Need Assessment for the Development of *e-Rapor Sehatku* as an Adolescents Health Screening Application

Laras Sitoayu[1]*, Lintang Purwara Dewanti[2], Vitria Melani[2], Noni Agustina[3], Lutfi Fanani[4] iD

[1,2,3] Universitas Esa Unggul, Jakarta, Indonesia
[4] Universitas Brawijaya, Malang, Indonesia

ABSTRAK

Remaja merupakan salah satu sasaran strategis pelaksanaan program kesehatan. Kesehatan jaringan pada remaja harus dipenuhi sebagai hak kesehatan yang sama bagi seluruh anak Indonesia. Salah satu alat yang digunakan untuk skrining kesehatan adalah buku Rapor Kesehatanku. Buku ini wajib dimiliki dan diisi oleh seluruh siswa di sekolah. Penelitian ini bertujuan untuk menganalisis sejauh mana perlunya digitalisasi laporan kesehatan saya agar lebih efektif dan efisien. Jenis penelitian ini adalah penelitian deskriptif kualitatif. Kajian ini melibatkan dua informan kunci yang dipilih secara sengaja, lima informan utama dan dua informan pendukung yang dipilih dengan teknik snow-ball. Data penelitian diambil dengan metode wawancara mendalam dan FGD. Analisis data dilakukan dengan menggunakan metode analisis isi. Dari hasil penelitian dapat disimpulkan bahwa harus ada E-Rapor Kesehatanku dengan fitur antara lain cek status gizi, grafik pertumbuhan, kepatuhan konsumsi TTD, kesehatan mental, deteksi risiko PTM, forum diskusi, pelaporan e-report kesehatan saya, notifikasi , banyak pengguna (TPG, guru, siswa, orang tua dan Dinas Kesehatan) dan banyak fitur pendidikan berisi video pendek tentang kesehatan remaja.

ABSTRACT

Adolescents are one of the strategic targets for the implementation of health programs. Networking health in adolescents must be fulfilled as the right same health for all Indonesian children. One tool used for screening health is the book Rapor Kesehatanku. This book must own and filled by all students at school. This research aims to analyze the extent to which it is necessary to digitize my health reports to make them more effective and efficient. This research type is a descriptive qualitative study. Study this involving two informants selected key purposively, five informants main and two informants selected supporters with technique snow-ball. Research data was taken with the method of interview depth and FGD. Data analysis was carried out using the content analysis method. From the results, the study can conclude that there must be an E-Rapor Kesehatanku with features including nutritional status checks, growth charts, compliance with TTD consumption, mental health, PTM risk detection, discussion forums, my health e-report reporting, notifications, multiple users (TPG, teachers, students, parents and Health Office) and many educational features contains a short video about adolescent health.

1. INTRODUCTION

Adolescents are one of the strategic targets for the implementation of health programs. The target of implementing the accelerated reduction of stunting is for the target group of teenagers, prospective brides, pregnant women, breastfeeding mothers, and children aged 0-59 months (Black et al., 2017; Mitra, 2015; Rahmadhita, 2020). Every Indonesian child, including teenagers, has the same right to health, and to fulfill this right one way is by regular health screening at school through rapor kesehatanku. Periodic Adolescent Health Screening (PKR) indicates minimum service standards in the health sector (Pratiwi et al., 2020; Triana & Marlina, 2022). Currently, there is PKR in schools through rapor kesehatanku printed book version. In rapor kesehatan there are several questionnaires that students must fill out (health history, risk behavior, intelligence health, mental health, and reproductive health) (Masitoh et al., 2018;

*Corresponding author.
E-mail addresses: laras@esaunggul.ac.id (Laras Sitoayu)

Widiastuti et al., 2021). There is also a health check (nutritional status, vital signs, personal hygiene, vision problems, hearing problems, dental and oral health, and physical fitness). Implementation of PKR is carried out through trained cadres or health workers and assisted by teachers (Sitepu et al., 2015; Supardi, 2012). Implementing health reports in schools can provide various benefits for students, parents, teachers and the school as a whole. Health report cards provide regular monitoring of students' health conditions. This can help in detecting health problems early and taking necessary preventive or treatment steps. With well-documented health information, schools can intervene early if there are signs of health problems (Indawati et al., 2021; Retnowati & Siregar, 2020). This may take the form of a consultation with a health professional or other health care provider. Health report cards can be a communication tool between schools and parents. This can increase parental involvement in monitoring and caring for their children's health. Based on information from health reports, schools can plan and implement school health programs that are more effective and appropriate to student needs (Azis, 2019; Nurochim, 2020). Health report cards can be the basis for health education programs in schools. This can increase students' understanding of the importance of maintaining health and a healthy lifestyle. However the existing PKR has not been integrated into the curriculum, so its implementation is still not optimal. Many students do not fill out rapor kesehatan because it has to be filled in manually, so it takes time and is ineffective to apply. So there needs to be innovation, one of which is digitizing rapor kesehatan and integrating rapor kesehatan into the curriculum so that it is implemented. The digitalization of PKR will fill the gap and make it easier for local policymakers to plan appropriate intervention programs (Kusumawati et al., 2018; Rosita et al., 2023). This data will be useful for both the school community (students, teachers, parents) and stakeholders (Nutrition Implementing Personnel (TPG) and the Health Service). Digital-based health screening will be integrated into the Operational Curriculum in Education Units (KOSP) because Law No. 20 of 2003 and the Education Unit Level Curriculum (KTSP) state that the students who are formed are faithful, have noble character, are healthy, knowledgeable, capable, creative, independent and responsible. Apart from that, the independent curriculum also emphasizes literacy (Juvinyà-Canal et al., 2020; Sharma et al., 2019). This study focuses on health literacy. The urgency of developing digital-based youth health screening is growing health literacy of students, parents, and the school through digital-based youth health screening. Data from school screening results, besides being important for each student, parent, and school to pay attention to, can also be used as basic data for determining intervention programs.

Specific nutritional interventions currently being carried out for young women are in the form of iron supplementation which is also on rapor kesehatanku. More than 1 billion adolescent girls worldwide suffer from low weight and height, micronutrient deficiencies, and anemia (UNICEF, 2023). In Indonesia, a quarter of adolescents aged 13-18 are short, 9% are thin, 16% are overweight/obese, and a quarter of young women are anemic. The prevalence of anemia is high in female adolescents, while boys are thin and short (Hamidiyah & Muhasshanah, 2020; Rosita et al., 2023), adolescent nutrition problems seriously impact the welfare of current and future generations, so periodic and comprehensive health screening is necessary. Health checks for school teenagers are very necessary because they are an important step in ensuring their optimal well-being and development. First of all, health checks can detect early health problems that teenagers or their parents may not be aware of (Rizkiah et al., 2020; Tria Vilian & Minsih, 2021). With rapid identification, preventive measures and treatment can be taken immediately, preventing the problem from becoming more serious. In addition, health screenings help monitor a teenager's physical growth and development, including assessment of eating patterns, physical activity levels, and sleep habits. This is important because adolescence is a critical period in the formation of healthy living habits that can affect long-term health. Health screenings also provide an opportunity for teens to discuss mental health, emotional, and social issues they may be experiencing. In a supportive atmosphere, teenagers may feel more comfortable talking about the feelings and challenges they are facing, allowing health professionals to provide appropriate support and advice. In addition, health examinations can be an important educational platform for adolescents. They can gain knowledge about healthy lifestyles, the importance of nutrition, and the impact of bad habits on health. With a better understanding of how to care for themselves, teens can develop life habits that support their overall health (Mulazimah et al., 2021; Natalia & Anggraeni, 2022). Overall, health screening for school teenagers is not just about detecting illnesses, but also about providing holistic support for their overall health development. Through this approach, it is hoped that teenagers can grow and develop well, facing the future with a healthy body and mind (Coffey et al., 2020; Hariyanto, 2010). Developing an adolescent health screening application certainly requires several steps, one of which is needs analysis. Analysis of needs in the research and development stage is necessary to gather information on the extent of Development needed. Therefore, this study aimed to conduct a needs analysis in the field related to the needs and capabilities of adolescent health screening users. This research was conducted to determine which it is necessary to digitize my health reports to make them more effective and efficient.

2. METHODS

This research is a type of qualitative descriptive research. Qualitative descriptive research is a type of research that aims to understand and describe a phenomenon or situation, without involving quantitative measurements (Seixas et al., 2018). This method focuses more on a deep understanding of the context, meaning and characteristics of an event or phenomenon. In this study qualitative descriptive research is used to find out needs analysis in the field related to the needs and capabilities of adolescent health screening users. Data collection method that use in this study are primary data through in-depth interviews and Focus Group Discussions (FGD) with informants. This research involved key informants and main informants. The main informants were selected by purposive sampling. They obtained two key informants: the Nutrition Execuctor and the Person in Charge of the School-Age Children and Youth Program (AUSREM) Dinkes Kota Bekasi. The main informants in this research include the Community Health Center Nutrition Implementing Staff (TPG), UKS Teachers and Students. Meanwhile, the supporting informants involved were the parents. Main and supporting informants were selected by snowball at the direction of the Bekasi City Health Office. They obtained 2 Community Health Centers, namely the Puskesmas Bojong Rawalumbu Health Center and Puskesmas Pekayon, and one school in the Bojong Rawalumbu area, SMPN 41 Bekasi. Data analysis was carried out using the content analysis method, presented in a narrative descriptive form with several stages: data collection, data reduction to choose the information, presentation of data by descriptively describing the themes that had been compiled, and drawing conclusions (Miles & Huberman, 2014).

3. RESULTS AND DISCUSSION

Results

The number of informants consisted of 3 key informants as program holders and implementers and 5 key informants as a form of source triangulation. Data regarding the characteristics of the main informants and supporting informants involved in this research as show in Table 1.

Table 1. Characteristics of Key, Primary and Supporting Informants

Name	Age	Work	Gender
Informant Key			
WA	43	Nutrition Executive	Woman
LA	39	Responsible for AUSREM	Woman
Main Informant			
US	39	TPG Health Center	Woman
HD	41	TPG Health Center	Woman
gr	32	UKS teacher	Woman
KL	13	Student	Woman
NZ	13	Student	boy
Informant Supporter	42	Student Guardian	Woman
WM1	40	Student Guardian	Woman
WM2			

From key informants, information was obtained regarding the direction of the AUSREM program and program implementation, especially the use Rapor Kesehatanku. Meanwhile, from the main informant, the information obtained included the implementation of Rapor Kesehatanku in level puskesmas nd schools, especially regarding the constraints experienced. Supporting Informants helped a lot in providing views and hopes for the My Health Reports program and its implications for the school community, especially students.

Based on the results of data collection from all informants involved, the following results are obtained for each aspect of the implementation rapor kesehatanku. The main results of this needs analysis are divided into two core discussions, namely implementation rapor kesehatanku book version and digital version. Implementation rapor kesehatanku book version, the results of in-depth interviews in the field showed that the implementation of the book version of my health report experienced many dynamics. Starting from the filling flow to how it is implemented in the field. The following is a detailed review of several aspects conveyed by key informants, main informants and supporting informants. Filling flow, rapor kesehatanku the book version will begin to be implemented from the beginning of 2022, with the number of books distributed to Dinas Kesehatan (Dinkes) Kota Bekasi not in accordance with the number of AUSREM in the region. In this regard, the Health Office distributes the available books to various

Puskesmas areas under its auspices to be distributed to target schools with a limited number, to then be reproduced by the schools themselves. With the limited number of books distributed to each Puskesmas, Finally, it was worked out that each school gave the book to new students every year along with a student health screening schedule which was carried out at least once a year according to the Minimum Service Standards (SPM). Understanding/acceptance rapor kesehatanku book version. Target Rapor kesehatanku includes Elementary School (SD) and Middle School (SMP and SMA) students. A package Rapor Kesehatanku consists of 2 book series, the first is a health record series book which consists of 68 pages containing a questionnaire covering: health history, risk behavior, intelligence health, mental health, reproductive health. Apart from that, there is also a health examination section, including nutritional status, vital signs, personal hygiene, vision problems, hearing problems, dental and oral health, and physical fitness. The second book is a series of health information books which contain education about several aspects of health that teenagers need to know, such as reproductive health, a balanced nutrition menu guide and other health education. Book rapor kesehatanku for teens as show in Figure 1.

Figure 1. Book Rapor Kesehatanku for Teens

Results of in-depth interviews with TPG Puskesmas Bojong Rawalumbu who have received and distributed books Rapor Kesehatanku to several schools, stating that not all of the contents of the book rapor kesehatanku note series is easy to understand. One of the things that is most difficult to understand is the mental health part. Both TPG and PJ AUSREM Puskesmas difficulty in concluding the results of the mental health screening. So far, to make mental health screening easier, they have used the SRQ-20 instrument in the form of GoogleForm. This is because this form uses standard psychological language and terms which are not understood by TPG who has an educational background of Bachelor of Nutrition and PJ AUSREM whose educational background is Bachelor of Public Health. This difficult to understand and ambiguous language is also incomprehensible to students, making it impossible for them to fill out the form themselves. Meanwhile, TPG was also unable to assist each student in filling out the form because apart from not understanding, their human resources were limited. This was confirmed by key informants from Dinkes Kota Bekasi that of the parties Dinkes Nor has it carried out comprehensive outreach regarding implementation rapor kesehatanku because this program is relatively new and the number of physical books given is limited. So it can be concluded that understanding and acceptance of buku rapor kesehatanku still inadequate.

Rapor kesehatanku program is not working, of all the informants involved, all stated that rapor kesehatanku not running optimally. Things that become obstacles to implementation rapor kesehatanku Among other things, it is impractical because it has to be filled in manually and has to be physically carried in large quantities, both manpower and financial resources are not supportive rapor kesehatanku reproduced in sufficient quantities for each student to obtain the book. Dinkes give books rapor kesehatanku in small quantities to the TPG with directions it is hoped that the school will be able to reproduce it themselves according to the number of school students. But what happened at school, because there was no available budget for the program, in the end the books were only given to grade 1 students. Apart from the limited number, the TPGs interviewed in this study also said that books of rapor kesehatanku, besides writing too much, the amount of data that needs to be filled in is large and complex, so it takes a lot of time to fill out each student's health notebook. In addition, because the filling was done manually (handwritten) so it was impractical, not to mention to do the recording, the book had to be brought in large quantities (according to the number of students). In fact, just to carry out health screening, the TPGs were quite overwhelmed with the data that had to be collected. As they have often done, during screening, they had to ask for reinforcements from fellow puskesmas employees in other divisions to help with the activity.

From the school community, both UKS teachers and students who were the main informants and parents who were supporting informants in this research, had similar responses. There have been no health activities, especially reporting in the form of my health report book, because the book was only distributed shortly before the FGD was carried out. The report card was obtained because before the FGD was carried out, the school was carrying out healthy school assessment activities, so the book was distributed and held by the parents who were on the committee when the FGD was carried out. When the FGD was carried out, the UKS teacher also said the same thing, so far there has never been a health screening carried out, especially since the formation of UKS Teachers was only recent. Previously, the health department at school was handled by extra-curricular teachers from the Youth Red Cross (PMR) and there was no special person responsible for matters related to health, especially reporting. Students who were interviewed regarding the rapor kesehatan book admitted that they had never seen rapor kesehatanku before, so they did not know anything about the contents of the book. From these three aspects, it can be concluded that implementation rapor kesehatanku the book version still has problems so it can't be implemented optimally. Books are given in limited quantities and are not reproduced. In terms of filling in the book, it was also felt to be impractical and inefficient for data reporting, so the TPG chose to use another method to report to the Dinkes.

Rapor kesehatan digital version. This research tries to innovate by making rapor kesehatan digital version which is carried under the name e-Report Sehatku. Before this application is created, it is necessary to know several aspects that suit the needs of the relevant parties, so that later the application can be implemented well. Expectations and willingness to use rapor kesehatan digital version. Having experience with reporting quite a lot of data, the main informants of the TPG Puskesmas felt that there was an urgent need for health reporting, especially for adolescents in a digital version. They feel the need to make programs that are more practical, easy to use or easily accessible, easy to understand and interesting. In essence, because of the limited staff at the Puskesmas, they wanted an application that could facilitate their work in making health reports, especially to the health office. Opinions on TPG also align with key informants from Dinkes Kota Bekasi. With the existence of the e-Rapor Sehatku, it is hoped that health services, especially for teenagers, will be even better. So far, networking has only been implemented once a year as a minimum service standard (SPM). It would be even better if the timeframe for health monitoring could be more up-to-date, so that the data they receive is real data, not last year's data. The hope is that program planning can also use this latest data.

Apart from ease of use, the main TPG informant also said that when creating a program it is best to think about the sustainability of the program. So it doesn't just add work, then it doesn't continue like some similar programs that already exist, but it doesn't continue anymore. One of them is the Ceria application. When showing the Ceria application that had been downloaded on one of the informants' cell phone, it turned out that the application had never been registered, even though the application had been downloaded for almost a year. In addition, web-based applications are considered to have better acceptance for users, because not all users are willing and able to download and install mobile-based applications. Storage memory constraints on mobile phones are a common reason an application cannot be downloaded and installed. In addition, if this application is designed in a web-based form, it is still very possible for students who do not have a cell phone to access the e-Rapor Sehatku through a computer. In the school community, UKS teachers expressed the hope that the e-Rapor Sehatku would not be a burden on teachers' work, even if possible, to make it easier, because teachers themselves generally hold other roles at school, including being teachers of certain subjects as well as homeroom teachers. So the task is already heavy and the time you have is also limited. For students involved in the FGD, they were also quite enthusiastic if later they had a health report in the form of the e-Rapor Sehatku. Because they feel, it seems they have to start paying attention to their health so they don't get sick easily so they can take lessons optimally.

Priority features required, based on the results of interviews and FGDs with informants, the following are the features required for the e-Rapor Sehatku. Some of the required features are already in the My Health Report book, both in the health records series and the health information series. The main features needed include a feature for monitoring adolescent health which includes monitoring nutritional status (consisting of filling in Body Weight and Height), mental health screening and specifically for adolescent girls, there will also be a feature for compliance with the consumption of Blood Supplement Tablets (TTD). equipped with a photo upload feature while drinking TTD. Apart from this monitoring, one of the TPG informants conveyed his suggestion regarding recognizing the risk of PTM using the abdominal circumference feature. Meanwhile, for the mental health screening feature, it is proposed to add a Confide Session feature for students, because adolescence is a transition period so they may face many problems but there is no place to talk about it. Apart from health records, to complete the e-Rapor Sehatku, it also needs to be equipped with educational features. Based on the results of FGDs with the school community,

including teachers, students and parents, they agreed that education in the form of videos is more desirable than in the form of pictures or writing. As a multi-user application, there are several users who will be involved in using the Sehatku e-Report application, including students, teachers, parents, TPG, and the Health Office. Thus the regular e-Rapor Sehatku reports to users are felt to be very much needed. In addition, a notification feature for data that needs to be completed is deemed necessary, so that filling in the data on the e-Rapor Sehatku can run well.

Application maintenance, with the e-Rapor Sehatku application which is digital in nature, it is necessary to maintain the domain and application so that the application can still be accessed and used. This maintenance requires a fee that must be paid in an amount that is adjusted to the type and amount of data stored. The more complex the type of data and the greater the data stored, the greater the storage memory or what is commonly referred to as hosting on the server where the application is placed. For this reason, in the needs analysis, it is also asked about the readiness of the costs that will be charged for the continued use of the application. For this aspect, because it partners with Dinas Kesehatan Kota Bekasi as key informants, this information is extracted from them. From in-depth interviews, they stated that they were willing to submit a budget for the maintenance of the e-Raport Sehatku application if indeed the figures charged were not expensive, with the intention of being appropriate or equivalent to the services obtained. This is because, previously, someone had offered a similar application, but Dinkes was required to pay an amount that was too large each month so it did not continue. They added, if the price required is comparable to what they get, it may even be more cost-efficient than the funds needed to increase the book version of rapor kesehatanku book version.

Discussion

School-age children (AUS) are a strategic target for implementing health programs. It is estimated that 24% of Indonesia's population is AUS. Apart from that, they are also easy targets to reach because they are well organized. As a mandate to fulfill the equal right to health for all Indonesian children, health screening activities and periodic examinations are carried out in schools. Based on the results of the study, it was found that one of the media used to record the results of the AUSREM health screening was rapor kesehatanku (Retnowati & Siregar, 2020). However, this book was considered ineffective because, in the end, students could not fill it in independently rapor kesehatan. It is also inefficient because it is in the form of a book and still has to be reproduced by each student at school. Even though health screening is important to do, besides that, the school community has the right to know what their health condition is (Natalia & Anggraeni, 2022; Phillips et al., 2019). Health screening is a health examination procedure that is carried out to detect early health problems that can interfere with children's learning and development process so that they can be followed up immediately. Screening results can also be used to plan health programs. Health screening is part of the Minimum Service Standards (SPM) in the health sector at the district/city level, which is regulated by Government Regulations and the Minister of Health Regulations in the UKS Program (Mukminin & Tasu'ah, 2016; Sitepu et al., 2015; Tria Vilian & Minsih, 2021). The target of health screening activities in schools/madrasas is all new students in the new academic year grades 1, 7, and 10, both public and private. At the same time, the target of periodic inspections is students in grades 2-6 at SD/MI, grades 8-9 at SMP/MTS, grades 11-12 at SMA/SMA/MA including Special Schools (SLB). Ideally, the Provincial, Regency/City Health Office will coordinate with related cross-sectors (Dinas Pendidikan, Kanwil Agama, Dinas Sosial, Kanwil Hukum, and HAM, TP UKS/M and other associated agencies) in terms of informing the implementation of health screening and AUSREM periodic checks, mobilizing their respective ranks, provision of facilities and infrastructure, identification of targets, inventory of resources and outreach to AUSREM as well as parents/companions/Head of Prison/Head of Home. Then, the District/City Health Office assigns Community Health Centers to carry out health screening activities and periodic health checks for AUSREM in their working areas. However, due to the limited number of rapor kesehatanku books and screening resources, only new students are screened and health checked (Pratiwi et al., 2020; Widiastuti et al., 2021). Old students do not get it. So tools or innovation are needed to be able to cover all related aspects.

The results of interviews in the field, ranging from the Health Office to students, stated that they strongly agreed and were enthusiastic about the design innovation of e-rapor kesehatan, with the hope that health screening and examinations can be carried out regularly in a recorded and efficient manner. Health screening in the form of health checks can help reduce diseases caused by poor self-care. This aims to improve the health status of children. Reporting health examination results can also be used as a communication tool between parents and teachers. Besides that, it can be used as promotive and preventive activity for children (Natalia & Anggraeni, 2022; Yu et al., 2022). Previous study state that through networking, student health mapping can be carried out, detecting student lifestyles that result in health problems, learning process problems and detecting wrong behavior related to health (Mulazimah

et al., 2021). Some of the proposed features will be on e-rapor kesehatanku, including nutritional status checks, growth charts, compliance with TTD consumption, mental health, PTM risk detection, discussion forums, my health e-report reporting, notifications, multiple users (TPG, teachers, students, parents, and Health Office) and many educational features Upload a short video about youth health. The informants agreed that digitizing my health report card is more interesting and will help a lot in student health screening activities at school. Accurate and up-to-date health information is increasingly needed along with technological developments. With a touch of technology, health information can be used as a medium for health promotion and other health interventions, and it is easier to reach targets at every level (Leonita & Jalinus, 2018; Lestari et al., 2021). The Development of technology-based health services is a public service innovation in the context of reforming bureaucracy in the realm of the Indonesian government, which is still complicated, slow, less effective, and efficient, and there is no clear timeline for providing public services needed by the community (Angelita et al., 2022; OECD, 2019).

One of the internal aspects rapor kesehatanku that is considered difficult for users is mental health screening. It is difficult for TPG, teachers, or students to understand the purpose of the screening questions, and in the end, it can lead to errors in concluding student mental health results. On e-rapor kesehatan that will be created, mental health screening will be replaced with an instrument that is easier for students to answer independently and will automatically get results regarding their mental health. The mental health feature created is also equipped with a notes menu, where in this menu, students can share their complaints and obstacles in life or learning that they are facing. Mental health is a global concern. Governments across the country recognize the importance of mental health. Globally, it is estimated that children's mental health problems will be one of the five problems that cause disability, morbidity, or even mortality in the next 20 years. For this reason, it is necessary to carry out promotional and preventive efforts (Desi et al., 2020; Kuswadi, 2019). This is also supported by the results of activities that were successfully carried out in South Tangerang, which stated that it is important to pay attention to mental health in children and adolescents (Melizsa et al., 2021). Schools are one of the recommended places to promote mental health intervention programs. A feature that is no less interesting is the educational feature. This feature aims to increase the health literacy of the school community. Health literacy is the ability to access, understand, assess, evaluate, and convey health information as a way to maintain and improve health. Low health literacy can lead to poor self-management skills, resulting in non-adherence to treatment and poor health quality. Findings in the field state that there are still students who have low (3.56%) and very low (1.5%) health literacy, with the functional health literacy category most likely being limited (37%), even in various schools, the same thing is found, so there is a need for improvement health literacy in students (Candrakusuma & Nurhayati, 2020). The results of research conducted by other study state that students' health literacy is in the sufficient category (54.9%) with internet media. Students like to search for health information by surfing in cyberspace compared to books (Ditiaharman et al., 2022). This can be used as an alternative to improve students' health literacy. Hopefully, this feature will motivate students to care more about their health.

From a review of several publications in Indonesia, there are already applications related to adolescent health with the features needed for PKR, but they are not as comprehensive as rapor kesehatanku. Tahun 2016 – 2018, An Android-based reproductive health education application, has been produced for adolescent knowledge. The applications focus on increasing knowledge about adolescent reproductive health (Sudiarto et al., 2019). In 2020, a Screening of Reproductive Health (SHE) application was successfully created to improve women's reproductive health (Hamidiyah & Muhasshanah, 2020). Other study started the Smart Teen Mobile application for knowledge, attitudes, and self-efficacy regarding prediabetes prevention (Novianto et al., 2019). There is also the Development of a web-based adolescent health information system at the Bantul Community Health Center (SIMESRA) for PKR regarding student health history and vital sign checks (Azis, 2019). Other study try create another application as an early detection system for the emotional and mental health of children aged 4-17 years using the forward chaining method (Rizkiah et al., 2020). Meanwhile, there is also study found a health application model to increase the hemoglobin of adolescent girls in the Bantul area (Rosita et al., 2023). The application created is digital-based but does not cover all aspects of my health report card. Not all are web-based and are still not integrated with the curriculum. This further supports digitalization rapor kesehatanku. To realize the school health program, one of which is through UKS, an important aspect that must be considered so that it can run is quality human resources, namely the school community/school committee. School committees are elements that carry out the schooling process. Without this element, school activities will certainly be disrupted. The school committee consists of teachers, principals, students, and parents. Therefore, the role of the school committee is very important to achieve good health quality. The multiple-user feature on health e-reports will activate the school community's health literacy. Indirectly, UKS teachers do not feel burdened by filling in student data manually in large

quantities because each student can fill it in independently. Student health reports can also be easily accessed and downloaded as needed.

4. CONCLUSION

The research results concluded that rapor kesehatanku its use is not yet effective and efficient. There are still many obstacles in the field that require innovation in digital form. Some of the features needed include measuring nutritional status, growth charts, compliance with iron supplements consumption, detection of NCDs, mental health, multiple users, discussion forums, my health e-report, education, and notifications for report results that need follow-up. The digitization of my health report must be completed immediately and implemented in schools.

5. REFERENCES

Angelita, M., Lukman, S., & Tahir, I. (2022). Inovasi Dan Efektivitas Pelayanan Melalui Mobile JKN Pada BPJS Kesehatan Di Jakarta Selatan. *Medium*, *9*(2), 292–305. https://doi.org/10.25299/medium.2021.vol9(2).10073.

Azis, A. (2019). Pengembangan Sistem Informasi Kesehatan Remaja Di Puskesmas Bantul II Kabupaten Bantul. *Jurnal Manajemen Informasi Kesehatan Indonesia*, *7*(2), 92. https://doi.org/10.33560/jmiki.v7i2.240.

Black, M. M., Walker, S. P., Fernald, L. C. H., Andersen, C. T., DiGirolamo, A. M., Lu, C., McCoy, D. C., Fink, G., Shawar, Y. R., Shiffman, J., Devercelli, A. E., Wodon, Q. T., Vargas-Barón, E., & Grantham-McGregor, S. (2017). Early childhood development coming of age: science through the life course. *The Lancet*, *389*(10064), 77–90. https://doi.org/10.1016/S0140-6736(16)31389-7.

Candrakusuma, G., & Nurhayati, F. (2020). Survei literasi kesehatan peserta didik tingkat Sekolah Menengah Atas dan Kejuruan di Kota Surabaya. *Jurnal Pendidikan Olahraga Dan Kesehatan*, *08*(01), 41–45. https://core.ac.uk/download/pdf/322568571.pdf.

Coffey, C. S., MacDonald, B. V., Shahrvini, B., Baxter, S. L., & Lander, L. (2020). Student Perspectives on Remote Medical Education in Clinical Core Clerkships During the COVID-19 Pandemic. *Medical Science Educator*, *30*(4), 1577–1584. https://doi.org/10.1007/s40670-020-01114-9.

Desi, D. D., Jacob, M. Y., & Pilakoannu, R. T. (2020). Status Kesehatan Mental Dan Program Kesehatan Mental Anak Sekolah Dasar Di Halmahera Utara. *Jurnal Keperawatan Muhammadiyah*, *5*(1), 1–7. https://doi.org/10.30651/jkm.v5i1.3670.

Ditiaharman, F., Agsari, H., & Syakurah, R. A. (2022). Literasi Kesehatan Dan Perilaku Mencari Informasi Kesehatan Internet Pada Siswa Sekolah Menengah Atas. *PREPOTIF : Jurnal Kesehatan Masyarakat*, *6*(1), 355–365. https://doi.org/10.31004/prepotif.v6i1.2762.

Hamidiyah, A., & Muhasshanah, M. (2020). Aplikasi Screening Of Reproductive Health (SHE) Dalam Upaya Peningkatan Kesehatan Reproduksi Wanita. *JOMIS (Journal of Midwifery Science)*, *4*(2), 52–63. https://doi.org/10.36341/jomis.v4i2.1385.

Hariyanto. (2010). Hubungan Status Gizi dengan Prestasi Belajar Siswa Sekolah Dasar Negeri 01 Guguk Malintang Kota Padangpanjang. *Jurnal Kesehatan Andalas*, *3*(3). http://jurnal.fk.unand.ac.id/index.php/jka/article/view/176.

Indawati, L., Adijaya, N., Dewi, D. R., & Ilhami, B. F. (2021). Rekam Kesehatan Personal Pada Anak Usia Sekolah Sebagai Kunci Sukses Pemberdayaan Kesehatan Siswa. *Educivilia: Jurnal Pengabdian Pada Masyarakat*, *2*(1), 73–81. https://digilib.esaunggul.ac.id/public/UEU-Journal-20318-11_1451.pdf.

Juvinyà-Canal, D., Suñer-Soler, R., Boixadós Porquet, A., Vernay, M., Blanchard, H., & Bertran-Noguer, C. (2020). Health literacy among health and social care university students. *International Journal of Environmental Research and Public Health*, *17*(7), 2273. https://doi.org/10.3390/ijerph17072273.

Kusumawati, E., Lusiana, N., Mustika, I., Hidayati L, S., & Andyarini, E. N. (2018). Perbedaan Hasil Pemeriksaan Kadar Hemoglobin (Hb) Remaja Menggunakan Metode Sahli dan Digital (Easy Touch GCHb)-The differences in the result of examination of adolescent hemoglobin levels using sahli and digital methods (easy touch GCHb). *Journal of Health Science and Prevention*, *2*(2), 95–98. http://repository.uinsa.ac.id/id/eprint/1777/.

Kuswadi, E. (2019). Peran Lingkungan Sekolah dalam Pengembangan Mental Siswa. *EL-BANAT: Jurnal Pemikiran Dan Pendidikan Islam*, *9*(1), 62–78. https://doi.org/10.54180/elbanat.2019.9.1.62-78.

Leonita, E., & Jalinus, N. (2018). Peran Media Sosial Dalam Upaya Promosi Kesehatan: Tinjauan Literatur. *INVOTEK: Jurnal Inovasi Vokasional Dan Teknologi*, *18*(2), 25–34.

https://doi.org/10.24036/invotek.v18i2.261.

Lestari, K. B., Dwi Lestari, I. F., & Santoso, I. (2021). The Impact of Health Education Using Online Learning on Adolescent Knowledge of Anaemia. *KnE Social Sciences*, *2021*, 209–220. https://doi.org/10.18502/kss.v5i3.8541.

Masitoh, S., Rizkianti, A., & Afifah, T. (2018). Analisis Pelaksanaan dan Gambaran Pengetahuan, Sikap, Perilaku Siswa tentang Buku Rapor Kesehatanku di Sekolah Dasar Terpilih di DKI Jakarta. *Jurnal Kesehatan Reproduksi*, *9*(1), 1–14. https://doi.org/10.22435/kespro.v9i1.894.1-14.

Melizsa, Sopian, A., Dewantoro, A., Wijanarko, D. A. W., Koswara Rahajeng, S., Senjaya, A., Arnitha, B., Parida, A., Rahmawati, A., Afifah, T., & Al-anshory, Z. M. (2021). The Importance of Mental Health in Children and Adolescents in Parakan Inpres Village Selatan Tangerang. *Jurnal Abdi Masyarakat*, *2*(2), 115–123. https://doi.org/10.52031/jam.v2i2.219.

Miles, M. B., & Huberman, A. M. (2014). *Qualitative Data Analysis: An Expanded Sourcebook* (3rd ed.). SAGE Publications.

Mitra, M. (2015). Permasalahan Anak Pendek (Stunting) dan Intervensi untuk Mencegah Terjadinya Stunting (Suatu Kajian Kepustakaan). ,. *Jurnal Kesehatan Komunitas*, *2*(6), 254–261. https://doi.org/10.25311/keskom.Vol2.Iss6.85.

Mukminin, A., & Tasu'ah, N. (2016). Pengembangan Model Layanan Program Usaha Kesehatan Sekolah (Uks) Terintegrasi Pada Lembaga Pendidikan Anak Usia Dini (Paud) Di Kota Semarang (Studi Pada Lembaga Taman Kanak-Kanak Di Kota Semarang) Development Of Integrated School Health Business Program S. *Jurnal Penelitian Pendidikan*, *33*(2), 120. https://doi.org/10.15294/jpp.v33i2.9094.

Mulazimah, M., Ikawati, Y., & Nurahmawati, D. (2021). Upaya Peningkatan Kesehatan melalui Program UKS Penjaringan Kesehatan Anak Usia Sekolah Dinas Kesehatan Kota Kediri. *Kontribusi: Jurnal Penelitian Dan Pengabdian Kepada Masyarakat*, *2*(1), 1–8. https://doi.org/10.53624/kontribusi.v2i1.36.

Natalia, S., & Anggraeni, S. (2022). Skrining Kesehatan Anak Sekolah sebagai upaya deteksi Kesehatan sejak dini. *Journal of Community Engagement in Health*, *5*(1), 47–50. https://doi.org/10.30994/jceh.v5i1.340.

Novianto, D. R., Suryoputro, A., & Widjanarko, B. (2019). Pengaruh aplikasi " Remaja Cerdik Mobile " terhadap pengetahuan , sikap , dan efikasi diri remaja tentang pencegahan prediabetes. *Berita Kedokteran Masyarakat*, *35*(8), 275–282. http://download.garuda.kemdikbud.go.id/article.php?article=2980870&val=26728&title=Pengaruh Aplikasi Remaja Cerdik Mobile Terhadap Pengetahuan Sikap dan Efikasi Diri Remaja Tentang Pencegahan Prediabetes.

Nurochim, N. (2020). Optimalisasi program usaha kesehatan sekolah untuk kesehatan mental siswa. *Jurnal Konseling Dan Pendidikan*, *8*(3), 184–190. https://server.iicet.org/jkp/index.php/jkp/article/view/414.

OECD. (2019). *PISA 2018 Result: Country Note for Indonesia*.

Phillips, A., Fryer, C., Mackintosh, S., Ng, L., & Gibbs, C. (2019). A Comparison of Electronic and Paper-Based Clinical Skills Assessment: Systematic Review. *Medical Teacher*, 1–9. https://doi.org/10.1080/0142159X.2019.1623387.

Pratiwi, W. R., Hamdiyah, H., & Asnuddin, A. (2020). Deteksi dini masalah kesehatan reproduksi melalui pos kesehatan remaja. *Jurnal Inovasi Hasil Pengabdian Masyarakat (JIPEMAS)*, *3*(1), 87–94. http://jim.unisma.ac.id/index.php/jipemas/article/view/5035.

Rahmadhita, K. (2020). Permasalahan stunting dan pencegahannya. *Jurnal Ilmiah Kesehatan Sandi Husada*, *9*(1), 225–229. https://doi.org/10.35816/jiskh.v11i1.253.

Retnowati, R., & Siregar, K. N. (2020). Analisis Kelayakan e-Rapor Kesehatan Siswa untuk Meningkatkan Peran Orang Tua, Sekolah dan Puskesmas dalam Pemantauan Status Kesehatan Siswa. *Surya Medika: Jurnal Ilmiah Ilmu Keperawatan Dan Ilmu Kesehatan Masyarakat*, *15*(2), 81–91. http://download.garuda.kemdikbud.go.id/article.php?article=2434581&val=16425&title=Analisis Kelayakan e-Rapor Kesehatan Siswa untuk Meningkatkan Peran Orang Tua Sekolah dan Puskesmas dalam Pemantauan Status Kesehatan Siswa.

Rizkiah, A., Risanty, R. D., & Mujiastuti, R. (2020). Sistem Pendeteksi Dini Kesehatan Mental Emosional Anak Usia 4-17 Tahun Menggunakan Metode Forward Chaining. *JUST IT : Jurnal Sistem Informasi, Teknologi Informasi Dan Komputer*, *10*(2), 83. https://doi.org/10.24853/justit.10.2.83-93.

Rosita, R., Sari, F. Y. P., Suryadi, A., Pribadie, L. S., Demir, E., & Stone, S. (2023). Monitoring Kesehatan Remaja Berbasis Elektronik. *Jurnal Kesehatan Vokasional*, *8*(4), 218–225. https://doi.org/10.22146/jkesvo.88804.

Seixas, B. V., Smith, N., & Mitton, C. (2018). The qualitative descriptive approach in international

comparative studies: Using online qualitative surveys. *International Journal of Health Policy and Management*, *7*(9), 778–781. https://doi.org/10.15171/ijhpm.2017.142.

Sharma, S., Oli, N., & Thapa, B. (2019). Electronic health–literacy skills among nursing students. *Advances in Medical Education and Practice*, 527–532. https://www.tandfonline.com/doi/full/10.2147/AMEP.S207353.

Sitepu, H., Ratag, G. A. E., & Siagian, I. T. (2015). Peran Serta Masyarakat Sekolah dalam Pelaksanaan Program Usaha KEsehatan Sekolah di SMP Negeri 1 Manado. *Jurnal E-Biomedik*, *3*(3), 798–804. https://doi.org/10.35790/ebm.3.3.2015.10147.

Sudiarto, S., Niswah, F. Z., Pranoto, R. E. P., Hanifah, I., Enggardini, A. A., Masruroh, Z., & Muhammad, H. N. A. (2019). Optimalisasi Pendidikan Kesehatan Kepada Remaja Melalui Aplikasi Android Profoteen. *Jurnal Kepemimpinan Dan Manajemen Keperawatan*, *2*(2), 74. https://doi.org/10.32584/jkmk.v2i2.380.

Supardi, K. I. (2012). Kesehatan Sekolah, Sumber Daya Manusia, Prestasi Akademik, dan Keefektifan SMP Standar Nasional. *Jurnal Ilmu Pendidikan*, *17*(5), 387–392. https://doi.org/10.17977/jip.v17i5.2867.

Tria Vilian, M., & Minsih. (2021). Budaya Sekolah Dalam Mewujudkan Sekolah Sehat Nasional Di Sd Muhammadiyah 1 Ketelan Surakarta. *Jurnal Pendidikan Dasar Flobamorata*, *2*(1), 152–161. https://doi.org/10.51494/jpdf.v2i1.419.

Triana, A., & Marlina, H. (2022). Pelatihan Kader Kesehatan Remaja Pada Konselor Sebaya. *ARSY: Jurnal Aplikasi Riset Kepada Masyarakat*, *3*(1), 30–35. https://doi.org/10.55583/arsy.v3i1.271.

UNICEF. (2023). Undernourished and Overlooked: A Global Nutrition Crisis in Adolescent Girls and Women. In *Undernourished and Overlooked: A Global Nutrition Crisis in Adolescent Girls and Women*. United Nations Children's Fund (UNICEF). https://doi.org/10.18356/9789213626764.

Widiastuti, A., Rusmini, R., & Sumiyati, S. (2021). Pengembangan Sistem Informasi Rapor Kesehatan Online. *Jurnal Keperawatan Silampari*, *5*(1), 396–405. https://doi.org/10.31539/jks.v5i1.2993.

Yu, T., Xu, J., Jiang, Y., Hua, H., Zhou, Y., & Guo, X. (2022). School educational models and child mental health among K-12 students: a scoping review. *Child and Adolescent Psychiatry and Mental Health*, *16*(1), 1–16. https://doi.org/10.1186/s13034-022-00469-8.