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Feasibility, efficacy, and acceptability of a school-based intervention to prevent depression in low-income, secondary school students

Promotionsfach: Psychosomatik

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Introduction

Depression is common and can have devastating effects on the life of adolescents. Prevention programmes in adolescent depression have been designed mainly in developed countries. In Chile, research on this topic is just beginning.

Objectives

This study aimed to design and evaluate the feasibility, efficacy and acceptability of a school-based, universal psychological intervention, to prevent depression in low-income, secondary school students in Santiago, Chile. The findings of this study could assist in improving the design and implementation of a major project, involving 22 schools and more than 2,500 students.

Methodology

This study consisted of three parts: (1) formative research, (2) a cluster randomised controlled trial, and (3) a qualitative study.

(1) Formative research was carried out before the design of the intervention and the implementation of the project. This was achieved in four state funded schools by using semi-structured interviews of key school staff and focus groups with students, teachers and parents. The analysis of the results was phenomenological and by categories.

(2) A cluster randomised controlled trial was carried out with schools as the main clusters. The intervention group was compared with a control group in a study involving three state funded schools, seven Grade 9 classes, and 277 students. Students in the active group attended 11 weekly sessions of an intervention based on cognitive behavioural theory developed specifically for this study. Each session was designed for a class of 40 to 45 students. Two facilitators delivered each workshop. Eight young

professionals participated in the study (six psychologists, one occupational therapist and one physician). The control group received one curricular hour of counselling each week, from the head teacher.

The measures were applied at the baseline assessment, at the end of the intervention and six months after the intervention. The primary outcome measure used was the Beck Depression Inventory-II (BDI-II). Two secondary outcomes were evaluated: Children's Automatic Thought Questionnaire (CATS) and Social Problem Solving Inventory-Revised Short Form (SPSI-RS).

For evaluating the efficacy of the intervention in: reducing depressive symptoms, reducing dysfunctional thoughts, and improving strategies to solve problems among students, the analyses consisted of a repeated measures regression model, adjusting for baseline score of each scale. For evaluating the efficacy of the intervention in preventing new cases of depression among students, the analysis consisted of a multi-level logistic regression model, adjusting for age and gender. A BDI-II score of < 20 at baseline, was used as criterion for inclusion in the analysis. This is a cut-off score to discriminate clinically significant depressive symptoms from good sensitivity and specificity. Analyses and presentations of data were in accordance with CONSORT guidelines. Analyses were performed using STATA software (version 10.0).

(3) A qualitative study, consisting in four focus groups was carried out after the intervention. Four girls and four boys from each class of the active group were randomly assigned to participate in each focus group. All the interview sessions of the focus groups were recorded and later transcribed. A qualitative analysis of the contents using the ATLAS.ti (version 5.0) software data was carried out.

The Ethics Committee, Hospital Clínico Universidad de Chile, granted approval. Students and their parents were informed of the study and dual consent was sought. Evaluation was carried out only on those students who have the approval of their parents and have given their assent. However, all students of the active group participated in the intervention, as it was carried out during class times.

Results

(1) Formative research: According to the opinion of key school staff (headmasters and counsellors), students, teachers and parents depression is a problem that must be evaluated and treated. They approved and expressed their willingness to the existence of

a school-based prevention programme to prevent depression. Key school staff thought that is difficult to involve parents in a programme such as this.

(2) Cluster randomised controlled trial: Participants were 163 in the active group and 114 in the control group. The mean age of the sample was 14.5 years ($SD = .6$). In the baseline assessment the active group did not differ significantly from the control group regarding age, level of depressive symptoms, level of dysfunctional thoughts and level of problem solving strategies. There was significant difference in terms of gender. There was a greater percentage of females in the intervention group, than in the control group (51.5% vs. 27.2%). In the active group, the BDI-II score was initially 10.7 (95% CI= 9.0 to 12.4), which increased at the end of the intervention to 11.5 (95% CI= 9.7 to 13.4) and at the 6 months assessment was 9.2 (95% CI= 7.5 to 10.9). In the control group, the BDI-II mean score was 9.2 (95% CI= 7.6 to 10.8), 8.0 (95% CI= 6.3 to 9.6) and 8.6 (95% CI= 6.1 to 11.1), respectively. No significant group effects were found for depressive symptoms, dysfunctional thoughts or solving problems strategies at post-intervention and at 6-month follow-up controlling by baseline scores. However, when evaluating the efficacy of the intervention in the prevention of new cases of depression at 6-month follow-up, the intervention behaved like a protective factor against depression (OR= .39; CI 95%= .19 to .79).

(3) Qualitative study: Participants appraised the programme positively. They found group work methodology successful. They attributed great importance to disciplinary control during sessions and to the relationship established with the facilitators. The most significant learning was related to the technique of solving problems. The prevention programme environment was also related as an instance of communication and improvement of interpersonal relationships within the classes.

Conclusions

Formative research was a useful tool in the development and implementation of the research and provided the necessary inputs to design and to implement the intervention to prevent depression.

In the randomised controlled trial, no follow-up group effects were significant on primary and secondary outcomes. The lack of effect could reflect a 'floor effect', because of the low depressive symptoms at baseline assessment. However, the results reached at the time of the 6-month follow-up appear to suggest that the intervention could reduce new cases of depression.

The qualitative study demonstrated that it was possible to implement a school-based, universal psychological intervention, to prevent depression in low income, secondary students in Santiago, Chile with good acceptance.

In the future it will be important to strengthen the management of discipline during the sessions and to ensure the quality of the relationship with the facilitators.