Review Article

Paving the Path: Innovative Strategies by the Ministry of Health Malaysia to Overcome Challenges and Enhance Adolescents' Sexual and Reproductive Health

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Abstract

This scoping review investigates the innovative strategies the Ministry of Health (MoH) Malaysia implemented to enhance sexual and reproductive health (SRH) services for adolescents, a demographic facing unique health challenges. The primary objective is identifying and evaluating these strategies to inform future policy and practice. A systematic search was conducted across multiple databases, including PubMed, Scopus and Google Scholar, focusing on studies published in the last 10 years about adolescents' SRH services in Malaysia. The review identified several effective interventions, including community engagement initiatives, educational programmes tailored for adolescents and integration of digital health technologies, all aimed at improving access and awareness amongst young individuals. Results indicate that these multifaceted approaches have positively impacted adolescents' health outcomes by fostering informed decision-making and reducing barriers to accessing services. The findings underscore the importance of continued innovation and adaptation of strategies to meet the evolving needs of this population. Furthermore, this study contributes valuable insights into the Ministry's efforts. It offers a framework for future research and policy development, emphasising the necessity of collaborative approaches involving stakeholders at various levels. The ongoing commitment to enhancing SRH services for adolescents in Malaysia is critical for improving their overall well-being and ensuring that they have the knowledge and resources to make informed choices.

Keywords: Accessibility, adolescents, digital platforms, health initiatives, health services, Ministry of Health, public health, sexual and reproductive health, sexual and reproductive health education, youth-friendly clinics

Introduction

Adolescence is a pivotal stage in human development, with significant physical, psychological and social changes. Adolescents face various challenges during this period, including those related to sexual and reproductive health (SRH). Ensuring access to comprehensive SRH services and education is crucial for promoting healthy behaviours and preventing adverse outcomes such as unintended pregnancies, sexually transmitted infections (STIs) and gender-based violence.[1] Globally, the importance of adolescent SRH has been increasingly recognised, with international organisations advocating for targeted interventions to address the unique needs of this demographic.[2]

In Malaysia, adolescents constitute a significant portion of the population, with individuals aged 10–19 years making up approximately 17%.[3] Addressing their SRH needs is essential for achieving broader public health goals. However, cultural sensitivities and societal norms often hinder effective SRH education and service delivery.[4] Despite these challenges,

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Malaysia's Ministry of Health (MoH) has proactively implemented various initiatives to enhance adolescent SRH services.

Recent global data underscore the critical need for focused SRH interventions. It has been reported that complications during pregnancy and childbirth are the leading causes of death for 15–19-year-old girls worldwide.[5] In addition, Vieira Martins *et al*., 2023, reported that nearly 21 million girls aged 15–19 years in developing regions become pregnant each year, highlighting the urgent need for effective SRH services.[6] In Malaysia, a study revealed that '8.3% (95% confidence interval = 7.5–9.2)' of adolescents aged 12–17 years reported having had sexual intercourse,[7] yet only 12.7% used condoms during their last sexual encounter.[8] These statistics emphasise the necessity for comprehensive SRH education and accessible services.

The MoH's initiatives in Malaysia are designed to address these pressing issues by implementing innovative strategies catering to adolescents. Establishing youth-friendly clinics is one such initiative, providing confidential and easily accessible services tailored to the needs of young people.[9,10] These clinics aim to reduce barriers such as stigma and lack of privacy, which often deter adolescents from seeking necessary care.[11] Furthermore, the MoH has collaborated with educational institutions to integrate SRH education into school curricula, ensuring that adolescents receive accurate information and develop essential life skills.[12-15]

The objectives of this manuscript are to examine the initiatives undertaken by the MoH to enhance SRH services for adolescents, assess their implementation and impact and identify challenges and barriers faced in delivering these services. By exploring these aspects, the manuscript aims to provide insights into the effectiveness of the current strategies and propose recommendations for future improvements.

Addressing the SRH needs of adolescents is a critical component of public health efforts globally and in Malaysia. The MoH's commitment to advancing SRH services through innovative initiatives represents a significant step towards empowering adolescents and improving their health outcomes. This manuscript seeks to contribute to the ongoing dialogue on adolescent SRH by highlighting successful strategies and identifying areas for further development.

Materials and Methods

This scoping review was conducted to map the existing literature and identify innovative strategies MoH Malaysia employed to enhance adolescents' SRH services. Following the methodological framework outlined by Arksey and O'Malley, the review involved several key steps: identifying the research question, selecting relevant literature, charting the data and collating, summarising and reporting the results. Inclusion criteria for the review encompassed studies published in the last 10 years (2013–2023) that were peer-reviewed articles, government reports and policy documents specifically related to SRH services for adolescents in Malaysia [Figure 1]. These studies needed to highlight innovative strategies, interventions or programmes the MoH implemented. Conversely, exclusion criteria ruled out articles focusing on adult SRH services, studies not centred on Malaysia and grey literature lacking a straightforward methodological approach or peer-review status. A systematic search was conducted across multiple databases, including PubMed, Scopus and Google Scholar, using targeted keywords such as 'adolescents,' AND 'sexual and reproductive health,' AND 'Ministry of Health Malaysia,' AND 'innovative strategies.' This search was supplemented by reviewing references from relevant articles to ensure comprehensive topic coverage. Data from the selected studies were charted to extract key information on strategies, outcomes and challenges, organised thematically according to the types of interventions and their impact on adolescents' health services. To minimise bias, two researchers independently screened the titles and abstracts of the studies identified in the search, resolving discrepancies through discussion. The inclusion and exclusion criteria were transparently defined and adhered to throughout the review process, ensuring consistency in study selection. A comprehensive search across multiple databases helped include a wide range of literature, reducing the likelihood of omitting relevant studies. By incorporating diverse perspectives from various sources, such as peer-reviewed journals and government reports, this methodological approach aims to ensure the reliability and validity of the findings, contributing to a comprehensive understanding of the innovative strategies for enhancing adolescents' SRH services in Malaysia.

Review of Literature

Current Ministry of Health initiatives in providing adolescent sexual and reproductive health services across Malaysia

The MoH Malaysia has been at the forefront of pioneering initiatives to advance SRH services for adolescents nationwide. Recognising the unique challenges young people face in accessing comprehensive and youth-friendly SRH care, the MoH has implemented various strategic programmes designed to enhance service delivery, improve accessibility and promote informed decision-making [Figure 2]. These initiatives reflect a commitment to fostering a supportive environment where adolescents can confidently seek the information and care they need to be empowered to lead healthy and informed lives.

Youth-friendly clinics: Establishment and operation in Malaysia

Establishing and operating youth-friendly clinics in Malaysia represents a significant stride towards improving adolescent SRH services. These clinics are designed to meet the unique needs of young people, emphasising privacy, accessibility and a supportive environment that encourages adolescents to seek necessary care without fear of stigma or judgement.

The MoH in Malaysia has been instrumental in setting up youth-friendly clinics nationwide as part of its broader strategy to enhance SRH services. These clinics are typically located within

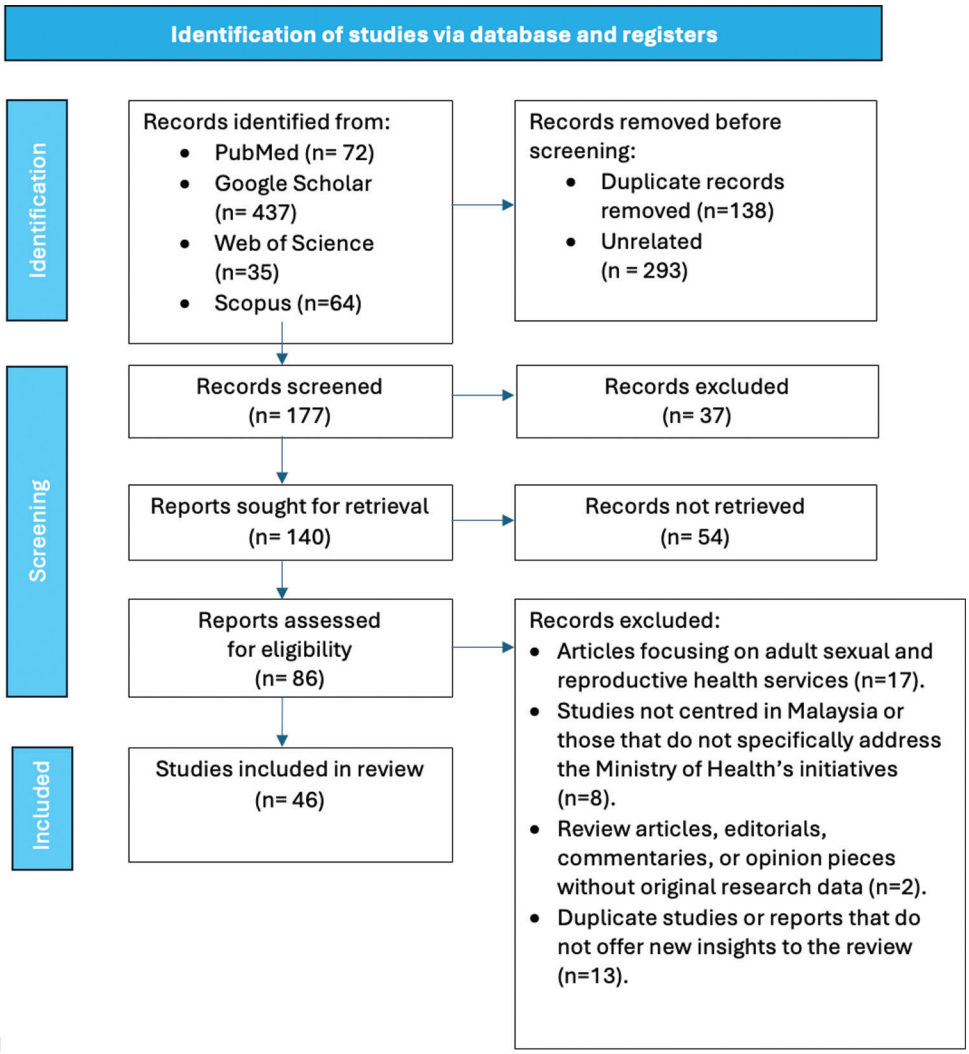

Figure 1: Illustrating materials and methods of this perspective review. Illustration Credit: Nor Faiza Mohd. Tohit.

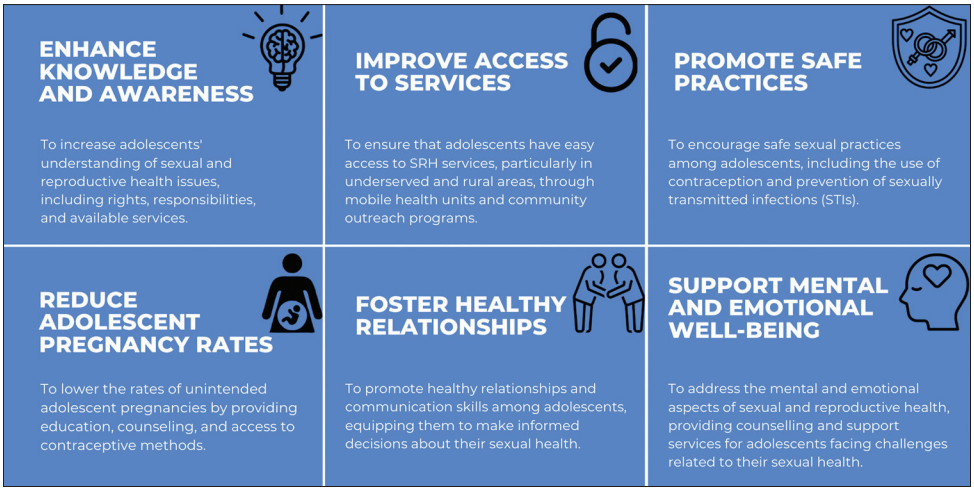

Figure 2: The objectives of Ministry of Health initiatives in providing adolescent sexual and reproductive health services across Malaysia. Illustration Credit: Nor Faiza Mohd. Tohit.

existing health facilities but are distinctly branded and operationally tailored to young people. The primary aim is to create a welcoming atmosphere that resonates with adolescents, making them feel comfortable and respected when accessing healthcare services.[10]

The development of these clinics has been guided by international standards and best practices, ensuring that they are equipped to address the diverse SRH needs of adolescents. This includes providing a range of services such as counselling, contraception, STI testing and treatment and educational resources on SRH.[11] The clinics are staffed by healthcare providers trained in adolescent health, ensuring that they possess the necessary skills to communicate effectively and empathetically with young patients.

Privacy is a cornerstone of the youth-friendly clinic model. Adolescents often cite concerns about confidentiality as a significant barrier to accessing SRH services. To address this, the MoH has implemented measures to ensure that consultations are conducted in private settings within the clinics, safeguarding the confidentiality of young patients. Furthermore, the clinics operate on extended hours, accommodating adolescents' schedules in school or other activities during typical clinic hours.[12]

Accessibility is another critical aspect of these clinics. The MoH has strategically located youth-friendly clinics in urban and rural areas to ensure broad geographic coverage. This is vital in Malaysia, where healthcare access has a significant urban–rural divide. In addition, efforts have been made to minimise direct and indirect costs associated with accessing these services, recognising that financial constraints can be a considerable barrier for adolescents.[13]

Youth-friendly clinics have had a measurable impact on adolescent health outcomes in Malaysia. Data indicate an increase in the uptake of SRH services amongst young people, suggesting that these clinics effectively address the barriers previously deterring adolescents from seeking care. For instance, a study found that the presence of youth-friendly services led to a 20% increase in clinic visits amongst adolescents aged 15–19 years, highlighting the success of this initiative.[14]

However, challenges remain in the ongoing operation of these clinics. Cultural and societal norms continue to influence adolescents' willingness to seek SRH services, with some young people still hesitant to access care due to perceived stigma. Ongoing public education campaigns are necessary to normalise SRH discussions and reduce the stigma of seeking such services to combat continuing delinquents.[15]

Establishing and operating youth-friendly clinics in Malaysia has significantly enhanced the accessibility and quality of SRH services for adolescents. By prioritising privacy and accessibility, these clinics have successfully encouraged more young people to take charge of their SRH. Nevertheless, continued efforts are needed to address cultural barriers and ensure these services reach all adolescents, irrespective of their location or socio-economic status.

Educational campaigns: Increasing awareness and understanding of sexual and reproductive health issues amongst adolescents in Malaysia

Educational campaigns are crucial in enhancing the awareness and understanding of adolescent SRH issues. In Malaysia, the MoH has embarked on several targeted campaigns to foster informed and responsible behaviour amongst young people. These initiatives address the knowledge gaps and misconceptions surrounding SRH, empowering adolescents to make informed decisions about their health.

The primary objective of these educational campaigns is to provide adolescents with accurate and comprehensive information about SRH. This includes topics such as puberty, contraception, STIs and healthy relationships. The campaigns aim to demystify these subjects, promote open discussions and reduce the stigma associated with SRH matters.[16]

To achieve these objectives, the MoH employs a multifaceted strategy that leverages various communication channels to reach a broad audience. Traditional media, such as television and radio, broadcast SRH messages, ensuring broad reach across different demographics. Printed materials such as brochures and posters are also distributed in schools, community centres and health facilities.[17]

Recognising the digital savviness of today's adolescents, the MoH has also embraced digital platforms as a key component of its educational campaigns. Social media channels, websites and mobile applications disseminate SRH information, engage with young people and create interactive learning experiences. Digital campaigns often feature relatable content, including infographics, videos and quizzes, designed to capture the attention of adolescents and engagingly facilitate learning.[18]

The 'Klik Dengan Bijak' (Click Wisely) campaign is an online initiative that aims to educate young people about safe internet practices, including accessing reliable SRH resources. This campaign highlights the importance of discerning credible information sources and equipping adolescents with the skills to navigate the digital information landscape effectively.[19,20]

Collaboration with educational institutions

Collaboration with schools and universities is another critical aspect of these campaigns. The MoH partners with educational institutions to integrate SRH education into the school curriculum, ensuring students receive consistent, structured information. Workshops, seminars and interactive sessions are conducted in schools to complement classroom learning and provide students with opportunities to engage with SRH topics in a supportive environment.[21]

These school-based programmes often involve peer educators – trained adolescents facilitating discussions and sharing their knowledge with fellow students. This peer-led approach has been shown to enhance the relatability and effectiveness of SRH education by creating a comfortable space for open dialogue.[22,23]

The impact of these educational campaigns is evident in the increased awareness and understanding of SRH issues amongst Malaysian adolescents.[14] Surveys indicate that adolescents who participate in these programmes exhibit

higher levels of SRH knowledge and are more likely to adopt safe behaviours.[24,25]

However, challenges persist, particularly in reaching adolescents in rural and remote areas where access to information and resources may be limited.[26] To address this, Malaysia continues to explore innovative outreach strategies, such as mobile education units and community-based workshops, to ensure that all adolescents have access to essential SRH information.[27]

Partnerships with schools: Integrating sexual and reproductive health education into curricula in Malaysia

Collaborations with educational institutions are pivotal in the comprehensive delivery of SRH education to adolescents in Malaysia or any country around the globe.[13,28] The MoH, recognising the school environment as an optimal platform for reaching young people, has actively partnered with schools to ensure that SRH education is an integral part of the curriculum.[12,16,27] This strategic alliance aims to provide adolescents with the knowledge and skills necessary to navigate the complexities of SRH, fostering informed decision-making and healthy behaviours.[29-32]

The integration of SRH education into school curricula is guided by a strategic framework developed in collaboration with the Ministry of Education (MoE), Malaysia.[33] This framework outlines the objectives of SRH education, which include raising awareness about puberty, promoting understanding of sexual rights and responsibilities and preventing risky behaviours such as unprotected sex and STI transmission.[16,34] By embedding SRH education within the broader educational system, the MoH and MoE of Malaysia aim to create a consistent and sustained learning experience for students.[16,35]

Implementation occurs at various educational levels, with content tailored to the student's developmental stage.[12] For instance, primary school curricula may focus on basic anatomy and personal hygiene, while secondary school curricula delve into more complex topics such as contraception, consent and healthy relationships. This phased approach ensures that students receive information relevant to their age and maturity level.[13,16,36,37]

Integrating SRH education into school curricula has positively impacted adolescent health literacy in Malaysia.[27] Studies have shown that students receiving comprehensive SRH education exhibit greater awareness of SRH issues and are likelier to adopt safe behaviours.[21,34] In addition, SRH education in Malaysia programmes helps reduce stigma and promote a culture of openness and acceptance regarding SRH discussions.[16,38]

However, challenges persist regarding SRH educational intervention, particularly in achieving uniform implementation across diverse school settings in Malaysia. Variability in resources, teacher readiness and community attitudes can affect the delivery and effectiveness of SRH education. To address these challenges, the MoH continues to work closely with schools to provide tailored support and resources, ensuring that all students, regardless of their background, have access to quality SRH education.[33,39,40]

Strategic frameworks and guidelines by Ministry of Health Malaysia

The MoH Malaysia has proactively established comprehensive guidelines and strategic frameworks to enhance adolescent SRH services. Recognising the unique health challenges faced by this demographic, the MoH has developed policies aimed at providing structured and effective healthcare delivery. Two notable examples are the 'Guidelines for Managing Adolescent SRH Issues in Health Clinics' (GMASRHHC [Garis Panduan Pengendalian Masalah Kesihatan Seksual dan Reproduktif Remaja di Klinik Kesihatan])[41] and the 'National Adolescent Health: Plan of Action 2015–2020 (NAHPA)'.[42]

The GMASRHHC is a detailed guideline for healthcare providers at public health clinics. It outlines the procedures for managing adolescent SRH issues, ensuring that young people receive age-appropriate, confidential and non-judgemental care. This guideline emphasises creating a supportive environment where adolescents feel comfortable discussing sensitive health issues. It includes protocols for counselling, education on contraception and management of STIs, thereby ensuring comprehensive care.[41]

Concurrently, the NAHPA was crafted to provide a strategic framework for addressing adolescent health, including SRH, at a national level. This plan outlines objectives and strategies to improve health outcomes for young people, focusing on accessibility, quality and integration of services. It highlights the need for multisectoral collaboration, engaging stakeholders from education, social services and community organisations to create a holistic support system for adolescents.[42]

The plan also underscores the importance of empowering adolescents with knowledge and skills to make informed decisions about their health. It promotes the integration of SRH education into school curricula and community programmes, aiming to reduce the incidence of teenage pregnancies and STIs through preventive education.[43-46] Moreover, the guidelines and the strategic plan stress the need for continuous training and capacity-building for healthcare providers. By equipping professionals with up-to-date knowledge and skills, the MoH, Malaysia, ensures that they can deliver high-quality care that meets the evolving needs of adolescents.[47-49]

These initiatives for SRH care amongst adolescents are backed by data-driven insights and align with international best practices, reflecting Malaysia's commitment to advancing adolescent health.[35] Through these guidelines and strategic frameworks, the MoH, Malaysia, addresses immediate health concerns and lays the groundwork for long-term improvements in adolescent SRH outcomes.[13,27,47]

Partnerships with non-governmental organisations and international organisations

Collaborations with non-governmental organisations (NGOs)

and international bodies have become a cornerstone of improving SRH service delivery in Malaysia.[17,50] The MoH, Malaysia, recognises these national and international organisations and donor agencies' invaluable resources, expertise and funding, facilitating nationwide comprehensive and effective adolescent SRH programmes.[47,52]

NGOs and international organisations often possess specialised knowledge and experience in delivering SRH services, which can be instrumental in complementing national efforts.[53] By partnering with these entities, the MoH can tap into a wealth of expertise, particularly in programme design, implementation and evaluation.[54] This collaboration ensures that SRH initiatives are grounded in evidence-based practices and tailored to meet the specific needs of Malaysian adolescents.[53-56]

Moreover, NGOs frequently have established relationships with local communities, enabling them to reach populations that traditional healthcare systems may underserve effectively. This regional presence is crucial for understanding cultural nuances and barriers to accessing SRH services, allowing for the development of culturally sensitive interventions that resonate with young people.[29,37]

International organisations often provide funding and other resources critical for scaling up SRH services.[57] This financial support from global health agencies enhances the capacity of national programmes, enabling the MoH to expand service delivery, train healthcare professionals and invest in essential infrastructure and technology.[58] For instance, partnerships with bodies such as the United Nations Population Fund (UNFPA), United Nations Development Programme and the World Health Organisation have facilitated the procurement of contraceptives and the development of educational materials, significantly boosting the resources available for adolescent SRH initiatives.[59]

These partnerships also open avenues for resource mobilisation through joint funding applications and collaborative projects, broadening the scope and impact of SRH services across Malaysia. By pooling resources and expertise, the MoH and its partners can achieve greater efficiency and reach a grander number of adolescents with vital SRH information and services.[56]

A key component of partnerships with NGOs and international organisations is capacity building.[60] These collaborations often focus on enhancing the skills and knowledge of healthcare providers, educators and community workers involved in SRH service delivery.[61,62] Training programmes, workshops and knowledge exchange initiatives are organised to equip these professionals with the tools needed to deliver high-quality, adolescent-friendly SRH services.[18,63] Training provided by international experts can introduce innovative approaches to SRH education and counselling, ensuring that Malaysian practitioners are at the forefront of global best practices.[12,35] This capacity-building effort is essential for sustaining the quality and effectiveness of SRH services in the long term.[64,65]

NGOs and international organisations also play a pivotal role in advocacy and policy development, working alongside the MoH to promote supportive legislative and policy environments for SRH.[51,60] These partnerships help ensure that adolescent SRH issues remain on the national agenda, advocating for policies that protect and promote the rights of young people to access comprehensive SRH services.[51,60,66,67]

These collaborations have contributed to significant policy advancements through combined advocacy efforts, including SRH education in school curricula and establishing youth-friendly health services. These policy achievements accentuate the importance of strategic partnerships in driving systemic change and improving adolescent health outcomes.[37,68-71]

Community outreach and engagement

Community outreach programmes are a vital component of efforts to increase awareness and utilisation of SRH services amongst adolescents in Malaysia.[13,53] These initiatives are designed to engage communities directly, providing information and resources in easily accessible formats. By conducting workshops and health fairs and collaborating with local organisations, the MoH, Malaysia, aims to bridge the gap between available SRH services and the adolescents who need them.[13,51,53,72]

Regular workshops and educational interventions form the backbone of community outreach efforts.[73,74] These interactive events are organised in various settings, including schools, community centres and places of worship, to reach adolescents where they naturally congregate.[75,76] The workshops provide a platform for healthcare professionals to deliver SRH education, covering topics such as puberty, contraception and prevention of STIs.[77,78] By fostering an open and supportive environment, these sessions encourage adolescents to ask questions and engage in discussions about their health.[76,79,80]

To enhance the effectiveness of these workshops, trained peer educators often facilitate discussions. Peer educators, who are typically young people themselves, can communicate in relatable terms and share their own experiences, helping to break down barriers and reduce the stigma often associated with SRH topics.[81-84]

Health fairs and community events are another effective outreach tool, offering a casual and engaging setting for adolescents and their families to learn about SRH services. These events often feature interactive booths, demonstrations and activities designed to educate participants while also entertaining them. By integrating SRH information into broader health and wellness activities, these fairs attract a diverse audience and facilitate community-wide engagement.[85-89]

Such events also provide an opportunity for on-the-spot health services, such as STI screenings and contraceptive distribution, making it convenient for adolescents to access care. The presence of healthcare providers at these events offers adolescents the chance to receive personalised advice and connect with local SRH resources.[90-92]

Collaboration with local organisations, including NGOs, youth clubs and religious groups, is crucial for extending the reach and impact of community outreach programmes. These organisations often have established trust and credibility within their communities, making them ideal partners for disseminating SRH information and mobilising community members.[93,94]

By working together, the MoH, Malaysia, and local organisations can tailor outreach efforts to different communities' specific needs and cultural contexts. This collaborative approach ensures that SRH programmes are culturally sensitive and relevant, enhancing their acceptance and effectiveness.[13,95]

Community outreach and engagement initiatives have proven effective in raising awareness and increasing the uptake of SRH services amongst Malaysian adolescents. Surveys indicate that adolescents who participate in outreach programmes demonstrate improved knowledge about SRH issues and are more likely to access available services.[13,55]

However, challenges remain, particularly in remote and rural areas of Malaysia with limited healthcare infrastructure. To address these challenges, the MoH, Malaysia, continues to explore innovative outreach strategies, e.g., mobile healthcare units (MHUs) and digital outreach, to ensure that all adolescents have access to essential SRH information and services.[96,97]

Mobile health units: Reaching adolescents in remote or underserved areas in Malaysia

MHUs are a pivotal strategy in extending SRH services to adolescents in remote or underserved areas of Malaysia [Figure 3]. These units are designed to overcome geographical and infrastructural barriers, ensuring all young people access vital SRH information and care. MHUs promote health equity across diverse communities by delivering on-the-spot services and education.[98-100]

The primary purpose of MHUs in Malaysia is to provide accessible, comprehensive SRH services to adolescents with limited access to healthcare facilities.[13,17] Malaysia's movable healthcare and SRH units are typically equipped with essential medical supplies, educational materials and personnel trained in adolescent health.[13] The mobility of these units allows them to reach areas where healthcare infrastructure is sparse or non-existent, effectively bringing services directly to those in need.[9,13,17]

MHUs Malaysia are designed to be versatile and adaptable, capable of setting up temporary clinics in various locations such as schools, community centres and open fields.[101] This flexibility regarding healthcare, including SRH, enables them to cater to the specific needs of different communities, offering services such as STI testing, contraception counselling and health education workshops.[66,102]

The services provided by MHUs Malaysia are tailored to address the unique SRH needs of adolescents. On-the-spot services include STI screenings, distribution of contraceptives and essential health check-ups. Importantly, these units also serve as educational hubs, offering workshops and interactive sessions on topics such as puberty, safe sex practices and healthy relationships. By integrating education with service delivery, MHUs empower adolescents with the knowledge to make informed health decisions.[13,55]

Healthcare professionals manning these units are specially trained to engage with adolescents in a respectful and supportive manner, ensuring that young people feel comfortable and confident in accessing the services offered.[103-105] The presence of peer educators further enhances the relatability and effectiveness of the educational components, facilitating open discussions and peer-to-peer learning.[106,107]

The deployment of MHUs in Malaysia has significantly improved access to SRH services amongst adolescents in remote and underserved areas of Malaysia. By reducing travel time and costs associated with accessing healthcare, these units effectively remove barriers that often prevent young people from seeking care. This increased accessibility has led to higher utilisation of SRH services, as evidenced by data showing a notable increase in the number of adolescents receiving STI screenings and contraceptive advice in areas served by MHUs.[13,14,21,44]

Furthermore, the presence of MHUs in Malaysian communities helps normalise conversations around SRH, reducing stigma and encouraging more open discussions about health issues. This cultural shift is crucial for fostering an environment where adolescents feel empowered to take control of their SRH.[13,27,108,109]

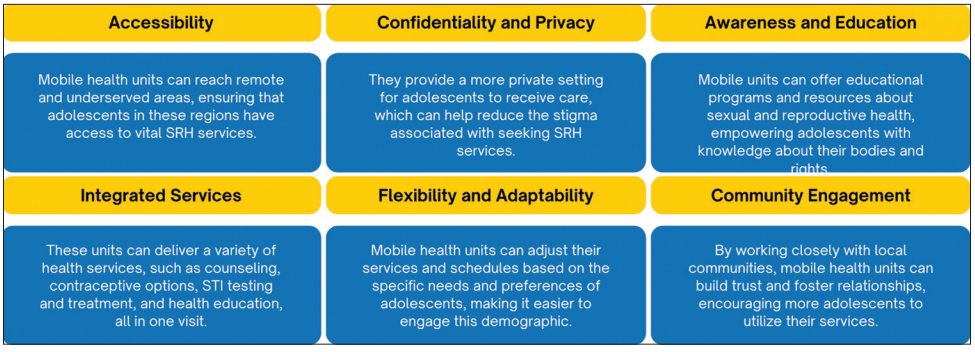

Figure 3: Advantage of using mobile health units in remote or underserved areas in Malaysia. Illustration Credit: Nor Faiza Mohd. Tohit.

MHUs face funding limitations and logistical complexities when reaching remote areas of Malaysia despite their success.[110,111] To address these issues, continued investment in mobile health infrastructure and strategic planning is essential [Figure 4]. Partnerships with local organisations and community leaders can also enhance the effectiveness and sustainability of MHU operations.[48,112]

In the future, integrating digital technologies with MHUs could further extend their reach and impact. For example, telehealth services could be offered alongside physical consultations, providing more resources to adolescents in even the most isolated locations.[113-116]

Challenges and Barriers to the Implementation of Sexual and Reproductive Health Services for Adolescents in Malaysia

The implementation of SRH services for adolescents in Malaysia is fraught with a myriad of challenges and barriers. These obstacles range from cultural and societal sensitivities to resource limitations and policy constraints. Understanding these challenges is crucial for appreciating the complexities involved in delivering effective SRH services to young people in the country.[13,14,117]

Cultural sensitivities

One of the primary challenges in implementing SRH services in Malaysia is navigating the cultural sensitivities surrounding sexual health topics. Malaysia's diverse population comprises various ethnic and religious groups, each with its unique beliefs and attitudes towards sexuality and reproductive health. This diversity often results in conservative views on SRH issues, which can hinder open discussions and acceptance of SRH services.[14,27,35]

Discussing topics such as contraception, sexual orientation and pre-marital sex can be considered taboo in many communities, leading to resistance against SRH education and services, for instance. Studies have shown that parents and community leaders may oppose comprehensive SRH education in schools, fearing that it could encourage sexual promiscuity amongst adolescents.[37,118] This cultural resistance can limit the scope of SRH programmes and restrict adolescents' access to vital information and services.[119,120]

Resource limitations

Resource limitations pose another significant barrier to effectively implementing SRH services in Malaysia. Financial constraints can impact the availability and quality of SRH services, particularly in rural and underserved areas where healthcare infrastructure is already limited. The cost of implementing comprehensive SRH programmes, including training healthcare providers, developing educational materials and maintaining MHUs, can be substantial.[13,17,121,122]

In addition to financial constraints, there is often a lack of trained personnel to deliver SRH services. Healthcare providers may not have adequate training in adolescent-friendly care, which is essential for effectively addressing young patients' unique needs. This lack of specialised training can result in services that are not well suited to adolescents, further deterring them from seeking care.[67,87,123]

Policy constraints

Policy constraints also hinder the implementation of SRH services. While Malaysia has made strides in developing policies to support adolescent health, gaps still need addressing. For example, integrating SRH education into school curricula is not uniform across the country, with some regions implementing it more comprehensively than others.[14,37]

Moreover, existing policies of Malaysia probably do not fully support the provision of certain SRH services, such as access to contraception for unmarried adolescents. Legal and regulatory restrictions can limit the availability of these services, leaving many young people without the resources they need to make informed health decisions.[13,51,124] These policy gaps can undermine the effectiveness of SRH programmes and restrict their reach.[59,125-127]

Social stigma and misinformation

Social stigma and misinformation about SRH issues further complicate service delivery. Adolescents may avoid seeking SRH services due to fear of judgement or shame, particularly in communities where strong cultural and religious norms prevail. This stigma can be compounded by misinformation about SRH topics, leading to misconceptions and unhealthy behaviours.[14,37,84]

Myths about contraceptive methods or misconceptions about STI transmission can discourage adolescents from using

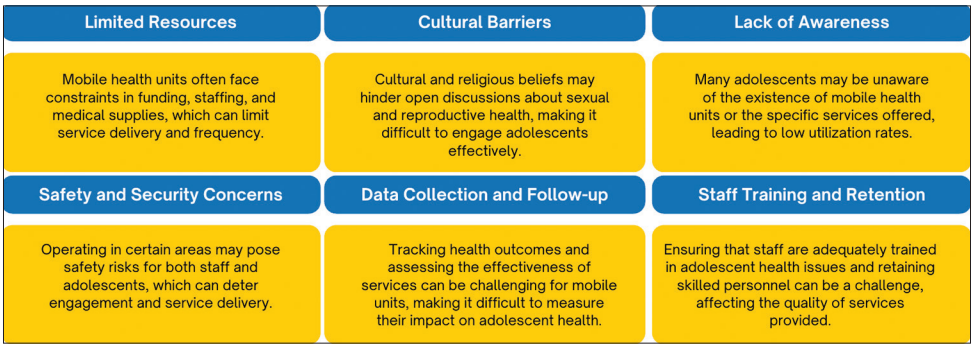

Figure 4: Challenges and barriers faced by mobile health unit services. Illustration Credit: Nor Faiza Mohd. Tohit.

preventive measures, e.g. the lack of accurate information can also perpetuate fear and stigma, creating a cycle that is difficult to break without targeted educational interventions.[35,128,129]

Geographical and logistical challenges

Geographical and logistical challenges are particularly pronounced in rural and remote areas of Malaysia, where access to healthcare facilities is limited. The country's diverse topography, including mountainous regions and scattered islands, makes it difficult to establish and maintain healthcare infrastructure in certain areas. As a result, adolescents in these regions may have limited access to SRH services and education.[130,131]

MHUs have been deployed to address these challenges in Malaysia, but logistical issues such as transportation, staffing and funding can hinder their operations. Ensuring the regular presence of MHUs in remote areas requires careful planning and substantial resources, which may not always be available.[58,96,132]

Technological barriers

While digital platforms offer an innovative way to reach adolescents with SRH information, technological barriers can limit their effectiveness.[133,134] Not all adolescents have access to smartphones or the internet, particularly in rural areas where digital infrastructure may be lacking.[135,136] This digital divide can prevent some young people from accessing online SRH resources and participating in digital health initiatives.[137-139]

In addition, there is a need to ensure that digital content is culturally appropriate and engaging for adolescents. Developing and maintaining high-quality digital resources requires ongoing investment and expertise, which can be challenging given resource constraints.[140-142]

Legal and ethical considerations

Legal and ethical considerations also present challenges in SRH service delivery. Issues such as consent, confidentiality and the legal age of access to services can complicate service provision. Healthcare providers must navigate these legal and ethical considerations, while ensuring adolescents receive the necessary care and information.[51,143,144]

For instance, concerns about confidentiality can deter adolescents from seeking SRH services, especially if they fear that their health information may be disclosed to parents or authorities. Ensuring privacy and building trust with adolescent patients is crucial, but it requires clear policies and training for healthcare providers.[145-147]

Practical Suggestions for Improving Adolescents' Sexual and Reproductive Health Services and Education

Improving SRH services and education for adolescents is crucial for fostering healthy development and empowering young people in Malaysia.[21] This requires a comprehensive approach involving policy recommendations, innovative practices and the engagement of various stakeholders.[148]

Enhancing the delivery of the sexual and reproductive health policy framework

In collaboration with educational institutions, the MoH of Malaysia has established a comprehensive policy framework for integrating SRH education throughout all schooling levels. However, there is a need to enhance the effectiveness of its delivery. This framework mandates the inclusion of SRH topics in the national curriculum, ensuring that students receive consistent and age-appropriate information from primary to secondary education.[149,150] SRH education, already a mandatory curriculum component, requires effective implementation to ensure that it is consistently delivered across all educational levels.[28,151-153]

The SRH curricula should be culturally sensitive and relevant to Malaysia's diverse communities. Educational content should be developed with community leaders, religious authorities and cultural experts. This collaboration ensures the content respects local values while delivering accurate, comprehensive information.[35] This traditionally perceptive and pertinent approach can reduce resistance to SRH education in schools, enhancing acceptance and understanding across various cultural contexts.[118]

Educators should employ interactive and engaging teaching methods to enhance the effectiveness of SRH education. This includes using multimedia tools, such as videos and online platforms, to present information that resonates with adolescents.[154-156] Role-playing, group discussions and peer-led sessions can foster a more participatory learning environment, encouraging students to engage actively with the material.[157-159]

The success of SRH education heavily depends on the capability of educators to deliver the content effectively.[159,160] Thus, comprehensive training programmes should equip teachers with the knowledge and skills to address SRH topics confidently and sensitively.[161,162] Ongoing professional development opportunities should also be available to keep educators updated on the latest SRH research and teaching techniques.[163]

Building healthcare provider capacity

Healthcare providers are integral to delivering SRH services to adolescents, acting as the main conduit for young individuals seeking medical guidance and support. Training programmes must be designed to optimise their efficacy to enhance providers' abilities to offer adolescent-friendly services.[67,164] This includes developing robust communication skills, maintaining confidentiality and fostering cultural competence.[37,165]

Effective communication is fundamental when engaging with adolescents. Providers must be adept at creating an open and empathetic dialogue, crucial for understanding young patients' needs and concerns.[80,166] Health professional

training regarding SRH should cover strategies for asking non-intrusive, age-appropriate questions and explaining medical information clearly and accessibly. Enhancing these skills helps build trust, encouraging adolescents to be more forthcoming about their health issues.[80,166]

Ensuring confidentiality is pivotal in encouraging adolescents to seek SRH services.[145,167] Many adolescents may hesitate to access care due to concerns about privacy breaches. Training programmes should, therefore, emphasise the importance of confidentiality protocols, reassuring young people that their personal health information will remain secure.[145,167,168] This assurance of confidentiality is fundamental in fostering an environment where adolescents feel safe to discuss sensitive health matters, e. g. SRH.[145,168]

Given the diverse cultural landscape in many countries, including Malaysia, healthcare providers must be culturally competent. Training should provide insights into enlightening religious and societal norms that may influence adolescents' perceptions of SRH. Providers should be taught to respect these perspectives and deliver care in a culturally sensitive manner, thereby reducing potential barriers to accessing care.[137,169]

The United Kingdom (UK) offers an exemplary model of adolescent-friendly SRH services through initiatives such as the 'You're Welcome' quality criteria. These criteria establish standards for making health services more accessible and suitable for young people, emphasising confidentiality, respect and participation. Training for healthcare providers in the UK includes modules on these principles, ensuring that they are well-prepared to meet adolescents' needs in a supportive and non-judgemental way.[170-172]

Fostering a supportive and non-judgemental environment, healthcare providers can significantly increase adolescents' likelihood of seeking the care they need. This supportive setting encourages young people to access services and promotes ongoing engagement with healthcare, which is essential for long-term health and well-being. Investing in comprehensive training for healthcare providers is thus a critical step in enhancing the delivery of SRH services to adolescents, ultimately contributing to improved health outcomes for this vulnerable population.[18,173-175]

Community and parental engagement in sexual and reproductive health initiatives

Engaging parents and communities is a cornerstone of successful SRH initiatives for adolescents. This engagement enhances the effectiveness of SRH education and services and helps create a supportive environment that fosters open dialogue and reduces stigma. Below, we delve deeper into strategies for engaging parents and communities and the role of NGOs and community organisations in enhancing SRH programmes.[176-178]

Parental and community involvement is crucial for the success of SRH initiatives. The MoH, Malaysia, and educational institutions should prioritise organising workshops and information sessions to educate parents about the benefits of SRH education and services. These sessions can serve as platforms for dispelling myths and misconceptions about SRH topics, providing parents with accurate and science-based information.[13,17,179]

These workshops can help demystify SRH topics and reduce the associated stigma by involving parents in the educational process. Encouraging open dialogues between parents and adolescents is essential in creating a supportive environment where young people feel comfortable discussing their health concerns. When parents are informed and supportive, adolescents are more likely to engage with SRH services and feel confident in making informed health decisions. This approach also helps parents understand the importance of SRH education in promoting the well-being of their children and the broader community.[176,179-183]

Moreover, community engagement initiatives can include cultural events and forums integrating SRH education into community activities. By embedding SRH discussions within familiar cultural contexts, these initiatives can reach a wider audience and foster community-wide support for adolescent health programmes.[184,185]

Collaborating with non-governmental organisations and community organisations

Partnerships with NGOs and community organisations play a pivotal role in enhancing the reach and impact of SRH programmes. These organisations often have established relationships within communities, making them invaluable partners in delivering SRH services and education. They can provide critical resources, such as funding, training, educational materials, community engagement and health education expertise.[67,186]

Collaborative efforts between the MoH, educational institutions and NGOs can help tailor SRH services to meet the specific needs of different communities. For example, NGOs with experience in working with marginalised or underserved populations can offer insights into the unique challenges these groups face in accessing SRH services. By leveraging this expertise, SRH programmes can be customised to address these challenges, ensuring all adolescents have access to appropriate care.[29,85,187]

Furthermore, NGOs and community organisations can advocate for policy change, raising awareness about the importance of SRH education and services amongst policymakers and the ordinary people. Their advocacy efforts can help build momentum for legislative and policy reforms supporting adolescent health, such as improved access to contraceptive services and comprehensive school SRH education.[51,71]

In India, the collaboration between the government and NGOs, such as the Family Planning Association of India, has been instrumental in delivering SRH services to adolescents. These partnerships have enabled community-based programmes that focus on educating parents and engaging communities in SRH

discussions, leading to increased acceptance and utilisation of services.[188,189]

Fostering partnerships and engaging parents and communities, SRH initiatives can create a supportive network that empowers adolescents to take charge of their SRH. This collaborative approach ensures that SRH education and services are not only accessible but also culturally relevant and widely accepted, ultimately contributing to improved health outcomes for young people.[72]

Expanding digital health platforms and implementing telehealth services for adolescent sexual and reproductive health

In today's digital age, leveraging technology to enhance SRH services for adolescents is both an opportunity and a necessity. Integrating digital health platforms and telehealth services can significantly improve access to SRH information and care, particularly for tech-savvy adolescents comfortable with online communication. Below, we explore strategies for expanding these digital solutions and their potential impact on adolescent health.[134,190-192]

Digital health platforms provide an innovative means of delivering SRH information to adolescents, offering a wealth of resources that are readily accessible and engaging. The MoH of Malaysia should prioritise investment in developing and maintaining high-quality digital resources, such as websites and mobile applications, that offer accurate and comprehensive SRH content. These platforms can include interactive elements such as quizzes, videos and forums where adolescents can ask questions anonymously, fostering a sense of community and support.[193-196]

A critical aspect of these digital platforms is their accessibility. They must be designed to bridge the digital divide, ensuring that all adolescents, regardless of their socio-economic background or geographical location, can benefit from online resources. This involves ensuring that platforms are mobile friendly, given the high penetration of smartphones amongst young people, and available in multiple languages to cater to Malaysia's diverse population.[197-201]

Furthermore, digital platforms can personalise the SRH education experience. These platforms can tailor content to individual users based on age, interests and previous interactions, providing a more engaging and relevant learning experience using algorithms and data analytics. Personalisation can significantly enhance the effectiveness of SRH education, making it more appealing and impactful for adolescents.[25,67,133,134,191,202-204]

Telehealth services offer a complementary approach to traditional SRH service delivery, particularly valuable in remote and underserved areas where access to healthcare facilities may be limited.[115,205] By providing virtual consultations and health advice, telehealth can overcome geographical and logistical barriers, significantly increasing adolescent access to SRH services.[113,206]

One of the key benefits of telehealth is the level of anonymity and convenience it offers. Adolescents who may feel embarrassed or anxious about discussing SRH issues in person can benefit from the privacy and comfort of virtual consultations.[207,208] Telehealth anonymity possesses the potential to encourage more young people to seek care and advice regarding SRH, addressing issues that they might otherwise ignore due to fear of judgement or stigma.[207,209]

Telehealth can also facilitate follow-up care and continuous engagement with healthcare providers. Adolescents can easily schedule regular check-ins or seek advice on new health concerns without travelling, making SRH care more consistent and integrated into their daily lives. This continuity of care is crucial for addressing ongoing SRH needs and preventing potential health issues from escalating.[207,209]

In Australia, the 'eheadspace' digital platform provides online and telephone support to young people, including SRH advice. This service has successfully reached adolescents countrywide, offering support regardless of location. The platform's success demonstrates the potential of telehealth and digital platforms in expanding access to health services for young people.[210-212]

To ensure the successful implementation of telehealth services, the MoH, Malaysia, should work towards improving digital infrastructure, particularly in rural and remote areas. This includes expanding internet access and ensuring that telehealth platforms are secure, user-friendly and compliant with privacy regulations.[213,214]

Monitoring and evaluation of sexual and reproductive health programmes

Effective monitoring and evaluation (M and E) systems are essential for assessing the impact of SRH programmes and ensuring that they meet the needs of adolescents [Figure 5]. By implementing robust M and E frameworks, stakeholders can gain valuable insights into programme effectiveness and areas for improvement. Moreover, involving adolescents in the evaluation can enhance programme responsiveness and empowerment.[215,216]

To evaluate the effectiveness of SRH programmes, it is crucial to establish comprehensive M and E systems. These systems should be designed to track key indicators, such as service utilisation rates, health outcomes and adolescent behavioural changes. By collecting and analysing this data, policymakers and programme managers can clearly understand how well SRH services are performing and where improvements are needed.[217,218]

Robust M and E systems can provide actionable insights that inform policy and programme adjustments. For example, if data indicate low utilisation rates of SRH services in certain regions, targeted interventions can be developed to address barriers to access. Similarly, measuring health outcomes can help identify successful strategies worth expanding or replicating in other areas.[215,216,219-222]

Regular evaluations are essential to ensure that SRH services continue to meet the evolving needs of adolescents. Periodic

Figure 5: Benefits of implementing effective monitoring and evaluation systems on the initiatives on sexual and reproductive health for adolescents. Illustration Credit: Nor Faiza Mohd. Tohit.

Regular evaluation of all healthcare stakeholders usually spotted gaps in service provision and areas requiring to intervene and improve. This proactive approach allows for timely interventions and the adaptation of programmes to changing circumstances and emerging challenges in adolescent health.[223,224]

Furthermore, M and E systems should be equipped to capture qualitative data, such as user satisfaction and perceived barriers to accessing services. This information provides a deeper understanding of the adolescent experience and can highlight issues not immediately apparent through quantitative measures alone.[225,226]

A critical component of effective M and E is involving adolescents in the evaluation process. By actively seeking their feedback and perspectives, policymakers and educators can gain valuable insights into the challenges and successes of current initiatives. As primary beneficiaries of SRH programmes, adolescents offer unique viewpoints that can guide service delivery and educational content enhancements.[227,228]

Involving young people in the evaluation process empowers them and ensures that SRH programmes respond to their needs and experiences. When adolescents feel their voices are heard and valued, they are more likely to engage with SRH services and advocate for their peers to do the same.[229,230]

Adolescent participation can be facilitated through various channels, such as focus groups, surveys and advisory panels. These platforms allow young people to express their views in a safe and supportive environment, providing critical feedback on what is working and what needs improvement. Moreover, involving adolescents in programme design and evaluation fosters a sense of ownership and accountability, encouraging them to actively promote their health and well-being.[231,232]

In Sweden, the youth advisory councils involved in public health initiatives have been instrumental in shaping SRH services. These councils provide feedback on programme effectiveness and suggest improvements, ensuring that services are tailored to the needs of young people. Sweden's model demonstrates the value of incorporating adolescent voices in health programme evaluation and planning.[233-235]

SRH programmes can achieve greater effectiveness and relevance by establishing robust monitoring systems and encouraging adolescent participation in evaluation. These efforts ensure that services are continuously refined and adapted to meet the dynamic needs of adolescents, ultimately contributing to improved health outcomes and empowerment for young people.[67,89]

Future Research Recommendation

Based on the findings of this scoping review, several research recommendations for future studies on adolescent SRH services in Malaysia are proposed [Figure 6]. First, it is essential to assess the effectiveness of outreach programmes in increasing awareness and access to SRH services amongst adolescents. Understanding how these programmes influence knowledge, attitudes and behaviours will provide valuable insights into their impact and inform future initiatives.

Second, future research should examine cultural sensitivity and the barriers that adolescents face when accessing SRH services. Investigating the social and cultural factors influencing adolescents' perceptions and utilisation of these services can help tailor more inclusive and effective interventions. Engaging with diverse communities will ensure that services are relevant and respectful of cultural contexts.

In addition, exploring digital health interventions presents a promising avenue for enhancing adolescent SRH services. As technology becomes increasingly integrated into daily life, research should focus on developing and evaluating digital platforms that provide reliable SRH information,

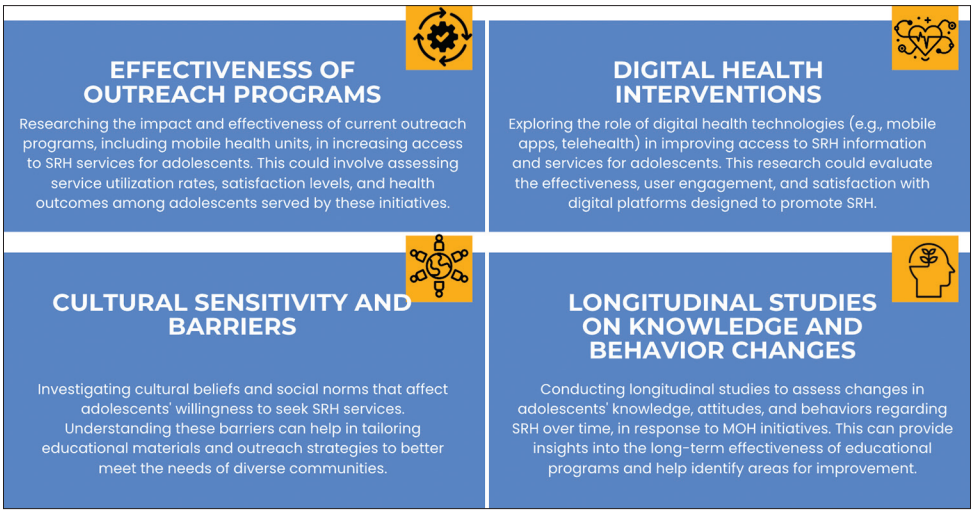

Figure 6: Research recommendations to further improvise the initiatives on sexual and reproductive health for adolescents. Illustration Credit: Nor Faiza Mohd. Tohit.

facilitate communication with healthcare providers and offer virtual support services. Understanding the effectiveness and acceptability of these interventions amongst adolescents is crucial for their successful implementation.

Moreover, conducting longitudinal studies to examine knowledge and behavioural changes over time will provide a deeper understanding of the long-term impact of SRH initiatives. By tracking adolescents' SRH knowledge, attitudes and practices, researchers can identify trends and assess the sustainability of behavioural changes resulting from various interventions.

Addressing these research areas will significantly contribute to the enhancement of SRH services for adolescents in Malaysia. Continued investment in research will ensure that policies and programmes are evidence-based, culturally appropriate and responsive to the evolving needs of young people.

Conclusion

Improving SRH services and education for adolescents in Malaysia necessitates a comprehensive, multifaceted approach. By addressing the challenges of cultural sensitivities, resource limitations and policy constraints, stakeholders can enhance the accessibility and quality of SRH services. Key strategies include expanding digital health platforms and telehealth services, fostering community and parental engagement and establishing robust M and E systems.

Leveraging technology through digital platforms and telehealth can bridge geographical and logistical gaps, ensuring adolescents access vital health information and services. Engaging parents and communities helps create a supportive environment, while partnerships with NGOs can extend the reach of SRH programmes. Moreover, involving adolescents in the evaluation empowers them and ensures that services are tailored to their needs and experiences.

By implementing these strategies, Malaysia can create an inclusive and effective SRH framework that supports the health and well-being of its young population. This commitment to adolescent health contributes to individual empowerment and fosters healthier communities, ultimately advancing national development goals.

Consent for publication

The author reviewed and approved the final version and has agreed to be accountable for all aspects of the work, including any accuracy or integrity issues.

Disclosure

The author declares that they do not have any financial involvement or affiliations with any organisation, association or entity directly or indirectly related to the subject matter or materials presented in this review paper. This includes honoraria, expert testimony, employment, ownership of stocks or options, patents or grants received or pending royalties.

Data availability

Information for this scoping review paper is taken from freely available sources.

Authorship contribution

All authors contributed significantly to the work, whether in the conception, design, utilisation, collection, analysis, and interpretation of data or all these areas. They also participated in the paper's drafting, revision or critical review, gave their final approval for the version that would be published, decided on the journal to which the article would be submitted and made the responsible decision to be held accountable for all aspects of the work.

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