



Self-Motivated Learning on Reproductive Health Education: Literature Review

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Abstrak

Masalah kesehatan seksual masih belum terselesaikan secara global dan nasional. Di Indonesia, kehamilan yang tidak diinginkan pada perempuan berusia 15-19 tahun dua kali lebih tinggi (16%) dibandingkan perempuan berusia 20-24 tahun (8%), dan 19% remaja berusia 15-24 tahun yang pernah melakukan hubungan seksual melaporkan adanya kehamilan yang tidak diinginkan. *Comprehensive Sexuality Education* (CSE) merupakan salah satu media dalam mengatasi permasalahan tersebut, menumbuhkan pembelajaran motivasi diri yang memberdayakan remaja untuk mencegah kehamilan yang tidak diinginkan dan mengelola kesehatan seksualnya. Penelitian ini bertujuan untuk mengidentifikasi media dan alat yang efektif meningkatkan motivasi belajar mandiri remaja tentang kesehatan reproduksi. Tinjauan literatur dilakukan menggunakan database Publish or Perish untuk artikel dari tahun 2018 hingga 2023, dengan kata kunci seperti “pembelajaran motivasi diri”, “kesehatan reproduksi”, dan “remaja”. Melalui metode PRISMA, kami menemukan 1.755 artikel disaring, dan empat penelitian relevan diidentifikasi. Temuan ini menunjukkan bahwa platform pembelajaran berbasis permainan dan situs M-Health yang menawarkan konseling langsung dan panduan praktis kesehatan reproduksi sangat efektif dalam mendorong pembelajaran motivasi diri. Kesimpulannya, pembelajaran berbasis permainan dan platform M-Health merupakan media yang cocok dalam mendorong pembelajaran mandiri di kalangan remaja tentang kesehatan reproduksi.

Kata Kunci: Motivasi diri, Kesehatan Reproduksi, Remaja, Media edukasi

Abstract

Sexual health issues remain unresolved globally and nationally. In Indonesia, unwanted pregnancies among women aged 15-19 years are twice as high (16%) as those aged 20-24 years (8%), and 19% of young people aged 15-24 who have had sexual relations report unwanted pregnancies. Comprehensive Sexuality Education (CSE) is one of the media in addressing this issue, fostering self-motivated learning that empowers adolescents to prevent unintended pregnancies and manage their sexual health. This study aimed to identify media and tools that effectively enhance adolescents' motivation for independent learning about reproductive health. A literature review was conducted using the Publish or Perish database for articles from 2018 to 2023, with keywords such as "self-motivated learning," "reproductive health," and "adolescents." Through the PRISMA method, we found 1,755 articles were screened, and four relevant studies were identified. The findings suggest that game-based learning platforms and M-Health websites offering direct counseling and practical reproductive health guidance are particularly effective in fostering self-motivated learning. In conclusion, both game-based learning and M-Health platforms are key tools in promoting autonomous learning among adolescents about reproductive health.

Keywords: Self-motivated learning, Reproductive health, Adolescents, Media education

INTRODUCTION

Sexual problems are still unresolved both globally and nationally. It is proven that about two-thirds of the number of pregnancies in the US occur in the age of 18-19 years, and the spread of sexually transmitted infections is essentially discovered in adolescents aged 15-24 years (Scull *et al* 2018). In Indonesia, unwanted pregnancies among women aged 15-19 years are twice as high (16%) as those aged 20-24 years (8%), and 19% of young people aged 15-24 who have had sexual relations report unwanted pregnancies (BKKBN, 2017). In Indonesia, the most prevalent sexuality problem is Human Immunodeficiency Virus (HIV)/ Acquired Immune Deficiency Syndrome (AIDS) (Damayanti *et al* 2018). According to the Ministry of Health of the Republic of Indonesia, number of HIV/AIDS cases in adolescents was estimated at 526,841 (Ministry of Health Indonesia, 2022). In addition, it was also reported by the Central Bureau of Statistics and UNICEF that in 2018, there were around 1,220,900 cases of early marriage (Central of Bureau Indonesia and UNICEF, 2020). These reproductive problems mainly occur in adolescents.

Adolescence is a phase that is quite difficult to deal with because it is a transition from the child phase to adulthood. Where in this phase, there are many developments both in terms of psychological, hormonal, social, and physical. According to UNICEF, in 2022, the number of adolescents in the world amounts to 1.2 billion or 18% of the total population in the world (UNICEF, 2022).

Based on the Indonesian Youth Profile 2021 reported by UNICEF (2021), as many as 46 million Indonesians are teenagers. With a number that is not small, careful preparation was needed to create the next generation of a quality nation. Following the definition of adolescence by the WHO, an adolescent is aged 10-19 (WHO, 2022). In this phase, physical changes occur. In addition to material changes, social changes are also experienced by adolescents in the current era, where adolescents face a transition from traditional society to modern society, which can impact a teenager's lifestyle. This needs to be considered because lifestyle can affect health, including the reproductive health of an adolescent.

In 2018, UNAIDS launched Comprehensive Sexuality Education (CSE) which has excellent potential to provide accurate information and knowledge about the sexual and reproductive health of adolescents according to their age (UNAIDS *et al.*, 2018). CSE is essential to improve public health, especially in adolescents, and contributes to sustainable development (Miedema *et al*, 2020). CSE covers broad topics, including life skills, body anatomy, contraception and pregnancy, and sexually transmitted infections. The success of CSE programs depends on the policies made by the government. In other words, education on reproductive health can be integrated into the learning curriculum. The goal is to motivate adolescents to understand more about reproductive health and sexuality.

An adolescent's motivation is an essential factor in learning. The drive within a person to achieve a desired goal is the meaning of motivation (Rafiola *et al.*, 2020). There are various ways to increase a teenager's motivation, for example, by creating a comfortable atmosphere and choosing effective learning methods for a teenager. Educational-based games are one alternative to increase adolescent motivation. This study aimed to provide additional information about self-learning motivation toward reproductive health.

METHOD

We used the literature review method utilizing the Publish and Perish database with the keywords “self-motivated learning”, “education”, “health reproductive”, and “adolescent”. The articles selected were those published between 2018-2023. Inclusion criteria were articles that discuss reproductive health education, adolescent, and result explained learn reproductive health independently. The exclusion criteria where articles were outside the health sector.

We used a review and meta-analysis system called preferred reporting items for systematic reviews and meta-analyses (PRISMA) (Moher *et al.*, 2019). After obtaining the number of search results for articles from Publish and Perish that match the keywords, we eliminate duplicate articles. After that, the articles obtained will be screened based on non-articles and articles in languages other than English and Indonesian. The next screening is by looking for the words information and effect in the abstract. After obtaining the

abstract results that have been screened, the full text is seen to see whether it discusses reproductive health and media use. The PRISMA diagram can be seen in Figure 1.

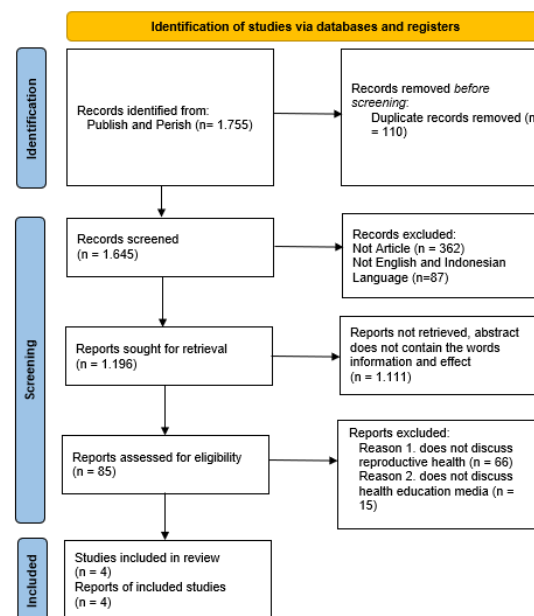


Figure 1.1 Journal Review Flowchart Researched

RESULT AND DISCUSSION

The research results are explained in Table 1. Based on Table 1, the studies analyzed that delivered through certain media or methods to be able to generate motivation to learn reproductive health education by adolescents. Adolescents were selected as the target group because this phase is critical for developing reproductive knowledge and skills due to the hormonal and physical changes during puberty. This review resulted in four articles discussing media that can be used to increase motivation for independent learning in adolescents. Reproductive health education for adolescents can be enhanced through innovative methods,

including gamified learning, media literacy programs, and counseling interventions.

First article (Haruna *et al.*, 2021) was about Game Based Learning (GBL), the second article (Damayanti, Wirakusumah and Anwar, 2018) was about the game in regard to reproductive health

named “KEPO”; the third article (Scull *et al.*, 2018) was about media literacy education named “mHealth Media Aware”; and the fourth article (Aristanti and Sulistyoningtyas, 2023) about counselling Breast Self-Examination (BSE).

Table 1. Article Review Table

No	References	Study Design	Study Participant	Result
1	Haruna, H., Okoye, K., Zainuddin, Z., Hu, X., Chu, S., Hosseini, S., 2021. Gamifying sexual education for adolescents in a low-Tech setting: Quasi-experimental design study. <i>JMIR Serious Games</i> 9.	Experiment	120 lower secondary school students (11–15 years of age) in one public school in the city of Dar es Salaam, Tanzania	The experiment showed that GBL and gamification approaches had a more substantial positive impact on students' acquisition and understanding of sexual health knowledge than conventional methods. This innovative approach was well received by students and effectively supports the ability of reproductive education, which is the focus of interventions in this method.
2	Damayanti, M., Wirakusumah, F.F., Anwar, R., 2018. Reproductive Health Game (KEPO Game) to the Self-Concept and Adolescent Reproductive Health Motivation. <i>Glob. Med. Heal. Commun.</i> 6, 162–168.	Quasi-experiment with a control group pretest-post-test design.	50 female students on Junior High School (12 – 15 years old)	After the KEPO Game intervention, there was an increase in self-concept and reproductive health motivation in the treatment group, which was higher than in the control group. This is proven through the results of the pretest-post-test given to each group. The KEPO Game intervention has been proven to convey persuasive messages and reduce stress so that respondents want to get their reproductive health information happily without pressure.
3	Scull, T.M., Kupersmidt, J.B., Malik, C.V., Keefe, E.M., 2018. Examining the efficacy of an mHealth media literacy education program for sexual health promotion in older adolescents attending	Experiment	184 community college students (ages 18-19)	Interventions from the Aware Media program have shown significant results, as evidenced by a reduction in risky sexual behaviour, a positive impact on knowledge, attitudes, normative beliefs,

community college. J. Am. Coll. Heal. 66, 165–177.

4	Aristanti, R.N., Sulistyoningtyas, S., 2023. The Effect of Breast Cancer Counseling On Breast Self Examination (BSE) Knowledge In Class XII Young Girls At SMA Negeri 1 Klirong Kebumen Pengaruh Penyuluhan Kanker Payudara terhadap Tingkat Pengetahuan SADARI pada Remaja Putri Kelas XII di SMA Negeri 1 98–108.	Pre-experiment design with one group pretest-post-test	188 female students grade XII in Senior High School 1 Klirong	and intentions regarding sexual health, and increased media scepticism. Based on Sadar Media's research, this is a promising way to provide comprehensive sexual health education to adolescents. Before being given counselling, most of the respondents had a low level of knowledge about Breast Self-Examination (BSE), as evidenced by the pretest as many as 131 respondents had inadequate knowledge about BSE. And after being given counselling, the number of respondents who had a high level of expertise about BSE increased to a total of 180 respondents.
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This first article (Haruna *et al.*, 2021) is compared gamified instruction (serious games), gamification (game-like elements without games), and traditional teaching in sexual health education among adolescents. Game Based Learning (GBL) and gamification in enhancing sexual health shows effectiveness of health education in high school students even when access to computers is limited and some students lack prior exposure to digital games. A pre-test was administered to gauge the baseline knowledge of the participants. Reproductive health education was then delivered through three distinct approaches: traditional methods, GBL, and gamification. Post-test scores in gamified and gamification groups were much higher than those in the traditional group. Significant differences were observed between the outcomes of GBL versus traditional methods ($p < 0,001$), as well as between gamification and traditional

techniques ($p < 0,001$). The findings demonstrated that both GBL and gamification approaches had a more pronounced and positive impact on students learning motivation comprehension and acquisition of sexual health knowledge compared to conventional methods ($p < 0,001$).

The second article (Damayanti, Wirakusumah and Anwar, 2018) shows that following the implementation of the KEPO Game intervention, the treatment group exhibited a rise in both self-concept and motivation towards reproductive health, surpassing the levels observed in the control group. There was significant difference by the outcomes of the pre- and post-tests administered to each group ($p < 0,001$). The efficacy of the KEPO Game intervention lies in its ability to effectively communicate persuasive messages and alleviate stress, resulting in participants actively seeking reproductive health information with

enthusiasm and without undue pressure. The gamified approach was found to make the educational content more engaging and relatable for adolescents.

The third article (Scull *et al.*, 2018) found the interventions implemented through the mHealth Aware Media program have yielded notable outcomes, demonstrated by a decrease in risky sexual behavior, a favorable influence on knowledge, attitudes, normative beliefs, and intentions concerning sexual health, as well as an enhancement in media skepticism. The research evaluated an mHealth media literacy program for promoting sexual health among older adolescents. Results demonstrated that the program significantly increased participants' media literacy and improved their understanding of sexual health issues ($p < 0,001$). The use of mHealth tools was found to be effective in engaging community college students, suggesting its viability for broader educational applications.

The fourth article (Aristanti and Sulistyoningtyas, 2023) found that prior to receiving counseling, most of the participants displayed a limited understanding of Breast Self-Examination (BSE), as indicated by the pretest results. Specifically, 131 respondents exhibited insufficient knowledge about BSE. After the counseling sessions, the number of participants with a proficient understanding of BSE significantly increased to 180 respondents. The research results showed significant differences between the groups before and after being given counseling about BSE ($p 0,000$).

Adolescents passionate curiosity can trigger motivation to learn about reproductive health (Seneru, 2023). The development of media as a supporting tool to foster youth learning motivation is needed to maintain their learning motivation and remain passionate. Games that involve teenagers, give feedback, and bring up the competition, are ways to keep teenagers motivated to keep learning. Game is a media suitable for teenagers with great curiosity, like adventure and challenges, because games are challenging, interesting, exciting, and interactive (Granic et al, 2014). Health games are an attractive, innovative, and potentially effective method for increasing knowledge, attitudes, and skills, conveying persuasive messages, changing behavior, reducing stress, increasing motivation and self-efficacy, and changing people's habits and behavior. Players foster interactivity, feedback, fostering management skills, and opportunities for players to become desired characters in the game (DeSmet et al, 2015).

Game-based learning (GBL) was designed based on preliminary studies and surveys of the target group, in the forms and methods they want to present to help their learning, especially about reproductive health. This gamification-based game is designed to trigger the emergence of the competitive spirit of teenagers with points and scoreboard features, and badges that will be awarded to players with the highest scores. The game flow is designed so that it can only continue to the next stage if the player has scored at most 6; discussions and quizzes can be repeated at any time to increase understanding to produce a higher quiz score. Repeated exposure to

knowledge helps the brain remember and survive long-term (Atkinson and Shiffrin, 1968). Scoreboards and badges also trigger players to continue studying content and taking available quizzes, then exposed to reproductive health education voluntarily and of their own free will (Haruna et al, 2021).

Another game that also discusses reproductive health, namely KEPO Game (Damayanti et al, 2018). This game is based on real situations to make the target group more comfortable and connected to the game. The game provides questions about association, society, culture, and religion through quizzes and animated videos that can be repeated. The avatars created are mother and daughter with appearances that can be changed according to the user's wishes (Damayanti et al, 2018). Games are also designed to assess self-characteristics, detect anxiety problems gamers face, and overcome the issues they face. Playing games is considered to be an intrinsically motivating activity (Farrell and Moffat, 2014). Motivational effects during a simulated educational game motivate the students and increase their knowledge. The findings revealed that students who played the game experienced a deeper level of learning (Nguyen, 2015).

To provide reproductive health education, the government also provides facilities for efforts to search for knowledge independently. It provides an information center about reproductive health that can be accessed separately without feeling ashamed of other people (Scull et al, 2018). The amount of information and the flexibility of access influence a person's desire and enthusiasm to access these

sources of information. If there are difficulties accessing information or not finding the answers teenagers want, they tend to be too lazy to learn something. Mobile delivery of sexual health education can increase the consistency and accuracy of content, decrease embarrassment associated with face-to-face sexual health education, and enhance program relevance and engagement through interactive features and self-paced functionality (Scull et al, 2018). Use of mobile applications, especially for vulnerable populations, can be more effective because of privacy and widespread dissemination (Brayboy et al, 2018).

Other methods can also be used by involving the target group, in this case, teenagers, to learn without sitting still and listening actively. The demonstration method is carried out because it provides education and trains the implementation of knowledge under expert supervision to give examples of correct practice (Damayanti et al, 2018). Demonstration on health material using game like the actual object will increase one's understanding of that knowledge by 90%. A research shows that learning using Role Playing Game media proved to be more effective than classes that did not use RPG or conventional media (Sholichah, Gunarhadi and Musadad, 2022).

As an opening for demonstration activities, counseling is carried out first to facilitate action when doing practice. Counseling is a form of primary prevention because it is done for healthy people to avoid risk factors and implement a healthy lifestyle (Angrainy, 2017). The additional counselling led to improvements in the

stage of changing of health behavior (Son et al, 2012). Health behavior is related to knowledge. People that more know about health can be more confident in implementing health behavior, including in the field of reproductive health (Aristanti and Sholaikhah 2023). Knowledge is also related to awareness. It is recommended to define knowledge as detailed and factual information, while awareness should be understood as information that is personally meaningful and relevant to individuals (Trevethan, 2017). Increased disease awareness also can motivate people to know more deeply and actively gain knowledge and skills in disease prevention efforts (Krisdianto et al., 2023).

CONCLUSION

In conclusion, motivation is essential as an encouragement for adolescents to understand something. Enhancing adolescents' foundation in reproductive health education can be achieved through interactive methods like games. In several studies reviewed, games significantly increase adolescent motivation in understanding reproductive health. As with GBL, which carries an online educational game, by completing existing missions and will get a badge reward if pass the mission. There is also the KEPO game, an educational game application that includes as real as situations about reproductive health. In addition, mobile applications that can be accessed separately without feeling ashamed of other people also increase the motivation of adolescents in reproductive health education. The last, still quite effective method is providing

adolescents with counseling and reproductive health practices. With some of the ways that have been mentioned, the motivation in adolescents will increase so that adolescents can apply self-learning about their reproductive health. The diverse approaches, ranging from digital games to mobile health interventions, provide valuable insights for educators, policymakers, and health professionals seeking effective ways to engage and educate adolescents on reproductive health matters.

ACKNOWLEDGEMENT

This research was funded by Universitas Negeri Malang Year 2023.

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