



APPLICATION DEVELOPMENT "MY BESTIE KESPRO"
AS AN ANDROID-BASED ADOLESCENT REPRODUCTIVE HEALTH EDUCATION
MEDIA

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ABSTRACT

Introduction: Media is one of the means of learning for adolescents. Media use in health education can help clarify information with an attractive display that is easily accessible and operated and involves the five senses. The current era of digitalisation encourages public health literacy to increase, especially in adolescents close to *gadgets*, so it is known as *e-health literacy*. Namely, digital health literacy is the ability to search, find, and understand health information available in electronic resources and use information obtained from these resources to overcome health problems. **Objectives:** To develop the *My Bestie Kespro application* as a medium for promoting reproductive health. **Method:** This type of research is qualitative with an *exploratory case study approach*. **Research Results:** The results of *the expert review of the My Bestie Kespro application* found that the average score based on the design was 4.66, with suitable criteria. The results of the



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end user *trial* are > 80% (reaching 90%) with perfect and reasonable criteria. **Conclusion:** My Bestie Kespro application *media* is suitable to be used as a medium for reproductive health education in adolescents.

Keywords: *Media, My Bestie Kespro, Reproductive Health, Application*

Introduction

Their environment greatly influences the growth and development of adolescents. School is one of the parties that has a vital role in shaping adolescent behaviour and character. In addition to school, the formation of adolescent behaviour is also influenced by parents and the family environment before later adolescents will socialise with the broader community. Adolescent behaviour is formed from the family, school, and community environment in which the adolescent is located. Adolescents' education at school is expected to have a good effect and change adolescent behaviour. Adolescent behaviour related to health education aims to change previously unhealthy behaviour to be healthy, and adolescents can be responsible for their health (Sari, 2019).

Reproductive health education in Indonesia and cognitive and proactive methods that emphasise learning activities are recommended. Adolescents are invited to participate or be actively involved (proactive domain) and express their opinions about a topic (cognitive domain), seen from the positive and negative aspects of the consequences that will be caused until the adolescent can conclude for himself whether the problem is good or not for an adolescent. This method is considered more effective than reproductive health education, which is only through the lecture method in class, which only goes one way. Cognitive-proactive methods of reproductive health education can be done between peers, peer groups, or with a facilitator (Fatkhiyah *et al.*, 2020).

Media is one means of learning for adolescents; using media in health education can help clarify information with an attractive display, easy accessibility, operation, and involvement of the five (Yustin, Wijanarka and Ashari, 2020) Health promotion media about adolescent reproductive health that exist today are few and have not become the primary source of information in increasing students' understanding of adolescent reproductive health. In contrast, adolescents need a correct understanding of reproductive health so that they do not act wrong and can be responsible for themselves and their environment. (Oktaria and Martha, 2023).

Changes from programs that are applied conventionally and proven ineffective to ways that are very close and relevant to adolescents, one of them is the use of social media (Ndie, Anene and Ezenduka, 2019). The use of the internet, especially social media, causes adolescents aged 10-24 years to experience social media dependence so that almost every day, adolescents have to access various types of social media (Retto and Murtiningsih, 2021). *Facebook, Instagram, and YouTube* are some of the most frequently accessed and in-demand types of social media in Indonesia, according to APJII (2018). As many as 45 million of the 700 million who access Instagram social media regularly or *Monthly Active Users (MAU)* as a whole come from Indonesia, with the most significant percentage of users being teenagers at 37.3% (Rajasa, FI., Widjanarko B, 2020).

Lack of literacy is a significant cause of social inequality. Health literacy is vital in health promotion and is closely related to community empowerment. Individuals who have good health literacy will be able to maintain their health, and the degree of health (*quality of life*) is also good (Nutbeam and Kickbusch, 2000). Sorensen et al. (2012) state that health literacy consists of four competencies: accessing, understanding, assessing, and applying information. This concept is an essential dimension in health literacy because it produces knowledge and skills that determine a person's ability to carry out health care, disease prevention, and health promotion.

The current era of digitalisation encourages public health literacy to increase, especially in adolescents who are close to *gadgets*, so it is known as *e-health literacy* namely digital health literacy is defined as the ability to search, find, and understand health information available in electronic resources and use information obtained from these resources to overcome health problems (Tümer and Sümen, 2022). This is because *e-health literacy* has become more important in promoting a healthy lifestyle in recent years, particularly towards adolescents and young adults; the higher the student's e-health literacy, the higher their healthy lifestyle behaviours. The results showed that *e-health literacy* is an essential parameter in encouraging healthy living behaviour in adolescents (Gürkan and Ayar, 2020; Korkmaz Aslan et al., 2021; Turan et al., 2021).

Health literacy and health-related social media use influence the intention of health behaviours on social media through previous effects on self-efficacy. The association between health literacy and self-efficacy was more robust in younger respondents. In contrast, the association between health-related social media use and self-efficacy was stronger in respondents who had previously had positive experiences with health information on social media. Health practitioners should target self-efficacy in the elderly population and enhance positive health-related media experiences (Niu, Willoughby and Zhou, 2021).

The potential exposure of social media in influencing reproductive health knowledge only benefits adolescent girls who are educated, live in urban areas, and are from wealthy families. Interventions that focus on digital media and cover socio-cultural contexts (e.g. strategic investments in education and economic opportunity creation) are essential to optimise the impact of social media on improving reproductive health knowledge (Pradesh et al., 2022).

Adolescent reproductive health interventions in the digital age are very diverse, ranging from social media (Aventin et al., 2020; Brayboy et al., 2020), care applications (Kurebwa, 2020), even game models (Hussein et al., 2019; Seif, Kohi and Moshiro, 2019). Social media can potentially promote reproductive health—the systematic review of Oktaria et al. (2023). Learning media based on Android applications and websites effectively increases students' knowledge about adolescent reproductive health.

The development of previous research is to build a social media application where social media is very close to adolescents, integrating several social media, including Android applications for teenagers, *YouTube*, *Instagram* and *Facebook*. Based on this background, the formulation of the phase II problem of this research is to develop adolescent reproductive health applications in Ternate City.

Method

This type of research is a qualitative method with an *exploratory case study* approach, which is used as a data and information collection step that aims to explore the information needed by early adolescents to improve *health literacy* and adolescent knowledge related to reproductive health. This research was conducted by *Research and Developmental* (R&D) method research to form applications.

This research involved 6 informants, expert validation, and trials. The expert validation informants were IT experts and material experts (experts in the field of adolescent reproductive health, namely DPPKB, health communication, psychologists, midwives from the Health Office, and teachers).

The step of making an application is to design social media-based intervention media with the concept of health literacy. An IT programmer who understands the system makes an Android-based system. The system is made by building digital construction through an android application with features connected to various social media platforms, ease of communication and consultation with health workers, ease of access to adolescent reproductive health services that can detect standardised puskesmas or adolescent reproductive health clinics, next is to build content that contains *clickbait* elements So that teenagers are interested in opening and accessing it, this content is created by team collaboration, health workers, *digital marketing* and *digital strategy* to increase viewer *engagement* so that viewers can repost again, this can increase adolescent exposure to health education media.

Data Collection and Analysis

Interviews are conducted by asking in-depth and open questions face-to-face with informants. In conducting interviews, the author is guided by interview guidelines containing a list of questions prepared beforehand. This research informant consisted of 6 expert validation samples and trial samples. The data taken by providing assessment sheets and TAM Instruments consists of 13 statement items covering aspects of convenience, usefulness and user intention with answer choices using a Likert scale 4 scale. The lowest score is given a value of 1, and the highest is given a value of 4. The alternative answers available are strongly disagree (STS), disagree (TS), agree (S) and strongly agree (SS).

Qualitative data is processed by *thematic analysis* and data presentation. A quantitative descriptive analysis technique is used to analyse the assessment results of IT experts and media feasibility criteria to be used in validating. Data was analysed from validity questionnaires using the Likert scale. All data from material and media technology experts are considered in media improvement. The results obtained from the media's comments and suggestions were revised as expected by the assessor. Assessment indicators are based on needs and adjustments to the developed application.

Result

In this study, researchers conducted a thematic analysis to find patterns of qualitative information, which contained explanations to produce interpretations of the phenomenon being studied. A qualitative approach with an in-depth interview will be used at this stage. This activity will be held in March and April 2023. The informants selected at this stage are DPPKB, Health Office, Educators (Teachers), Psychologists, Health Communication, and IT. The characteristics of informants can be seen in the table:

Characteristics of Qualitative Data Informers

No.	Initials	Education	Job	Gender	Unit Analysis
1	DU	Master's degree	Government employees	Man	DPPKB
2	MN	Master's degree	Government employees	Woman	Health Office
3	IM	Bachelor's degree	Teacher	Man	Junior High School Teacher
4	AN	Master's degree	Psychologist	Woman	Psychologist BNN
5	IS	Doctoral Degree	Health Communication	Woman	Field of Health advocacy and communication
6	S	Bachelor's degree	Information Technology	Man	Programmer and Application Development

Content/Material Enhances Adolescent Positive Behavior

According to DPPKB, the right content to increase positive behaviour in adolescents aged 12-15 must contain an educational and informative approach. Relevant material includes information on the importance of understanding sexuality, healthy relationships, wise decision-making, and the consequences of unsafe sexual behaviour. In addition, this approach should promote notions of personal boundaries and respect for oneself and others. Here are the results of the interview:

“untuk pencegahan harus menggunakan metode yang edukatif dan informatif”

“yang relevan antara lain tentang seksualitas, hubungan yang sehat, pengambilan keputusan yang bijaksana dan apa dampaknya” (Informan DU)

"For prevention should use educational and informative methods"

"Relevant ones include sexuality, healthy relationships, wise decision-making and what impact it has" (DU informant)

According to the Ternate City Health Office, the right content to increase positive behaviour in adolescents aged 12-15 years must be holistic and cover several aspects, including education, education about healthy relationships, wise decision-making, social skills training, the use of technology and the role of parents. Here are the results of the interview:

“untuk mencegah perilaku seksual pranikah antara lain mencakup beberapa aspek yaitu edukasi tentang seksualitas dan reproduksi, Pendidikan tentang hubungan yang sehat, Pentingnya pengambilan keputusan yang bijaksana, Pelatihan keterampilan sosial, penggunaan teknologi secara bertanggung jawab, peran orang tua dan wali” (Informan MN)

"To prevent premarital sexual behaviour, among others, includes several aspects, namely education about sexuality and reproduction, education about healthy relationships, the importance of wise decision making, social skills training, responsible use of technology, the role of parents and guardians" (MN informant)

In addition, education must provide accurate and comprehensive information so adolescents can understand the changes that occur and make no mistakes. The use of technology must be full of responsibility and tact.

“Seperti edukasi haruslah materi yang memberikan informasi akurat dan lengkap tentang kesehatan reproduksi, dan juga proses perkembangan seperti apa, ini agar dapat membantu remaja tersebut memahami perubahan yang terjadi dan menghilangkan kesalahpahaman yang mungkin mereka pikirkan,..... dan ini juga berhubungan apabila menggunakan teknologi harus penuh tanggung jawab dan gunakan dengan bijaksana karena mengajarkan remaja tentang risiko perilaku seksual” (Informan MN)

"Like education, it should be material that provides accurate and complete information about reproductive health, and also what kind of developmental process this is in order to help the adolescent understand the changes that are happening and dispel any misconceptions they may be thinking about,..... and this also relates that using technology must be full of responsibility and use wisely because it teaches adolescents about the risks of sexual behaviour" (MN informant)

It's important to structure this content in language appropriate for their age and use a fun and engaging approach to get the message across well. In addition, this education should be continuous, keep up with adolescents' development, and support them in understanding and respecting themselves and others.

According to psychologists, the right message for adolescents aged 12-15 years should be positive and supportive and provide relevant information. The conclusion that can be conveyed is that it is essential to create a positive message and inspire them to live the lives of teenagers well. Here are the results of the interview:

“ada beberapa contoh pesan yang sesuai untuk remaja usia ini, antara lain 1. kesehatan fisik, yaitu dengan makan makanan bergizi dan berolahraga secara teratur, 2. kepercayaan diri, sehingga percayalah kamu istimewa, 3. mengenai pendidikan adalah kunci untuk meraih impianmu, 4. pengambilan keputusan, pikirkanlah dengan matang dan dengarkan hatimu, 5. pertemanan yang sehat didasarkan pada saling menghormati dan saling mendukung, 6. internet dan media sosial digunakan dengan bijaksana, 7. menghadapi tekanan dari teman sebaya, 8. tentang emosi, dimana penting untuk menghargai perasaanmu sendiri dan orang lain dan berbicara tentang hal itu, 9. tentang masa depan, bermimpilah besar dan raih tujuanmu, 10. yang penting adalah belajar dari kesalahan dan berusaha menjadi lebih baik” (Informan AN)

“.....Pesannya harus disampaikan dengan bahasa yang mudah dimengerti, dan bisa menggunakan format visual seperti gambar atau video agar lebih menarik dan mudah dipahami oleh remaja.” (Informan AN)

"There are several messages that are appropriate for teenagers of this age, including 1. physical health, namely by eating nutritious foods and exercising regularly, 2. confidence, so believe me you are special, 3. Education is the key to achieving your dreams; 4. decision-making, thinking carefully and listening to your heart; 5. Healthy friendships are based on mutual respect and mutual support; 6. The Internet and Social Media Used Wisely, 7. facing peer pressure, 8. about emotions, where it is important to respect your feelings and those of others and talk about them, 9. About the future, dream big and achieve your goals, 10. the important thing is to learn from mistakes and try to be better" (Informant AN)

“..... The message must be conveyed in language that is easy to understand, and can use visual formats such as images or videos to make it more interesting and easy for teenagers to understand.” (Informant AN)

According to teachers, students like informative, engaging, interactive, and relevant messages when accessing the internet. Here are the results of interviews with teachers who provided input on some forms of messaging that students might prefer:

“kalau siswa jaman sekarang.... yang dong suka seperti video pendek yang bersifat edukatif atau.... hiburan yang dapat menarik perhatian biar lebih mudah dan lebih menarik secara, kemudian pakai permainan atau game biar belajar jadi lebih menyenangkan”. (Informan IM)

"If it is today's students... they like short educational videos or... Entertainment that can attract attention so that it is easier and more interesting, then use games or games to make learning more fun". (IM informant)

Also added related to the form of infographics, namely presenting information visually with graphics, concise text, and there are also online quizzes so interesting because there are elements of evaluation and reciprocity. Here are the results of the interview:

"Cerita dengan animasi dalam bentuk digital atau presentasi multimedia menarik minat siswa dan membantu mereka memahami konsep secara lebih mendalam, kemudian ada semacam ruang diskusi.... siswa mungkin dapat berinteraksi dengan teman sebaya atau ahli untuk bertukar pandangan atau memperoleh jawaban atas pertanyaan mereka" (Informan IM)

"untuk materi.... yang relevan dan sesuai dengan minat, seperti terkait dengan hidup hari-hari" (Informan IM)

"Stories with animation in digital form or multimedia presentations interest students and help them understand concepts in more depth, then there is a kind of discussion space.... students may be able to interact with peers or experts to exchange views or obtain answers to their questions" (IM informant)

"For materials.... that are relevant and by interests, such as related to daily life" (IM informant)

Remember that students' preferences can vary, so it's important to constantly monitor their response to certain types of content and ensure that the content provided remains relevant and useful to them.

According to communication experts, the message must be conveyed in easy-to-understand and jovial language. It is essential to create messages that motivate and support adolescents at this age, as this is an essential time in their development towards adulthood. Some examples of messages that are appropriate for teenagers of this age that are delivered include:

"Seperti kamu adalah cukup berharga dan istimewa apa adanya... milikilah kepercayaan diri untuk menjadi dirimu yang terbaik atau tetap semangat meraih impianmu, setiap langkah kecilmu menuju tujuan adalah kemajuan yang patut diapresiasi" (Informan IS)

"jangan takut menghadapi tantangan, karena dari situ kamu bisa belajar dan tumbuh menjadi pribadi yang lebih kuat". (Informan IS)

"Like you are quite precious and special just the way you are... Have the confidence to be your best self or keep the spirit to achieve your dreams; every little step you take towards a goal is progress that deserves appreciation" (IS informant)

"Do not be afraid to face challenges because from there, you can learn and grow into a stronger person". (IS informant)

Attractive and Informative Application Display

An interesting and informative application for teenagers aged 12-15 years should consider attractive visual style, relevant content, and easy-to-understand presentation of information. Here are the results of interviews with IT experts and Health communication experts:

“Untuk membuat suatu aplikasi yang menarik dan informatif, terdapat beberapa hal yang perlu diperhatikan, antara lain tentukan tujuan dan target kemudian desainnya, apa konten-kontennya, harus informatif dan menarik, dan perhatikan juga pada saat menggoglingnya apakah langsung muncul biar memudahkan dan juga fiturnya menarik”. (Informan S)

"To make an application interesting and informative, there are several things that need to be considered, including determining the goals and targets, then the design, what the content is, it must be informative and interesting, and also pay attention when googling it whether it immediately appears so that it makes it easier and also interesting features". (Informant S)

The application's appearance is attractive and informative. The end goal is to create material that can provide important information and support teenagers in making wise decisions in their lives.

Health communication experts convey there are several tips for creating appropriate designs, as conveyed below:

“beberapa tips desain yang sesuai antara lain... merujuk ke teori yaitu gunakan warna cerah dan menarik, tata letak yang terstruktur, gambar dan ilustrasi dan gunakan font yang mudah dibaca, gunakan grafik, banyakin interaktif atau ada pertanyaan-pertanyaan, gunakan bentuk multimedia, harus yang sederhana dan tidak terlalu padat, gunakan visualisasi topik yang menarik, dan jangan lupa uji coba dengan remaja” (informan IS)

"Some suitable design tips include... refer to the theory that uses bright and attractive colours, structured layouts, images and illustrations and use fonts that are easy to read, use graphics, have lots of interactive or questions, use multimedia forms, should be simple and not too dense, use visualisations of interesting topics, and do not forget to test with teenagers" (IS informant)

According to psychologists, an informative and suitable display for adolescents aged 12-15 years should be attractive, attention-grabbing, and easy to understand, as the following interview results:

“Tampilan yang informatif dan cocok untuk remaja haruslah menyesuaikan dengan perkembangan kognitif dan emosional merek,dan jika memungkinkan, lakukan uji coba atau survei untuk mendapatkan umpan balik dari remaja tentang tampilan dan isi materi sebelum menyebarkan secara luas”. (Informan AN)

"Informative and youth-appropriate displays should align with the brand's cognitive and emotional development,and if possible, conduct trials or surveys to get feedback from teens about the look and content of the material before disseminating it widely."
(Informant AN)

The application's appearance is attractive and informative. The end goal is to create material that can provide important information and support teenagers in making wise decisions in their lives.

Content Language

According to psychologists, the language used should be easy to understand:

"Gunakan bahasa yang sederhana dan mudah dipahami oleh remaja usia tersebut... gunakan juga kalimat pendek dan jelas untuk menyampaikan informasi agar efektif....gunakan gaya bahasa yang ramah dan mendekati remaja agar mereka merasa nyaman". (Informan AN)

"Use simple and easy language for teenagers of that age to understand... Also, use short, clear sentences to convey information effectively. Use a friendly language style and approach teenagers so they feel comfortable." (Informant AN)

This was also conveyed by health communication experts, namely an informative and suitable display for adolescents to adjust to their cognitive and emotional development.

"Bahasa yang digunakan untuk membuat konten mengenai peningkatan perilaku positif remaja, khususnya pencegahan perilaku seksual pada anak remaja usia itu 12-15 tahun, haruslah sesuai dengan tingkat pemahaman dan sensitivitas usia mereka, jelaskan apa risiko, gunakan Bahasa yang menginspirasi yang bersifat positiflah". (Informan IS)

"The language used to create content about increasing adolescent positive behaviour, especially the prevention of sexual behaviour in adolescents aged 12-15 years, must be appropriate to their level of understanding and age sensitivity, explain what the risks are, use inspiring language that is positive". (IS informant)

Platform Used

According to IT experts, to create exciting and informative content on social media, several platforms can be used, as mentioned:

"Gunakan Instagram, posting video menarik, youtube juga dan ada program canva untuk membuat desain yang baik". (Informan S)

"Use Instagram, post interesting videos, YouTube too, and there is a Canva program to create good designs". (Informant S)

How to Access the App

According to IT Experts, several things need to be considered in making the application accessible, namely,

“Beberapa hal seperti menentukan platform seperti Android, pastikan aplikasinya dapat diakses oleh semua orang, menggunakan fitur keamanan seperti sistem enkripsi, verifikasi 2 langkah, perhatikan desain dan tampilan, pastikan aplikasi dioptimalkan untuk SEO. Hal ini akan membantu aplikasi muncul di hasil pencarian dan meningkatkan jumlah pengguna kemudian promosi lewat media sosial”.

"Some things like defining a platform like Android, making sure the app is accessible to everyone, using security features like an encryption system, 2-step verification, paying attention to design and appearance, making sure the app is optimised for SEO. This will help the application appear in search results, increase the number of users, and promote through social media."

Application Security

According to IT experts, to create applications that are safe to access, several things can be done, including:

“Gunakan sistem enkripsi untuk melindungi data pengguna dari akses yang tidak sah, pastikan bahwa hanya pengguna yang sah yang dapat mengakses aplikasi, Sediakan setelan privasi yang memungkinkan pengguna untuk mengontrol informasi pribadi mereka, gambar fitur yang informatif, sediakan peringatan keamanan yang jelas dan mudah dipahami oleh pengguna, seperti peringatan tentang risiko keamanan dan cara melaporkan masalah keamanan”.

"Use encryption systems to protect user data from unauthorised access, ensure that only authorised users can access the application, Provide privacy settings that allow users to control their personal information, informative feature images, provide clear and understandable security warnings, such as warnings about security risks and how to report security issues"

Media Designing Steps

Thus, based on the in-depth interview results, the researcher and the team designed an intervention media in the form of the *My Bestie Kespro* application, which was made responsive, dynamic and interactive and can be run accessible via smartphones, android tablets and Android emulators. The steps in designing the *My Bestie Kespro* application are as follows:

a. Application Development

The first step in creating an app is determining its concept and purpose, as this is the brand that will be known and discovered when typed in a search on the Play Store. The name of the available Mobile Application is My Bestie Kespro. Using a Mobile Application is considered a good idea because it is very popular, as evidenced by the many people's trust in downloading Mobile applications on the *above platforms*.

My Bestie Kespro *Mobile Application* is registered and verified for use on mobile application platform providers. The *Developer service* selected is *the Play Store* with a personal Developer *account*. This account was chosen with consideration of data security and ease of management (*fully managed*). For making My Bestie mobile application, *Kespro* uses *open source flutter* with the advantages of cross-platform development, *high performance*, and rich with attractive UI (User Interface) widgets to connect mobile applications to hosting using the *control panel*. Perform API installation, *backend creation*, security configuration and data parsing.

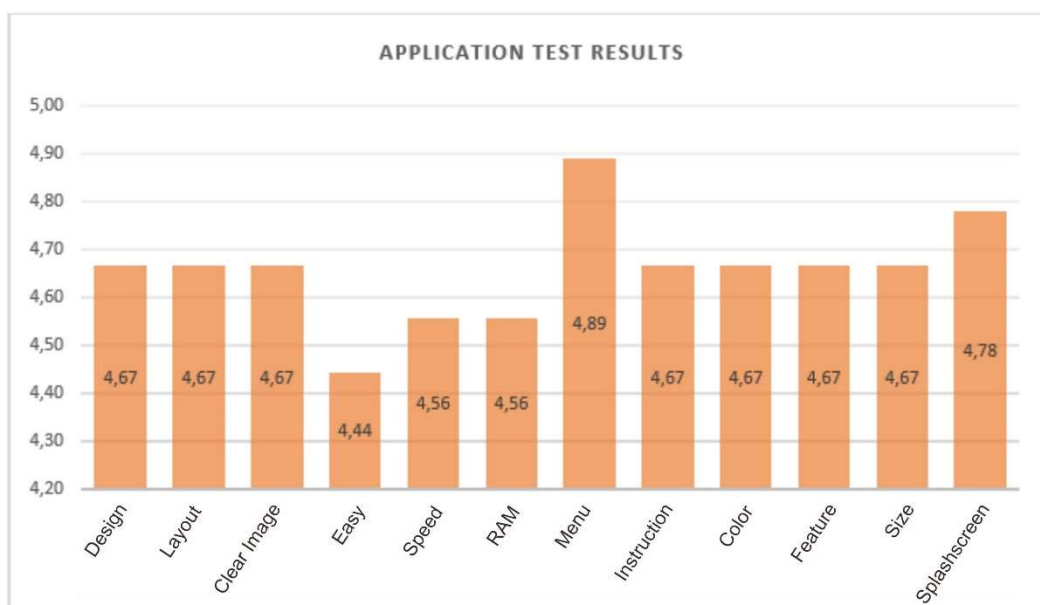
b. Application Content (Content)

Application content development goes through several stages, ranging from community consultations with youth and youth participants and professionals to identify topics of interest to young people to the second stage of initial platform structure development and content design by the platform initial structure team—third, focus groups with teens to review and validate application proposals and content.

c. Validation Test

The results at this stage are trials of the *My Bestie Kespro* application, namely to ensure that the media is suitable for use as a tool for intervention in early adolescents. Before conducting an application intervention media trial, *a review was first carried out* by experts, including several IT experts, communication experts, and teachers. This activity will be held on April 11, 2023. The results of *expert reviews* can be seen in the following chart:

Review Results Graph



Based on the graph, the average value of the experts' assessment after assessment experts based on design is 4.62, layout 4.62, clear image 4.62, ease 4.38, speed 4.46, RAM 4.46, menu 4.62, instructions 4.62, colour 4.62, feature 4.62, size 4.63 and splash screen 4.62. There are 12 assessment indicators with an overall average value of > 4 , which means they are perfect and worthy of the next step. Based on this, the application media is feasible for trials to 35 students of SMPN 2 Ternate.

d. User Trials

The trial was conducted by involving an enumerator to assist researchers. Researchers and enumerators explained and directed students to access the My Bestie Kespro application. Then, students registered and explored applications that contained images, messages, infographics, e-books, and several social media, namely Instagram, Facebook, Twitter, TikTok, and podcasts. After that, students were directed to fill out the assessment form. This activity will be held on May 25, 2023.

App Trial Results Table

No.	Indicator	Total Score	n	Mean
1	Perceived Ease of Use	506	35	93,01
2	Perceived Usefulness	388		95,10

No.	Indicator	Total Score	n	Mean
3	Trust	372		91,42
4	Behaviour Intention to Use	392		96,08

The results showed that from 35 students aged 12-15 years at SMP 2 Ternate students, application trials were carried out; it was found that the media was suitable for use as an intervention medium because the average student gave a score of >80% (91.42-96.08) with perfect and reasonable criteria. Thus, *the My Bestie Kespro application* media can be feasible to be used as an intervention media in this study. The aspects assessed were *perceived ease to use* total score of 506 (mean 93.01), *perceived usefulness* of 388 (mean 95.10), *trust* of 372 (mean 91.42) and *behaviour intention to use* of 392 (mean 96.08).

Discussion

The changes and developments due to globalisation offer a new paradigm in education. With the progress of the current generation, it is also necessary to change the method of education about reproductive health (Faiz, Purwati and Kurniawaty, 2020). Education is not only through direct counselling but can utilise information technology through the website to deliver reproductive health education to adolescents. Knowledge about reproductive health is necessary for increasing adolescent knowledge related to reproductive health, so efforts are also needed to provide health education through the Internet. Digital interventions in adolescent reproductive health, such as online platforms, mobile apps, or digital tools, have been used for reproductive health education among adolescents. In Indonesia, the most popular online platforms today are Instagram, Twitter and Tiktok where the latest information spreads very quickly among adolescents, including health information (Wulandari, Apsari and Hapsari, 2023).

This study consists of four stages: making applications by determining the concept and purpose of applications, developing services, data security, and ensuring ease of management (fully managed). My Bestie Kespro Mobile Application is made using *Open Source Flutter*. The interface of My Bestie Kespro Mobile Application will be responsive, dynamic and interactive and can be run on *Mobile Phone or Emulator devices*. A similar study developed health content through three stages, namely, Phase 1 identifies and selects SRH (*Sexual Reproduction Health*) topics. Stage 2 develops topics and content for SMS platforms; Phase 3 holds focus groups with adolescents to validate initial SMS content, including individual assessments and group feedback for each SMS (Guerrero *et al.*, 2020).

The stages of developing application content go through several stages, starting with community consultations with youth and youth participants and professionals to identify topics of interest to young people. Website-based educational media developed by researchers combines several methods, namely textual, image and video. This media is expected to make it easier for adolescents with various interests to find information about reproductive health (Wulandari,

Apsari and Hapsari, 2023) This study presents content by sharing combinations and features consisting of My Favorite, Know Myself, Me and Around, I Plan, Compact with Parents, Reproductive Health, consultation, etc. Sexual health, menstrual calendar, ebooks, information and education services, fun with social media.

The validation stages in application development are assessed by experts based on the design are layout, clear images, ease, speed, RAM, menus, instructions, colours, features, size and splash screen with an overall average value of > 4 , which means it is perfect and feasible for the next step. The results of *the end user* trial in this study showed that from 35 students aged 12-15 years in SMP 2 Ternate students, the results were obtained that the media was suitable to be used as an intervention media with perfect criteria, so it was suitable to be used as an intervention media in this study, both aspects of *perceived ease to use* (aspects of convenience), *perceived usefulness*, *trust* and *behaviour intention to use*.

Another educational innovation program developed in this study is a complete combination of education, from material for youth needs, consultation, and social media. Technology allows educators to create exciting learning media in the form of Android-based. Similar to this study, a website-based reproductive health promotion media as an alternative media for reproductive health promotion in adolescents has a quality level of 90.08%, grammar of 90.56%, website operation of 89.69%, and usability of 92.09% and validation of 90.60% (Wahyuni and Sukriani, 2023)

Education using technology, primarily through website applications (online media), can increase knowledge related to reproductive health (Dinengsih *et al.*, 2020; Patimah & Gustini, 2023; Septiyani *et al.*, 2023). Respondents' knowledge of reproductive health and related diseases has increased. In addition, respondents' attitudes towards illness and premarital examinations also improved (M. Scull *et al.*, 2019). Increased knowledge will affect adolescent attitudes towards risky sexual behaviour (Triyanto *et al.*, 2019). If the attitude towards risky sexual behaviour is good, adolescents are expected to be more responsible for their reproductive health (Rofi'ah & Widatiningsih, 2021).

Conclusion

After reviewing information from several experts, application development became the basis for developing the *My Bestie Kespro Application*. This application combines education, care, and social media services to increase positive behaviour in adolescents. My Bestie Kespro application *media* deserves to be used as an intervention media in this study, both aspects of *perceived ease to use*, *perceived usefulness*, *trust* and *behaviour intention to use*.

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