to foster adolescents' knowledge in a safe and supportive environment and address their SRHR needs confidently. The Toolkit will separate age-specific information, so adolescents of different age groups can easily find appropriate information. Information on accessing SRH services will connect adolescents to those available in their community. The Toolkit will be freely available in physical and online forms and will be a great source of information for young people during national and global crises, such as pandemics or natural disasters that risk the SRHR of adolescents. Because SRHR is a key component of health, we anticipate that the Toolkit will build resilience through the effective delivery of comprehensive SRHR education.

## Stage 3: Implementation and usability testing of the advocacy Toolkit

### Recruitment

At the end of the project, focus group discussions (FGDs) and/or individual interviews will be conducted to evaluate the usability and acceptability of the Toolkit, seek further input for refining it, assess the effectiveness of the

project and assess directions for future research. Participants will be remunerated for their time and contributions ($C10/person). For usability testing of the Toolkit, we will conduct:

- 6–8 FGDs with 5–10 adolescent participants/group (n=60–80) in Matiari.
- FGDs and/or individual interviews with stakeholders, such as service providers, policymakers and members of the communities' informal support channels (eg, parents, teachers and religious leaders) (n=40–50 participants).

Youth research assistants, AAG members, youth champions and LHWs will facilitate the recruitment of participants for this stage. Adolescent participants and stakeholders will be approached individually via telephone or in-person to introduce the study objectives and activities and invite them to participate. The use of youth research assistants, youth champions, AAG and LHWs for recruitment has been successful in past projects in rural communities in Pakistan by the Nominated Principal Applicant (NPA) and Principal Applicant (PA).[25 33 42] The snowball (word-of-mouth) technique will connect with potential, isolated participants.

### Data collection

Participants will review the Toolkit. Semistructured, open-ended questions will be asked during the FGDs that will focus on the Toolkit and usability evaluations.[44] Data collected will pertain to: (a) participants' views, including ease of use; (b) preferences regarding receipt of health information; (c) useful attributes; (d) unhelpful elements; (e) perceptions of the utility to improve an adolescent's SRHR and (f) recommended revisions and additions. Each aspect of the Toolkit (eg, narrative, visual appeal, health information, engagement and interactivity) will be explored in the FGDs. Interviews will be conducted in the participants' local language (ie, Sindhi).

Findings will be integrated into the Toolkit revision, and the final version will be disseminated through AAGs, youth partners, LHWs and community midwives. The Toolkit will also be disseminated through informal channels such as community health workers and non-governmental organisations (NGOs) working actively in the community (eg, HANDS, MARVI Rural Development Organisation) and to schools by involving teachers. Social media platforms like TikTok, 'X', formerly Twitter, and Instagram, will also be used to disseminate. The AAG members will participate in dissemination activities. Pragmatic trials to evaluate the effectiveness of Toolkit in improving SRHR outcomes in adolescents are also planned for sustainability.

The protocol addresses potential resistance to introducing SRH education to adolescents in conservative settings through a structured and culturally sensitive approach. A robust community engagement strategy will involve proactive consultations with key stakeholders, including community healthcare workers, parents and community stakeholders, to align project objectives with sociocultural norms. A participatory methodology will ensure that intervention design is informed by community input, fostering ownership and acceptance. A step-by-step implementation approach will introduce foundational health topics as an entry point, progressively incorporating SRH content. These strategies aim to ensure the cultural appropriateness and feasibility of the intervention while advancing adolescent health outcomes.

### Data analysis

In accordance with PAR, we will use the DEPICT model for participatory analysis[45] (see online supplemental appendix B). Data analysis will occur in four steps and be concurrent with data collection: (1) Transcripts will be digitally recorded and transcribed verbatim by a professional transcriptionist in the Sindhi language and translated into English. (2) Two research assistants (RAs) and PAs and two Co-Applicants (Co-As) will read the transcripts in detail several times to familiarise themselves with the content. (3) The NPA and PAs will lead the team in the open coding of all transcripts. They will then group the codes into preliminary themes. Themes will be presented to the team and AAGs for feedback and additional comments, which will then be incorporated into the analysis. (4) Themes across interviews will be grouped into an organisational framework. This is a 5-year project scheduled to commence in June 2023 and conclude in May 2028.

### Rigor

To achieve reliability and validity and ensure rigour, the team will achieve the following as discrete milestones: (1) methodological coherence, ensuring congruence between the research questions; (2) appropriate sampling to ensure efficient and effective saturation of categories with optimal quality; (3) collect and analyse data concurrently; (4) develop a coding system that will be discussed and verified with team and AAG members; (5) maintain a detailed audit trail and field notes in a central repository[46] and (6) AAG member checks, we will share the de-identified, results, analyses and reports with participants so they may review and provide feedback. All analyses will include an exploration of how sex, gender and other diversity characteristics may influence equity, experiences and attitudes at individual and system levels, using social world mapping. NVIVO V.12 software will be used to manage the data analysis process.

## Ethics and dissemination

Ethics approval has been obtained from the University of Alberta Research Ethics Board (Pro00129101_REN1). We will abide by the Tri-Council Policy Statement (TCPS 2): Ethical Conduct for Research Involving Humans,[47] which does not specify an age of consent for children. Adolescent (aged 10–19 years) participants will sign a consent and/or assent form and will not be forced to participate if their parents oppose their participation. As the research is being conducted in Pakistan, ethics approval

was obtained from the University of Alberta Ethics Review Board (Pro00129101). Additionally, approval was secured from the Ethics Review Committee at Aga Khan University (2023-8671-26021).

Active engagement of AAG members, youth partners and LHWs in the dissemination of the Toolkit is crucial to approach end users in every household in the rural community. The NPA currently employs four RAs who are women and have migrated from Pakistan. They will participate and mentor trainees. We will organise SRH education campaigns and youth fairs and disseminate the Toolkit at faith-based events empowered by collaborators (ie, the Department of Health, Government of Sindh and National Youth Assembly). We will collaborate with LHWs, community midwives, community NGOs, primary care facilities and gynaecologists, and school teachers to enhance awareness. This will ensure that SRH knowledge is readily available to young adolescents. Social media outputs such as mini-informational videos, documentaries and infographics will be created by AAGs and trainees. The end-of-grant KT plan includes activities to advance access to SRHR Toolkit, including policy briefs, media reports, infographic factsheets, community reports, digital stories, graphic novels, peer-reviewed conference presentations, 3–4 journal publications and a KT summit that brings together stakeholders to advance policy, practice and action. Our research team has extensive links with organisations locally, nationally and internationally that can assist with the dissemination.

## Patient and public involvement

Members of the AAG and youth champions will actively participate in all phases of the research. They will receive comprehensive training to facilitate their meaningful and effective involvement throughout the project. (See online supplemental appendix A for AAG training activities.)

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**Contributors** SM is the guarantor of this project. SM conceived the idea for this project and received the project funding from CIHR. SM developed the research protocol, which was revised with contributions by ZAM and ZL. ZAM, ZL and HN substantively contributed to subsequent version of the protocol, including the finalised version of this manuscript. All authors reviewed the final version of the manuscript.

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