

Abstrak

Latar Belakang: Remaja yang rentan terhadap masalah kesehatan reproduksi dapat didukasi dengan teknologi media sesuai keinginan mereka. Penelitian ini bertujuan mengembangkan model edukasi kesehatan reproduksi remaja berbasis aplikasi edugame dalam meningkatkan pengetahuan, sikap, dan efikasi diri remaja tentang kesehatan reproduksi.

Metode: *Mixed methods* dengan *exploratory sequential design*. *User-Centered Design* (UCD) digunakan untuk mengembangkan aplikasi edugame. *User Needs Assessment* melalui *Focus Group Discussion* (FGD) dengan siswa SMP kelas VIII, orang tua, dan guru dilakukan untuk mengeksplorasi kebutuhan tentang materi dan model aplikasi edugame kesehatan reproduksi remaja. *Usability testing* untuk pengembangan aplikasi edugame sesuai keinginan pengguna dilakukan menggunakan *System Usability Scale* (SUS) pada 34 remaja disertai pertanyaan terbuka dan FGD. Kuesioner pengetahuan, sikap, dan efikasi diri kesehatan seksual reproduksi remaja (KPSE-KSRH) untuk mengukur peningkatan pengetahuan, sikap, dan efikasi diri dilakukan uji reliabilitas pada 125 siswa. Intervensi menggunakan *quasi experiment* dengan *non equivalent with control group design*. Sejumlah 219 siswa kelas VIII yang terdiri dari 94 siswa pada kelompok intervensi diberikan edugame dan 125 siswa pada kelompok kontrol diberikan leaflet. Pengukuran outcome dilakukan sebelum, 1 dan 6 minggu setelah intervensi. Analisa data tahap pengembangan menggunakan deskriptif kualitatif dan tahap intervensi menggunakan *paired t-test*, *independent t-test*, *structural equation modeling*, dan regresi linear.

Hasil: Penelitian kualitatif ditemukan enam tema sebagai dasar pengembangan aplikasi edugame. *Game* “Remaja Sehat Reproduksi” dengan *usability testing* baik (72,64) digunakan sebagai media intervensi. Instrumen pengukuran outcome pengetahuan, sikap, dan efikasi diri dinyatakan reliabel dengan nilai *Cronbach's alpha* 0,70; 0,81; dan 0,89. Intervensi signifikan efektif meningkatkan pengetahuan dengan *effect size* sedang ($ES = 0,505$), kecil pada sikap ($ES = 0,480$), dan efikasi diri ($ES = 0,401$) remaja tentang kesehatan reproduksi pada waktu 6 minggu setelah intervensi dibanding kontrol. Peningkatan efikasi diri pada waktu 6 minggu setelah intervensi dimediasi oleh peningkatan pengetahuan dan sikap sebesar 43,43%. Sikap memediasi hubungan antara pengetahuan dan efikasi diri sebesar 68,63%. Jenis kelamin perempuan dan pengaruh teman sebaya berpengaruh signifikan terhadap peningkatan pengetahuan ($p < 0,001$; $p = 0,029$), sikap ($p < 0,001$; $p = 0,010$), dan efikasi diri ($p = 0,002$; $p = 0,022$). Remaja yang mempunyai ibu bekerja berpengaruh signifikan terhadap peningkatan pengetahuan ($p = 0,006$). Remaja yang mempunyai ayah bekerja berpengaruh signifikan terhadap penurunan sikap ($p = 0,049$) tentang kesehatan reproduksi.

Kesimpulan: *Game* “Remaja Sehat Reproduksi” dapat sebagai satu alternatif media edukasi kesehatan reproduksi remaja usia 12-15 tahun (setingkat SMP) yang efektif dalam meningkatkan efikasi diri melalui pengetahuan dan sikap sebagai variabel mediator.

Kata kunci: remaja, kesehatan seksual dan reproduksi, edugame, *game* aplikasi, *user-centered design*, quasi eksperimen, pengetahuan, sikap, efikasi diri

Abstract

Background: Adolescents vulnerable to reproductive health problems can be educated with media technology according to their wishes. This study aims to develop an adolescent reproductive health education model based on edugame applications for improving adolescents' knowledge, attitudes, and self-efficacy about reproductive health.

Methods: Mixed methods with exploratory sequential design. User-Centered Design (UCD) was used to develop the edugame application. User Needs Assessment through Focus Group Discussion (FGD) with grade VIII junior high school students, parents, and teachers was conducted to explore the needs of the materials and models of the adolescent reproductive health edugame application. Usability testing for the development of edugame applications according to user preferences was conducted using the System Usability Scale (SUS) on 34 adolescents accompanied by open-ended questions and FGDs. The Adolescent Sexual and Reproductive Health Knowledge, Attitude, and Self-Efficacy Questionnaires (ASRH-KASeQ) to measure the improvement of knowledge, attitude, and self-efficacy were reliability tested on 125 students. The intervention used a quasi-experiment with non-equivalent control group design. A total of 219 8th grade students consisting of 94 students in the intervention group, were given edugames, and 125 students in the control group were given leaflets. Outcome measurements were conducted before, in week 1, and 6 weeks after the intervention. Data analysis for the development stage used qualitative descriptive and the intervention stage used paired t-test, independent t-test, structural equation modeling, and linear regression.

Results: Qualitative research found six themes as the basis for developing edugame applications. The "Healthy Adolescent Reproduction" game with good usability testing (72.64) was used as intervention media. Outcome measurement instruments of knowledge, attitude, and self-efficacy were declared reliable with Cronbach's alpha values of 0.70, 0.81, and 0.89. The intervention was significantly effective in increasing knowledge with a medium effect size ($ES = 0.505$), small on attitude ($ES = 0.480$), and self-efficacy ($ES = 0.401$) of adolescents about reproductive health at 6 weeks after the intervention compared to the control. The increase in self-efficacy at 6 weeks after the intervention was mediated by an increase in knowledge and attitude of 43.43%. Attitude mediated the relationship between knowledge and self-efficacy by 68.63%. Female gender and peer influence had a significant effect on increasing knowledge ($p < 0.001$; $p = 0.029$), attitude ($p < 0.001$; $p = 0.010$), and self-efficacy ($p = 0.002$; $p = 0.022$). Adolescents who have working mothers have a significant effect on increasing knowledge ($p = 0.006$). Adolescents who have a working father have a significant effect on decreasing attitudes ($p = 0.049$) about reproductive health.

Conclusions: The "Healthy Adolescent Reproduction" game can be an alternative media for reproductive health education for adolescents aged 12–15 years (junior high school level) that is effective in increasing self-efficacy through knowledge and attitude as mediator variables.

Keywords: adolescents, sexual and reproductive health, edugame, game application, user-centered design, quasi-experiment, knowledge, attitude, self-efficacy.