

Role of Health Education and Reproductive Health Education in Schools and Higher Education Institutions

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ABSTRACT

Health education and sexual and reproductive health education are among the priority action plans of most countries, which have adopted policies focused on human rights. These countries aim to achieve the Sustainable Development Goals by 2030, to ensure access to health for all and to prepare future citizens for employment. The objective of this literature review is to assess the place of HE and SRH in educational curricula, from primary to higher education, to explore the strengths and weaknesses of the adopted didactic approaches and tools. This is a bibliographic study conducted using three scientific databases, Google Scholar, PubMed, and Science Direct, with the combination of keywords health education or reproductive health education, and curriculum or program or training or institute or health institute or nursing institute and approach and didactic. We obtained eleven articles. The target populations were students in primary and higher education (medical faculties and nursing institutes) and the teaching staff of primary and higher education institutions. The approaches identified in these studies were: traditional, biomedical, digital, interprofessional, and global or comprehensive approaches. A global consensus is required on how these competencies should be addressed, given the role they play in promoting the quality of life of individuals and ensuring a healthy environment, governed by a high level of health literacy.

INTRODUCTION

Health education goes beyond the mere transmission of knowledge; it plays a crucial role in promoting protective behaviors and creating a balanced environment, supported by quality health and education systems. It thus serves as an indirect tool to combat illegal migration and strengthen national stability by addressing the fundamental needs of citizens in education and healthcare (N'DDE, 2021). The Sustainable Development Goals (SDGs) encourage countries to enhance citizens' literacy levels, enabling them to develop healthy and protective behaviors toward their health, the health of their communities, and their environment. Through health education, this preparation extends to citizenship and empowerment.

However, several obstacles hinder citizens' access to quality healthcare, particularly in the areas of sexual and reproductive health. These challenges are linked to both social factors and shortcomings in the educational and healthcare systems (Nkwabong et al., 2018; Vieira et al., 2017). In Morocco, migration to Europe, particularly to Spain, has been a long-standing trend. However, the country's shift towards more inclusive migration policies, such as the "new migration policy" focused on the integration and regularization of migrants, marks a significant change. It advocates for a more humane management of migration flows (N'DDE, 2021), while addressing the fundamental needs of both migrants and local populations in terms of healthcare and education, thus contributing to their social well-being.

In this context, educational institutions, at both primary and higher education levels, should provide comprehensive health education to prepare students for empowerment. Furthermore, hospitals and healthcare facilities must offer appropriate training to healthcare professionals (Junqueira et al., 2013; Omo-Aghoja, 2013). High-quality education is essential to equip healthcare professionals with the necessary competencies, enabling them to care for patients using a holistic approach that integrates prevention, care, information, education, communication, and follow-up. Achieving this requires the active contribution of all stakeholders (Cesnik & Zerbini, 2017).

However, there is no consensus on the pedagogical approaches to be used in health education. In fact, faculties in healthcare sectors have developed independent health programs (Battat et al., 2010). Furthermore, there is a significant gap between the number of studies conducted in developed countries and those carried out in developing countries concerning health education and reproductive health education (Liu et al., 2015). Regarding the approaches used to teach these fields, several studies have indicated that elective or content-based programs were the most commonly employed (Liu et al., 2015).

A study highlighted the lack of research comparing the effectiveness of different approaches to health education (Liu et al., 2015). Furthermore, a common issue in educational institutions worldwide is the absence of standardized training and teaching methodologies in health and reproductive health education. On the other hand, current health education programs are primarily designed for students in medicine, public health, and nursing sciences (Grosser et al., 2020), resulting in a significant gap in teaching these disciplines in educational programs outside the healthcare sector.

It is crucial for countries to ensure a high quality of life for their citizens by guaranteeing their rights to life, education, and health. As highlighted by UNESCO (2024), “Education is a fundamental human right that enables and advances others”. To achieve this quality of life, particularly in terms of sexual and reproductive health, and to ensure equity and access to healthcare for all, states should adopt the goals outlined in the 2030 sustainable development agenda. In this regard, primary and higher education institutions must align with these

goals by adopting comprehensive approaches that promote empowerment and the development of protective and healthy behaviors among learners concerning their health and that of their community (Maeva Bonjour & Ineke van der Vlugt, 2018).

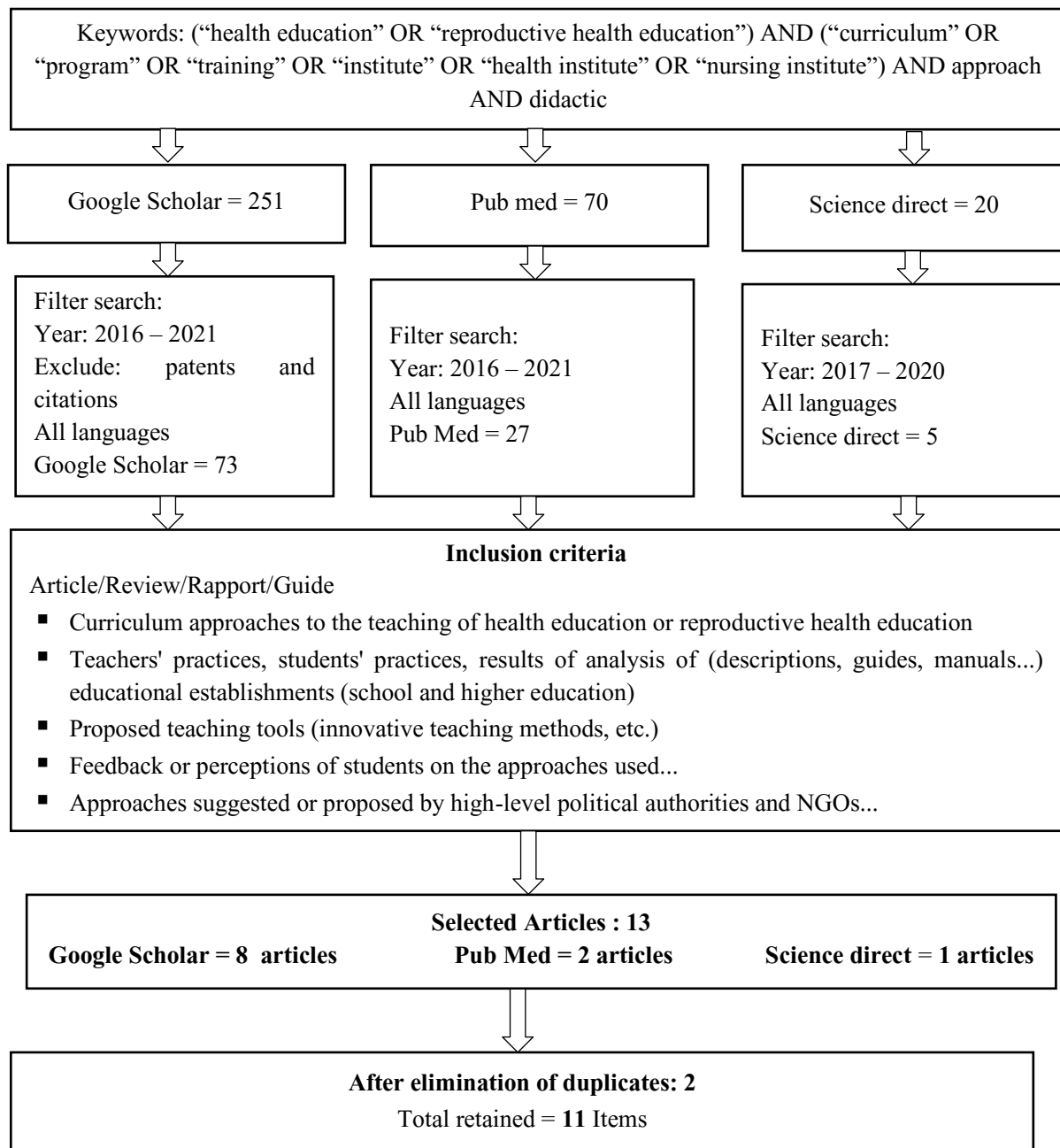
This version directly connects the notion of education as a fundamental right with the importance of education for the development of health and protective behaviors.

In this context, our research aims to explore the role of Health Education (HE) and Reproductive Health Education (RHE) in the curricula of various primary and higher education institutions and to analyze the approaches adopted in training programs, teaching practices, and didactic methods. The objective is to identify gaps and obstacles that impact the quality of teaching in these subjects and to propose suggestions for improvement. This study aims to highlight the position of these fields in the curricula of educational institutions, from primary to higher education, to analyze the adopted approaches and strategies, and to assess whether these approaches encourage learners to develop adequate competencies regarding their health in general and their sexual and reproductive health in particular.

METHODS

The research methodology is based on three major scientific databases: Google Scholar, PubMed, and ScienceDirect. To refine the search, the Boolean operators “AND” and “OR” were employed, using the following query: (“health education” OR “reproductive health education”) AND (“curriculum” OR “program” OR “training” OR “institute” OR “health institute” OR “nursing institute”) AND approach AND didactic.

Initially, the use of these keywords generated a total of 341 articles. The search results were then filtered by focusing on publications from the last five years—2016 onward for ScienceDirect and from 2017 for Google Scholar and PubMed. This process reduced the number of articles to 105. A further screening of these results was conducted based on the inclusion criteria outlined in the research framework, along with the removal of duplicate entries. After applying these steps, the final selection comprised 11 articles.



RESULTS AND DISCUSSION

Our bibliographic search strategy identified eleven scientific articles. To facilitate their exploration, processing, and synthesis while standardizing the analysis methodology, we used a criteria-based analysis grid developed by our

research team. This grid includes the following variables: Article reference, Type of Article and Research Field, Methodology/Target Population, Country/Study Location, Approaches Adopted, and Summary. The summary table of the obtained results is presented below.

Article reference	Type of article and field	Methodology/ Target Population	Country/place of study	Approaches adopted	Summary
1. Kokotailo, P. K., Baltag, V., & Sawyer, S. M. (2018). Educating and training the future adolescent health workforce. <i>Journal of Adolescent Health</i> , 62(5), 511-524.	-Review Article -Education and training program for healthcare professionals	Review of articles published between 2006 and 2016 that analyze health institution curricula, as well as guides or skill frameworks developed by NGOs for teaching and assessing adolescent health.	In training establishments for healthcare professionals worldwide	- Competency-based approach - Innovative Pedagogical Techniques (peer education, simulation, service learning...) - E-learning	Objective: to identify the evaluation approaches and tools used to measure progress in the education and training of health personnel (midwives, nurses, etc.) in relation to adolescent health. Results: In middle- and low-income countries: Adolescent health as a discipline is not a curricular priority in the training programs of health professionals. A flagrant lack of curricula and training standards, and non-standardization of approaches to this theme. In high-income countries (Canada, United States, China, etc.), programs dealing with adolescent health and health education are developed using a competency-based approach, with reference to the competency framework drawn up by the WHO and NGOs such as the General Medical Council, the American Association of Colleges of Nursing and the International Confederation of Midwives. Milestones" have been established as specific indicators in the assessment of clinical skills. In national training, however, standards are rare. Didactic methods used: inquiry-based learning, e-learning, peer learning, simulation, blended learning (asynchronous and synchronous) Assessment techniques (qualitative methods: focus groups, interviews, etc.)
2. Yalahow, A., Hassan, M., & Foster, A. M. (2017). Training reproductive health professionals in a post-conflict	-Research article -Program for healthcare professionals	(Review of existing programs, interviews with key informants from the health and education sectors, focus groups (FGD) with health	Somali	The traditional approach outweighs the active approach	Objective: to analyze the curriculum and explore training in conflict situations (war situations) in reproductive health education for midwives, doctors... in order to identify gaps and exploit avenues for improvement... Results: Reproductive health education for medical and nursing students is incoherent, and there are major gaps in content (few clinical training opportunities). Each university creates its own program, low level of literacy, and lack of national standards in medical and nursing/midwifery programs.

environment: exploring medical, nursing, and midwifery education in Mogadishu, Somalia. <i>Reproductive health matters</i> , 25(51), 114-123.		professionals and students...)			Teachers not trained in new approaches to teaching reproductive health education.
3.Cappiello, J., Coplon, L., & Carpenter, H. (2017). Systematic review of sexual and reproductive health care content in nursing curricula. <i>Journal of Obstetric, Gynecologic & Neonatal Nursing</i> , 46(5), e157-e167.	(Review (1990-2016) -Nursing program	Analysis of studies focusing on SRH content in pre-licensure nursing education. 13 articles	United States	-Unspecified approach -Content/subject/concept approach Competency-based approach -Global approach	Objective: To examine the extent to which pre-licensure nursing programs include health-related content (SRH) in their curricula, Results: teachers' personal beliefs affect curricular content, definitions of SRH were not consistent, limited time allocated to reproductive health education due to time constraints, reproductive health was not a curricular priority, lack of appropriate curricular tools, lack of qualified teachers. Didactic content: either no course description of reproductive health, or minimal description according to the preventive approach, or intermediate by competency approach according to case studies... or intense description according to the global approach. Perspective: reinforcing the global approach and the competency-based approach in ESR teaching in nursing curricula.
4. Chau, K., Traoré Seck, A., Chandra-Mouli, V., &	Review (1990-2010) School curriculum	A total of 27 articles were selected for a literature review,	Senegal	-The analytical framework: Expand Net/WHO	Objective: to describe the evolution of school-based reproductive health education from 1990 to 2010 in relation to the integration of family life education (FLE) into the national curriculum in primary and secondary schools in Senegal.

Svanemyr, J. (2016). Scaling up sexuality education in Senegal: integrating family life education into the national curriculum. <i>Sex Education, 16</i> (5), 503-519.		and semi-structured interviews were conducted to gather information about the scaling-up of Family Life Education (FLE)		-systems approach	Results: Socio-cultural obstacles created resistance to content deemed culturally sensitive, and structural obstacles made it difficult to find a place in the curriculum. Prospects: strengthen links between sexuality education and adolescent health services, to ensure that young people can access the SRH services they need, while also having access to comprehensive SRH information and education develop a more comprehensive approach to reproductive health education that fills content gaps
5. Nchia, L. N., Joseph, T. L., Fonkeng, G. E., & Ngeh, G. N. (2017). Effects of Teachers' Epistemological, Health View and Pedagogical Beliefs on the Didactic Strategy to Teach Adolescent Reproductive Health: A Cameroonian Perspective. <i>Acta Didactica</i>	-Research article -Adolescent education program	-cross-sectional survey design -373 Secondary school biology teachers.	Cameron	-from the biomedical to the biopsychosocial approach, , incorporating competency-based and constructivist teaching methods, as well as interdisciplinary strategies	Objective: to analyze the effect of teachers' epistemological, health and pedagogical views on the didactic strategy for teaching adolescent reproductive health in Cameroon, and to diagnose factors that might facilitate or inhibit the effectiveness of adolescent reproductive health teaching in Cameroon. Results: Teachers' beliefs and conceptions had a direct positive effect on the use of the biomedical approach and on the use of traditional teaching methods. On the contrary, teachers who criticize authority and have reliable knowledge use the Biopsychosocial approach, which is strongly correlated with a constructivist teaching method that positively influences the use of active didactic strategies. Conclusion: the epistemological view of knowledge and health may stand in the way of the use of a standardized contemporary didactic strategy.

Napocensia, 10 (2), 57-66.

6. Akbari Kamrani, M., & Yahya, S. S. (2016). Bringing X, Y, Z generations together to facilitate school-based sexual and reproductive health education. <i>Global journal of health science</i> , 8(9), 132.	Research article. School curriculum.	The qualitative triangulation method for teachers	Malaysia	The classic approach used by the majority of teachers to teach sexual and reproductive health.	Objective: This generic qualitative study explores the views of Malaysian teachers regarding the constraints of current school-based sexual and reproductive health education in Malaysian schools. Results: Lack of cooperation from school and parents, limited teaching resources, diagnosed terms “Teacher Weakness”, “School Constraints” and “Parental Constraints”. The traditional approach used is an obstacle and leads to a lack of student interest and participation. In contrast, active, informal, personalized, and participatory learning methods are culturally appropriate and have proven to be more effective in influencing attitude development and changing sexual behavior.
7. Cheetham, N., & Gelperin, N.E. (2018). Review of Curricula and Curricular Frameworks: report to inform the update of the UNESCO International Technical Guidance on	Unesco report	Review 5 to 18 years, published since 2008 Grey literature and journal articles on sex education in schools Official guides, UNFPA websites, UNAIDS, UNICEF, WHO and NGO websites	UNESCO United States	Comprehensive approach Learners are more likely to master lesson content when they are actively engaged	Objective: report examining curricula and curriculum frameworks to inform the updating of UNESCO's International Technical Guide on Sexuality Education. Results: teachers do not use participatory methodologies to deliver sexuality education due to lack of training. Teachers shared the participatory methods they use to deliver sexuality education (drama, role-playing, group work and games, and stressed that learners are more likely to master the lesson content when they are actively engaged). When asked how to teach sex education, students noted the need for trained teachers who can provide more detailed information in lessons and, the need for more communication with teachers and, therefore, more information.

Sexuality Education.					
8. Sani, A. S. (2018). Design, implementation, and evaluation of school-based sexual health education interventions in sub-Saharan Africa: a qualitative study of researchers' perspectives. <i>Sex Education</i> , 18 (2), 172–190.	Research article School Curriculum	Qualitative study interview with 27 experts involved in program design, implementation, and evaluation	Sub-Saharan Africa.	-Holistic approach to ESR integration	Objective: This study examined the facilitators and challenges of designing, implementing, and evaluating school-based sexual health education in sub-Saharan Africa. Results: The researchers reported that school-based sexual health education programs should provide up-to-date information on progress in biomedical HIV prevention. They should also address other social issues such as the stigmatization of children and young people, integrate RSE into the existing school curriculum, and align objectives with overall program goals. - A broad, holistic approach that addresses the social and environmental factors likely to influence risky sexual behavior is recommended. -Program content must be aligned with community realities and expectations.
1. Grosser, J., Bientzle, M., & Kimmerle, J. (2020). A literature review on the foundations and potentials of digital teaching scenarios for interprofession al health care	Literature Review Interprofession al health education and digital teaching	Review of existing empirical findings and theoretical considerations related to digital teaching scenarios in interprofessional health care education.	Worldwide	Interprofessional digital e-learning combined with synchronous and asynchronous learning. -Video-based learning Digital collaborative learning platforms	Objective: This article contributes to the question of how interprofessional teaching in healthcare education can be designed with a low threshold using digital media. Results: Results suggest that the design of effective digital learning platforms should be based on sound theoretical foundations, incorporating the following key elements: - Inquiry-based learning - Active participation - Asynchronous platform: self-paced learning, differentiated pedagogy. A basic assumption of the theory is that learners process visual and auditory information separately and that learning can be

<p>education. <i>International Journal of Environmental Research and Public Health</i>, 17(10), 3410</p>					<p>enhanced by presenting it simultaneously on both channels. To foster interprofessional collaboration, healthcare professionals should be brought together on a single platform in cross-disciplinary modules such as health education, etc., to minimize the stereotype effect and to identify tasks and get to know each other in the formal and informal... for active learning.</p>
<p>2. Blum, N., Berlin, A., Isaacs, A., Burch, W. J., & Willott, C. (2019). Medical students as global citizens: a qualitative study of medical students' views on global health teaching within the undergraduate medical curriculum. <i>BMJ Medical Education</i>, 19 (1), 1-9.</p>	<p>Research article Higher education at the Faculty of Medicine 2014-2015.</p>	<p>Qualitative study involving a focus group with 7 students, followed by two phases of semi-structured interviews: 5 students in the first phase and 3 students in the second phase.</p>	<p>British Medical School</p>	<p>Non-lecture teaching methods were favored.</p>	<p>Objective: To explore medical students' perspectives on global health within the context of a newly established global health module in the core curriculum of a British medical school. Results: Themes emerged regarding issues related to the structure of the medical curriculum and perspectives on approaches to global health teaching and learning. All students acknowledged that global health encompasses broader topics beyond biological and clinical sciences, often perceived as of lesser importance. Knowledge Classification: "Soft" vs. "Hard" Approach Academic work in this field has tended to be either normative (defining what global health education should look like) or descriptive (detailing a particular intervention, a new module, an elective course, etc.). Global health was not considered an integral part of core medical training requirements. Instead, it was viewed as a "soft" subject struggling to compete with the "harder" clinical and scientific demands of the medical degree. Consequently, innovative and creative teaching methods need to be developed. Students found that the most effective methods for integrating global health education focused on topics where clinical and scientific relevance was clear. However, there is a risk that certain teaching methods may inadvertently further marginalize global health.</p>

3. Abdulcadir, J., Dewaele, R., Firmenich, N., Remuinan, J., Petignat, P., Botsikas, D., & Brockmann, C. (2020). In Vivo Imaging–Based 3-Dimensional Pelvic Prototype Models to Improve Education Regarding Sexual Anatomy and Physiology. <i>The Journal of Sexual Medicine</i> , 17 (9), 1590-1602.	Research Article Medical school program	Innovation of a 3D kit reflecting the sexual organs...	Each organ model was cut and 3D printed. Preliminary feedback was gathered from 13 potential users working in the fields of urology, gynecology, sexual medicine, physiotherapy, and education.	Software simulation and 3D kit model	<p>Aim: To construct a three-dimensional (3D) female and male pelvic model based on in vivo imaging, which could be studied in sex education and clinical practice.</p> <p>Results: Best-quality MRI images of 3 uncut and 1 cut clitoris, as well as the main surrounding pelvic organs, were selected to generate 3D reconstructions using dedicated software.</p> <p>The main results of this study are a 3D pelvic model kit, 2-dimensional figures of female and male sexual anatomy, and files for 3D printing. This kit can be used in anatomy and sex education among and by health professionals, teachers, sex educators, students, and the general population.</p> <p>The female models represent diversity, including female victims of female genital mutilation/cutting. Limitations are that the male model is preliminary and can be improved if based on MRI;</p>
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We identified 11 studies that met our inclusion criteria, conducted between 2016 and 2020 across various countries. Among these studies, six were scientific articles, four were bibliographic articles, and one was a UNESCO report. The topics explored primarily focused on health education or reproductive health education, covering a wide range of subjects such as adolescent health, sexual health education in conflict situations, global health, the use of didactic tools like the "3D kit" for teaching the anatomy and physiology of the reproductive system, interprofessional education in healthcare training, sexual health education in sub-Saharan African schools, the constraints of current sexual and reproductive health education in Malaysian schools, UNESCO's international technical guidance on sexuality education, sexual and reproductive health in pre-licensure nursing programs, and the impact of teachers' epistemological, health, and pedagogical views on didactic strategies for teaching reproductive health to Cameroonian adolescents.

Upon analyzing the results, it became clear that studies on sex education or reproductive health education were predominantly conducted in institutes and universities within the healthcare sector, compared to those conducted in schools or universities from other sectors such as education. This trend supports the notion that the teaching of these topics is mainly studied and evaluated in health-related institutions, which aligns with the recommendations of Cheetham and Gelperin (2018), who argue that the analysis of these knowledge areas should be spread across all academic levels and institutions, given their transversal nature and importance for developing both transversal and disciplinary skills essential for students throughout their academic careers.

Another notable observation is the predominance of studies on reproductive health compared to those on general health education. This can be attributed to the political priorities and indicators related to reproductive health, such as violence, rape, STIs, maternal mortality, and infant mortality, which have led to increasing interest and prioritization of reproductive health education (Weaver et al., 2005; Cheetham & Gelperin, 2018; Dzinamarira et al., 2020).

Furthermore, a significant trend is the higher number of studies conducted in developed countries

compared to low-income countries. This finding is consistent with that of Kokotailo et al. (2018), who observed that in high-income countries (Canada, the United States, China, etc.), adolescent health programs are developed based on a competency-based approach, such as the framework developed by the WHO and NGOs like the General Medical Council, the American Association of Colleges of Nursing, and the International Confederation of Midwives. These programs employ diverse teaching techniques, such as peer education, simulation, e-learning, and distance learning methods (Austin, 2016). In contrast, in low- or middle-income countries, adolescent health is often not prioritized in healthcare professionals' training programs (Kokotailo et al., 2018).

In conservative countries, stigma and sensitivity often surround reproductive health education, making it a difficult subject to approach (Sawyer & Baltag, 2017). Additionally, there is a noticeable absence of standardized programs and training guidelines for adolescent health, resulting in a lack of consistency in approaches to this discipline. Yalahow et al. (2017) investigated the healthcare professional training curriculum in Somalia, focusing on midwives, physicians, and nurses, to identify gaps and approaches in reproductive health education, particularly in conflict settings. Their findings, supported by Ratte et al. (2018), revealed inconsistencies in the teaching methods, substantial content gaps, limited clinical training opportunities, and the absence of national standards. Furthermore, many teachers in Somalia lack training in modern reproductive health education methods, a concern echoed by Kokotailo et al. (2018).

When comparing these results with the Moroccan context, a recent study highlighted the importance of providing future midwives with appropriate didactic tools for teaching reproductive health (Hannaoui et al., 2020). Other studies have also reported that the teaching approach at the "Higher Institutes of Nursing and Health Techniques" (ISPITS) is mainly content- or objective-based (Barich et al., 2019). However, a pilot study that experimented with a competency-based approach using flipped classrooms for health education pedagogical sequences showed a positive impact on students' grades and motivation (Hannaoui et al., 2021).

Cappiello et al. (2017) examined the state of sexual and reproductive health (SRH) content in pre-accreditation nursing education and found that instructors' personal beliefs often influenced their teaching practices. They also observed inconsistencies in SRH definitions and a lack of appropriate instructional tools. Additionally, the limited time allocated to SRH education in the curriculum indicated that it was not a curricular priority. These findings are consistent with other studies conducted at the school level (Akbari Kamrani & Yahya, 2016).

A bibliographic study conducted by Chau et al. (2016) in Senegal analyzed the evolution of reproductive health education in schools from 1990 to 2010, particularly regarding the integration of family life education (FLE) into the national curriculum. They identified sociocultural barriers that hindered the teaching of "culturally sensitive" topics, with some parents, teachers, and school leaders opposing discussions on sexuality and contraception for fear that it might encourage sexual activity. Similarly, another study revealed that teachers felt restricted in addressing sexuality in class due to conservative cultural norms (Jourdan et al., 2010). Despite these challenges, some teachers omitted sensitive topics during FLE programs, and key elements were not incorporated into national curriculum documents. A shortage of didactic materials was also cited as an issue (Agbekponou, 2008).

The study by Lawrence Ntam et al. (2017) on the impact of teachers' epistemological, health, and pedagogical views on reproductive health education strategies for Cameroonian adolescents found that teachers' personal beliefs had a significant influence on their choice of teaching methods. Those adhering to the biomedical model and traditional methods were more likely to have a direct positive approach. In contrast, teachers who questioned authority and had reliable knowledge tended to use a biopsychosocial approach, which aligned with constructivist teaching methods and promoted active learning strategies. The researchers concluded that teachers' epistemological views could be a barrier to adopting contemporary didactic strategies. This finding is consistent with studies in Morocco, France, and Lebanon (Saab et al., 2012; Salah-Eddine et al., 2012; Neka, 2018),

which suggested that teachers' perceptions of SRH education often obstructed effective teaching.

Finally, a study by Akbari Kamrani & Yahya (2016) in Malaysia highlighted the constraints of current sexual and reproductive health education in schools. The traditional didactic methods were identified as obstacles to student engagement and participation. Comparing these results with a study conducted in Brittany by Blum et al. (2019), which explored medical students' perspectives on global health, it was found that most students perceived global health as a broader concept than biological and clinical sciences, viewing it as less significant.

Global health has often been relegated to a peripheral topic in medical education, regarded as a "soft" subject that struggles to compete with the more demanding clinical and scientific components of the curriculum. According to a study, students believe that global health education should focus on areas where its clinical and scientific relevance is clear. However, certain teaching approaches unintentionally contribute to the marginalization of global health, underscoring the need for the development of innovative pedagogical strategies (Lim et al., 2020). In a similar vein, Abdulcadir et al. (2020) introduced a three-dimensional (3D) didactic model to enhance sexual education for healthcare professionals. This model utilizes in vivo imaging of male and female genitalia and incorporates diverse female anatomical models, including those affected by female genital mutilation. The objective is to dispel myths and misconceptions surrounding sexual anatomy and physiology, thereby improving the quality of learning and practices among healthcare professionals.

These tools embody a comprehensive approach aligned with the guidelines of international organizations, fostering deeper engagement and interest in learning. Cheetham and Gelperin (2018) conducted a bibliographic analysis to update UNESCO's international technical guidance on sexuality education. Their findings revealed that teachers often refrain from using participatory teaching methods due to inadequate training. However, educators who do implement such methods—such as theater, role-playing, and group work—achieve better outcomes in students' mastery of the content (Oraro-Lawrence & Wyss, 2020). This aligns with the findings of Sani et al.

(2018), who emphasized that sexual health education in sub-Saharan Africa should integrate up-to-date biomedical HIV prevention information, address stigma, and consider social issues. Such a holistic approach, incorporating social and environmental factors, is anticipated to have a positive impact on reducing risky sexual behaviors (Bezad et al., 2022).

Moreover, the content of sexual health education should align with community realities and expectations. In this context, Grosser, Bientzle, and Kimmerle (2020) proposed the use of digital media for interprofessional education in nursing. Their research suggests that digital platforms designed for interprofessional education can effectively break down stereotypes among healthcare professionals from various disciplines (Watkins et al., 2017) and can greatly benefit from interprofessional collaboration. Training programs that emphasize collaboration and communication. Studies have demonstrated that simulation-based interprofessional education fosters a deeper understanding of professional roles and responsibilities, thereby enhancing teamwork and the professional identity of healthcare practitioners (Lan et al., 2019). By adopting a blended learning approach—combining asynchronous and synchronous modalities—students can develop interdisciplinary and professional skills, improve team collaboration, and gain a clearer understanding of their roles and responsibilities without encroaching on those of others. This aligns with the findings of Lan et al. (2019), who highlighted the potential of such training programs to reshape professional perceptions, improve communication, and facilitate the effective exchange of skills. Based on this, it would be advantageous to develop platforms that bring together students from various healthcare institutions to engage in interdisciplinary topics and promote a team-based approach to professional learning (Wanduru et al., 2024).

CONCLUSION

It is crucial to establish a global consensus on the approaches to be adopted in addressing this theme, given its significant impact on improving individuals' quality of life and ensuring a healthy environment supported by a highly educated population.

Educational approaches should align with the biopsychosocial dimensions of learners and their communities. In this regard, the integration of health education, particularly reproductive health education, should be generalized across all educational institutions, extending beyond specialized health training institutes. Furthermore, this education should be introduced at lower school levels, including preschool, to instill protective behaviors early on that promote both learners' health and the well-being of their environment.

Additionally, teaching practices should involve the design and implementation of diverse pedagogical strategies. Each stage of the learning process should be structured to facilitate the assimilation of scientific knowledge by constructively addressing various cognitive challenges. This necessitates the use of active and participatory teaching methods, such as flipped classrooms, concept mapping, simulations (via videos, models, or other tools), and formative assessment to refine and enhance educational interventions.

CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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