

# Addressing Gender Disparities in Adolescent Sexual and Reproductive Health: A Scoping Review of Life Skills-Based Education in Pakistan

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## Abstract

**Objective:** Adolescents in Pakistan face significant health risks due to factors such as sexual violence, forced marriages, and limited access to reproductive health education. Life Skills-Based Education (LSBE) and Comprehensive Sexuality Education (CSE) have been explored as strategies to enhance awareness and improve reproductive health outcomes. This scoping review examines existing research on LSBE programs in Pakistan, with a focus on gender disparities in their implementation and impact.

**Methodology:** A systematic search was conducted across PubMed, Medline, Google Scholar, Web of Science, PakMediNet, and Popline for randomized, quasi-randomized trials, and evaluation studies on LSBE programs published in the past two decades. Studies included were those conducted in schools or communities to improve adolescents' life skills and reproductive health knowledge. Two independent reviewers assessed the papers to minimize bias. Given the limited availability of peer-reviewed studies (only three articles), relevant non-peer-reviewed literature was also incorporated into the final analysis.

**Results:** Six studies met the inclusion criteria, consisting of research articles and NGO reports evaluating LSBE programs. These programs were associated with increased confidence, higher school attendance—especially among girls—and improved awareness of reproductive health rights. However, most interventions primarily targeted female adolescents, with limited focus on addressing the needs of boys, highlighting a gender disparity in program outreach.

**Conclusion:** While LSBE programs in Pakistan have demonstrated positive effects, the existing data is insufficient to conclusively determine their effectiveness in improving adolescent health outcomes. More rigorous research, including controlled experimental studies with reliable assessment tools, is needed to evaluate the impact of LSBE and CSE. Additionally, addressing the gender imbalance in program implementation is crucial to ensure equitable access to reproductive health education for all adolescents.

**Keywords:** Adolescent Reproductive Health, Comprehensive Sexuality Education, Family Life Education, Gender Disparities, Life Skills-Based

## Introduction

The generation of teenagers aged 10 to 19 living in the world now is the largest in human history. The highest number of

youth (aged 15 to 24) will be attained in the year 2035, making up a large proportion of population in Pakistan.<sup>1</sup> Adolescence is an age characterized not only by physical, psychological and mental changes but also with the desire to experiment and undertake risks. These attributes coupled with the absence of reliable sources of information and guidance about sex education or health education can expose teenagers into drugs, HIV/AIDS, trafficking, abuse etc. At the same time, parents may be ill-prepared to deal with such issues as these activities are often done in secrecy or there might be a communication gap between the parents and children. This renders the parents unprepared to foresee or prevent the adolescents from such risky behavior.<sup>1,2</sup>

Therefore, during this transition phase young people must be equipped with the proper education, skills, decision-making power, and information to understand their emotional and physical changes to function as responsible adults in society.<sup>1,3</sup> Adolescent's education and protecting their sexual and reproductive health and rights has been globally recognized as central to implementation of the 2030 Agenda for Sustainable Development. The ability of societies to harness the dividends of demographic transition will be largely dependent on their engagement with adolescent's wellbeing.<sup>4</sup>

Unfortunately, the promotion and fulfillment of sexual and reproductive health rights are currently experiencing marked resistance around the world.<sup>5</sup>

In Pakistan due to very strict and deeply felt societal and religious norms girls and boys are often denied access to information about their bodies and health risks. Mothers are often uneducated and shy away from discussing such information. Children grow up getting information from friends and media.<sup>6</sup> This right of children to get the right information about themselves remains unrealized, making them even more vulnerable to abuse and exploitation. Poverty and marginalization further increase their vulnerability by driving them into the labor market.<sup>7</sup> This is how

risky behavior takes roots appearing as early sexual debut, watching pornographic materials, homosexuality, non-marital sex (29% urban males in Pakistan) and female sex trade.<sup>8</sup> Gender norms and inequalities significantly influence access to sexual and reproductive health information and services in Pakistan. Girls, in particular, face severe disadvantages due to societal expectations and restrictions that limit their mobility, education, and access to health services.<sup>9</sup> These restrictions often result in a lack of comprehensive sexual education for girls, making them more vulnerable to early marriages, sexual abuse, and reproductive health issues. Boys, on the other hand, might encounter different challenges such as peer pressure to adopt hyper-masculine behaviors and misinformation regarding sexual health.<sup>10</sup> Addressing these gender-specific barriers is crucial for effective adolescent sexual and reproductive health interventions.

Many female sex workers report a history of sexual abuse in their childhood and it's an increasingly alarming situation that, between 2013-18 in Pakistan, 17,862 children reported of being sexually abused.<sup>11,12</sup> A report in 2014 found that nearly 70,000 cases of violence against children were reported in one year though the number of unreported incidents were estimated to be higher.<sup>13</sup>

Life skills-based education (LSBE), is an evidence-based intervention that, reduces gender inequalities, builds the ability to negotiate, communicate and ensure safety from sexual harassment, STIs and AIDS, thus creating an enabling environment that supports youth's reproductive health and rights.<sup>14-17</sup> It is delivered mostly "informally" in Pakistani education sector as "in-school extra-curricular" activities,<sup>2</sup> offered with limited coverage by non-government organizations such as Aahung, Rutgers World Population Federation (WPF), Plan International, Rozan, Oxfam-Novib and Rahnuma FPAP, etc. It is seen as a donor driver agenda and not given priority in political settings.<sup>15</sup> A situation assessment survey was carried out for Life Skills Based Education (LSBE) which is the education regarding life skills including emotional regulation, decision making, communication, and healthy relationships, which revealed that most Pakistani youngsters face difficulty in coping with emotions/ stress, communicating and decision making.<sup>7</sup> One third youngsters fear discussing sexual matters with anyone.<sup>16</sup> Owing to these weaknesses, our children have become open victims for their predators who are brutally exploiting them sexually.<sup>17</sup>

LSBE is now being advocated for achieving goals of many international agreements in Pakistan. The National Education Policy, Punjab Youth Policy are also now incorporating life skills-based education. Yet for millions of young people in Pakistan, access to sexual and reproductive health information and treatment continues to be a significant barrier. To identify vulnerabilities and hazards to create program frameworks, a solid evidence base is needed.<sup>2</sup>

World Health Organization WHO has called upon all countries to play a role in this effort and has given recommendations in a recent document to guide about what research is needed in this field. Policymakers urgently need such evidence to justify policies and governments need evidence to make decisions on where to spend limited resources.<sup>18</sup> This document presents an overview of available evidence on evaluation of life skills education efforts in Pakistani community. Adolescent sexual

and reproductive health issues are being prioritized globally, with LSBE widely studied for its role in improving adolescent health outcomes. Research from various countries has shown LSBE to be an effective tool for enhancing both mental and reproductive health among adolescents. However, in Pakistan, life skills education remains an under-researched area despite its growing necessity. This paper explores the need for LSBE in Pakistan, identifies the challenges in its implementation, highlights gaps in research methodologies found in existing studies, and insufficient representation of diverse adolescent populations. By addressing these gaps, the findings aim to inform policymakers with evidence-based recommendations for designing more impactful programs to enhance adolescent health and well-being.

## Methodology

A scoping review was carried out to assess the literature gap and identifying scope of literature available on effectiveness of LSBE in Pakistan, published between 2013-2022. Arksey and O'Malley approach was used by incorporating five elements of 1) identifying research question 2) searching relevant studies 3) study selection 4) charting of data and 5) collating data.

## Identifying the Research Question

In consensus with the research team, the following research questions were formulated: (i) What studies have been published evaluating the effectiveness of adolescent health education programs focused on life skills building or comprehensive sexuality education, aimed at improving reproductive health and behaviors of adolescents in Pakistan? (ii) Is there any gender gap in the interventions being utilized? (iii) What study designs have been employed for such interventions? (iv) What effects have been consistently reported for life skills-based education or comprehensive sexuality education in Pakistan?

## Search Strategy

The search strategy included date restrictions (from 2005 to 2020), age restrictions (10-24 years) and "Adolescent" OR "adolescents" OR "teen" OR "teens" OR "teenager" OR "teenagers" OR "teenaged" OR "juvenile" OR "preteen" OR "pre-teen" OR "minor" OR "minors" OR "youth" OR "youths" OR "young people" OR "young person" OR "young persons" OR "young adult" OR "young adults" AND "Life Skills Based Education" OR "Family Life Education" OR "Adolescent Reproductive Health" OR "Comprehensive Sexuality Education" OR "Generic Life Skills" OR "LSBE" OR "CSE" OR "HIV prevention" OR "Adolescent Sexual Reproductive Health" OR "Adolescent SRH Services" AND Pakistan. The search strategy for the review was to use for the target population a search string which included variations of terms "adolescents", "young people" or "teenagers". The target intervention was defined by variations of "Sexuality Education" being introduced in Pakistan.

## Charting the data

Data abstraction form was developed which included program title, population, intervention objective and design, type of intervention and outcomes of the studies included. Two researchers carefully reviewed the articles and extracted data. Methodology appraisal was not done as scoping review aims to find scope and gap of literature and suggest topics for future

### Collating, summarizing and reporting results

Data was collated and summarized to assess effectiveness of life skills or comprehensive sexuality education in improving life behaviors and reproductive health in youth. In our review process, special attention was given to analyzing gender-specific outcomes and interventions. Studies were assessed to determine if they addressed the unique needs of boys and girls and whether the outcomes were disaggregated by gender.<sup>20</sup> This approach ensures a comprehensive understanding of how LSBE programs impact different genders and highlights any disparities in the effectiveness of these interventions. PRISMA guidelines were utilized for reporting as applicable in scoping review.

### Results

The search strategy yielded a total of 194 search results from PubMed, Medline, PakMediNet, Google scholar and PopLine during May to July 2022. Except for one study, none of the publications reported a completed randomized controlled trial assessing effect of LSBE, with a control/alternate intervention within the context of Pakistan. Since

many organizations working in SRHR are not working solely for academic purposes, many of their research initiatives are not published by the most popular search engines. Hence, to circumvent publication bias, we included non-peer-reviewed and non-published grey literature. It has been documented that the use of such grey literature obtained from citations and snowballing can lead to an efficient review of the existing evidence base. Screening of the retrieved search results was done manually by going through the titles and the abstracts by two investigators independently. Considering the inclusion and exclusion criteria, 13 full papers were reviewed by two researchers before being included in the review. Only 3 papers from non-peer reviewed literature were included in the review process and 3 were peer reviewed papers.

The authors decided upon specific criteria for exclusion of the studies that were obtained from the respective search engines. The articles were supposed to be published no earlier than 2005. The study population was restricted from 10-24 years of age. Also, since the review was focused on Pakistan, the study must be on the Pakistani population. First the titles, then the abstracts and finally the whole article was reviewed for the theme of the research.

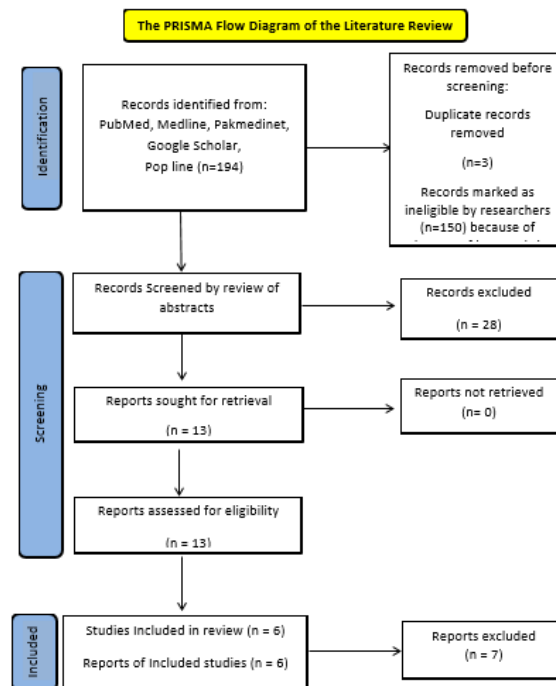


Figure 1: PRISMA Flowchart for literature review

In reviewing the studies, we found varying gender-specific outcomes. The analysis revealed that most LSBE programs in Pakistan predominantly target female adolescents. For instance, initiatives like COMPASS by IRC and projects by Aahung and Rutgers WPF focus on improving reproductive health and preventing gender-based violence among girls. Only about 30% of the reviewed programs included boys, often with a broader scope rather than tailored to their needs. Girls reported higher increases in self-confidence and knowledge about reproductive health, with the COMPASS program showing a rise in girls feeling safer in school from 86.7% to 96.6%. In contrast, boys' programs reported improvements in communication and negotiation skills, such as the LSBE project by World Population Foundation, where boys' ability to protect themselves from risky situations increased from 44% to 54%. These findings

underscore the need for more gender-sensitive LSBE programs to ensure equitable outcomes for both boys and girls.

The analysis showed that more literature was published in the last 10 years (6 out of 6 papers) and 3 out of them were published in the review focused on different aspects of adolescent health education on reproductive and sexual health matters, improving mental health and guidance on general matters related to health. Majority included focus on multiple areas of their health.

Pre-post design was the most used method for evaluation of LSBE interventions. Only one RCT for life skill education research was registered in Pakistan with WHO registry of clinical trials and was started in 2018.

**Table1:** Summary of Projects for LSBE implementation in Pakistan

Category	Project title	Study methods	Effects of LSBE
	“Effect of Micronutrients and Life Skills Education on the Health and Nutrition of Adolescent and Young Women in Pakistan.” Location: Karachi	Randomized Controlled Trial Focus of education was on life skills throughout the preconception period.	Results of trial not published yet.
	Creating Opportunities through Mentoring, Parental involvement And Safe Spaces (COMPASS) – by IRC in humanitarian situations Location: Peshawar	Pre-post-test quantitative assessment of a project Focus on reproductive health rights, preventing harassment and violence.	Girls feeling safer in school rose to 96.6%. Self-esteem increased (30→34), hope scale (3.67→4). Knowledge of violence services improved (22%-30.9%). Job interest grew by 26%, but LSBE discussions with parents remained unchanged .
Peer Reviewed	Access, Services and Knowledge (ASK) by Sukh Initiative (Aman healthcare services, 2018) Geographic Outreach: Squatter settlements in Karachi	Pre-post quantitative assessment. Focused on life skills in students and family life education to adults for SRH awareness	It successfully engaged youth by providing LSBE to school students and SRH knowledge including family planning methods to adults and in community through Community Health Workers providing family life education.
	Life Skills Based Education 2006 -2010 project by World Population Foundation (WPF), Pakistan Geographic location: Multiple cities in Pakistan	Pre-post assessment using mixed method design of a project Focus on basic health and hygiene, SRH, gender roles and life skills.	Improvements were seen in family opinions (16%), communication (13-14%), decision-making (15%), peer pressure (22%), and anger management (14%). Self-protection increased in boys (44% to 54%) and girls (22% to 32%). Gender equality and harassment reporting also increased. Teachers reported positive behavioral changes.
	Aahung-United Nations Girls’ Education Initiative, UNGEI (2016) Geographic location: Karachi based, expanded to other cities	Pre-post assessment with mixed method design. Focused on SRH issues, rights, life skills, and hygiene	Parents of female students noticed that they have become confident in making their own decisions.
Non-peer reviewed reports of NGOs program	Hamara Kal Rutgers WPF (2009-2012) in Pakistan funded by European Union Pakistan funded by European Union Geographic location: Multan, Matiari and Karachi	Pre-post quantitative assessment of a project Focused on SRH rights education Focused on SRH rights education	36% of adolescents showed improved SRH knowledge, 52% had attitudinal gains, and 12% improved practices. 92% found the LSBE program beneficial, with 97% reporting increased self-belief and 91% feeling confident discussing SRH. Teachers noted improved academic performance due to reduced stress.

## Discussion

Life skills-based education (LSBE) programs in Pakistan have shown positive effects on adolescents’ confidence, school attendance—particularly among girls—and awareness of reproductive health rights. However, the available evidence is limited, with most studies being NGO reports rather than rigorous experimental research. A notable gender disparity exists, as these programs primarily target female adolescents, with fewer initiatives addressing the needs of boys. To ensure equitable access and accurately assess LSBE’s impact on adolescent sexual and reproductive health, more robust, gender-inclusive studies using reliable evaluation tools are needed.

The dearth of studies on LSBE in Pakistan is evident from the small number that we found in our review (Figure-1). Out of the six relevant studies, only one was an RCT published in the last two decades, and only two studies employed qualitative research tools to explore ‘why’ and ‘how’ of LSBE effects, also

indicating the lack of robust methodology being used to generate evidence for such interventions.

The RCT done in Karachi aimed to provide 15–24-year-old adolescents with life skills education and micronutrient supplementation throughout the preconception period for assessing impact on prevalence of low birth weight (LBW) births, nutritional status of mothers, age at marriage, completion of 10th grade education and menstrual hygiene, use of sanitary pad during last menstrual period, and dietary intake.<sup>22</sup> Another study was conducted in the Northwestern areas of Pakistan, focusing on reproductive health rights (COMPASS program, Creating Opportunities through Mentoring, Parental involvement And Safe Space) by International Rescue Committee in humanitarian. It provided life skills education and mentorship by peers, to girls 12-19 years old on topics related to female reproductive health, social assets, services for protecting victims of violence for reducing the effects of gender-based violence among adolescent girls (Table 1).<sup>23</sup>



A similar but limited program was the ASK run by Sukh Initiative (Aman healthcare services) which imparted life skills education to 12–15-year age secondary school students.<sup>24</sup> Study done by World Population Fund (WPF 2006-10) provided LSBE education for students of class 7<sup>th</sup> to 10<sup>th</sup> with sessions on different issues surrounding basic health and hygiene, adolescents' sexuality, communicable diseases like HIV & AIDS, gender roles and communication and negotiation skills.<sup>25</sup>

Another intervention introduced by UNESCO and Aahung collaboration - focused on adolescent reproductive health and rights. This program focused on improving the communication between teachers and adolescents by training of teachers in LSBE subjects and involving parents in advance by taking permission before imparting this information to their children.<sup>26</sup> Hamara Kal (2009-12)–project focused on improving sexual and reproductive health by educating about SRH rights, bodily changes during puberty, STIs, and distinguishing between good and bad touch and skills to protect oneself.<sup>27</sup>

Other reviews also indicate that LSBE studies have been less frequently done in developing country contexts as compared to developed countries.<sup>28</sup> More high-quality, randomized-controlled evaluations of CSE programs are needed to test multi-component programs and to study curriculum design and teacher effectiveness, as recommended by WHO.<sup>17</sup> Also use of qualitative evidence syntheses is needed in decision making regarding interventions as it helps assess if people view them as acceptable, ethical, accessible, feasible and cost-effective.<sup>29,30</sup>

The analysis revealed significant gender disparities in the implementation and outcomes of LSBE programs. These disparities highlight the need for gender-sensitive interventions that cater to the specific needs of boys and girls.<sup>31</sup> The lack of gender-disaggregated data in many studies hampers the ability to fully understand and address these differences. Future research should prioritize collecting and analyzing gender-specific data to develop more effective LSBE programs. Additionally, understanding how cultural norms and societal expectations influence the experiences of boys and girls can help create more inclusive and impactful interventions.<sup>32</sup>

All NGO projects studied were 4-5 year long and the trial registered in Pakistan was set to measure outcomes in a time frame of 2 years<sup>20</sup> which is longer as compared to many internationally conducted trials where outcomes were measured mostly at one year post intervention.<sup>20</sup> There have been limited rigorous studies in other regions also, assessing outcomes such as reducing gender-based and intimate partner violence and discrimination; increasing gender equitable norms, and building stronger and healthier relationships<sup>17</sup>

Most LSBE programs in Pakistan were centered around communication skills and emotional health. Reviews by other countries suggest that LSBE program content reflects the countries' priorities and areas of concern. Programs in developed countries have more focus on promoting positive behaviors around risky and thrill-seeking behavior, safe sex, contraception, and condom use.<sup>33,34</sup> Whereas, programs in developing countries often emphasize the development of cognitive and communication skills, protecting from harassment and changing attitudes towards sexual activities.<sup>35</sup>

In Pakistan, foreign-funded projects have been linked with negative notions of undermining local culture and values. However, the results presented in our review favored the use of LSBE in Pakistani setting. It was deemed as a beneficial program by 92% students in program "Hamara kal" in Sindh. Success factors recounted in these studies include following the World Health Organization (WHO) key guidelines for LSBE, and an age-appropriate, relevant curriculum, advocacy activities, parent sensitization sessions, and partnerships with organizations, teachers' training and developing an enabling environment for ASRH.<sup>30</sup>

Life skills programs including Aahung, WPF (2006-10) project and Hamara kal (2009-12), all faced media backlashes, which was dealt by Rutgers WPF and its partner organizations by engaging all the major stakeholders with the program by sharing information on outcomes. They reached parents, religious leaders and out of school students. The results of Rutgers program showed that some girls were even able to convince their parents to allow them to continue education, postpone marriage and end abuse. The project also realized the need to focus on local language (Sindhi, Urdu) and cooperated with Sindh government (bureau of curriculum) to introduce age- and culturally appropriate LSBE messages in the curriculum of schools on provincial level, and trained teachers in guiding students and teaching of LSBE topics.<sup>14-30</sup>

The interest in LSBE is growing worldwide to achieve SDGs and health for all but the main challenge in Pakistan is building the needed government and societal interest. In January 2018, the Sindh government approved life skills education with efforts of organizations such as WPF and in the wake of rising child sex abuse, to be integrated into the syllabus of grade 6-9 students.<sup>38</sup> In this regard, organizations like Aahung have a role in focusing efforts not just on including LSBE for youngsters, but also on gaining commitments from decision-makers such as the Board of Curriculum, the Sindh Education Department, the Private School Association, and Sindh Education Foundation (SEF).<sup>14</sup> It is encouraging that LSBE previously termed a taboo and anti-religious subject, is now being mainstreamed through provincial and national platforms. However, more efforts are needed in the province of Punjab which faces resistance due to conservative societal norms to institutionalize LSBE in the right direction.<sup>13, 33</sup>

## Limitations

This review has some major limitations, which includes analysis and inclusion of non-peer reviewed articles, which might challenge the credibility of results of the studies included. Moreover, most programs in our review had studied self-reported behavior change, the reliability of which is questionable. One study (COMPASS) also used Rosenberg Self-Esteem Scale and Children's Hope Scale. Some other tools can help in this regard to validate the findings such as "The Problem Oriented Screening Instrument for Teenagers" (POSIT) used in Canada to measure ten dependent variables (problems related to substance use, health, mental health, family relations, peer relations, education status, vocational status, social skills, leisure and recreation, and aggression). Future researchers in Pakistan should focus on assessment using validated tools for different LSBE outcomes. Another limitation observed is lack of adequate local studies in this context.

## Conclusion

There is a glaring lack of strong evidence on LSBE in Pakistani community. No rigorous clinical trials data is yet available for Pakistan comparing the short-term outcomes or long-term impacts of LSBE on the social, cognitive or sexual behavior of adolescents in comparison with controls as recommended by World Health Organization (WHO). Literature supporting LSBE could be found only in the form of evaluation summaries of some projects, with self-reported changes in behavior, the reliability of which can be questioned. Trials on LSBE impact are needed in Pakistani population to support the ongoing efforts for institutionalizing LSBE in Pakistan. The findings highlight the importance of designing interventions that are sensitive to the specific needs of boys and girls. Gender-sensitive approaches can enhance the effectiveness of LSBE programs and ensure that both genders benefit equally from sexual and reproductive health education. Future research should focus on generating robust, gender-disaggregated data and developing interventions that address the unique challenges faced by adolescents in Pakistan. Such efforts will contribute to development of well-designed interventions aimed at achieving more equitable and effective health outcomes for all adolescents.

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