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The Kort study: mental health prevention in school health services

Submission date
22/03/2023

Recruitment status
No longer recruiting

Registration date
04/04/2023

Overall study status
Completed

Last Edited
08/05/2025

Condition category
Mental and Behavioural Disorders

[X] Prospectively registered
[X] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[ ] Record updated in last year

Plain English summary of protocol
Background and study aims
Early prevention of mental health problems among youth is highly prioritized by the Norwegian government's strategy for mental health. Norwegian municipalities are responsible for several health and welfare services, including frontline services focusing on adolescents' well-being and mental health. A substantial number of adolescents seek mental health support from school health services. However, health nurses are requesting effective and usable tools to help adolescents with mental health concerns. Interventions developed to prevent and reduce mental health problems provide some evidence of a decrease in future risk of mental health disorders, but these interventions tend to have several limitations. They target a single disorder or problem, while many adolescents experience a range of problems. Single disorder interventions require practitioners to proficiently learn and use as many interventions as there are problems. They are lengthy, costly, and time-consuming to implement, and they are often developed and tested in contexts that differ from Norwegian frontline services to such an extent that they may lack usability and appropriateness in these settings.
To overcome these limitations, a brief transdiagnostic intervention will be tested that has been tailored to prevent the development of mental health problems in adolescents, with a focus on ensuring its implementability in Norwegian frontline services.
The project has co-designed an evidence-informed intervention targeting emotion regulation together with researchers, health nurses, adolescents, and other stakeholders (the Kort intervention). This study aims to pilot the Kort intervention in natural practice settings (i.e., within regular school health services) with adolescents who contact their school health nurses seeking support with emotions, stress, or other mental health-related concerns. This study focuses on the interventions' implementability in school health services and its effectiveness on emotion regulation strategies for adolescents. Estimating effectiveness and implementability will indicate the interventions' causal and contextual potential, which together will indicate the interventions' potential for impact on a larger scale.

Who can participate?
Adolescents (12-16 years old) and school health nurses

What does the study involve?
Adolescents will receive the Kort intervention, which is based on systematic reviews of core

intervention elements associated with effects on emotion regulation outcomes. Participating health nurses will receive training and supervision in the elements of the intervention before and during the piloting of the pilot. The elements are evidence-informed elements from preventive mental health interventions and psychotherapy and are not part of health nursing education. Health nurses have requested such tools. In addition, health nurses who participate will be involved in tailoring the implementation process to fit their needs and opportunities.

What are the possible benefits and risks of participating?
Health nurses and adolescents participating in the intervention must set aside some time to answer questionnaires throughout the study. Questions aimed at the adolescents will be about emotional activation, reactions, and mood here and now, which can feel uncomfortable for some to answer. Some may also find it tiring and burdensome to fill in questionnaires, especially the first few times.
The study of this intervention will contribute to its further development and optimization to the school health context. The final intervention can increase the use of evidence-based measures for mental health difficulties in the school health service. The study will also contribute to the development of methods to measure emotion regulation in young people effectively and increase knowledge about implementation in school health services.

Where is the study run from?
The Regional Center for Child and Adolescent Mental Health, Eastern and Southern Norway (Norway)

When is the study starting and how long is it expected to run for?
January 2022 to December 2024

Who is funding the study?
The Research Council of Norway (Norway)

Who is the main contact?
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Additional identifiers

Protocol serial number
NFR326941

Study information

Scientific Title
The implementability and effectiveness of a brief transdiagnostic mental health intervention for adolescents: a mixed-methods intensive longitudinal study

Acronym
Kort

Study objectives
1.1. How feasible, acceptable, appropriate, and usable (i.e., implementable) is Kort in the natural practice of school health services?
1.2. How can the implementability of Kort be improved?
2.1. How does KORT affect proximal outcomes for adolescents' emotion regulation?
2.2. How can the effectiveness of Kort be improved?
3. How does the combination of daily diary and ecological momentary assessments affect response rates?
4. What are adolescents' and health nurses' experiences with Kort and its value?
5.1. Through what mechanisms does the Kort intervention assert its effects?
5.2. For whom and in what circumstances does Kort improve emotion regulation, and when does it not?
6.3. What are the barriers and facilitators to the implementation of mental health interventions in school health services?
6.4. How can implementation strategies be appropriately matched to barriers and facilitators?

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 30/01/2023, Committee for Medical and Health Research Ethics, Region South East (Gullhaugveien 1-3, 0484 Oslo, Norway; +47 (0)22 84 55 11; rek-sorost@medisin.uio.no), ref: 534396

Primary study design
Interventional

Study design
Multicenter mixed-methods combination of an intensive longitudinal time-series design and quasi-experimental pre-post design

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Prevention of emotional problems in adolescents aged 12-16 years old

Interventions
The experimental intervention (Kort) includes the following six core elements:
1. Idiosyncratic goal-setting and follow up
2. Explore emotions, thoughts, and reactions in the body and how they are connected
3. Explore and implement positive health-promoting activities
4. Practice exposure to emotions
5. Practice psychological flexibility
6. Practice mindfulness and stress management

Each of the six core elements are made up of two to five components - all focused on facilitating the core functions of the intervention.

Kort will be implemented by school health nurses within the school health service, with adolescents who contact their school health nurses seeking support due to emotional issues and stress. Health nurses trained in Kort will make an assessment of whether Kort is appropriate for the adolescent, and inform them about the study and the need for consent. If the adolescent accepts and consent is retrieved, the health nurse can start with the Kort intervention in regular consultations as part of normal practice. Health nurses and adolescents start with element 1 (setting goals), which will form a base of which other elements are relevant for the adolescent. The goal is not to complete all elements with the adolescent, but to customize and use the elements suitable for the adolescent's goals.

All school health nurses will complete a questionnaire measuring implementation determinants and participate in audio-recorded qualitative focus group interviews before receiving training and implementation. Results of the questionnaire and interviews will be used to tailor implementation strategies to the health nurses' needs and the contextual circumstances in the school health services. During the intervention period, school health nurses will be asked to complete a short questionnaire after each consultation with the adolescent to measure health nurses' perceptions about intervention fidelity. They will also be asked to do audio recordings of the sessions with the adolescents using an app. Intervention implementability (acceptability, appropriateness, feasibility, usability), implementation intentions, and implementation leadership will be assessed before and after the study period. The school health nurses will be responsible for recruiting 1-5 eligible adolescents to receive the Kort intervention and retrieving informed consent from the adolescents and their primary caregivers. Adolescents can be recruited consecutively throughout the study period. The researchers aim to recruit 40 adolescents to participate in the study.

The adolescents will be asked to answer questionnaires pre- and post-intervention, eight weeks after pre-assessment, and at 20 weeks after pre-assessment. During the period of receiving Kort, adolescents will be prompted to fill out a daily diary using an app that involves asking the participant to summarize the emotions they have experienced that day, what emotion regulation strategies they have used, and whether they experienced any problems with their family, friends or at school. As emotion regulation changes during the day, we want to develop a valid measure to capture daily variations using momentary ecological assessment (EMA) of affect and regulation. As there are no clear guidelines in the literature regarding the number and frequency of EMA measurement points for adolescents, we want to investigate combinations of measurement systems in the study to inform the development of an optimal strategy for a future larger experiment. Therefore, we will ask half of the sample (n = 20) only to answer the daily diary, and the other half (n = 20) will be asked to also report on momentary affect and emotion regulation strategies three times a day for a week over the period of two months (experience sampling period). The intervention phase and experience sampling period are estimated to be 8 weeks. In addition, there will be a 2-week baseline period of experience sampling before intervention to serve as individual controls. Post-intervention, the adolescents will be asked to participate in a qualitative interview.

Intervention Type
Other

Primary outcome(s)
Current primary outcome measures as of 23/08/2023:
Implementability of the Kort intervention:
School health nurses will report on the perceived implementability (acceptability, feasibility, appropriateness, usability) of the KORT intervention using the Acceptability of Intervention

Measure (AIM), Intervention Appropriateness Measure (IAM), the Feasibility of Intervention Measure (FIM), and the Intervention usability scale pre- and post-intervention and follow up (T1, T3, T4).

Intervention fidelity:
1. School health nurses will complete a brief dynamic questionnaire about intervention fidelity after each consultation with adolescents, following a “flexibility for function” conceptualization of intervention fidelity
2. Audio recordings of each consultation with school health nurses and the adolescents, analyzed using a newly developed fidelity coding framework

Effects on proximal outcomes for adolescents’ emotion regulation using experience sampling:
1. Daily experience with emotion regulation strategies will be measured using a daily diary, given every evening during the data collection period
2. Momentary affect and emotion regulation strategies will be measured using momentary ecological assessment (EMA) of affect and regulation. We will ask half of the sample (n = 20) only to answer the daily diary, and the other half (n = 20) will be asked to also report on momentary affect and emotion regulation strategies three times a day for a week over two months (experience sampling period).

Effectiveness of the intervention:
1. Adolescents self-reported emotion regulation and mental health measured using Difficulties in Emotion Regulation Scale short form (DERS-SF) at T1, T2, T3, T4

Adolescents' and health nurses' experiences with Kort and its value:
1. The adolescent's experiences of Kort and its value will be studied in a follow-up interview
2. The school health nurses' experiences with Kort, its implementation, and its value, will be studied in follow-up focus group interviews

Timepoints:
T1 = Before baseline experience sampling
Experience sampling baseline = 2 weeks after T1
Experience sampling period (intervention) = From first intervention consultation, lasting 11 weeks
T2 = Post intervention (intervention length is not fixed, so T2 can be anytime between three weeks to five months, but health nurses are prompted to stay within 11 weeks when feasible)
T3 = 11 weeks after the experience sampling period started
T4 = 11 weeks after the experience sampling period ended (follow-up)

Previous primary outcome measures:
Implementability of the Kort intervention:
School health nurses will report on the perceived implementability (acceptability, feasibility, appropriateness, usability) of the KORT intervention using the Acceptability of Intervention Measure (AIM), Intervention Appropriateness Measure (IAM), the Feasibility of Intervention Measure (FIM), and the Intervention usability scale pre- and post-intervention (T1, T2, and T3).

Intervention fidelity:
1. School health nurses will complete a brief dynamic questionnaire about intervention fidelity after each consultation with adolescents, following a “flexibility for function” conceptualization of intervention fidelity
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Effectiveness of the intervention:
1. Adolescents self-reported emotion regulation and mental health measured using Difficulties in Emotion Regulation Scale short form (DERS-SF) at T1, T2, and T3

Adolescents' and health nurses' experiences with Kort and its value:
1. The adolescent's experiences of Kort and its value will be studied in a follow-up interview
2. The school health nurses' experiences with Kort, its implementation, and its value, will be studied in follow-up focus group interviews

Timepoints:
T1 = Before intervention
Experience sampling period = 2 weeks before intervention (baseline) and 8 weeks after T1
T2 = After intervention
T3 = 12 weeks after the experience sampling period ends (follow-up)

Key secondary outcome(s)

Current secondary outcome measures as of 23/08/2023:
1. Mental health measured using the Behavior and Feelings survey (BFS) at T1, T2, T3, T4
2. Well-being measured using the Short Warwick-Edinburg Mental Well-Being Scale (SWEMWBS) at T1, T2 and T3, T4
3. Mindfulness measured using three subscales of the Five-Factor Mindfulness Questionnaire (FFMQ-15; Describing, Non-reactivity, & Non-judging) at T1, T3, and T4
4. Cognitive fusion measured using the Cognitive Fusion Questionnaire (CFQ) at T1, T3, and T4
5. Self-compassion measured using two subscales of the Self-Compassion Scale for Youth (SCS-Y; Self-kindness & Self-judging) at T1, T3, and T4
6. Loneliness measured using the Three Item Loneliness Scale (T-ILS) at T1, T2 and T3
7. Friendship measured using the subscale of Peers and Social Support from the KIDSCREEN-27 at T1, T3, and T4
8. Mental Health Literacy measured using seven items created for this study, asking the adolescents whether they agree with statements about what is important for mental health, the scale is present at T1, T3, and T4.
9. Functional Impairment measured using two items created for this study asking to what extent mental health symptoms impact adolescents' daily lives, the items are asked at T1, T3, and T4
10. Sleep and screen time use measured using items developed for the study at T1, T3, and T4
11. Measure of Innovation Specific Implementation intentions (MISI) at T1, T3, and T4

Timepoints:
T1 = Before baseline experience sampling
Experience sampling baseline = 2 weeks after T1
Experience sampling period (intervention) = From first intervention consultation, lasting 11 weeks
T2 = Post intervention (intervention length is not fixed, so T2 can be anytime between three

weeks to five months, but health nurses are prompted to stay within 11 weeks when feasible)
T3 = 11 weeks after the experience sampling period started
T4 = 11 weeks after the experience sampling period ended (follow-up)

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10. Sleep and screen time use measured using items developed for the study at T1, T2 and T3

Timepoints:
T1 = Before intervention
Experience sampling period = 2 weeks before intervention (baseline) and 8 weeks after T1
T2 = After intervention
T3 = 12 weeks after the experience sampling period ends (follow-up)

Completion date
30/12/2024

Eligibility

Key inclusion criteria
1. Adolescents seeking help from school health nurses
2. Mild to moderate challenges with feelings, thoughts or stress
3. Aged 12-16 years

Participant type(s)
Other

Healthy volunteers allowed
No

Age group
Child

Lower age limit
12 Years

Upper age limit
16 Years

Sex
All

Key exclusion criteria
Psychological symptoms at a clinical level

Date of first enrolment
21/08/2023

Date of final enrolment
15/04/2024

Locations

Countries of recruitment
Norway

Study participating centre
Regional centre of child and adolescent mental health (RBUP), Eastern and Southern Norway
Postboks 4623
Nydalen
Oslo
Norway
NO-0405

Study participating centre
Norwegian Institute of Public Health
Postboks 220
Skøyen
Oslo
Norway
NO-0213

Study participating centre
Sunne kommuner
c/o Sentralen
Postboks 183
Oslo
Norway
NO-0102

Sponsor information

Organisation
Regional Center for Child and Adolescent Mental Health, Eastern and Southern Norway

Funder(s)

Funder type
Government

Funder Name
Norges Forskningsråd

Alternative Name(s)
Forskningsrådet, Norwegian Research Council, Research Council of Norway, The Research Council of Norway

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
Norway

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study will be stored in a publicly available repository by Sikt – the Norwegian Agency for Shared Services in Education and Research (https://www.sikt.no/en/find-data). All quantitative data described in the current protocol will be deidentified and uploaded in December 2026 and will be available indefinitely. Criteria for using the data are informing the principal investigator about the use and appropriately referencing the original study when the data is used in publications. The researchers will set no criteria or limitations on analyses.

IPD sharing plan summary
Stored in publicly available repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol article		02/05/2025	08/05/2025	Yes	No

Participant information sheet	Adolescents		23/08/2023	No	Yes
Participant information sheet	Health nurses		23/08/2023	No	Yes
Participant information sheet	Parents		23/08/2023	No	Yes
Protocol (preprint)		14/02/2024	15/02/2024	No	No
Study website	Study website	11/11/2025	11/11/2025	No	Yes