

Influence of Android-based “Healthy Menstruation” App on Menstrual Knowledge in Teenage Girls as an Effort to Improve the Health of Mothers and Children



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ABSTRACT

Dismenorrhea causes 14% of patients to miss school frequently. On March 11, 2020, the World Health Organization (WHO) declared that the outbreak of the disease caused by the Covid-19 virus was a global pandemic. (global). The Covid-19 pandemic has changed the patterns of life in society. Including one of the needs to technology. During Covid, students were not in school so they needed help to monitor students. To get complete information about dysmenorrhea is very easy to obtain by downloading an android-based app “healthy menstruation” The application has passed the qualification test of both materialists, media experts and linguists, as well as passed a small-scale test on youth representatives in independent research with very useful results. As a follow-up to the research, further research is needed to look at the impact of applications on knowledge. The research method used in this study is using a quasi-experimental design with a one-group pretest-posttest design. Independent variable in this research is android-based “Healthy Menstruation” App, while dependent variable in this research is knowledge. The results of the study using the Wilcoxon test showed that there was an influence of the application on the knowledge of adolescents with a $p=0,000$ value. The conclusion is that there is an influence of the application on the knowledge of adolescents in the ninth school in Tasikmalaya. This research may change as to improve the literacy of female adolescent.

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INTRODUCTION

Adolescence is the transition from childhood to adulthood at a potential time, both cognitive, emotional and physical.^{1,2} The youth population in Indonesia is approximately 64 million people (28.6% of the total population), for in West Java the adolescent population aged 10-24 years is the largest population. Primary high school students (SMP) are in the group of early teenagers and middle teenagers^{3,4,5} Many women have menstrual problems, among them menstrual pain known as dysmenorrhea. Dysmenorrhea is a complex symptom of abdominal cramps that spread to the back or legs and is usually accompanied by gastrointestinal symptoms and neurological symptoms such as general weakness.⁶ In an epidemiological study of a population of adolescents (aged 12-17 years), dysmenorrhoea had a prevalence of 59.7%. Of the patients who pain, 12% described it as severe, 37% mild, and 49% light. Dismenorrhea causes 14% of patients to miss school frequently.⁹

Education and knowledge are an important part that needs to be improved in order to improve this situation. To accelerate the achievement of these improvements, efforts in



health education and dissemination of knowledge are needed. The success of health education depends on the learning component, one of which is the learning media. According to Dale Edgar, health education media has a powerful function to attract the attention of participants.¹⁰ If a teenager has knowledge about handling dysmenorrhea, then teenagers can deal with dysmenorrhea problems during menstruation.

On March 11, 2020, the World Health Organization (WHO) declared that the outbreak of the disease caused by the Covid-19 virus is a global pandemic. Including one of the needs to technology. With this, the activities of the community that take place outdoors are all restricted. The policy makes all the activities done using the Internet or online. So far the use of the Internet in Indonesia has gone up, has changed the system to online.¹⁰

To get complete information about dysmenorrhea is very easy to get by downloading an android-based app "healthy menstruation" This app has passed the qualification test of both materialists, media experts and linguists, as well as passed a small-scale test on adolescent representatives in independent research with very worthy results to use. As a follow-up to the study, further research is needed to look at the impact of the applications that have been compiled. The influence that will be studied on this study is on the knowledge of adolescents in SMPN 9 Tasikmalaya. In this application there is a consultation menu that can connect researchers with respondents or clients directly to facilitate communication. In this study not only want to know the influence of knowledge about pain during menstruation alone, but knowledge about menstruation. The hypothesis in this study is the existence of the influence of the application of healthy menstruation on the knowledge of female adolescent in SMPN 9 Tasikmalaya.

METHOD

This research aims to find out the impact of the Android-based Media App "Healthy Menstruation" in Dealing with Dismenorrhoea in Teenage Girls in the State Primary School of 9 Cities of Tasikmalaya 2023 on Knowledge with quasi-experimental design with one group plan pretest-posttest. The ethical clearance in this research is taken at Poltekkes Tasikmalayaat November 2023, with No.DP.04.03/F.XXVI.20/16/160/2023. This application contains about dismenorrhoe, care during menstruation, the treatment of dysmenorrhea. In addition, the advantages of this application include facilities for direct consultation with resource persons. The population in this study is all students at SMP N 9 Tasikmalaya. Sampling with purposive sampling. Quantities of samples were taken with the formula Slovin until quantities 40 students. The data analysis is done using two analytical techniques, namely univariable and bivariable. Univariable analysis is performed to find out the distribution of frequency and percentage. Bivariate In this study used the Wilcoxon test, because the data was distributed abnormally. In this study, the data taken using primary data is given a questionnaire to determine the level of knowledge. A total of 20 questions with a double-choice type (multiple choice). The previous questionnaire was tested for validity and reliability. The categories of knowledge in the study are divided into 3, good, enough, and less. The category of knowledge is ordinal.

RESULTS

Research on the impact of healthy menstrual applications on youth knowledge in SMPN 9 Tasikmalaya has been carried out with the following results.

Univariat analysis

Univariate analysis is used to describe or describe the variables studied. The following results of the research will be described below:

The knowledge of adolescents before intervention.

Table 1

Distribution of Adolescent Knowledge Frequency Before Intervention

| Knowledge | N =Number | Presentation |
|-----------|-----------|--------------|
| Less | 1 | 2,22 |
| Enough | 27 | 60,00 |
| Good | 16 | 35,56 |
| Total | 44 | 100 |

Based on table 1, it is known that the knowledge of adolescents before obtaining information by application is 26 people (35,56%) in the good category, 27 people (60,00%) in sufficient category and 1 person (2,22%) category less.

Adolescent post-intervention knowledge

Tabel 2

Distribution of Adolescent Knowledge Frequency After Intervention

| Konwledge | N =Jumlah | Percentase |
|-----------|-----------|------------|
| Less | 0 | 0 |
| Enough | 16 | 36,36 |
| Good | 28 | 63,64 |
| Total | 44 | 100 |

Based on table 2 , it is known that the knowledge of adolescents after obtaining information with the application of healthy menstruation is 16 people (36.36%) in the category of sufficient and 28 people (63.64%) category good.

Bivariate analysis

The analysis of bivariate data is used to answer the proposed hypothesis. Before performing the results of the influence test, then performed the normality test using Shapiro wilk, Based on such analysis, then for data knowledge is distributed normally while data for skill is distributing abnormally (0,397). After the normality test, then the influence test using wilcoxon analysis.

The free variable on this research consists of knowledge. The relationship between free variables is shown in the following table.

Table 4. Variable Correlation

| Variable Correlation | Koefisien Korelasi (R_w) | Nilai p |
|--|---------------------------------|-----------|
| Knowledge with healthy menstruation apps | 4,813 | 0,000 |

Keterangan: * R_w =korelasi Wilcoxon

Table 5 Effects of Healthy Menstrual Applications on Young People's Knowledge

| Knowledge | Pre-test | | Post-test | | P value |
|-----------|----------|-------|-----------|-------|---------|
| | F | % | F | % | |
| Less | 1 | 2,22 | 0 | 0 | |
| Enough | 27 | 60 | 16 | 36,36 | 0,000 |
| Good | 16 | 35,56 | 28 | 63,64 | |
| Total | 44 | 100 | 44 | 100 | |

Based on table 3, it can be seen that the results of bivariate analysis using Wilcoxon show that 0,000 means there is an influence of healthy menstrual applications on the knowledge of adolescents in SMPN 9 Tasikmalaya. Based on the evaluation of SMPN 9 Tasikmalaya students, this application is easy to use. This application can be accessed anytime and anywhere through the Play Store

DISCUSSION

The research has been done as planned. Before health education through a healthy menstrual application, the whole target is given a pre-test to know how much knowledge about menstruation. Then after the activities, given a post test to see if there is any improvement in knowledge after health education.

Adolescent knowledge about menstruation

From table 1 it can be seen that the knowledge of adolescents prior to health education was in the category of either 16 (35.56%), category of enough 27 (60%) and category of less than 16 (35.56%), while the knowledge adolescents after health education were in the categories of good 28 (63.64%) and 16 people (36.36%). According to Kurniasih (2014), applications act as a communicative, interesting and non-boring source of information. It's seen from the pre-tests of teenagers about menstruation there's an increase in knowledge.

A community-based social support effort was undertaken through increased knowledge and the active role of adolescents in learning about menstruation. Teenagers are expected to help spread the knowledge they have acquired to other teenagers so that their knowledge of menstruation increases.

Applications have a role not only to present essential and strategic information, but also to be useful as a problem-solving tool. In this case, the app is used as a guide to convey a topic about menstruation. The results of this study showed a change in adolescent knowledge about menstruation, especially dysmenorrhea.

The impact of the application of healthy menstruation on the knowledge of adolescents about healthy menstruations especially dysmenorrhoea.

From the results of the analysis, obtained: Based on the table 3, known Asymp.Sig (2-tailed) is worth 0,000. Since the value 0,000 is smaller than <0,05, it can be concluded that there is a difference between the knowledge results for pre test and post test, so it is possible to conclude that the use of the application has an influence on the knowledge about healthy menstruation.

Applications usually contain detailed and technical descriptions of a particular field. The application is a guide or guidance medium for adolescents to communicate a particular topic. The media in this study is an application that adolescents can use to provide information about healthy menstruation, especially about dysmenorrhea.

The involvement of adolescents as part of the school environment is essential in an effort to provide social support to other adolescents. One attempt to improve the quality of

life of adolescents is the formation of a social support of the adolescents where the adolescent client is. Some studies mention that adequate social support is an important factor for better quality of life and lower levels of psychological stress. It reflects the importance of focusing on activities that enhance and maintain the social support system for adolescents.³⁴

Programme efforts and social support from the community are of course essential to improving the quality of life of adolescents.³⁴ Thus, the contribution of the family, the school as a caregiver and the capacity-building of teenage schoolchildren is very important. Lack of public and adolescent exposure to menstruation is predicted to be a cause of lack of social support for adolescents with dysmenorrhea. Such support will emerge as adolescents become more aware of menstrual problems. Therefore, it is necessary to undertake an activity to enhance the capacity of adolescents to recognize menstruation so that youth-based social support can be enhanced. In Ottawa's strategy Carter mentioned one of the efforts to promote health is by strengthening public action (community action). Through efforts to engage and empower adolescents through these healthy menstrual applications, social support for adolescents is expected to increase.

CONCLUSION

There is an influence of the application of healthy menstruation on the knowledge of teenage schoolchildren in the ninth grade school in Tasikmalaya. The recommendation is Teenagers can use this application to increase their knowledge about dysmenorhoe.

AUTHOR CREDIT STATEMENT

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DECLARATION OF COMPETING INTEREST

REFERENCES (11 PT)

1. Budisuari, M. A., & Arifin, A. (2015). Pengembangan Model Kesehatan Reproduksi Remaja. Buletin Penelitian Sistem Kesehatan Volume 8
2. Aisyaroh, N. (2017). Kesehatan Reproduksi Remaja. Jurnal Majalah Ilmiah Sultan Agung diterbitkan oleh Unissula. www.unissula.ac.id. Arcana, I. M. (2006).
3. Grandi, G. Ferrari, S, Xholli, A. 2017. Prevalence of Menstrual Pain in Young Women: What is dysmenorrhea. Journal of Pain Research, 5 (2) :169-174
4. Larasati, TA., dan Alatas, F. 2016. Dismenore Primer dan Faktor Risiko Dismenore Primer pada Remaja. Majority. 5 (3) ; 80 Lestari, N.M.S.D. 2013. Pengaruh Dismenore pada Remaja. Dalam Seminar Nasional FMIPA UNDIKSHA III Tahun 2013. Singaraja
5. Kusmiran. 2021. Kesehatan Reproduksi Remaja dan Wanita. Bandung : Salemba Medika
6. Irianto, K 2015, Kesehatan Reproduksi, Alfabeta, Bandung.
7. Lowdermilk, D, Shannon, P, Mary, C.C, 2013, Keperawatan Maternitas, Ed. 8. Elsevier, Singapura
8. Kowalak, J 2017, Buku Ajar Patofisiologi, EGC, Jakarta.
9. Anurogo, D & Wulandari, A 2017, Cara Jitu Mengatasi Nyeri Haid, AndiYogyakarta.
10. Nursilvi, O. 2021. Hubungan antara intenitas penggunaan internet di masa pandemic covid 19. Purwokerto.
11. Widiya,M. 2020. Upaya strategi untuk meningkatkan kualitas kesehatan reproduksi remaja melalui program pembinaan Unit Kesehatan sekolah (UKS) di SMP N 9

Tasikmalaya

12. Kusmiran, E. 2016. Kesehatan Reproduksi Remaja dan Wanita. Salemba Medika: Jakarta
13. Anwar, M. (2017). Ilmu kandungan edisi 3. Jakarta: PT Bina Pustaka Sarwono Prawiraharjo
14. Elly, E.S., Pusmaika, R. & Rismalinda. (2010). Kesehatan reproduksi wanita. Jakarta: CV Trans Info Media
15. Verrawaty, S.N. (2017). Wanita, merawat & menjaga kesehatan seksual. Bandung: PT Grafindo Media Pratama.
16. Chandranita, I.A. (2019). Memahami kesehatan reproduksi wanita Edisi 2. Jakarta: EGC
17. Nohara M, Momoeda M, Kubota T, Nakabayashi M. Menstrual cycle and menstrual pain problems and related risk factors among Japanese female workers. *Ind Health*. 2011;49(2):228–34.
18. Perry, S.E., & Hockenberry, M.J. (2020). Maternal child nursing care edition 4. Kanada: Mosby Elsevier
19. Proverawati, A. (2019). Menarche menstruasi pertama penuh makna. Yogyakarta: Nuha Medika
20. Abdul, K. 2016. Kejadian Dismenore berdasarkan Karakteristik Orang dan Waktu serta Dampaknya Pada Remaja Putri SMA dan Sederajat di Jakarta Barat tahun 2015. Fakultas Kedokteran dan Ilmu Kesehatan Universitas Islam Negeri Syarif Hidayatullah Jakarta.
21. Chiu, M. et al. (2017) 'Influencing factors of dysmenorrhoea among hospital nurses : a questionnaire survey in Taiwan'.
22. Midilli, T. S., Yasar, E. and Baysal, E. (2015) 'Dysmenorrhea Characteristics of Female Students of Health School and Affecting Factors and Their Knowledge and Use of Complementary and Alternative Medicine', pp. 194–204.
23. Maryam. 2016. Relationship between Menstrual Profile and Psychological Stress with Dysmenorrhe. *Althea Medical Journal*
24. Ju H, Jones M, Mishra G. The prevalence and risk factors of dismenorrhea. *Epidemiol Rev*. 2013;36(10):104–13.
25. Tavallaei M, Joffres MR, Corber SJ, Corber SJ, Bayanzadeh M, Rad MM. The prevalence of menstrual pain and associated risk factors among Iranian women. *J Obstet Gynaecol Res*. 2017;37(5):442–51
26. Cashion, Perry, Lowdermilk. (2018). KeperawatanMaternitas Edisi 8. Singapore: Elsevier Morby.
27. Lutfiandini CT, Kusumaningrum T, Armini NKA. 2020. Pain Self-management in Adolescent with Dysmenorrhea. *Pediomaternal Nursing Journal*. Faculty Of Nursing Airlangga University.
28. G.K. Bantebya, F.K. Muhanguzi, C. Watson Adolescent girls in the balance: Changes and Continuity in Social Norms and Practices Around Marriage and Education in Uganda. (2014)
29. Ali, M dan Asrori, M. 2020. Psikologi Remaja. Jakarta : Bumi Aksara.
30. R. Marcus, E. Page Changing discriminatory norms affecting adolescent girls through communication activities Retrieved from:, London (2014)
31. Al-Mighwar, Muhamad. 2016. Psikologi Remaja, Petunjuk Bagi Guru dan Orangtua. Bandung : Pustaka Setia.
32. Safaat, N. Android, Pemograman Aplikasi Mobile Smartphonedan Tablet PC berbasis android". Bandung: Informatika Bandung, 2017.
33. Sugiyono. Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D. Edisi Revisi. Bandung: Alfabeta, 2017. 34. Sugiyono. Metode Penelitian Kombinasi (Mixed Methods). Bandung: Alfabeta, 2017. 35. Setyosari, Punaji. Metode

Penelitian Pendidikan dan Pengembangan. Jakarta: KencanaPrenada Media Group, 2017

34. Witdiawati W, Sukmawati S dan Lili M. 2018. *Penguatan Kapasitas Remaja Dalam Upaya Meningkatkan Dukungan Sosial di Sekolah Terhadap Remaja yang mengalami Dismenorhoe*. Media Karya Kesehatan, Vo. 1 No. 1. Fakultas Keperawatan, Universitas Padjajaran