



## Master your mood online: A preventive chat group intervention for adolescents

Rob S. Gerrits<sup>1</sup>, Rianne A.P. van der Zanden<sup>2</sup>, Renske F.M. Visscher<sup>3</sup>  
and Barbara P. Conijn<sup>2</sup>

1. Regional Institute for Mental Health Care RIAGGZ over de IJssel, Deventer, The Netherlands

2. Trimbos Institute, Utrecht, The Netherlands

3. Altrecht Mental Health Center (Altrecht Prevention), Utrecht, The Netherlands

### Abstract

The objective of this paper is to describe the opportunities and the challenges of conducting an online prevention intervention for adolescents with depressive complaints. A pilot study was conducted between 2005 and 2006 on the intervention *Grip op je dip online [Master your mood online]*, an online group course conducted in a closed chat room. This group course for adolescents is based on Lewinsohn's *Coping with Depression* course and utilises the principles of cognitive behavioural therapy (CBT). The intervention was led by mental health professionals and developed by the prevention units from three mental health care organisations in the Netherlands, in close participation with the Trimbos Institute (the Netherlands Institute of Mental Health and Addiction). Results show that with this type of intervention it is possible to reach the target group and that after participating, the adolescents show a reduction of their depressive complaints as measured with the Centre for Epidemiological Studies Depression Scale (CES-D). Monitoring figures are presented, and our view of the future for *Grip op je dip online* is considered in closing.

### Keywords

adolescents, online, cognitive behavioural therapy, chat course, prevention, depression, Internet

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### Introduction

In the Netherlands every year, approximately 50,000 adolescents suffer from depression (Smit, Bohlmeijer & Cuijpers, 2003; Veltman, Ruiters & Hosman, 1996). One out of every five adolescents suffers from a sub-clinical depression, which has been found to be a strong predictor of the onset of a major depressive disorder within the next year (Cuijpers, De Graaf & Van Dorsselaer, 2004; Cuijpers & Smit, 2004; Georgiades, Lewinsohn, Monroe & Seeley, 2006). The initial onset of depression usually starts in adolescence or early adulthood. Depression early in life can have serious implications for both the school and professional

careers of the individual (Sytema, Gunther, Reelick et al., 2006). In addition to the suffering of the individual, depression also has serious economic consequences; according to Sobocki (2006), the costs of depression, including the associated losses of production, for Europe alone can amount to a staggering 100 billion Euro a year. Much can thus be gained with the prevention of depression (Smit et al., 2003).

Sub-clinical depression with its sub-threshold symptoms can be treated fairly well and thereby provides an important starting point for the prevention of full-blown depression (Clarke, Hornbrook, Lynch et al., 2001; Willemse, Smit, Cuijpers & Tiemens, 2004), but in the

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- Contact:** Rob S. Gerrits, M.S., Regional Institute for Mental Health Care RIAGGZ over de IJssel, P.O. Box 390, 7400 AJ Deventer, The Netherlands [r.gerrits@riaggz-overdeijssel.nl](mailto:r.gerrits@riaggz-overdeijssel.nl)  
Rianne A.P. van der Zanden M.S., Trimbos Institute (the Netherlands Institute for Mental Health and Addiction) PO Box 725, 3500 AS Utrecht, the Netherlands. [rzanden@trimbos.nl](mailto:rzanden@trimbos.nl)
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Netherlands only one percent of all people who develop a depression each year are reached by prevention programs (Meijer, 2007). Therefore, in the paper *Langer gezond leven [Living healthily longer]* (Ministerie van VWS, 2003), preventive mental health organisations are called upon to seek closer association with settings in which people can actually be reached, such as the school, the workplace, the community, and the health care setting (among others). The Internet should be added to this list (Borzekowski & Rickert, 2001) as adolescents can also be reached via websites, forums and e-mail services. The websites e-mail services of organisations concerned with depression observe that adolescents want and need more support than the organisations themselves can offer with only information and e-mail service (Teunis, 2001). But referral to a face-to-face course at a mental health institution is one bridge too far as most adolescents are simply not inclined to seek the help of mental health organisations (Nicholas, Oliver, Lee & O'Brien, 2004; Saunders, Resnick, Hoberman & Blum, 1994; Voordouw, Krame & Cuijpers, 2002). The Internet thus offers an opportunity to reach depressed adolescents (Christensen, Griffiths & Jorm 2004), especially because, in 2004, 96 percent of all adolescents in the Netherlands had access to the Internet (Riper, Smit, van der Zanden et al., 2007). Also, the observation that the anonymity of the Internet increases the accessibility of mental health programs (Nicholas et al., 2004), inspired the idea of running an online prevention course in a closed chat box.

Adolescents find it particularly helpful to know that they are not the only ones with a particular complaint and they seek mutual recognition (Lunchtafel LSP, 2002; Teunis, 2001). That is why a group approach instead of a one-on-one approach was adopted. The face-to-face version of the cognitive behavioural therapy (CBT) prevention group course *Grip op je dip [Master your mood]* was originally designed for adolescents between the ages of 16 and 25 years with depressive feelings. This group course involves 10 sessions and draws upon the *Coping with Depression* course, which has been shown to be effective (Lewinsohn, 1987; Lewinsohn, Antonucci, Breckenridge & Teri, 1984; Lewinsohn & Clarke, 1984; Voordouw et al.,

2002). The effectiveness of the face-to-face course and the experience of the authors as instructors contributed to the decision to build an Internet version of it.

### **Research on online interventions for depression**

A literature search of reviews and meta-analyses on (the effect of) e-mental health interventions for depression was conducted (Riper et al., 2007). Databases of PubMed, PsycINFO, MBase, ClinicalTrials.gov and Cochrane were consulted. Based on the recent meta-analyses of Spek, Cuijpers, Nyklíček et al. (2006) and supplied with studies of van Straten, Cuijpers & Smit (in prep) and Spek, Nyklíček, Smits et al. (2007), we found eight randomised controlled trials (RCTs). They included *Moodgym*, a self-help program with only technical support (Christensen et al., 2004), and pure self-help programs such as *Overcoming Depression on the Internet* (ODIN) (Clarke, Reid, Eubanks et al., 2002, Clarke, Eubanks, Reid et al., 2005) and *Colour your Life* (Spek, in prep). None of these studies concerns interventions for youth and only two studies involve indicated prevention (sub-clinical population) (Patten, 2003; Spek et al., 2007). Mean effect sizes of the online interventions are 0.66 for the (early) treatment programs for depression and 0.55 for prevention. There is some evidence that therapeutic contact heightens the effect of the Internet program (Riper et al., 2007). The designs of the studied interventions are pure self-help or self-help with therapeutic contact. No intervention is like *Grip op je dip [Master your mood]* — a structured group course in a chat room supervised by mental health professionals.

The literature search, however, brought one review to light (by Fenichel, Suler, Barak et al., 2002) in which the authors referred to Barak and Wander-Schwartz's (2000) use of a chat box for therapeutic purposes. Barak and Wander-Schwartz conducted a small study in which a comparison was made between a chat room therapy group and a standard face-to-face group. Both groups met for seven consecutive weekly sessions of ninety minutes each. These groups were compared to a no-treatment control group who were referred to group therapy. Comparisons of the groups showed that both therapeutic groups had a small, statistically insignificant positive improvement in

participants' self-image, social relations, and well-being, with a trend in favor of the Internet group. The authors attributed this statistical non-significance to the small group size in their study. Participants in the no-treatment control group generally remained unchanged. Participants in both therapy groups expressed general satisfaction with their respective group therapies.

**The intervention**

The research on online interventions for depression shows the opportunities of online courses; therefore, the face-to-face version of the *Grip op je dip* course was adapted for use on the Internet and built into the chat box. The total of ten sessions from the face-to-face course was cut back to eight sessions (as outlined in Box 1). The main text adjustments are that the Internet texts are written in a more compact style. As already noted, the course is based on the principles of CBT and thus aimed at clarifying the relations between thoughts, feelings and behaviour, detecting negative thought patterns and modifying these negative thoughts, and stimulating participants to undertake more pleasant activities.

Box 1. Outline of the <i>Grip op je dip</i> online course		
Session		Actions
1	<b>Your mood</b>	Understanding how the relationship between feelings, thoughts and actions works
2	<b>Your mood and being active</b>	Becoming more active and more aware of the importance of the influence that activities have on your mood
3	<b>Tracing negative thoughts</b>	Becoming aware of negative thoughts and what they do to your mood and self-esteem
4	<b>New ways of thinking</b>	Changing the negative thoughts into more positive (but realistic) thoughts
5	<b>More action with positive thinking</b>	Combining the new way of thinking with being more active Becoming more aware of positive things about yourself and others
6	<b>Stand up for yourself</b>	Becoming more assertive
7	<b>Handling conflicts</b>	Resolving conflicts in an assertive way
8	<b>The future</b>	Making a plan to prevent falling back into depressive moods in the future

**www.gripopjedip.nl**

**Bob: Welcome**  
*Crazy:* Hello  
*Downer:* Hi  
*Butterfly:* I'm sorry I'm a little late  
*LoveU:* W8 for me! 😊  
*Brad:* Howdi!  
**Bob:** Today we are going to discuss how the relation between feeling, thinking and acting works. You've done your homework so let's start.  
*Downer:* I found it difficult to understand the difference between feeling and thinking  
*Butterfly:* Me too! 😊  
**Bob:** Can someone explain what the difference is? Brad will you give it a try?  
*Brad:* OK, I'll try.

**Master your Mood**

**MEETING 1: YOUR MOOD**

*INFORMATION FOR THE MEETING*

In this figure you see a triangle that explains how feelings, thoughts and actions are related:

Figure 1. The chat box screen (chat text and course material are translated)

The chat course is part of the publicly available website [www.gripopjedip.nl](http://www.gripopjedip.nl). This chat box contains several specific functionalities. When one is 'inside' the chat box the screen is divided in two parts (see Figure 1). The left panel is the 'chat' part where participants and the professional write down their comments and feelings. In the right panel, participants can read the chapter of that week's course material. This material is familiar to them because one week prior to a chat session, the course participants receive instructions, explanations, and some preparatory homework. The participants are motivated by the course instructors to do the homework by mentioning it in the chat sessions, by sending a SMS and by e-mails; doing the homework before talking about it in the chat box helps to bring structure to the chat room. In the right part of the chat box screen the homework text and figures can be flashed in by the course leader.

The maintenance of privacy is an important issue; therefore, the chat course is conducted in a secured, password-protected environment. Participants only have access to the chat box when they have a login code. To obtain this, participants have to fill in two questionnaires and agree with the 'rules of the house' for the chat course. For example, some of the rules are: 'Do not curse,' and 'Treat all the other participants with respect.' Participants can only enter the chat box at a certain time, for example every Wednesday afternoon at 4pm. During the eight sessions (conducted over eight weeks) the adolescents participate in the same group. The meetings take 1.5 hours and are guided by a trained mental health professional, specialised in prevention and CBT. A chat box group consists of six participants at most.

### ***Goals of the pilot***

The purpose of the present pilot study was (a) to explore the possibilities of a chat box for (offering) a CBT group course for adolescents with depressive complaints and their satisfaction with this medium, (b) to explore whether the participants experienced a reduction in depressive complaints after the course, and (c) to find out whether it is possible for professionals/instructors to manage a group process in a chat box.

## **Method**

### ***Measures***

For admission to the chat course, an open ended questionnaire was developed. The respondent is asked about the reason for registration, available social support, suicidal thoughts, self-mutilation, and motivation. The adolescent is asked also whether he/she had any negative experiences in his/her life, such as loss of parents, sexual harassment or bullying.

The level of depression was measured with the CES-D Scale, the Dutch version of the Centre for Epidemiological Studies Depression Scale (Bouma, Ranchor, Sanderman & Van Sonderen, 1995) when the adolescent applied for admission and again at the end of the course. For registration and admission online the open ended questionnaire is completed along with the CES-D Scale. The CES-D scale ranges from 0 to 60 with higher scores indicating a higher level of symptoms.

At the end of the course, or if the participant stopped before the last session, the adolescent was asked to complete a satisfaction list, which was based on the widely used satisfaction list for the face-to-face *Grip op je dip* courses that are administered nationwide. Satisfaction was measured on a 10-point scale (1 = very poor, 10 = very good), and another question asked whether the respondent would recommend (1 = absolutely, 5 = absolutely not) the chat course to other adolescents with feelings of depression.

The technical possibilities of the course were explored by asking the adolescents in the chat box after each session whether they thought the content of that session worthwhile and by interviewing the professionals who ran the chat course. Findings were intended to improve the intervention and its implementation before planning future research on its (cost) effectiveness.

### ***Selection of participants***

The selection of possible participants is done completely via the site. In principle the application is anonymous; an adolescent has only to give a nickname and a mobile phone number. All other information (age, sex, area of living) is facultative.

The target group for the pilot were adolescents with sub-clinical and mild depression. Criteria for chat box participation are the same as for the face-to-face version of the course (Voordouw et al., 2002). In addition to the age criterion, the following criteria must be met: a score that is not too high on the depression inventory, available social support, no active suicidal thoughts, no self-mutilative behaviour, and motivation to invest in the course. The CES-D Scale score was weighted with the answers of the open ended questionnaire, such that adolescents with a high CES-D score but without suicidal thoughts could be admitted. Of all the adolescents who applied, 16% reported plans to commit suicide while 66.6% reported having thought about suicide. Furthermore, 27.7% of the adolescents who applied reported self-mutilation. When the reported symptoms are judged by the instructors to be too severe, the adolescent is referred to his or her family physician and for regular mental health help; 205 adolescents (52%) were thus referred.

### **Procedure**

Adolescents can register to participate in the e-course via the website [www.gripopjedip.nl](http://www.gripopjedip.nl). Every new course is announced on the site, and admission to a particular course is closed as soon as a maximum number has been reached. After the first try-out period with the chat box, the website went 'on air' in June 2005. In September 2005 newspapers wrote about the chat box and it became an item on television channels. In the following three months there were about 40,000 visitors to the website and 290 adolescents wanted to participate in the chat box course. Up to July 2007 statistics show about 600 applications for the chat box course and yearly there are 100,000 visitors.

After course admission clear agreements are made with the participant. The participant is informed about what to expect of the course and of the fact that the application forms can be used for monitoring and research purposes. The participants are asked to contact the course instructor should his or her complaints worsen. Guidelines have been formulated for cases of crisis, which may include attempted suicide or threats of such (Kerkhof, 2004; Wilson & Lester, 1998). When worried about a participant, the course instructor always contacts the individual

via e-mail or telephone. The participant is urged to contact his or her family physician and/or another important support person. Clear agreements are made about the further participation of the adolescent and the support to be provided by the instructor.

## **Results**

### **Applicants**

Between the spring of 2005 and the summer of 2006, 394 adolescents applied to participate in the e-course. During this same period, the prevention units from three mental health care organisations in the Netherlands conducted 35 courses with a maximum of six participants each; up to the time of writing, only once has it been necessary to apply the crisis guidelines.

The average age of the 394 applicants was 19.7 years ( $SD = 3.8$ ), and 81.5% of them were female. They reported considerable feelings of sadness and anxiety and 80% reported one or more negative life events, such as the divorce of their parents, sexual harassment, child abuse, bullying.

The average depression score on the CES-D scale upon application was 36.8 ( $SD = 10.1$ ). Males scored significantly lower (32.9,  $SD = 10.4$ ) than females (37.3,  $SD = 9.8$ ) ( $t = -3.44$ ,  $df = 384$ ,  $p < .001$ ). The educational level of the applicants varied from vocational schooling (53.2%) to a higher and college education (46.8%).

A total of 189 adolescents (or 48% of the applicants) were admitted to the e-course. Of this group 49 (26%) dropped out before the course started. The average age of the 140 participants was 19.8 years ( $SD = 3.3$ ) with 115 females and 25 males. Of the participants, 98% reported being physically 'reasonably healthy' to 'healthy', 15% were on medication, and 81.5% reported the availability of social support from family, friends or teachers. Finally, 61.5% of the participants reported having had professional help for psychological problems in the past or currently having professional help for such problems.

Of the 140 adolescents who initially participated in the e-course, 75 (53.6%) participated in less than four chat sessions and 65 (46.4%)

participated in four or more chat sessions; 50 of the 140 (35.7%) finished all eight sessions.

### ***Opinions of the participants***

The downside of easy access to the course clearly manifested itself; more than 50% of the admitted adolescents quit before half of the course was completed. The reasons most mentioned for dropping out were ‘time of the course no longer convenient,’ ‘had obtained other help,’ ‘no longer had depressive symptoms,’ ‘had computer problems,’ ‘did not feel motivated by the materials provided,’ or ‘found the course too difficult.’

All of the 50 participants who completed the satisfaction questionnaire were positive about the conduct of the course. The entire course was assigned a score of 7.5 on a 10-point scale (1 = very poor, 10 = very good) and 79.3% of the respondents would recommend the chat course for other depressed adolescents.

The respondents found chatting to be a pleasant and positive way to talk about being down and their feelings of depression. The use of smilies or emoticons also helped the participants give expression to their feelings and to understand the feelings of other participants. The course was considered tough and sometimes quite tiring; the participants had to get used to the course online. They considered the high drop-out rate to be a pity. Participants therefore suggested stricter selection criteria to include only strongly motivated individuals. The selection criteria have thus been adjusted and made stricter since the initial conduct of the e-course.

With respect to the duration of the sessions (1.5 hours) and the number of sessions (8), 75% of the 50 responding participants reported indeed being satisfied. Opinions were divided about the scheduling of the course, which was either at the end of the afternoon or in the evening. The respondents were very positive about the course instructors and thought that they were good listeners, friendly and concerned, and did their best to help the sessions proceed as smoothly as possible.

When asked why they preferred an online group course, participants answered that online they were anonymous and only judged by what they wrote, not by their looks: ‘Online your looks do

not play a role.’ Mostly these adolescents considered themselves unattractive. The anonymity of course participation was highly valued. As one participant noted, ‘The likelihood of other participants knowing you is really small because they come from all over the country. If you sit together in a face-to-face group, then they usually come from your area.’ Another participant observed: ‘You might learn more in a live group, but communication via a chat box is much easier and you dare to say more in a chat box.’ For some adolescents, a live group is not an option. As one participant put it: ‘I think a standard group course is scary.’ Nevertheless, some of the participants at the end still reported a preference for a live course precisely because of the ‘real’ contact that it provides.

Mutual recognition was also considered an important aspect of the *Grip op je dip online* course. That is, the experience of contact with other adolescents in a ‘dip’ was positively evaluated. As one participant who did not dare to talk to anyone about her problems put it: ‘The recognition is really nice because I have never talked about these things with anyone before.’ In the words of another participant: ‘It’s nice to be able to talk to age mates with the same feelings. They understand me, and it’s good to know that I’m not the only one in a dip.’

Despite the anonymity, a bond developed between the group participants. In the eighth session almost all participants wanted to exchange e-mail addresses to keep in contact with their new friends.

### ***Course participation and the decline of depression***

As shown in Table 1, the group of adolescents participating in less than four chat sessions showed higher CES-D scale scores at the start of the online course than did the group of adolescents participating in four or more chat sessions ( $t = -2.95$ ,  $df = 120$ ,  $p < .05$ ).

All participants who finished the seventh session received the follow-up CES-D. Of these participants, 50 completed the CES-D scale. The average CES-D scale score after the e-course (18.7,  $SD = 9.4$ ) was significantly lower than the average CES-D scale score at the start of the e-course (32.6,  $SD = 9.3$ ) ( $t = 8.23$ ,  $df = 48$ ,  $p < .001$ ).

**Table 1. Comparison of CES-D scores before and after participation**

	Participants <i>n</i> (%)	CES-D	
		Start <i>M</i> ( <i>SD</i> )	Completion <i>M</i> ( <i>SD</i> )
Total group at the start	140	33.7 (8.1)	--
Group < 4 chat sessions	75 (53.6%)	37.2 (6.8)	--
Group > 4 chat sessions	65 (46.4%)	33.0 (8.6)	--
Group that followed all 8 sessions	50 (35.7%)	32.6 (9.3)	18.7 (9.4)*

\*  $p < .001$ 

These results largely correspond to the results for the face-to-face course (Voordouw et al., 2002). Whether or not the decreases in depressive symptoms can be directly attributed to the e-course cannot be determined on the basis of this limited research; additional effects research is clearly required. However, it can be noted that most of the adolescents who experienced a reduction in depressive symptoms stated that the e-course greatly contributed to this.

### *Opinions of the instructors*

The *Grip op je dip online* course described here was conducted by a mental health care prevention worker and/or some other care provider. In the meantime, a training program has been developed for potential course instructors. Seven of the 15 course instructors were interviewed about their experiences with the online course.

The instructors were very enthusiastic about the online course. On average, they assigned a score of 8.9 on a 10-point scale (0 = very bad, 10 = very good) for the ease of giving the course, and they reported gaining energy from the experience. The easy accessibility of the course and low threshold for participation appealed to the course instructors along with the dynamic nature of the medium and the speed of the computer.

A problem in the eyes of the instructors was the 'no-show.' That is, some of the youth would not show up or would drop out without further notice. The no-show phenomenon is a familiar problem for adolescent mental health care and the Internet is known to be of a fleeting character, which means that the no-show phenomenon may be inherent to this target group and the medium.

The fact that the course participants could not see each other had some advantages and some disadvantages, according to the instructors. An advantage was that the adolescents were much more open than in a regular group session due to the complete anonymity of the online interactions. But how a course participant receives the written words of the instructor or the other participants is often not apparent from simply a text response, or no response, for instance. The invisibility of the participants then poses a problem and therefore constitutes a disadvantage at times. In the words of one instructor: 'You have no idea of how the kid is sitting there and, as a consequence, you wonder if the participants are really doing anything with the information ... if their behaviour is changing.' Nevertheless, the course instructors all note that a working alliance can be established. Also the course can be seen to have an effect, certainly when the participants have attended all of the sessions. The changes are evident in the reactions of the participants and also in their CES-D scores.

The course instructors were also satisfied with the group process. A bond was quickly established between the course participants themselves and a working alliance was established between participants and the instructors. The maximum group size appears to be about six participants.

Most of the instructors were able to cover all of the course information during the sessions; only one or two experienced difficulties doing this. The content of the course was also judged to be sufficient. An advantage is that the sessions are archived and could be consulted by participants and the course instructors. This is also handy for new course instructors: 'You can prepare yourself by reading the archived sessions from other instructors.' The archive is also used for evaluation purposes by colleagues.

The possibility of the adolescents using aggressive language or misbehaving was taken into consideration during the development of the online course. A prerequisite for course participation was that the participants agree to abide by the rules of the house. Contrary to all expectations and possibly due to these rules, the behaviour of almost all of the participants was exemplary.

The course instructors were unanimous about the importance of the participants being sufficiently motivated. This aspect of the admission procedure is therefore given much attention. The opinions of the course instructors were divided with respect to level of education. The majority of the instructors thought that the level of education did not matter. Encouraging is that 'the smarter to help the less smart' appeared to work. Opinions were also divided with respect to the severity of the adolescents' problems. On the one hand, instructors felt that the depressive complaints should not be too severe. On the other hand, the complaints of depression should not be too mild as this increases the probability of early drop-out. Another problem is that it is hard to filter out individuals with a personality disorder. It is therefore suggested that a better method for this selection should be sought prior to the start of the course.

## **Discussion**

Limitations of this study are that there was no control group, there was a limited number of participants, and there was a high attrition rate. The study is of an explorative nature and an RCT on the online course will be undertaken by the Trimbos Institute in close collaboration with prevention units of seven mental health institutions throughout the country.

Despite the limitations, some careful conclusions can be drawn. First of all, the results of this pilot study show that it is possible, both technically and substantively, to conduct a preventive mental health group course for adolescents with depressive complaints via the Internet. The results also show that an online course is an attractive option for adolescents: numerous individuals applied to participate and the majority of those who participated and finished the course reported being quite satisfied with the course. As expected, the anonymity of the course and the element of mutual recognition were highly valued.

The second goal of the pilot was to assess whether the participants experienced a reduction of depressive complaints. The preliminary findings do suggest that this is the case and that the results for the e-course resemble those for the face-to-face course; however, these findings should be carefully interpreted given the

methodological limitations of the pilot study. Nevertheless, this intervention is promising in its ability to help adolescents overcome their depressed feelings. Further effect research with control conditions is needed and will be addressed in the planned RCT.

The third goal of the pilot was to find out whether it is possible for professionals/instructors to manage a group process in a chat box. The trainers were enthusiastic about the possibilities of an online preventive group course. They were able to manage the group process in a chat box and they stated that a working alliance (bond) was established. This is consistent with the findings of Cook and Doyle (2002). How this is perceived by the adolescents is not clear yet, and whether the high drop-out rate may be attributed to the perceived quality of that working alliance is something that will be taken into account in the RCT.

The low degree of commitment on the part of the adolescents was a possible drawback of easy access to the online chat box. Several hypotheses for drop-out were explored, such as technical aspects, the length of the course (8 sessions), the duration of the sessions (1.5 hours), the accessibility of the content or participants' difficulties with confronting their own depressive feelings. The pilot study produced relevant data that could shed light on these hypotheses. The majority of the participants completing the evaluation questionnaire indicated approval of the length of the sessions; not a single respondent judged them to be too long. We also asked the drop-outs to indicate why they stopped attending. Neither length of the sessions nor difficulties with confronting their depressive feelings were given as a reason for leaving the course. The reasons for drop-out varied and included the scheduling of the course, technical problems such as blocked access to the Internet, or help found elsewhere. Some of the youth also indicated that the course was not what they wanted after all. More research on the predictors of drop-out, course completion and success should be undertaken in the future.

Activities to boost motivation to login at every session have been developed. A new application of the chat course is that each participant receives a SMS message just before the start of a

session. The effect of this application has not yet been evaluated, but it seems to help participants to remember.

The pilot data led to the consideration of a more compact course as the attrition rate at the first four to five sessions seems to be lower than at the last few sessions. The pilot also showed that the course sessions in the evening were more popular and resulted in better course adherence than the sessions in the daytime. Considering that most applicants are involved with schooling and work, this seems plausible. Also of importance is the difficulty of the course for young people with lower educational levels. They tended to drop out because of the difficulty they met with the content, so this led us to sharpen the inclusion criteria. These adaptations should enhance course adherence, but further research is needed to assess this.

Since launching the online course, many adolescents with severe complaints have wanted to participate, and there has been much discussion among the mental health professionals about their participation. In the pilot, moderate depressive complaints were weighted against other factors of the young person's life. In some individual cases the group course helped adolescents with high CES-D scores to cope with their depressed feelings. The course and the trainers also helped some participants to decide that the course was not what was needed and they decided to seek specialised help. Nevertheless, there are problems (ethical, risks of a crisis) with letting adolescents with severe depressed feelings participate in an online group course. This led to the decision to develop a better online screening method for future use. In the application system on the site, a diagnostic instrument (MINI plus) will be built in to screen for severe depressions. This screening method will be evaluated in the RCT.

The chat box format offers still other new possibilities. Many adolescents with severe symptoms of depression, who did not qualify for the *Grip op je dip online* course, at first absolutely refused to be referred for regular mental health care. The online course thus draws this severe group successfully within sight of mainstream mental help and thereby presents an opportunity to reduce barriers to mental health

care and raise an awareness of the need and possibilities for help (Saunders et al., 1994). For these more severely depressed adolescents, the help may occur in the form of e-mail correspondence or a group chat box led by a specialised mental health professional. The question, of course, is whether prevention should concern itself with this particular target group and, if so, under what conditions. A number of ethical and legal issues present themselves.

It is clear that the Internet is a powerful medium for reaching adolescents and that both the treatment and prevention sectors should therefore explore the possibilities of this medium to the fullest. A variety of conferences on mental health and the Internet show the blossoming of Dutch e-mental health initiatives. The online offering of e-courses, as indicated by the demonstrated effectiveness of the online group *Grip op je dip* e-course, opens up a completely new manner of working within the treatment and prevention sectors.

## References

- Barak, A. & Wander-Schwartz, M. (2000). Empirical evaluation of brief group therapy conducted in an Internet chat room. *Journal of Virtual Environments*, 5(1), [www.brandeis.edu/pubs/jove/HTML/V5/CHERAPY3.HTM](http://www.brandeis.edu/pubs/jove/HTML/V5/CHERAPY3.HTM)
- Borzekowski, D.L.G. & Rickert, V.I. (2001). Adolescent cyber surfing for health information: A new resource that crosses barriers. *Archives of Pediatrics and Adolescent Medicine*, 155, 813-817.
- Bouma, J., Ranchor, A.V., Sanderman, R., & Van Sonderen, E. (1995). *Het Meten van Symptomen van Depressie met de CES-D: Een Handleiding* [The measurement of symptoms of depression with the CES-D: Guidelines]. Groningen: Rijksuniversiteit Groningen.
- Christensen, H., Griffiths, K.M., & Jorm, A.F. (2004). Delivering interventions for depression by using the Internet: Randomised controlled trial. *British Medical Journal*, 328, 265-268.
- Clarke, G., Eubanks, D., Reid, E., Kelleher, C., O'Connor, E., DeBar, L.L., Lynch F., Nunley S., & Gullion C. (2005). Overcoming depression on the Internet (ODIN) (2): A randomised trial of self-help depression skills program with reminders. *Journal of Medical Internet Research*, 7(2): e16.
- Clarke, G., Reid, E., Eubanks, D., O'Connor, E., DeBar, L.L., Kelleher, C., Lynch, F., & Nunley, S. (2002). Overcoming depression on the Internet

- (ODIN): A randomized controlled trial of an Internet depression skills intervention program. *Journal of Medical Internet Research* 4(3): e14.
- Clarke, G.N., Hornbrook, M., Lynch, F., Polen, M., Gale, J., Beardslee, W., O'Connor, E., & Seeley, J. (2001). A randomized trial of a group cognitive intervention for preventing depression in adolescent offspring of depressed parents. *Archives of General Psychiatry*, 58, 1127-1134.
- Cook, J.E. & Doyle, C. (2002). Working alliance in online therapy as compared to face-to-face therapy: preliminary results. *CyberPsychology & Behavior*, 5(2), 95-105.
- Cuijpers, P., De Graaf, R., & Van Dorsselaer, S. (2004). Minor depression: Risk profiles, functional disability, health care use and risk of developing major depression. *Journal of Affective Disorders*, 79, 71-79.
- Cuijpers, P. & Smit, F. (2004). Sub threshold depression as a risk indicator for major depressive disorder: A systematic review of prospective studies. *Acta Psychiatrica Scandinavica*, 109, 325-331.
- Fenichel, M., Suler, J., Barak, A., Zelvin, E., Jones, G., Munro, K., Meunier, V., & Walker-Schmucker W. (2002). Myths and realities of online clinical work. *CyberPsychology & Behavior*, 5(5), 481-497.
- Georgiades, K., Lewinsohn, P.M., Monroe, S.M., & Seeley J.R. (2006). Major depressive disorder in adolescence: the role of sub threshold symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry*, 45(8), 936-944.
- Kerkhof, A.J.F.M. (2004). *Suïcidaliteit aan de Telefoon: Aanwijzingen voor Vrijwilligers van Telefonische Hulpdiensten* [Suicidal inclinations on the telephone: Guidelines for volunteers of helplines]. Amsterdam: Afdeling Klinische Psychologie, Vrije Universiteit.
- Lewinsohn, P.M. (1987). The Coping with Depression Course. In R.F. Munoz (Ed.), *Depression Prevention: Research Directions*. Washington: Hemisphere Publications.
- Lewinsohn, P.M., Antonucci, D.O., Breckenridge, J.S., & Teri, L. (1984). *The Coping with Depression Course*. Eugene OR: Castalia Publishing Company.
- Lewinsohn, P.M. & Clarke G.N. (1984). Group treatment of depressed individuals: The Coping with Depression Course. *Advances in Behaviour Research and Therapy*, 6, 99-14.
- Lunchtafel LSP (2002). *Het Bereik van Jongeren met Depressieve Klachten door de ggz-preventiesector: Verslag Lunchtafel LSP* [Reaching young people with depressive complaints by the prevention professionals of mental health organisations]. Utrecht: Landelijke Steunfunctie Preventie/Trimbos-instituut.
- Meijer, S. (2007). Preventie van depressie. Bereik en effectiviteit. Wat is het bereik? *Nationaal Kompas Volksgezondheid* [Prevention of depression: Reaching the target groups and effectiveness of interventions. National Compass Public Health]. Bilthoven: RIVM. [www.nationaalkompas.nl](http://www.nationaalkompas.nl)
- Ministerie van Volksgezondheid, Welzijn en Sport (2003). *Langer Gezond Leven: Ook een Kwestie van Gezond Gedrag* [A long and healthy life: Also a matter of healthy behaviour; Ministry of Health, Welfare and Sports]. Den Haag: Ministerie VWS.
- Nicholas, J., Oliver, K., Lee, K., & O'Brien, M. (2004). Help-seeking and the Internet: an investigation among Australian adolescents. *Australian e-Journal for the Advancement of Mental Health*, 3(1), [www.auseinet.com/journal/vol3iss1/nicholas.pdf](http://www.auseinet.com/journal/vol3iss1/nicholas.pdf)
- Patten, S.B. (2003). Prevention of depressive symptoms through the use of distance technologies. *Psychiatric Services*, 54, 396-398.
- Riper, H., Smit, F., van der Zanden, A.P., Conijn, B., & Kramer, J. (2007). *High Tech, High Touch, High Trust*. Programmeringsstudie e-mental health in opdracht van het Ministerie van VWS [Overview study on e-mental health by order of the Ministry of Health, Welfare and Sports]. Utrecht: Trimbos-instituut.
- Saunders, S.M., Resnick, M.D., Hoberman, H., & Blum, R.W (1994). Formal help-seeking behaviour of adolescents identifying themselves as having mental health problems. *Journal of the American Academy of Child and Adolescent Psychiatry*, 33(5), 718-728.
- Smit, F., Bohlmeijer, E., & Cuijpers, P. (2003). *Wetenschappelijke Onderbouwing Depressiepreventie: Epidemiologie, Aangrijpingspunten, Huidige Praktijk, Nieuwe Richtingen* [Scientific foundations of preventing depression: Epidemiology, current practice, new directions]. Utrecht: Trimbos-instituut.
- Sobocki, P. (2006). *Health Economics of Depression*. Stockholm: Karolinska Institutet
- Spek, V. (in prep). Follow-up results of an internet-based cognitive behavioural therapy for sub-threshold depression in people over 50 years old: A randomized controlled clinical trial.
- Spek, V., Cuijpers, P., Nyklíček, I., Riper, H., Keyzer, J., & Pop, V. (2006). Internet-based cognitive behaviour therapy for symptoms of depression and anxiety: a meta-analysis. *Psychological Medicine*, 37(3), 319-328.

Spek, V., Nyklíček, I., Smits, N., Cuijpers, P., Riper, H., Keyzer, J., & Pop, V. (2007). Internet-based cognitive behavioral therapy for subthreshold depression in people over 50 years old: A randomized controlled clinical trial. *Psychological Medicine*, 1-10. [Epub ahead of print]

Sytema, S., Gunther, N., Reelick, F., Drukker, M., Pijl, B., & Land, H van 't (2006). *Verkenningen in de Kinder- en Jeugdpsychiatrie. Een bijdrage uit de Psychiatrische Casusregisters Rijnmond, Zuid-Limburg, Noord-Nederland* [Explorations in child- and youth psychiatry. A contribution from the psychiatric case registers from the Rijnmond, South Limburg and the North Netherlands]. Utrecht: Trimboos-instituut.

Teunis, C. (2001). *Een Feedbackonderzoek naar het Internetforum van Korrelatie voor Jongeren met Depressie* [A feedback investigation from the Korrelatie Internet forum for youngsters with depression]. Utrecht: Korrelatie.

Van Straten, A, Cuijpers, P, & Smit, N. (in prep). *The Effectiveness of a Generic Web-based Self-help Intervention for Depression, Anxiety and Stress*. Utrecht: Trimboos-instituut.

Veltman, N.E., Ruiter, M., & Hosman, C.M.H. (1996). *Stemming Maken: Versterken van Weerbaarheid en Verminderen van Depressieve Klachten bij Jongeren* [Coping with moods: Reinforcing resilience and reducing depressive complaints by young people]. Nijmegen: KUN, Research Group Preventie en Psychopathologie.

Voordouw I., Kramer, J., & Cuijpers, P. (2002). *Grip op je dip. Zelf je Somberheid Overwinnen* [Master your mood. Overcoming your depression]. Utrecht: Trimboos-instituut.

Willemse, G.R., Smit, F., Cuijpers, P., & Tiemens, B.G. (2004). Minimal contact psychotherapy for sub threshold depression in primary care: a randomized trial. *British Journal of Psychiatry*, 185, 416-421.

Wilson, G. & Lester, D. (1998). Suicide prevention by e-mail. *Crisis Intervention*, 4, 81-87.