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Engaging adolescents in SRHR and family planning: from priorities to action

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Abstract

Background Adolescents make up to 23% of Pakistan's population, yet they face significant barriers to accessing sexual and reproductive health (SRH) knowledge and services. These challenges stem from systemic and individual factors, including cultural norms and low health literacy. This project aims to directly involve adolescents and key stakeholders in the co-development of a culturally relevant SRH toolkit to improve access to accurate information. By actively engaging adolescents, the project seeks to enhance their knowledge, participation, and decision-making in SRH care, supporting their healthy development.

Methods This project will co-design an SRH toolkit for young people aged 12–19 years from semi-urban communities in Pakistan, in collaboration with adolescents and other key stakeholders using three research components. First, a Priority Setting Partnership (PSP) involving surveys and workshops will identify priority SRH topics. Second, a Participatory Action Research (PAR) approach using focus groups and interviews with adolescents, with youth champions facilitating peer education sessions to help shape the toolkit content. Finally, an acceptability assessment will be conducted through workshops and surveys with stakeholders and young people to ensure the toolkit aligns with their needs and preferences.

Expected outcome The project will produce a user-friendly SRH toolkit tailored to the needs of adolescents in semi-urban Pakistan, covering key topics such as contraception, safe abortion, gender-based violence, and more. The toolkit will be developed collaboratively in English, Urdu, and Sindhi, and made accessible both online and in print. All materials will be reviewed by participants before finalization. Project findings will be disseminated through stakeholder workshops, community meetings, reports, peer-reviewed publications, conferences, media engagement, and policy briefs.

Conclusion Effective SRH initiatives require purposeful youth engagement, guided by their expressed needs. By centering adolescent voices in the co-creation of a SRH toolkit, this project promotes accessibility, agency and informed decision-making - ultimately strengthening SRH knowledge in young people in Pakistan.

Keywords Sexual and reproductive health, SRH toolkit, Pakistan, Adolescent, Young people, Youth

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Introduction

Sexual and reproductive health (SRH) is an important aspect of growth and development through the adolescent years (10–19 years of age), promoting significant changes in physical, mental and social aspects of life [1]. Despite making up 23% of the population in Pakistan [2], adolescents in the country have poor access to SRH knowledge and services, including critical information regarding puberty, menstruation, gender equality, empowerment, and gender-based violence and abuse [3, 4]. According to the Pakistan Demographic and Health (PDHS) Survey 2017–2018, nearly half of all women in Pakistan become pregnant before the age of 19 [5]. The prevalence of teenage pregnancy is notably higher among women residing in semi-urban areas of Pakistan, many of which have low literacy levels and socioeconomic status [5, 6]. Further, an estimated 47.1% of pregnancies in Pakistan are unintended [7], with three-fourths of adolescent women having unmet needs for modern contraceptives [8]. This number is assumed to be higher in semi-urban areas of Pakistan, where knowledge about, and thus access to, contraception is likely lower.

Teenage mothers face heightened health risks, including higher rates of anemia, lower pre-pregnancy body mass index, and increased likelihood of postpartum haemorrhage, pre-eclampsia and chorioamnionitis. Their newborns are also more prone to preterm birth, low birth weight, and neonatal death [9]. The significant number of induced abortions, estimated at over 3 million per year and often performed by unskilled healthcare providers [7] underscores the critical need for improved access to sexual and reproductive health services to address the growing morbidities and mortalities associated with unmet needs in Pakistan [10].

The available literature highlights a concerning lack of information regarding SRH and sexual and reproductive health rights (SRHR) amongst adolescents in Pakistan. Due to cultural beliefs, stigma and lack of political will, implementing SRH and SRHR education in school institutions in Pakistan is extremely difficult [11]. The 2017–2018 PDHS Survey reported that 78% of women from 15 to 49 years had not discussed family planning with a Lady Health Worker during their health care visit, and only 20% of women aged 20–24 years had been exposed to family planning messages on television [12]. Further, only 52.5% of women in a recent Pakistan-based study reported being "empowered", resulting in less than 10% of women having power in their own decision making, including in relation to their healthcare [13]. This therefore indicates that information regarding family planning, contraception and SRH is not readily available to women, particularly girls and young adults living in Pakistan. Thus, adolescents in Pakistan must be able to find this vital information for themselves, providing them the opportunity to make informed decisions regarding their SRH. The PDHS Survey further found that over a quarter of surveyed men 15–49 years old believed that contraception was women's business, despite many women's lack of knowledge and access to contraceptive tools. The highest proportion of men with this belief was living in semi-urban areas of Pakistan [12]. Those living in semi-urban Pakistan make up almost 62% of the country's population and should, therefore, be prioritised in health research and policy [14]. It is evident that greater educational resources and sources of information are needed for this vulnerable group of young men and women. Toolkits are important evidence-based educational resources that provide comprehensive information on a range of topics to a specific audience [15]. These resources have previously been seen to improve learning outcomes and empower education agencies in adolescence, actively engaging young adults in their SRH learning and development.

Despite their reported positive outcomes, many toolkits still contain gaps in appropriate content and design [15]. Therefore, it is important to meaningfully engage adolescents in the development of a toolkit that will align with their learning needs and priorities, thus allowing them to be easy to use and enticing in design with relevant and useful information. As such, we aim to co-create a SRH toolkit with adolescents and stakeholders, ensuring that it is culturally relevant to adolescents in semi-urban Pakistan and easy to access and navigate for all users. By tailoring this toolkit to adolescents' unique needs and priorities, we aim to increase the availability of accurate and relevant SRH information and services available for them.

Through active engagement with adolescents in this project, we will play a vital role in increasing their knowledge, understanding and participation in SRH care decision-making, aiding in their healthy SRH development. Moreover, by engaging stakeholders and individuals with a key role in adolescent SRH development, we can design a highly impactful toolkit that can be easily used by a wide range of individuals.

Methods

The objective of this project is to develop an SRH toolkit for adolescents (12–19 years) in Pakistan. To achieve this, we will employ three research methods:

1. Priority Setting Partnership Exercise – Engaging adolescents and key stakeholders to identify priority SRH topics for the toolkit.
2. Participatory Action Approach – Conducting dialogues with adolescents to understand their needs and preferences for the toolkit's content and design.

3. Acceptability Assessment – Evaluating the practicality and usability of the toolkit, ensuring it effectively incorporates all essential elements.

Phase 1: Priority setting partnership

We will begin the priority-setting partnership exercise with a scoping review to identify key areas of SRH research for young people in Pakistan. This review will systematically search seven scientific databases (PubMed, CINAHL, PsycINFO, Scopus, Cochrane, Web of Science and Embase) and Google Scholar for publications related to adolescent and young adult SRH in Pakistan (Supplementary file 1). The findings will provide a comprehensive overview of the existing research, highlighting under-researched areas that should be prioritised in the development of the SRH toolkit.

Building on the scoping review, we will conduct a two-phase priority exercise to identify key areas for the toolkit. In the first phase, we will develop a list of SRH-related questions/statements relevant to adolescents in Pakistan. These will be incorporated into a short online/physical survey and disseminated to key stakeholders and young people in Pakistan. The exercise will be conducted in partnership with researchers from Aga Khan University, who have strong connections with both public and private healthcare systems. We will engage a diverse group of stakeholders, including healthcare providers, SRH advocates, policymakers, researchers from state and private sector organizations, and experts in sexual and reproductive health rights for men and women in Pakistan. The group will also include academics, past and present policymakers, planners, national champions, government officials, representatives from multilateral organizations, and leaders in adolescent health programming. Researchers from various organizations that work with young people, develop Life skill-based education (LSBE) curriculum and are involved in communities, schools, and youth leadership programs will also be included (Table 1).

Table 1 List of participants who will be recruited in the first project phase

List of stakeholders	Description of participants
Government-level Stakeholders, including Policymakers/Program Implementers	• National and regional representatives (e.g., Provincial, district officer) • National/regional government representatives (e.g., Policymakers, program implementers and policymakers from the Ministry of Health, Finance and Education involved in family planning strategies
Local Health Experts	• District health officers, community health workers, Healthcare providers, midwives/birth attendants
Researchers, Teachers People from academics and SRH background	• Includes experts conducting evidence-based studies on SRH or contributing to curriculum development, advocacy, and program evaluation to improve adolescent and youth reproductive health services. • School teacher trained in providing SRH education to young boys, girls and gender-diverse youth at community or school level
NGO Representatives	• International NGOs experts, including WHO, WFP, WB, UNFPA, UNICEF, USAID, and FCDO, working in Pakistan to improve SHR services in the country
Youth Parliamentarians and Experts from Women's Councils	• Youth Parliamentarians: Represent young voices in policy discussions, advocate for youth-friendly SRH policies, and bridge the gap between adolescents and decision-makers. • Women's Council Experts: Focus on gender equality, provide policy recommendations, address barriers to SRH access, and support community engagement for adolescent health initiatives.
Community-level Stakeholders	• Adolescents aged 12–19 years • Parents and adults living in the community • Religious leaders, community leaders and influencers

Participants will rank SRH topics based on their perceived importance for inclusion in education and resources (Fig. 1). From each stakeholder group, we aim to include 25–30 individuals in the survey to help refine the priority areas. Participants from the initial survey will be invited to a second phase, which will take place in person through co-design workshops.

Both phases will be analysed using the James Lind Alliance Priority Setting Partnership methodology [16]. In the first phase, survey responses will be ranked separately for adolescents and stakeholders, as well as combined. A question will be considered a priority if more than 50% of participants rank it between 7 and 9 (high priority) and fewer than 15% rank it between 1 and 3 (low priority). Consensus will be ensured by comparing responses between adolescents and stakeholders, with the final list of 25 priorities reflecting agreement across both groups.

The second phase will follow a similar ranking process, with separate and combined analyses of stakeholder and adolescent responses to ensure consensus on the top 10 priorities. The final list of 10 SRH questions/statements will guide the toolkit's development. All authors will review and approve the final selection to ensure alignment with the study's objectives.

Phase 2: Participatory Action Research (PAR) approach

In this phase of research, we will employ a participatory action research (PAR) approach, which emphasizes direct collaboration with affected communities. This method allows a deeper understanding of community perspectives and priorities related to SRH and will ensure highly relevant and impactful research outcomes [10]. Through PAR, we will engage adolescents aged 12–19 from the peri-urban squatter community of Azam Basti, Karachi. This is an already established site under Aga Khan University (AKU), through the Urban Health Project (UHP),

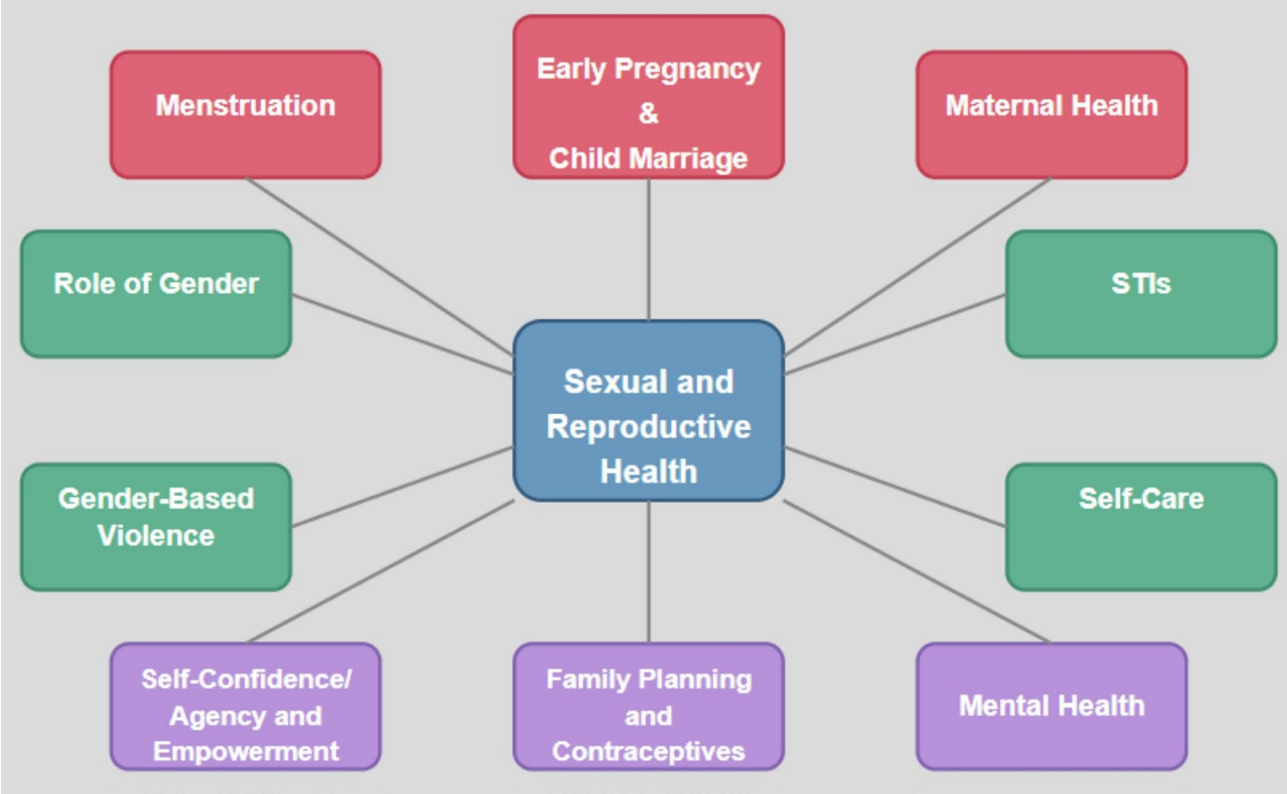

Fig. 1 Key SRH topics

a program developed to design, test and integrate Primary Health Care models of health and development around Karachi. The site was established in 1985 by the Department of Community Health Sciences, Aga Khan University. Since its inception, the UHP has tested integrated models of health and development in 17 different urban squatter settlements of Karachi, including Azam Basti. The initiative aims to strengthen primary healthcare services, enhance maternal and child health, and promote preventive care through community-based interventions [17]. This phase of the project works closely with adolescents and young adults in semi-urban Pakistan who will be the target audience of the toolkit, addressing their key SRH concerns and priorities.

Engagement of adolescents

Using this PAR model, we will engage approximately 8–10 adolescents (aged 12–19 years) with the support of health staff deployed at UHC. The group discussions with adolescents will be focused on key SRH areas, such as menstrual hygiene (puberty changes), early marriages, gender empowerment, gender-based violence, early pregnancy and complications, empowerment, role of gender, sexually transmitted infections, mental health and family planning and other SRH issues identified as important by the adolescents themselves. During the group discussions, the research staff will select 5–7 motivated young individuals who can serve as advocates/champions to further expand SRH knowledge and information in the community. These champions will be selected to cover the targeted population of selected site. To support their participation, they will receive a monthly stipend to cover transportation costs. Selection criteria will prioritize motivation, enthusiasm, and strong communication skills, as demonstrated during group discussions. This approach will help to improve the SRH knowledge and experiences of adolescents living in the community.

Sexual reproductive health sessions with adolescent advocates/champions

The selected champions will work with two age groups: 12–14 years and 15–19 years. The inclusion of 12–14-year-olds will be particularly significant, as they are often overlooked in SRH programs despite being at a crucial stage for early education and awareness. These young adolescents will undergo puberty but may lack knowledge about bodily changes, menstruation, and reproductive health due to cultural taboos and misinformation. They will also remain vulnerable to early marriage and exploitation. Working with both age groups we aim to provide age-appropriate, culturally sensitive SRH education in schools and communities, which will help shape positive attitudes, prevent risky behaviours, and empower them to make informed decisions for their

long-term well-being. These sessions will be held every week, and each selected advisor/champion will maintain his or her own group (approximately 8–10 young individuals) for the duration of the project. Youth champions will be trained by researchers in sensitive communication and will be taught how to deliver friendly and open discussion groups. Champions will be in continuous communication with the lead researchers and other facilitators, ensuring that any risks, backlash or questions they have are discussed and addressed as soon as possible. Having a champion deliver these sessions will create an environment of connectedness amongst adolescents, thus creating comfortable and open discussions regarding SRH topics. These sessions will not only improve community knowledge and practice related to SRH among adolescents but also help prioritise SRH areas from the community.

Focused group discussions and In-depth interviews

During the sessions, we aim to conduct focused group discussions and in-depth interviews with 8–10 adolescent (aged 12–19 years) exploring knowledge/awareness and perception on a range of SRH topics, such as early marriage, puberty and gender-based violence, sexual and physical abuse and violence, gender equality and empowerment, community support and service availability and family planning (Supplementary File 2). The semi-structured nature of the interviews will allow participants to discuss their needs and perspectives openly, highlighting topics of interest and indicating where their knowledge gaps and strengths lie. All facilitators of these sessions will be trained in culturally appropriate communication who create respectful, open and non-judgemental environments. All conversations and activities will be completely participatory, fostering an environment of trust and openness in which adolescents can choose to step out of any discussions they do not wish to participate in. Open dialogue will be promoted through open-ended questions and facilitator prompts and open discussion questions. All participants will be made transparently aware of the contents of the discussions prior to choosing to participate in the groups and will have an opportunity to discuss any questions or concerns they may have with a group facilitator if they wish to. Facilitators will work their best to present a comfortable and engaging environment for the discussion groups to ensure all adolescents are comfortable in discussing their SRH with others.

Interviews will be audio recorded, serving as the foundation for transcriptions and enabling the creation of verbatim codes, subsequently facilitating thematic/content analysis.

Alongside adolescents, we will also conduct interviews with health workers and parents who have direct experience either working with young people or designing programs aimed at improving their sexual and reproductive health (SRH). These participants will be recruited from the same communities where adolescent-focused sessions and the Priority Research Exercise and Toolkit are being developed. By engaging both health workers and parents, we aim to capture a comprehensive understanding of the challenges, opportunities, and enabling environment surrounding adolescent SRHR initiatives at the community level. Community leaders, including religious figures, will be fully briefed on the objectives, methods and expected outcomes of this toolkit and the research behind it and will be given continuous opportunities to seek more information or ask questions regarding the toolkit. Through respectful, open dialogue and collaboration, community leaders and key stakeholders will be engaged in the project from its inception. We will highlight the benefits of the toolkit, and the associated research, for adolescent health wellbeing and highlight the acknowledgement of cultural values throughout the toolkit. The co-design approach of the toolkit will bring further support for the toolkit as community leaders will have a unique opportunity to contribute to, and review, the toolkit prior to it's dissemination to the public.

These interactions will help identify key areas for intervention and inform the development of context-specific strategies to address the unique SRHR needs of adolescents in Pakistan. We plan to conduct approximately 8–10 focus group discussions (FGDs) or in-depth interviews (IDIs) per category, ensuring representation across different ages and genders. The guidelines will explore understanding of priority areas, access to services and information, prevention and education, as well as the availability of community-level support and resources, as outlined in Supplementary Files 3 and 4.

Use of framework

We will employ the Socio-Ecological Model (SEM) [18] to extend our analysis beyond individual experiences and identify systemic drivers of behaviour, particularly in the context of adolescent sexual and reproductive health (ASRH). This framework will help uncover key leverage points for change, making it invaluable for advocacy and community-led solutions for improving SRH knowledge and services among young population living in Sindh [19]. By incorporating insights from stakeholders, parents, adolescents, and other beneficiaries, SEM will help understand how policies, cultural norms, structural barriers, or resource gaps sustain existing ASRH challenges—such as limited access to services, stigma, and lack of accurate information. This understanding will enable us to develop more effective, equitable, and sustainable interventions. Bridging research with action, SEM is a critical tool for advancing ASRH, public health, social justice, and policy reform [20].

Data analysis

The interviews will be conducted in the local language (Urdu), which will be an iterative process. Following transcription, the data will be translated into English. All English transcripts will undergo two rounds of review by independent researchers to ensure translation accuracy. Two independent reviewers will then identify common themes or codes related to participants' views on the barriers, facilitators, existing or potential gaps, and opportunities regarding adolescent toolkits and SRH services. Two rounds of this data analysis will be performed to ensure the consistency and accuracy of results. Data analysis will be performed using NVivo (version 11) software by multiple team members at the University of Adelaide. Validation of coding decisions will be collaborative between all researchers who will continually share their outputs with other members for discussion and clarification. Thematic validation will be a collaborative exercise between all coding team members who will meet regularly to ensure consistency in analysis. When all researchers agree that no new themes are emerging from multiple rounds of data analysis, thematic saturation will be determined and analysis ceased. All data analysis will take a collaborative approach, in line with the PAR approach, thus ensuring accurate interpretations of the interview transcripts, ensuring inter-coder reliability of data interpretation.

The research findings will be shared with the community members by youth champions during their monthly community mobilization activities. We will implement a community-wide feedback system in which all participants, adolescents and stakeholders, will be encouraged to provide privacy-protected feedback on the research processes and outcomes drawn.

The information gathered from adolescents will provide us with a comprehensive and in-depth understanding of the gaps in adolescents' knowledge and understanding of SRH and SRHR. Further, we will understand what their SRH learning priorities are and how stakeholders can help to empower and encourage adolescents' learnings.

Phase 3: toolkit development and acceptability exercise

The final stage of this project will involve an acceptability exercise in which key stakeholders and young adults in Pakistan will be asked to review the concept design for the toolkit to ensure all priority areas are included. The acceptability exercise will ensure comprehensive SRH coverage, ensuring the full potential of the toolkit is met, ultimately defining whether the ideas and concepts for the toolkit are acceptable and appropriate to move forward with. This exercise will involve workshops and focus groups with stakeholders and young adults who have previously been involved in the initial two stages of the project. During these collaborative sessions, the participants will be asked to review the priority research areas that we identified and consolidated through the first two protocols above, ensuring that these questions/statements align with their needs of the toolkit. We will allow the participants to provide honest feedback on the priority areas identified and have an open discussion on their concerns and agreements with the data. Alongside feedback on the research outcomes thus far, stakeholders and adolescents will be asked to provide feedback and suggestions on the design and structure of the toolkit. We will organise discussions around the feasibility of the toolkit and its contents, the resources required for and within the toolkit and the timeline for its development and dissemination.

Collaborating with both stakeholders and adolescents in this stage of the research will ensure that all SRH research gaps are answered in our toolkit in a manner that is accessible and appropriate for both young adults and stakeholders to use and understand. Further, these collaborative sessions, along with the co-design approach used in developing the toolkit, will support institutional uptake by fostering strong connections with individuals who can champion its uptake. These meetings and workshops will be semi-structured, allowing stakeholders, adolescents and key researchers to all collaborate on feedback and ideas, fostering a creative and safe space for all participants to feel comfortable and confident in the toolkit outcomes. We plan to hold workshops with young adults and stakeholders, including researchers, healthcare workers and educators.

The acceptability exercises will be followed up with a physical/online survey in which young adults and stakeholders can provide anonymous feedback on the all the research exercises they have been involved in and the toolkit design. The anonymity of these surveys will ensure that all participants feel comfortable sharing their opinions and perspectives on the toolkit to be developed.

A member of the research team will take detailed and precise notes throughout the workshop sessions, detailing what the participants and stakeholders discussed during these meetings. The notes will importantly detail the events and outcomes of the meetings, providing in-depth information regarding adolescents' and stakeholders' opinions and recommendations for the toolkit. Qualitative data from this protocol will be discussed between the lead researchers, ensuring that everyone agrees upon the outcomes and recommendations made by participants. Following the exercise, the lead researchers will prepare a feasibility report that includes an overview of the toolkit including the resource requirements, risk assessment, timeline projections and recommendations for its development and use.

Outcome dissemination

The project outcomes will be disseminated widely to the public through a multi-faceted approach, including workshops, group or individual meetings, and published guides and reports. Additionally, dissemination efforts will involve publication in peer-reviewed journals and presentations at conferences. Findings will be shared on a project-specific website, through media outreach, and in community presentations to engage diverse audiences. Policy briefs will distil key insights for policymakers, while social media platforms will be utilised for broader public visibility. The toolkit will be individually sent to institutions and members of government to advocate its uptake. Team members will follow up with these institutions via email and phone correspondence to ensure institutional understanding of the toolkit's importance. Transparent communication will be maintained throughout the dissemination process.

The data collected from the adolescents and stakeholders will form the foundation of creating the SRH toolkits for adolescents in Pakistan. The data translated from the interviews will provide invaluable insight into what adolescents and stakeholders require from such a resource and what specific information must be included in it. Using the insights from our interviews, we will develop an in-depth, concise toolkit detailing important information on SRH and SRHR in Pakistan, including information on contraception, safe abortion care, gender-based violence and all other topics deemed important by the participants. The toolkit will be designed in such a way that it is easy to navigate for both stakeholders and adolescents and will be made widely available and accessible on physical and online platforms. Online and physical platforms will ensure that the toolkit is easily accessible to all adolescent's, ensuring that those who cannot access the physical form still have the opportunity through an online website. The toolkit will include resources for SRH services in the semi-urban areas of Pakistan, including clinics in which young adults can access contraception, family planning information and assistance with pregnancy. Participants from this project will be invited to review the toolkit prior to its finalisation to ensure it meets the needs of adolescents and young adults and is easy to use for all it is designed for. Further, we plan to coordinate a qualitative investigation 3–4 after its dissemination to review the toolkits uptake and ask users, adolescent's and stakeholders, for feedback related to information gaps or information that requires updating. Designing and producing the toolkit will be a collaborative process between the researchers at the University of Adelaide, South Australia and those at Aga Khan University, Karachi, Pakistan and will be made available in multiple languages, including English, Urdu, and Sindhi.

Study ethics

This study has received ethical approval from The University of Adelaide, South Australia (H-2024-202) and from Aga Khan University, Karachi, Pakistan (2023-8671-26021).

Conclusion

Collaborative involvement of youth in SRH and SRHR projects is essential for appropriate, tailored and user-friendly initiatives that will make a positive impact on a wide audience. However, many initiatives are shaped by assumptions rather than the genuine needs of the young people involved. This research project seeks to change that by involving adolescents directly in the creation of an SRHR toolkit tailored to their unique needs and priorities. By ensuring the toolkit is culturally appropriate and easy to use, we aim to boost the adoption of evidence-based SRHR and family planning information and services among adolescents in semi-urban Pakistan. By targeting adolescents and employing engaging approaches, we believe we can effectively increase their participation in SRHR care decision-making.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12978-025-02073-3.

Supplementary Material 1.

Authors' contributions

ZL is the guarantor of this project. ZL conceived the idea for this project and received the project funding from NHMRC. ZL developed the research protocol, which was revised with contributions by ZAM and SM. ZAM, SM, HN, SH, AD, and PC substantively contributed to the 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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Data availability

No datasets were generated or analysed during the current study.

Declarations

Competing interests

The authors declare no competing interests.

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References

1. UNICEF. Investing in a safe, healthy and productive transition from childhood to adulthood is critical: UNICEF; 2025. Available from: https://data.unicef.org/topic/adolescents/overview/.
2. Svanemyr J, Baig Q, Chandra-Mouli V. Scaling up of Life Skills Based Education in Pakistan: a case study. Sex Education. 2015;15(3):249–62.

3. Iqbal S, Zakar R, Zakar MZ, Fischer F. Perceptions of adolescents' sexual and reproductive health and rights: a cross-sectional study in Lahore District, Pakistan. BMC Int Health Hum Rights. 2017;17(1):5.
4. Kuzma EK, Peters RM. Adolescent vulnerability, sexual health, and the NP's role in health advocacy. J Am Assoc Nurse Pract. 2016;28(7):353–61.
5. Ali A, Khaliq A, Lokeesan L, Meherali S, Lassi ZS. Prevalence and predictors of teenage pregnancy in Pakistan: a trend analysis from Pakistan Demographic and Health Survey datasets from 1990 to 2018. Int Health. 2021;14(2):176–82.
6. National Academies of Sciences, Engineering, and Medicine. The Promise of Adolescence: Realising Opportunity for All Youth. Washington (DC): National Academies Press; 2019. https://doi.org/10.17226/25388.
7. Zeba S, Susheela S, Iqbal HS, Muhammad Rehan N, Tahira P, Octavia M, et al. Abortion and unintended pregnancy in Pakistan: new evidence for 2023 and trends over the past decade. BMJ Glob Health. 2025;10(1):e017239.
8. Institute G. Investing in the Sexual and Reproductive Health of Adolescents in Pakistan 2023. Available from: https://www.guttmacher.org/fact-sheet/investing-sexual-and-reproductive-health-adolescents-pakistan#:~:text=Among%20adolescent%20women%20aged%2015%E2%80%9319%20years%20in%20Pakistan%2C%20461%2C000,unmet%20need%20for%20modern%20contraceptives. February 12, 2025.
9. Todhunter L, Hogan-Roy M, Pressman EK. Complications of pregnancy in adolescents. Semin Reprod Med. 2022;40(1–02):98–106.
10. 10. Shirkat Gah Women's Resource Centre. Leaving the youth behind: the missing demographic in Pakistan's SRHR policies and programmes 2019. Available from: https://arrow.org.my/wp-content/uploads/2019/04/SHIRKAT-GAH-FINALICPD-Report-0320.pdf. Cited 2025 June 26.
11. Bilal A, Leygraf B. The state of sex education in Pakistan: the way forward. J Psycho Health. 2024;6(2):184–90.
12. National Institute of Population Studies (NIPS) and ICF. Pakistan Demographic and Health Survey 2017-18. Islamabad, Pakistan, and Rockville, Maryland, USA: NIPS and ICF; 2019. Available from: https://dhsprogram.com/pubs/pdf/FR354/FR354.pdf. Cited 2025 March 19.
13. Lassi ZS, Ali A, Meherali S. Women's participation in household decision making and justification of wife beating: a secondary data analysis from pakistan's demographic and health survey. Int J Environ Res Public Health. 2021;18(19):10011.
14. 14. World Bank Group. Rural Population (% of total population) - Pakistan 2023. Available from: https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=PK. Cited 2025 February 05.
15. Castleton P, Meherali S, Memon Z, Lassi ZS. Understanding the contents and gaps in sexual and reproductive health toolkits designed for adolescence and young adults: a scoping review. Sex Med Rev. 2024;12(3):387–400.
16. James Lind Alliance. Top 10s of priorities for research Southampton: James Lind Alliance,,. Available from: http://www.jla.nihr.ac.uk/top-10-priorities/. Cited 2025 February 10.
17. The Aga Khan University MC. Urban Health Programme Pakistan. Available from: https://www.aku.edu/mcpk/chs/Pages/uhp.aspx?utm_source. Cited 2025 March 17.
18. Bronfenbrenner U. Toward an experimental ecology of human development. Am Psychol. 1977;32(7):513–31.
19. Stokols D, Pelletier KR, Fielding JE. The ecology of work and health: research and policy directions for the promotion of employee health. Health Educ Q. 1996;23(2):137–58.
20. Golden SD, Earp JAL. Social ecological approaches to individuals and their contexts: twenty years of health education & behavior health promotion interventions. Health Educ Behav. 2012;39(3):364–72.

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