Adolescents' views about an internet platform for adolescents with mental health problems

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Abstract

Purpose – The purpose of this paper is to examine the needs and views of adolescents regarding the development of online support for mental health problems.

Design/methodology/approach – Semi-structured qualitative focus group interviews were conducted with ten groups of Dutch adolescents ($n = 106$), aged 12-19 years, from four urban secondary schools offering different levels of education in the Southeastern part of The Netherlands. Interviews were verbally transcribed and analysed with Nvivo, using a classification based on the research questions.

Findings – The participants reported that they searched on the internet to get information or help for some mental health problems. They also expressed the need for a youth healthcare website offering information, self-tests and anonymous help. They had different ideas about the layout of such a website, which were related to their educational level. Reliability of such a website was an important issue.

Practical implications – Adolescents reported a distinct need for online information and help for mental health problems. Youth healthcare organisations could meet this need by creating an innovative additional assistance method. These organisations should cooperate with website developers, taking into account that adolescents with different levels of education have different preferences regarding the interventions for online information and help.

Originality/value – This paper provides a conclusive examination of the needs and views of adolescents regarding development of online support for mental health problems.

Keywords Adolescents, Mental illness, Web sites, Education

Paper type Research paper

Introduction

A high percentage of adolescents suffer from a variety of mental health problems (Patel *et al.*, 2007). Prevalence rates among the general adolescent population range from 19 per cent to 28 per cent (Centraal Bureau Statistiek, 2000-2006; Ferdinand *et al.*, 1995; Reijneveld *et al.*, 2005), depending on age and other socio-demographic factors and the definition of mental health problems used. In this paper we used a broad definition, mainly based on symptoms of mental health problems, i.e. behavioural problems (e.g. being quick-tempered), emotional problems (e.g. being anxious), peer relationship problems (e.g. having no close friends), sleeping problems, excessive alcohol and drug use, sexual and relationship problems and eating disorders. We regarded the above examples of conduct issues as problematic for adolescents.

It is important to prevent or treat these problems, as they may impair adolescents' functioning (Wille *et al.*, 2008). It is also known that these problems often continue into adulthood (Caspi *et al.*, 1996; Hofstra *et al.*, 2001) and can hamper functioning in daily life, including difficulties with inter-personal relations, absence from work, and a higher risk of criminal behaviour (Fergusson *et al.*, 2005). These problems lead to an increased use of healthcare services and higher insurance claims, resulting in higher associated costs (Scott *et al.*, 2001).

The majority of adolescents with mental health problems do not receive professional help for their problems (Sourander *et al.*, 2001; Verhulst and van der Ende, 1997). One possible explanation for this is that there may be differences in the ability of youth healthcare workers to detect such problems (Vogels *et al.*, 2008). Another explanation is that many adolescents show reluctance to seek professional help (Patel *et al.*, 2007; Rickwood *et al.*, 2007; Vanheusden *et al.*, 2008; Zwaanswijk *et al.*, 2003). It is therefore important to find options to reach out to the adolescents who are not receiving help.

One such option could be provided by the internet. Today's adolescents have been called "digital natives" (Prensky, 2001), meaning that they grew up with digital technology and frequently make use of the various opportunities offered by this technology, such as the internet, e-mail, computer games, digital music players and mobile phones (Centraal Bureau Statistiek, 2009; Duimel and de Haan, 2007; Lenhart *et al.*, 2010; Schouten, 2007). They spend much time using these communication channels. In the US, 36 per cent of adolescents between the ages of 12 and 17 went online several times a day in 2009 (Lenhart *et al.*, 2010). Another study in the US in 2004 reported that boys in the 15-18 year age range used computers for leisure purposes for 15.2 hours a week, compared with 11.1 hours for girls of the same age (Nelson *et al.*, 2006). A 2007/2008 study among Dutch adolescents aged 12-18 years found that they spent an average of 2.6 hours a day on the internet (i.e. online; school hours not included) (Prins, 2008). Adolescents use the internet mainly to contact their peers (instant messaging, social network sites), but also to download (e.g. music or video) and to play games in virtual worlds where they can escape from everyday problems and worries (Duimel and de Haan, 2007). In addition, they also use the internet to search for all kinds of information, not only relating to amusement (music, movies and television), but also to health issues (Gray *et al.*, 2005; Lenhart *et al.*, 2010; Powell and Clarke, 2006; Rideout, 2002). Furthermore, they use the internet to ask for help regarding physical or mental health problems, in both anonymous and non-anonymous settings (Burns *et al.*, 2009; *Connected Generation Report*, 2010; Duimel and de Haan, 2007; Nicholas, 2010;

Webb *et al.*, 2008). Reviews showed that Internet-delivered interventions for the treatment of mental or other health problems are a promising additional option (Andersson, 2009; Cuijpers *et al.*, 2008). Furthermore, self-management interventions for adolescents via the Internet appeared to be effective in improving symptom or disease control (Stinson *et al.*, 2009).

It is reasonable, then, to see the internet as offering benefits to adolescents seeking help for mental health problems. In the present study, we defined seeking help through the internet as the possibility to find information about mental health problems and/or perform self-tests for certain problems (e.g. depression and problematic alcohol use) and/or to get online help by e-mail or in chat sessions with a youth healthcare worker.

Worldwide, youth healthcare organisations or foundations have started websites with the intention of reaching and supporting adolescents with mental health problems (Burns *et al.*, 2007, 2009; Nicholas, 2010). However, these websites are either aimed too specifically at one mental health problem, or fail to provide adolescents with information about local youth healthcare organisations in the area where they live. Therefore, it would be useful to investigate options for the development of a website aimed at adolescents where they can find information about a range of mental health problems and which offers links to information about the various youth healthcare organisations and online support in the specific region where they live. The preventive Youth Health Care (YHC) Centres of the Regional Public Health Services in the Netherlands could offer such a website, since one of their statutory tasks (Wet Publieke Gezondheid, 2008; the Dutch Public Health Act) is to prevent and identify mental and physical health problems among children. YHC workers perform this task mainly through face-to-face voluntary health assessments. For adolescents, these assessments take place in the second year of secondary school, at the age of 13 or 14 years. Additionally, YHC workers use questionnaires and participate in so-called school advisory teams to implement this task. An internet portal could offer an additional innovative method for YHC workers to reach adolescents with mental health problems.

Before developing such an internet platform, it is important to investigate the needs and ideas the potential users have with regard to online information and options for help with mental health problems. We therefore formulated the following research questions:

(1) How do adolescents use the Internet when searching for information on mental health problems?

(2) What needs do adolescents have in terms of online support for mental health problems (information, self-tests, e-mail, chat sessions)?

(3) What views do adolescents have about the layout of websites for online support for mental health problems?

We used the results of focus group interviews to offer recommendations for youth healthcare organisations with regard to:

· the development of internet interventions for adolescents to get online support for their mental health problems; and

· whether it would be necessary to differentiate between lower and higher educational levels.

Methods

Design

We used a qualitative research method involving focus group interviews. Such interviews are guided group discussions, offering an exploratory method of retrieving information. It is also a method which is in line with the way adolescents communicate, meaning that adolescents generally find it important that people ask their opinion about certain subjects and listen to what they have to say. The interviews give an impression of the way a group perceives certain topics and what they think about them. It yields options for further research involving other designs (e.g. quantitative research). Another reason to use focus group interviews is that additional information can be obtained through participants' reactions to each other (Marshall and Rossman, 2006; Morgan and Kreuger, 1998; Van Assema *et al.*, 1992).

Procedures and participants

Ten focus group interviews (9-12 adolescents per interview) were held at four different schools in urban areas in the Southeastern part of The Netherlands. Six schools were invited, four of which agreed to participate. Schools were selected by the Regional Public Health Service South Limburg, based on educational level (low and high) and location. Teachers were asked to recruit adolescents from different years and educational levels. Participation was on a voluntary basis. The young people were sent a letter with information about the interview, together with an informed consent form. A total of 106 (51 boys and 55 girls) adolescents aged 12 to 19 years participated in the interviews, forming six groups at a low educational level (lower vocational education) and four groups at a high educational level (higher general secondary education) (Table I).

The interviews were conducted during class hours (about 50 minutes each) and were guided by the first author and an assistant who supported the discussion leader in guiding the interview process. All interviews were audio-taped.

Participants were asked open-ended questions about their opinions on several topics relating to websites offering online help for mental health problems and the layout of such websites (Table II).

We told the participants they did not need to have a mental health problem themselves to answer our questions, meaning that if they had a friend with a mental health problem they were also encouraged to answer the questions.

	Number of participants	Males	Females	Age span	Educational level
Group 1	12	10	2	12	High
Group 2	10	5	5	15-17	Low
Group 3	12	5	7	12-14	Low
Group 4	11	1	10	16-19	High
Group 5	10	6	4	15-16	Low
Group 6	9	4	5	16-17	High
Group 7	11	1	10	12-13	Low
Group 8	10	4	6	12-13	Low
Group 9	11	9	2	13-15	Low
Group 10	10	6	4	14-15	High
Total	106	51	55		

Table I.
Group characteristics of
adolescents interviewed

Main topic	Key questions
Searching on the internet	How do you search the internet for the problems we just mentioned?
Visiting a website	Which method do you use to arrive at a website to get information or help for your problem?
Offering information and help on the internet	What would you think about a website offering information for mental health problems? What should this website look like?
	What would you think about a website offering self-tests for mental health problems? What should this website look like?
	What would you think about a website offering help for mental health problems through e-mail? What should this website look like?
	What would you think about a website offering help for mental health problems through chatting? What should this website look like?

Table II.
Open-ended questions to guide the interviews

We emphasised that the interview was not an examination, so there were no "incorrect" answers or opinions. They were invited to discuss certain subjects if there was no consensus among the group. Furthermore, they were explicitly told that no other people (parents or teachers) would have access to the recordings.

Prior to the interview, the adolescents were asked to write down anonymously one to three mental health problems they had experienced lately. Next, some examples of mental health problems were given, to explain what we meant by mental health problems (according to our definition, as described in the Introduction).

In order to get the participants to articulate some of their views about the layout of websites on mental health problems, we showed them a few existing Dutch websites online.

At the end of the interview, participants were given the YHC worker's visiting card with telephone number and e-mail address, so they could contact them with any questions or problems.

Written informed consent was obtained from the adolescents and their parents if they were minors. The informed consent form offered information about the topic of the interview and the procedure. If parents refused participation ($n = 5$), we asked for their reasons for doing so (offering a choice from a list of possible reasons). Reasons mentioned included:

- "I do not want to burden my son/daughter with this research";
- "I do not understand the purpose of this research"; and
- "other reasons" (e.g. "It was her decision; she prefers to attend the normal classes", or "My son does not feel like participating in this interview").

All of the parents who refused permission had children at low educational levels, and from lower years (adolescents aged 12-14 years). A gift voucher for €5 (about $US7) was given to all participants as an incentive.

Under Dutch regulations, no ethical approval is required for this type of study.

Data analysis
The group interviews were recorded on digital audiotape and transcribed. The QSR NVivo 8.0 software package for qualitative data analysis was used to arrange, classify

and analyse the transcriptions. The main topics were classified on the basis of the research questions, and this classification was used for the analysis. Internet platform for mental health

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Results
List of problems
The list of problems written down by the participants included a wide variety of items, such as bullying, depression, aggression, stress in relation to academic demands at school and sleeping problems.

Search behaviour
The majority of the participants mentioned that they had searched or would search the internet for information about and help for their own mental health problems, but also for problems of others (e.g. relatives or friends). A reason to search on the internet was the anonymity of this method to find information or help: "If you're depressed, and you don't want anyone to know about it, you'd prefer to find information through the internet" (high educational level). Sometimes they gave no specific reason for their preference for the internet.

The participants reported that they usually used the Google search engine ("I start Google, type in the problem and visit the different sites"; high educational level). Wikipedia, YouTube and more specific sites were also used to find information on bullying, quarrels with friends, problems because of divorced parents or the loss of a loved one.

The majority of the participants searched the Internet from their own homes, but also from a friend's home. Although some participants did not consider it a problem if their parents could retrieve their search behaviour on the internet (e.g. if they had looked up sleeping problems), others did regard this as a problem (e.g. if they had searched for information about suicide). If they expected problems with their parents, most of the participants would erase the "history" of their internet browser.

Others preferred to discuss problems with relatives, friends, teachers, or youth healthcare workers. One participant preferred talking to a youth healthcare worker: "It makes a difference if you type something into the computer, or talk to someone face to face" (high educational level).

Visiting a website
Participants who were looking for information or help for their mental health problem reported that they usually visited a website for the first time after finding it through search engines, or through advice from personal contacts (word of mouth, from parents, friends or youth healthcare workers). Some participants thought that they might not always trust the advice of a friend to visit a website: "It could be a dirty site" (low educational level). Advertisements (television, radio, newspapers, leaflets, banners or pop-ups on the internet) were mentioned by some participants as incentives to visit the internet for mental health problems. For example: "I got a leaflet with the name of a website for help at my school and out of curiosity visited this website, read some information and clicked on one link" (low educational level) or "When there's a short ad for a website in a popular television programme for young people, I might remember it" (high educational level).

Offering information and help on the internet

The majority of the participants reported they would appreciate a youth healthcare website offering information, self-tests and chats for mental health problems of adolescents. Some commented favourably on e-mail – for example: "It allows me to think longer about the things I want to say" (high educational level) – but some also saw problems – for example – "I would find it difficult to write down my feelings" (low educational level). The participants who mentioned that they would use e-mail for help reported that the response from the professional they wrote to should come as quickly as possible: preferably within about one to two days (although the preferred time varied from 15 minutes to one week). Expectations about the speed of replies also depended on the type of problem: "Some questions are very important and then you want an answer immediately, for example when you're pregnant" (low educational level). An advantage of e-mail was the option of storing the information received by e-mail contacts. The participants also mentioned that they preferred to have some background information about the professional involved, such as their age and the number of years of experience, as well as a picture of the person.

As regards the provision of information on a website, the participants reported, for example, "Yes, that seems useful to me, knowing exactly where to go. Instead of going to many different sites through Google" (high educational level), or "That's very convenient, because if you really have a problem and you don't know anybody to talk to about it and you don't want your parents to know about it, then you can always find it on the internet" (low educational level). Some participants mentioned specific ideas for a website offering information about mental health problems, such as including a search engine within the site, and a forum (comparable to social network sites) where they could discuss their problems with peers. Some of the participants mentioned that it should take as few clicks as possible to reach the necessary information on a website.

As regards self-tests, most participants commented favourably: "Yes I would appreciate it, because then you know if you really have to worry about your problem or not" (low educational level).

The majority of the participants preferred to receive help for their mental health problem by chatting with a youth healthcare worker on a professional website, because of the familiarity of this communication channel (instant messaging), the anonymity, the personal contact, and the immediate response. Participants' views differed regarding the times when the chat modus should be accessible, varying from 24-hour access to a few hours a day. Most of the participants were in favour of using a webcam for the chat session, allowing them to actually see the person they were talking to: "At least you know who you're talking to" (low educational level), or "It makes it more personal and you can trust the person" (high educational level). Most of them preferred webcam contact in one direction, to preserve confidentiality. The majority of the participants had no objection to following up the anonymous chat sessions with a personal visit to the youth healthcare worker, if there was good reason to do so. One of the participants mentioned: "A personal visit really allows you to talk to someone" (high educational level). Another participant reported that having e-mailed or chatted with a youth healthcare worker in advance is a useful preparation for a personal visit. Some of the participants were suspicious, however, and would not automatically trust an invitation for a visit; they would prefer to go with a friend, discuss it with their parents first or make a phone call to the organisation to check the identity of the youth healthcare worker.

Layout of websites
Participants expressed different views about the layout of websites offering information and help for mental health problems of adolescents. These differences were found to relate to the educational level of the respondents, in that the participants from lower-level schools preferred colourful, eye-catching websites with not too much information, while the more highly educated participants preferred more plain and static black and white websites with more information. Some of the participants offered additional ideas for the layout, such as including short clips in which someone talks about their problem (high educational level), or including some background music (low educational level).

Trustworthiness
The majority of the participants were very suspicious and cautious about searching for information and help on the internet. Even if there was a logo of a youth healthcare organisation on the site, they would not automatically trust the information. Some mentioned explicitly that the website should be reliable and anonymous for them, and not contain too many advertisements: "You also get websites where they ask your name, and then you're afraid they might take advantage of you. So the website should be anonymous" (high educational level). Some of the participants reported that e-mailing was not anonymous enough to them, because it was easier to retrieve personal information through their e-mail address. The same was said by some other participants about chatting, because of the possibility of using the IP address.

Discussion
The present study reports on the results of focus group interviews to examine the behaviour and needs of adolescents in relation to getting help for mental health problems through the internet. The results confirmed our idea that adolescents do feel the need to get information and help through the internet. This fits in with research showing that adolescents frequently use the internet as a communication channel (Centraal Bureau Statistiek, 2009; Duimel and de Haan, 2007; Lenhart *et al.*, 2010; Schouten, 2007), that they spend a lot of time on the internet (Lenhart *et al.*, 2010; Nelson *et al.*, 2006; Prins, 2008), and that they prefer to get anonymous help (Webb *et al.*, 2008).

The participants most commonly used Google or certain specific sites to search for information, but they did not always find the information and help they were looking for. Even though adolescents with mental health problems do feel the need to get information and help through the Internet (Burns *et al.*, 2009; *Connected Generation Report*, 2010; Gray *et al.*, 2005), it seems difficult for them to find the right websites. For example, in the Dutch province of Limburg, with almost 130,000 adolescents, there were only 2,066 unique visitors to a provincial website offering help and information for adolescents in the second quarter of 2009 (Reinders and Roijen, 2009). Research has also shown that exposure rates to internet-delivered interventions are low (De Nooijer *et al.*, 2005). Our participants mentioned specific search engines, recommendations from personal contacts and advertisements as possible ways to find the right websites, but none of these seemed the absolute favourite. Other studies about internet-delivered interventions for adolescents also mentioned the use of personal contacts ("word of mouth") to reach adolescents (Crutzen *et al.*, 2008, 2009). Further research is needed to identify effective strategies to attract adolescents to websites offering online information and help.

The interviews showed that proposals for online support for mental health problems by providing information, self-tests and help through chat sessions were favourably received by the target group. The possible reasons for this enthusiasm included their familiarity with the internet and its anonymity, and perhaps also the fact that such chats sessions would closely resemble their frequent use of instant messaging on the Internet as a tool for communication with their peers (Prins, 2008; Schouten, 2007). The option of getting help or support on mental health problems by e-mail was less appreciated. This was also concluded in a report on the above-mentioned Dutch provincial website, which mentioned 523 unique clicks on the e-mail button in the second quarter of 2009, compared with 1,216 clicks on the chat button (Reinders and Roijen, 2009). We assume that e-mail is a less popular mode of communication for adolescents because it is not direct, fast and secure enough. Perhaps communication by e-mail might be more acceptable in a different context, for example during the follow-up after a face-to-face contact with an adolescent in the youth healthcare setting.

The trustworthiness of a website was an important issue for the majority of the participants of our focus group interviews. They were suspicious about the persons or agencies behind the website offering information or help (giving false information or having dishonourable intentions such as sexual abuse). The participants were also afraid of losing their anonymity or getting serious computer problems (e.g. viruses).

The participants expressed different preferences for the layout of a website offering online information and help for mental health problems, preferences which related to their educational level. This relation is a good example of the Elaboration Likelihood Model (ELM) theory (Eagly and Chaiken, 1993), with the preference for more information (need for cognition) on a website expressed by the more highly educated adolescents representing the central route of persuasion, and the preference for the layout expressed by the less highly educated adolescents reflecting the peripheral route. These might be the same preferences that have been found with regard to advertisements using other media (e.g. television, movie) to attract teenagers towards certain consumer articles. Our participants also offered some additional ideas (movie clips, music) for the layout of such websites.

Youth healthcare organisations should take adolescents' need for online support into account, by creating online help for mental health problems as an innovative additional method of offering information and care for adolescents with mental health problems. Special attention needs to be given to aspects of customer-friendliness of these websites (reflecting the needs and thoughts of adolescents). It is important to involve adolescents in the process of creating these websites, also as a step in the planned development of these websites (Bartholomew *et al.*, 2006). Such development processes should also use the information provided by our focus group interviews, which showed that the adolescents had different ideas about the content and layout of such websites, depending on their level of education. This could enhance the attractiveness of such websites for this target group and increase the chances that they would visit them and/or spend more time on them. A useful option could be the use of a webcam during a chat to identify the youth healthcare worker. Special attention should be paid to aspects of security and certification (e.g. it could be a good idea to develop a special quality certificate for websites of youth healthcare organisations).

The adolescents' need to be informed and helped through the internet may depend on factors which also play a role in the "traditional" ("care as usual") help seeking

process of adolescents with mental health problems. These factors could include age and gender, educational level, ability to recognise mental health problems (Zwaanswijk *et al.*, 2003), the type of mental health problem involved, beliefs about mental health problems (Vanheusden *et al.*, 2008) and parents' ideas about their children's problems. These would be important and interesting aspects to explore in further research.

A positive finding was that the majority of the participants to our focus group interviews had no objection to personal, face-to-face contacts with youth healthcare workers after initial online contacts. Such visits can offer added value for both the healthcare worker and the adolescent in some cases (when there are serious concerns about the adolescent's mental health, for example with adolescents who self-harm).

Limitations of the present study
The adolescents who participated in our focus group interviews provided useful information, but further quantitative studies need to be conducted to allow these findings to be generalised.

We must take into consideration that the information provided by the participants may have been incomplete, as some of them may have found it difficult to talk openly about mental health problems. Our study provides no further information about this issue, and we did not have the impression that this was the case during the interviews.

Conclusion
The results of these explorative interviews yielded useful information about the behaviour and needs of adolescents in relation to the option of using the internet for help with mental health problems. The majority of the adolescents reported a need for information and help through the internet for such problems. It would be valuable to further investigate this need in more quantitative analyses, and to use qualitative interviews with youth healthcare workers to examine what they would think about offering information and help through the internet.

The respondents reported different views about the layout of websites offering information and help, and these views were also related to their educational level. This information should be used when developing such websites.

Offering help and information to adolescents with mental health problems through the Internet by creating specific websites seems a necessary tool for youth healthcare, in addition to the "traditional" care provision methods ("care as usual"). Youth healthcare agencies should take this into account when developing innovative interventions (whether or not additional to "care as usual") for adolescents with mental health problems.

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