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An evaluation of an online peer support forum for university students with depressive symptoms

Abstract

Background: Depression is the most common mental health problem among young people, particularly university students, with prevalence rates as high as 48% reported. This population however, is reluctant to seek professional help. Online interventions may be particularly appealing to students, with evidence suggesting that they use the internet for mental health support. While there are many mental health resources on the internet few focus specifically on the needs of young people and few have been evaluated. This research aimed to develop and pilot test an online peer support intervention for students experiencing depressive symptoms.

Methods: A depression support website (www.losetheblues.ie) was designed specifically for 18-24 year old students. The study used a mixed method, involving quantitative descriptive, pre-post-test and qualitative descriptive designs. Data were collected using the Centre for Epidemiological Studies Depression Scale (CES-D), a background questionnaire and online forum posts.

Results: The sample consisted of 117 University students with self-reported depressive symptoms. Results from participants in the pre-post-test element of the study, showed no statistical significance. The forum posts revealed that the participants' main difficulties were loneliness and perceived lack of socialization skills. The website provided a place for sharing, offering and receiving emotional and informational support.

Conclusion: Developing health care interventions in an online environment presents unique challenges to the research process, however they have the potential to provide mental health care that is accessible and affordable.

Key words: students, depression, internet, peer support

Introduction & Background

The World Health Organisation (WHO) (2008) reported that depression is the most common mental illness, the leading cause of disability and the fourth greatest contributor to the 'burden of disease'. International figures estimate that up to 10% of people experience major depression within the European Union (WHO 2005). Amongst college students, rates of depressive symptoms range from 13.9% (Curran, Gawley, Casey, Gill & Crumlish 2009) to 48% (Bayram & Bilgel 2008), while rates of depressive disorder have been reported as 6.2% (Chandler, Wang, Ketter & Goodwin2008) to 13.8% (Eisenberg, Gollust, Golberstein & Hefner 2007). These figures are much higher than those reported by Kessler et al (2005) in the general population of 15-29 year olds. Up to 15% of people with depression eventually commit suicide (Cipriani, Barbui & Geddes 2005). Indeed suicide is the second leading cause of death among young people (Hornsby 2001). Suicide rates among 15-24 year olds in Ireland are particularly high, with Ireland's rates being the 4th highest among males and 6th highest among females in the EU (WHO 2011). However young people are reluctant to seek professional help for mental health problems (Hope, Dring, & Dring 2005, Turner, Hammond, Gilchrist & Barlow 2007,) and as such alternative support mechanisms need to be considered. One such approach could include internet support.

There is little doubt that young people are active users of the internet for health information. Indeed, Horgan & Sweeney (2010) reported that among 18 to 24 year old students, 30.8% had used the internet for mental health information and 68% would use the internet for mental health support if required. Therefore the internet presents a potentially viable option for the delivery of mental health interventions to this population. However who provides the support is also important. Indeed, research has shown that young people are more likely to seek informal support from a family member or friend than from formal support systems (Ciarrochi, Wilson, Deane & Rickwood 2003, Constantine & Arorash 2001, Turner et al. 2007) with, Hope et al. (2005) indicated that 83% of University students would turn to a friend of the same age if they had a problem. This suggests that support from peers may be considered the most favoured form of support by students.

Online Peer Support

Much of the literature evaluating online peer support relates to cancer care. Lieberman, Golant, Giese-Davis, Winzlenberg, Benjamin, Humphreys, Kronenwetter, Russo & Spiegel (2003) and Lieberman (2005) used quantitative designs to determine the effect of online support on depression, well-being and personal growth amongst people with cancer and reported supportive benefits. Qualitative studies by Klemm (2005), Blank and Adams-Blodnieks (2007) and Hoybye, Johansen & Tjornhoj-Thomsen (2005) all focused on the content of message boards used by cancer patients and found similar results in relation to the social support benefits of the sites. Dickenson, Boehmke, Ogle & Brown (2006) qualitatively explored cancer patients' experiences of using internet chat rooms for peer support and information. Results indicated that the site helped provide meaningful information and allowed for space to vent feelings. Studies have also been conducted with people with Diabetes (Barrera, Glasgow, McKay, Boles & Feil 2002), Parkinson's Disease (Liberman

2005), Irritable Bowel Syndrome (Baum 2004), chronic illness (Hill, Weinert & Cudney 2006), Alzheimer's Disease (White & Dorman 2000) and Asperger's Disease (Weidle, Bolme & Hoeyland 2006).

In relation to online support in mental health, a small number of studies have explored the effects of forums and chat rooms on people who self-harm (Murray 2006, Whitlock 2006), people with eating disorders (Carrard, Rouget, Fernandez-Aranda, Volkart, Damoiseau & Lam 2006, Ljotsson, Lundin, Mitsell, Carlbring, Ramklint & Ghaderi 2007) and those with varied mental health problems (Johnsen, Rosenvinge & Gammon 2002). Results indicated that online discussion forums can help increase problem solving skills, decrease alienation and isolation, decrease stress (Johnsen et al. 2002) and decrease frequency of self-harm (Murray 2006).

Numerous studies have examined the effect of a variety of online interventions for depression. However, most have focused on the use of CBT. The National Institute of Clinical Excellence (NICE) (2006) completed a review of computerized CBT for depression and anxiety and found that the evidence to support its use is inconclusive, but have suggested that a site called 'Beating the Blues', demonstrates some effect. In further studies by Clarke, Eubanks, Reid, Kelleher, DeBar, Lynch & Nunley (2005) and Clarke, Eubanks, O'Connor, DeBar, Kelleher, Lynch & Nunley (2002) findings were mixed. Clarke et al. (2005) reported that online CBT helped people with depression, whereas Clarke et al. (2002) reported that it made no statistical significant difference. Griffiths & Christensen (2007) completed a systematic review of studies on two web-based mental health programs (MoodGYM and BluePages). They reported that these programmes were effective in reducing depressive symptoms and stigma. In a review of an e-health system, RecoveryRoad, Robertson, Smith, Castle & Tannenbaum (2006) found a reduction in depressive symptoms. These studies all

indicate the potential of online interventions for people experiencing depression; however none focus specifically on peer to peer support.

A small number of studies have explored peer support specifically. Houston, Cooper & Ford (2002) found in their quantitative study, where just peer to peer online support was offered, that it reduced depressive symptoms amongst those who used the site regularly. Focusing on college students, Shaw & Gant (2002) examined the effect of chat room discussions among 46 psychology students on depression, loneliness, self-esteem and social support. Findings revealed that the use of the chat room significantly reduced depressive symptoms and loneliness and increased self-esteem and social support. Similarly, Morgan & Cotten (2003) examined the relationship between internet activities and depressive symptoms in 287 first year university students and found that the use of chat rooms was associated with reduced depressive symptoms. These studies highlight the potential benefits of interacting with peers on the internet and how informal support via chat rooms can reduce depressive symptoms; however they offer little information on peer support processes.

 In summary there is no conclusive evidence as to the effect of online peer support on people experiencing depressive symptoms and in fact few studies have used peer support as an intervention. While internationally sites exist to offer support to people with depression, few have been evaluated and no service was found that focussed particularly on young adults (18-24 year olds).

Methods

The study aimed to evaluate the effect of online peer support on depressive symptoms in 18 to 24 year old students. Peer support, based on Dennis's (2003) conceptualization was

defined as the informal, naturally occurring, emotional, informational and appraisal support, given and received by people with similar experiences.

Intervention Design

A web site was designed specifically for use by 18-24 year olds experiencing depressive symptoms (www.losetheblues.ie). The web site provided a forum to allow participants to offer peer support to each other. It also provided information on depression and links to other supports. Prior to website design data were collected from almost 1000 students, using a researcher designed questionnaire, on their website design preferences. Findings indicated that the most important issues were confidentiality, anonymity, being able to ask questions, usability and knowing who produced the information. Following the website development feedback was sought from 25 students who were asked to report on its look and feel, content and ease of use. The website then went live at which time it could be accessed by the general public however the forum could only be accessed by those who registered to partake in the study.

Data Collection

Data were collected using the Centre for Epidemiological Studies Depression Scale (CES-D), which has demonstrated high levels of internal consistency, construct validity and test retest repeatability (Radloff 1977). This twenty item tool measures depressive symptoms in both general and clinical populations and has been specifically designed as a research instrument. The scale allows scores between 0 and 60. A score higher than 16 indicates the presence of some depressive symptoms that may need treatment. The validity and reliability of the tool has been tested in a variety of different contexts with different populations, including online. Data were collected at entry into the study and again at six weeks. At entry to the study,

background data were also collected. The questions focussed on items from the literature which were considered to be important such as gender, residence and use of other mental health supports. Qualitative data were collected from forum posts over a three month period.

Participants were recruited from one University in Ireland. An email advertising the study was sent to all students on three occasions. There were 12,481 students within the 18-24 year old age bracket in the University. This was the target population. Non-probability convenience sampling was undertaken, whereby all participants who entered the site and fit the inclusion criteria (aged between 18 and 24 years, currently studying at the University) participated in the study. Students who were interested in participating entered the website and were firstly asked to give online consent, confirm that they fit the inclusion criteria, complete the CES-D and complete a demographic questionnaire. Only those who scored above 16 on the CES-D were eligible to register to use the online forum as scores lower than this indicate normal levels of low mood. The data was then submitted and the participants were able to create an account using their university email address. Student email addresses were in numeric format and the researcher did not have direct access to a directory to enable matching of student number with student names. However prior to consenting to participate in the study, students were informed that if they were deemed at risk to themselves or others the University authorities would be informed and access to their personal details would be sought.

Once the account was created participants could use the site and forum as often as they wished. The researcher's role was to safeguard the site and ensure ground rules were maintained. The website remained live for two academic terms. The student counselling services offered support for the intervention, however did not offer any alternative forum or chat room for students.

Data analysis

Quantitative data were entered into SPSS (Version 15) and descriptive and inferential statistics performed. Thematic analysis was used to analyze the forum posts.

Ethical Issues

Ethical approval to carry out this study was granted from the local university teaching hospitals research ethics committee. Confidentiality and anonymity were maintained by ensuring no identifying names appeared on the questionnaires, not storing computer IP addresses and asking participants to use a pseudonym when creating their online identities. Online consent was sought and only those who provided it were able to enter the forum. Participants were advised they could withdraw from the study at any time and the researcher monitored the site daily to ensure the participants' safety was maintained. In addition, a system was set up whereby if certain key words were written such as 'suicide, harm, kill, or die', the researcher was automatically alerted. At which time the researcher could intervene to determine if the student was at risk to themselves or others. During the course of the study no participant was deemed at risk based on their postings.

Results

The sample consisted of 118 students, 64% of which were male, with a mean age of 21 years. The sample consisted of 98% white students, which is similar to the University's profile. The majority of students (53%) lived away from the family home. The mean (SD) CES-D score at baseline was 36.75(7.94). The scores ranged from 17 to 53. T-tests were used to compare the mean CES-D scores at baseline between men and women with no statistically significant difference found. Pearson's correlation coefficient (r) was used to investigate the relationship

between CES-D scores at baseline and age and again no statistically significant linear relationship was found (r=0.097, p=0.294).

Table 1. Characteristics of sample

A number of participants reported using other supports for their depressive symptoms in the past, the most common of which were medication and the internet. Participants were also asked if they were receiving concurrent support, less than 10% were.

Table 2. Past use of support

After 6 weeks participants (n=118) were asked to complete the CES-D a second time so that comparison could be made, however only 16 individuals completed the posttest questionnaires. While analysis was performed to determine differences, any differences were not expected to be statistically significant due to the small sample size. The Wilcoxon Signed Ranks test was used to compare the CES-D scores at baseline and post-intervention. The median (IQR) CES-D score was 37.00 (33.0 to 43.25) at baseline and 33.50 (22.25 to 40.50) post-intervention. While a difference can be noted it was not statistically significant (p=0.133).

Figure 1. Boxplots of CES-D scores at baseline and post-intervention

Forum Posts

Forum posts (n=53) were analyzed from 17 different users over three months. Of those 17 users, 10 had completed the CES-D posttest. A number of themes emerged. Direct quotes are used to illustrate the themes however to protect the participants anonymity no names are provided.

Symptoms of Depression and the Loneliness of College Life

By far the most discussed difficulty experienced by the participants was loneliness. This was associated with poor socialization skills. The participants described difficulties in 'fitting in' with their class mates, being unable to start conversations, not having friends and having problems getting to know people. Some ascribed this to the fact that 'clicks' had already formed and that they did not belong in any. In addition most participants identified that they would like to be more outgoing. Often the loneliness was described as developing due to the participants being away from home and having difficulty in adjusting to college life, independence, self-sustainability and having to make decisions for themselves. The following exemplifies this:

"Four years I have been with my group and I still feel like an outsider. It's so lonely, if I didn't turn up they probably wouldn't even notice"

"I feel rather lonely and useless …. the biggest issue might be that I'm living away from home for the first time"

The participants described many features of their low mood. Poor concentration was common, which impacted upon their course work. Other typical features of depression described included sleep disturbances, appetite disturbances, mood swings, irritability, paranoia, stress and self-consciousness. Indeed a number of participants (n=8) described a lack of self-worth, low self-esteem and being unable to cope. A whole thread focused on negative thinking and how to 'break the cycle', with a number of people seeking and offering advice. As stated in:

"These thoughts started and that's all I could hear all day, I just wanted to cry and scream and tell someone but nobody wants to listen, so they are circling around my head. It just goes on and on and on"

"I can't cope, I try everyday with the same result, with no progression. Days seem futile and repetitive, like history constantly repeating itself"

There was a strong sense of hopelessness emerging from the posts, with participants discussing their 'bleak outlook', 'feeling stuck' being 'out of control' and feeling overwhelmed. For example:

"I'm 22 years old and I feel I have lived my life, I sometimes wish I was 92 so there wouldn't be much more time to kill here"

The participants shared various amounts of their personal stories. They focused on different issues such as bullying, parental alcohol abuse, financial problems, and relationship problems with family, friends and/or boyfriend and girlfriends. In addition some participants discussed the current poor economic situation in Ireland, the lack of job prospects, forced emigration and economic problems.

"Ireland provided a great childhood, but there seems to be nothing but a crappy future here as an adult"

Benefits of the website: Sharing and identifying with others

Many of the participants discussed how sharing their feelings helped them in the immediate term. They suggested it was 'nice' to have someone to talk to and that it was good to say what was going on aloud (albeit in writing). They described a sense of not being alone, and of

having a shared understanding of each other's difficulties. They also compared themselves to others and as a result believed their situation was not as bad as they thought.

"It's good to let everyone know what's bothering you and finding out that others are feeling the same thing has really helped, I thought I was the only one feeling this way, but clearly not"

 The participants commented that the anonymity of the site was good and for many it was their first time sharing their feelings. Indeed some participants described a sense of shame at having emotional problems and as such put a lot of effort into hiding what was happening for them. They reported denying their problems in the hope that they would go away.

"I know that was a pretty big rant but I actually feel a lot better having gotten that off my chest. It's my first time ever saying those things to anyone, all be it anonymous people I don't know".

Some participants questioned the validity of the website, and how sharing problems or reading about other people's problems could be of benefit. Fellow participants were quick to respond to this and offer advice.

 "It's about empathy and the realization that you're not alone. That others are feeling the same way you do and are having trouble coping. And being able to tell someone/people, even if it is just anonymously putting it out there into the virtual domain, is supposed to be cathartic in some way. And it kinda is. And if others do the same you might realize that your problems aren't actually as bad as you thought"

Advice Giving and Receiving: Emotional and Informational Support

The participants sought and offered advice, focusing on both practical information and emotional support. The practical information sought focused on the student counseling

services available, medication management, exercise, study advice and other professional support services. Participants also sought advice on how to help with poor concentration, study skills, negative thinking and looked for reassurance from other forum users. One participant said:

"I find a mixture of medication, counseling, a semi-regular routine and exercise has worked very well so far, along with getting accommodations from the college to help with academic stress"

And another:

"Focus on the positive, stay in the present, be good to yourself"

Pressure of third level education: 'Academic Crisis'

A number of participants highlighted that they experienced significant pressure in relation to course work and that this was a contributing factor to their current mood state. They described becoming overwhelmed by assignments and lacking the motivation to complete them. It was unclear whether it was course work that caused their low mood or whether their difficulties with academic work were as a result of their low mood. It is most likely the later as a number of students described difficulties in having the motivation to attend class and due to this were slipping behind in their work. Indeed one student described their situation as an 'academic crisis', being stuck in a course they did not like and not being able to keep up with the work as a result. In addition some participants described the pressure to succeed and achieve high grades as difficult to cope with. This pressure came from both themselves and their parents.

"I think he (Dad) would be devastated if I told him (did not like course)"

"I was so far behind with everyone, with notes, assignments. I ended up failing my Christmas exams"

"The more lectures and tutorials I missed the harder I found it to go in"

Discussion

This pilot study has demonstrated that online peer support has the potential to be of benefit to young people, specifically students experiencing depressive symptoms. Of note, there were a large number of male participants in this study. Typically males demonstrate lower levels of help seeking behaviour than females (Turner et al. 2007) and thus this finding suggests that this type of support may be particularly appealing to males. Many of the scores on the CES-D at baseline were very high, with 91% (n=107) scoring over 27 and 35% (n=40) scoring over 40, with a mean of 36.75. Bay, Hagerty & Williams (2007) suggests that scores over 27 on the CES-D indicate the presence of severe depression. This may be related to people with more debilitating symptoms being more likely to seek support or it could be an indication of the depth of the problem among university students. However, while the participants sought help, few engaged significantly with the support offered.

No conclusions can be drawn as to whether the intervention had any effect on depressive symptoms due to the small sample size. This was as a result of retention problems. Poor attrition rates in internet based research are not uncommon, particularly among younger age groups (Nicholas, Proudfoot, Parker,Gillis, Burchardt, Manicavasugar & Smith 2010). In this study attrition rates were extremely high at over 80%. Early in the study it was identified as a problem and as such incentives to complete the time two questionnaire were offered, however little effect was observed. Incentives offered involved entering participants into a draw to win a book voucher for the campus book shop; this type of incentive was obviously not appealing

enough to this population. In future studies, if funding was available perhaps a small monetary incentive could be offered to all participants.

The profiles of those who remained in the study in comparison to those who dropped out were similar except in relation to gender. It was found that 81% (n=13) of those who completed the post-test questionnaires were male, this may again indicate that males may be more likely to engage in this type of support.

A pattern of usage emerged whereby participants registered to use the website, spent some time on the various pages and for most observed the forum interactions without engaging themselves. Those who did post, visited the site more frequently initially however this tapered off as the weeks progressed. This 'lurking' is not uncommon. Indeed, Forrester Research (2009) have suggested that 68% of 18-24 year olds in the UK read comments on forums and blogs, while only 38% will engage in posting reviews or contribute to forums. This could help explain the slow posting on the website in this study. As such, according to Li & Bernoff (2011), a forum is a social technology and a profile needs to be created of its users to better understand how it may work.

To keep an online forum going takes time and commitment. In this study, to enhance validity and reliability the researcher did not interfere in the peer support process. In reality to ensure the success of a forum especially at its early stages there needs to be someone working full time on the website. Enticing the users to post rather than just 'lurk' means that posting need to be frequent and relevant. Starting new threads and posting articles of interest is needed to keep the interest of the participants. As this website was new, it did not have the advantages of having a long history of posts and as such many users may have been reluctant to contribute. Furthermore, Klemm (2012) reported that online support groups that are moderated rather than completely peer led result in significantly more postings.

Another factor that potentially influenced attrition relates to technological development. Technology over the past number of years has changed rapidly. During the course of this study, this rapid change became evident with an explosion in the use of smart phones, tablets and social media. While technology advanced the website did not evolve with it. In addition, the participants in this study were 18-24 year olds, 'digital natives', they see and use technology differently to their older counterparts, they want everything to be instantaneous (Prensky 2010). In this study such instantaneous functions were not provided. Consideration should be given in the future to developing an application for smart phones and tablets to allow quick access and updating of forum posts, which may improve retention.

The forum posts offer some useful insights into the factors influencing depression in college students. It is evident that loneliness is a common feature and may be attributed to difficulties in adjusting to college life. Many students experience problems with adjustment as they transition from second to third level education and from adolescence to young adulthood. It is widely accepted that transition to university or college life involves a range of novel experiences and can cause many stressors, such as changes to financial status, work responsibilities and interpersonal problems (Darling, MvWey, Howard & Olmstead 2007). While college creates an opportunity for growth it can also create an opportunity for self-doubt and disappointment, can damage self-esteem and lead to feelings of inadequacy (Jackson & Finney 2002). Indeed, poor adjustment can lead to mental health problems such as low self-esteem, depression and anxiety, social isolation and poor academic performance, as well as resulting in students leaving college (Cao & Mao 2008, Dyson & Renk 2006, Jackson & Finney 2002). The posts in this study indicate that students feel isolated, this may be important in predicting attrition as Kelly, Kendrick, Newgent & Lucas, (2007) suggest that most students who drop out of college do so because they believe they do not fit in socially or

academically. The pressures of course work were also described by the participants; this again may in part be attributed to difficulties in adjusting to academia.

The participants described giving and receiving emotional and informational support. This supports Dennis's (2003) conceptualisation of peer support. While appraisal support was not as obvious, perhaps if the participants engaged in the forum for longer and developed better relationships this may have become evident. The participants were comforted by the sense that they were not alone, a frequently observed benefit of support groups in general. Indeed, Melling & Houguet-Pincham (2011) suggest that the purpose of online peer support is to provide support, understanding and compassion in order to increase self-esteem and coping mechanisms, such processes were observed in the forum posts.

Conclusion

The small sample in the pre-test post-test element of the study is a major limitation as such findings, particularly in relation to effect need to be interpreted with caution. However this pilot study does provide some useful insights into the development of online interventions, the experience of depressive symptoms for college students and the potential benefits of peer support. Many of the difficulties experienced by students are unique to the college setting and maybe as a result of difficulties with adjustment. They add to a limited body of knowledge on understanding the experience of depression through the eyes of young people, particularly students. It is recommended that further research is needed to determine the effect of online peer support for people with depressive symptoms. Studies involving young people need to consider technological advancements and need to have clear plans to deal with attrition. Such plans should include, fully understanding the internet profile of the participants, offering incentives to remain or engage in the forum or chat room and having a person working full time on the forum to ensure it is regularly updated and interest is maintained by the users.

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