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Self-reported efficacy of an online dental anxiety support group: a pilot study

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Abstract – *Objectives:* This study aimed to explore the self-reported effectiveness of an existing online dental anxiety support group in terms of perceived level of anxiety since accessing the group. *Methods:* An online questionnaire was completed by 91 individuals who accessed the Dental Fear Central, an online support group bulletin board, during an 8-week period in 2005. Participants reported background demographic information, their own self-reported evaluation of the efficacy of the support group, as well as completing the Modified Dental Anxiety Scale (MDAS). *Results:* In total, 60% of the sample considered that the support group had 'somewhat' or 'greatly lessened' their anxiety. Overall MDAS scores were significantly lower in the 'greatly lessened' group. *Conclusions:* The results of this nonrandomised pilot study suggest some individuals retrospectively considered that, since accessing the online group, they experienced a reduction in dental anxiety. Future research should employ a randomised controlled design in order to determine the contribution of the online group to self-reported changes in dental anxiety over time.

Key words: anxiety; internet; online support; oral health.

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Dental anxiety and phobia

Over 50% of the general population may be expected to feel some anxiety during dental visits, and studies indicate that approximately 7–12% of individuals experience high levels of dental anxiety or phobia (1–4). The effects of this high anxiety can be far-reaching and profound. First, dental anxiety has been identified as a significant barrier to accessing dental care, and this has been shown to have a detrimental effect on oral health (5). Second, dental anxiety can have a negative effect on individuals' lives with adverse social and psychological consequences reported across several studies (2, 6–9). Third, the effects of this anxiety can extend beyond the individual patient, as dental practitioners themselves report that treating anxious patients is often a stressful experience (10).

Face-to-face support groups for dental anxiety

Support groups can provide an opportunity for individuals to share their experiences and anxiety in a supportive environment. Crawford, Hawker & Lennon (11) conducted an evaluation of a face-to-face support group for dentally anxious adults, who were avoiding dental care, with a dentist as group leader. The group was shown to be successful in various ways, including confidence building and ability to attend for dental treatment. However, some weaknesses were acknowledged, including inconvenience experienced through attendance at meetings over lunchtime and dependence on the dentist as a group leader.

Online support groups for dental anxiety

In recent times, there has been a marked increase in the number of individuals who are searching for

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health-related information, advice, and support on the Internet, including information related to dentistry (12–14). In particular, there exists a growing number of online support groups for various conditions, illnesses, and phobias (15). Commentators have established that there are a number of advantages of such groups (16–18). First, they are not restricted by the temporal, geographical and spatial limitations typically associated with face-to-face groups, and so individuals can send and receive messages at any time of the day. Second, the participant is able to carefully consider their message and develop it at their own pace before posting it to the group. Third, online support groups may bring together a more varied range of individuals offering diverse perspectives, experiences, opinions and sources of information than might otherwise be the case. Fourth, participation in an online support group allows a greater degree of anonymity than face-to-face groups. Such anonymity may facilitate self-disclosure and help individuals in discussing sensitive issues more easily or to give opinions with less fear of embarrassment or judgement than in more traditional face-to-face groups (12, 19, 20).

Efficacy of online support groups

Eysenbach et al. (15) state that, although virtual communities, such as online support groups, are promising interventions used everyday by millions of people on the Internet, few studies evaluate their efficacy using quantitative parameters. In their systematic review of online support groups, they failed to find robust evidence on the health benefits of these groups. However, they do acknowledge that the absence of evidence does not mean that virtual communities have no effect. They offer several suggestions for the lack of studies and evidence including the lack of interest in evaluating 'unsophisticated' peer-to-peer interventions in 'pure' virtual communities compared with complex interventions or interventions led by health professionals.

Therefore, this study primarily aims to explore the self-reported effectiveness of an existing online dental anxiety/phobia support group, not moderated by a health professional, in terms of perceived anxiety since accessing the group.

Materials and Methods

Participants

The participants were 91 individuals who accessed the Dental Fear Central (http://www.dentalfearcentral.org/) group during an 8-week period in 2005. This noncommercial online support group was established to provide information and support to individuals who are affected by dental anxiety.

Procedure

Initial contact was established between the authors and the group administrator. The purpose of the study and its methodology were explained to the administrator and comments on the proposed structure and content for the online interview schedule invited. In addition, it was explained that approval for the study had been obtained from a Psychology subject group ethics committee from the lead author's institution (ethical approval code 009/04). Approval was then obtained from the administrator, and a 'news item' as well as a message was posted to the bulletin board by the administrator, inviting group members to participate in the study. Individuals who wished to participate were invited to visit a web-page which provided further information concerning the nature of the study and their rights as a participant in the research process. Each participant was asked to provide a six-digit password through which their data could be identified should they wish, at any point, to be withdrawn from the study (no participant chose to take this option). To prevent individuals making multiple responses, the data collection software was set to recognise and prevent responses originating from the same IP address. Additionally, all participants were asked if their responses could be quoted in any dissemination. Contact details for both authors (which included an e-mail address) were also provided to each participant prior to and after electronic submission of their responses.

Measures

Background information

Participants were asked to provide a range of background information including age, gender, country of residence, and relationship with dental anxiety (i.e. they themselves suffered or were accessing the group on behalf of another individual who was the sufferer).

Dental anxiety

Dental anxiety was measured using the Modified Dental Anxiety Scale (MDAS) (21). It consists of five items reflecting the dental experience (e.g. 'If you were about to have your tooth drilled, how would you feel?') and is rated on a 5-point scale

ranging from 'Not anxious' to 'Extremely anxious'. Previous studies have demonstrated good internal reliability for the MDAS (21, 22). In this sample, the MDAS achieved a coefficient alpha of 0.9.

Self-reported efficacy of support group

Participants were asked to respond to the statement 'Since joining or participating in the online group, has your phobia/anxiety…' in terms of five categories of response: 'greatly lessened', 'somewhat lessened', 'stayed much the same', 'somewhat increased,' and 'greatly increased'.

Results

Characteristics of study participants

Participants were 16–64 years of age (Mean age = 36.95 years) with 76.9% being female. In terms of country of residence, 54.9% were from the United States, 30.8% from the United Kingdom, 7.7% from Canada, 5.5% from Australia, and 1.1% from Germany. In regard to marital status, 26.4% were single, 51.6% were married, 17.6% were living with a partner, 2.2% were separated or divorced, and 2.2% reported being in a relationship but did not live together. All participants in the study indicated that they were accessing the group for themselves (as sufferers of dental anxiety).

Dental anxiety

Overall, the mean MDAS score for the sample was 19.82 (SD = 5.05). The number of participants who scored above the cut-off of 19, indicating likelihood of dental phobia, was 64 (21). As can be seen from Table 1, males reported significantly higher levels of anxiety as indicated by total MDAS scores and also for two specific MDAS items: having a tooth drilled and having a local anaesthetic injection. Age was not associated with either overall MDAS scores or any specific item.

Table 1. MDAS scores for males and females

MDAS Items	Males	Females
Going to the dentist tomorrow	3.90 (0.99)	3.90 (1.24)
In the dentist waiting room	4.33 (0.86)	3.87 (1.27)
Having a tooth drilled	4.67 (0.48)	4.06 (1.25)**
Having a scale and polish	4.00 (0.84)	3.74 (1.29)
Having a local anaesthetic injection	4.48 (0.68)	3.79 (1.29)**
Overall score	21.38 (2.54)	19.36 (5.52)*

*$P < .05$, **$P < .01$

Self-reported group efficacy: association with dental anxiety

In total, 17 members reported that their anxiety had greatly lessened; 38 somewhat lessened; 34 stayed the same; 1 somewhat increased, and 1 greatly increased. For the purposes of future analysis, these groups were collapsed to reflect those individuals whose anxiety was 'reduced' ($n = 55$) or 'stayed the same' ($n = 34$). Those participants in the 'increased' category were omitted from the analysis as this group included only two individuals.

Next, an Analysis of Covariance was performed using the overall MDAS score as the dependent variable and self-reported group efficacy as the 'between subjects' factor. The results revealed a significant difference [$F\ (1, 89) = 8.70, P < 0.01$] in overall MDAS scores between the 'reduced' group (M = 18.54; SD = 5.22) and those in the 'stayed the same' group (M = 21.68; SD = 4.22). Gender as the covariate did not diminish the self-reported group efficacy effect.

Discussion

To date, there has been relatively little attention given to investigating online support groups for dental anxiety. Therefore, the primary aim of this pilot study was to explore the self-reported effectiveness of an existing online dental anxiety/phobia support group (Dental Fear Central) in terms of perceived anxiety since accessing the group.

The results of this study revealed that a majority of participants reported that, since accessing this online support group, their anxiety had reduced. Moreover, overall MDAS scores were significantly lower in this group as compared with those who reported that their anxiety had remained the same. With little attention having been devoted to online dental anxiety groups, our results represent a valuable initial exploration of their efficacy as reported by those who access them.

There are, however, a number of methodological issues that should be considered. Our study was limited by the cross-sectional retrospective nature of the study design. In the absence of any baseline measures of dental anxiety (prior to accessing the online group), it was not possible to determine the extent to which accessing the online support group contributed to the self-reported ratings of group efficacy. In order to evaluate the impact of dental anxiety online support groups more rigorously,

future research should seek to employ a pre–post controlled design with a randomised assignment of individuals to conditions (e.g. group participation versus a waiting list control).

An additional limitation of this study relates to the potential bias in sampling from only those individuals who selected themselves into the online support group. One possible explanation may be that the respondents were a highly motivated group (i.e. members of a self-help group and volunteering to complete the questionnaire). Perhaps, it was not the support group itself, but rather the nature of individual respondents, which accounts for the self-reported reduction in anxiety since accessing the group. In addition, the extent to which this sample is representative of those who are dentally anxious remains unclear. Our finding that males scored significantly higher on the MDAS is in contrast with the extant literature and may support the view that this was not a representative sample (21, 23).

Despite these limitations, this pilot study offers an insight into the growing phenomenon of online support groups. It provides a foundation for future researchers to employ rigorous methodological designs, in order that dental personnel and psychologists can potentially assess whether accessing an online support group represents a viable and beneficial means through which dental anxiety can be overcome and dental care received.

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