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Development and effects of a mobile application for self-management of psychological distress among college students

Submission date
28/06/2021

Recruitment status
No longer recruiting

Registration date
30/06/2021

Overall study status
Completed

Last Edited
17/07/2026

Condition category
Mental and Behavioural Disorders

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[X] Results
[ ] Individual participant data

Plain English summary of protocol

Background and study aims
College students transitioning to adulthood are at high risk of psychological distress. Mobile health interventions can help with the self-management of stress and prevent psychological problems in this transition period. This study aims to evaluate the usability and effects of an app for managing psychological distress in college students.

Who can participate?
Students who are aged between 19 and 25 years and currently enrolled in a full bachelor's degree program at a university in South Korea

What does the study involve?
When using the app, named MEndorphins, participants can monitor their stress levels on a daily basis. After monitoring their stress, participants can identify management strategies suggested by the committee. Based on these, they can plan daily stress management strategies and receive feedback on the extent to which they have been implemented. Additionally, participants can share their experiences with the community of users of the same app and receive feedback on which strategies are effective. After using the app for 7 days, information about the frequency and usage time will be collected directly from the app. Additionally, students can complete online surveys to evaluate the usability and effects of the app on psychological outcomes.

What are the possible benefits and risks of participating?
The participants will not directly benefit but they can learn self-management strategies for reducing their psychological distress by using the app. The study involves minimal risks.

Where is the study run from?
The Catholic University of Korea (South Korea)

When is the study starting and how long is it expected to run for?
March 2020 to June 2020

Who is funding the study?
1. National Research Foundation of Korea (NRF) (South Korea)
2. Catholic Medical Center Research Foundation (South Korea)

Who is the main contact?
Hyunjoo Na
hjna@catholic.ac.kr

Contact information

Type(s)
Scientific

Contact name
Prof Hyunjoo Na

ORCID ID
https://orcid.org/0000-0001-6407-7427

Contact details
222 Banpodaero
Seochogu
Seoul
Korea, South
06591
+82 (0)10 4678 0813
hjna@catholic.ac.kr

Additional identifiers

Protocol serial number
2017R1C1B5015986

Study information

Scientific Title
Development and effects of a mobile application for self-management of psychological distress among college students: a participatory co-design approach

Study objectives
There are significant differences in psychological distress (depression, anxiety, and stress) after using a developed mobile application for 7 days among college students.

Ethics approval required
Old ethics approval format

Ethics approval(s)

Approved 10/03/2020, institutional review board at the Catholic University of Korea Catholic Medical Center (222, Banpodaero, Seochogu, Seoul, 06591, Republic of Korea; +82 (0)2-2258-8213; irbcumc@catholic.ac.kr), ref: MC19FISI0140

Primary study design
Interventional

Study design
Single-group pretest-posttest design

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Prevention of psychological distress in college students

Interventions
Students use the developed mHealth app for 7 days after providing written informed consent. An mHealth app for psychological distress management was developed using a participatory co-design process. A behavioral activation (BA) approach was used to develop app contents. The BA techniques were applied to the app with the following steps:
1. Monitoring of daily stress levels
2. Planning stress management strategies
3. Feedback for the completion of planned strategies
4. Sharing of users' feedback

When using an app with such components, participants can monitor their stress levels on a daily basis. After monitoring their stress, participants can identify management strategies suggested by the committee. Based on these, they can plan daily stress management strategies and receive feedback on the extent to which they have been implemented. Additionally, participants can share their experiences with the community of users of the same app, MEndorphins, and receive feedback on which strategies are effective. After use of the app is completed, information about the frequency and usage time will be collected directly from the app system. Additionally, students can complete the following online survey measures to evaluate the usability and effects of the developed app on psychological outcomes.

Intervention Type
Behavioural

Primary outcome(s)
Psychological distress symptoms of depression, anxiety, and stress measured using the validated Korean version of the depression anxiety stress scale (DASS) at baseline and 7 days after

Key secondary outcome(s)
1. The perceived ease of use of the developed app measured using the Korean version of the system usability scale (SUS) after 7 days of app use
2. The perceived quality of the developed app measured using the Korean version of the user version of the mobile application rating scale (uMARS) after 7 days of app use

Completion date

15/06/2020

Eligibility

Key inclusion criteria
1. Aged between 19 and 25 years
2. Currently enrolled in a full bachelor’s degree program at a university
3. Using a smartphone with Android (a mobile operating system by Google)
4. Able to use a smartphone without help from others

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Total final enrolment
35

Key exclusion criteria
College students who were not eligible for participation and did not meet the inclusion criteria

Date of first enrolment
04/06/2020

Date of final enrolment
04/06/2020

Locations

Countries of recruitment
Korea, South

Study participating centre
The Catholic University of Korea
222, Banpodaero
Seochogu
Seoul
Korea, South
06591

Sponsor information

Organisation
Catholic University of Korea

ROR
https://ror.org/01fpnj063

Funder(s)

Funder type
Government

Funder Name
National Research Foundation of Korea

Alternative Name(s)
, National Research Foundation (South Korea), NRF

Funding Body Type
Private sector organisation

Funding Body Subtype
Trusts, charities, foundations (both public and private)

Location
Korea, South

Funder Name
Catholic Medical Center Research Foundation

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?

Results article	27/09/2022	17/07/2026	Yes	No
Preprint results	19/05/2021	12/04/2022	No	No