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Facebook-based stress management resources for first-year medical students: A multi-method evaluation

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ABSTRACT

Student anxiety and doubt about academic performance in the early years of medical school have been well documented. Stress management programs can be helpful but are challenged by shortages of time, personnel, and resources. Therefore, popular online social networks such as Facebook may offer an innovative strategy for addressing student stress and supporting coping. This pilot study explored whether first-year medical students could benefit from a stress management intervention based exclusively on Facebook. During orientation week at Penn State College of Medicine, participants were randomly assigned to a Facebook stress management group that addressed problematic issues during the first semester. The intervention took place during the first eleven weeks of medical school. A multi-method evaluation of the intervention was completed using descriptive statistics for demographics and frequencies and qualitative procedures for focus group data. The accessibility and ease of use of a Facebook-based stress management program proved valuable for medical students, particularly early in the semester when engagement was greatest. These preliminary results suggest that medical schools might consider adding an online social networking component to existing stress management programming. This online strategy may also be of benefit to other health professionals and students from other health disciplines.

1. Introduction

Stress and depression are major problems for medical students (Aktekin et al., 2001; Inam, Saqib, & Alam, 2003; Lubitz & Nguyen, 1996) and can adversely impact learning (Elnicki, 2010), coping (i.e., alcoholism and drugs) (Delnevo, Abatemarco, & Gotsch, 1996; Dunn, Iglewicz, & Moutier, 2008), self-care habits (Hull, DiLalla, & Dorsey, 2008), and later, professional mental health (Dahlin, Joneborg, & Runeson, 2005; Dyrbye et al., 2008, 2010; Frank, Biola, & Burnett, 2000; Goebert et al., 2009; Hays, Cheever, & Patel, 1996; Schwenk, Davis, & Wimsatt, 2010; Tjia, Givens, & Shea, 2005; Tyssen, Vaglum, Grønvold, & Ekeberg, 2001). Challenges intrinsic to the first year of medical school have been documented (Brennan, McGrady, Lynch, & Whearty, 2010). Most students must transition to new living arrangements and social settings without familiar supports (i.e., friends and family). Additionally, new learning skills are required by the curriculum – often in competitive and adversarial environments that can also deter students from seeking mental health care (Chew-Graham, Rogers, & Yassin, 2003; Givens & Tjia, 2002; Link & Phelan, 2001). Recent studies have shown that M1–M2 students are more likely than M3–M4 peers to stigmatize depressed classmates (Schwenk et al., 2010), while others have found that younger students (22–24 years) are less likely to seek treatment than older students (Tjia et al., 2005).

Mitigating stress and enhancing coping skills should be a priority for medical educators, especially during early professionalization experiences. However, despite beneficial outcomes of previous interventions (Brennan et al., 2010; Frank et al., 2000; Shapiro, Schwartz, & Bonner, 1998; Shapiro, Shapiro, & Schwartz, 2000), programs have been challenged by shortages of time, personnel, and resources (Cox, Cambre, Wolf, Webster, & Hooper, 2001; Shapiro et al., 2000). These barriers beg the question of whether there are alternative means – including increasingly popular online social networks (OSNs) – of addressing student stress and depression (Brennan et al., 2010).

Recent surveys have shown that over 90% of medical students participate in OSNs (Bosslet, Torke, Hickman, Terry, & Helft, 2011), with rates having risen significantly in just a few years (Chretien, Goldman, Beckman, & Kind, 2010; Moubarak, Guiot, Benhamou, Benhamou, & Hariri, 2011; Thompson et al., 2008). A previous study on college students has suggested that OSNs can reduce stigma surrounding mental health conditions (Moreno et al., 2011). The intent of this pilot study was to explore whether a

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Facebook stress management group could reduce anxiety, enhance academic confidence, and facilitate social connectedness during the first semester of medical school. This report describes the descriptive statistical and qualitative analysis of the intervention.

2. Methods

2.1. Intervention

After receiving IRB approval, a secure Facebook group was designed for first-year students at Penn State College of Medicine (PSCOM). The framework blended cognitive behavioral theory and concepts from Lazarus & Folkman's model of stress and coping (Folkman & Lazarus, 1980). Specifically, content provided problem-focused coping strategies such as changing the environment through reframing or relaxation, and emotion-focused strategies that addressed feelings and responses to stress (Folkman & Lazarus, 1988).

Under the supervision of experts in counseling and information technology, second-year medical students helped create Facebook group content consisting of three streams of material: (1) personal narratives, (2) education/information, and (3) stress-management resources. Every day, new content was posted in the form of: 55 original YouTube video-narratives of older medical students and faculty describing stress coping strategies and study tips; prompts that provoked discussion (e.g., "What music lowers your stress?"), information about campus support resources; links to supportive content (i.e., relaxing music, breathing and meditation techniques, healthy eating tips); and prompts to fun "light" questions with incentives for participation (i.e., coupons for local activities/events). The site was monitored daily by a mental health professional throughout implementation to ensure appropriate usage.

2.2. Study design

During orientation week, all first-year students ($n = 145$) were offered the opportunity to participate in the study. Of those, 66% ($n = 95$) consented (see Table 1). Participants were randomized into either the in-person stress management group ($n = 48$) or the Facebook group ($n = 47$) using simple randomization (see Fig. 1).

2.3. Main outcome measures

Upon completion of the intervention, a second-year medical student performed an independent evaluation of Facebook group usage patterns using Microsoft Excel. Simple counts and analyses were generated where appropriate, and postings and replies were summarized. To evoke richer explanations of benefits/drawbacks of the Facebook group, a 6-person focus group was conducted. The group, led by an experienced facilitator not privy to the Facebook intervention, began with the inquiry: "What was it like for you to be part of Facebook stress management group?" Follow-up questions explored helpful/unhelpful aspects of the intervention, suggestions for improvement, and discussion about admitting need for support.

Table 1
Participant characteristics.

Characteristics	Facebook ($n = 47$)	Percentage (%)
Women, number	27	57
Men, number	20	43
Age, mean	23	49
Unmarried	39	83
Married	8	17
Previously employed	28	60
Not previously employed	19	40
Student housing	31	66
Non-student housing	16	34
Highest degree		
(a) Bachelors	43	91
(b) Masters	4	9

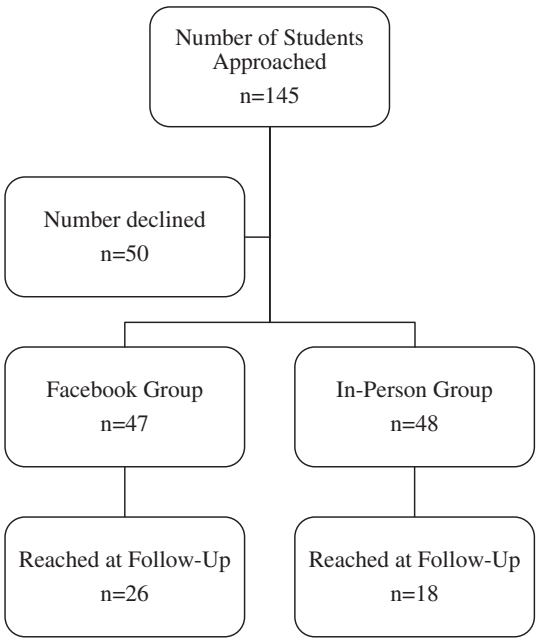

Fig. 1. Recruitment flow chart.

The focus group was recorded digitally, transcribed, cleaned, and analyzed using qualitative methods. Specifically, three researchers independently conducted line-by-line analysis of participant responses using open coding. Initial coding involved assigning key phrases or words to each unit and collapsing codes that addressed the same concept. The resulting coding groups were compared between researchers using iterative analysis to create common themes. Axial coding was then used to discover relationships between themes and create a tentative model of response to the intervention that would be confirmed by independent analysis and quantitative data.

3. Results

3.1. Evaluation of site content

The 55 YouTube video-narratives were viewed a total of 369 times. The following videos represented the most-viewed content: "Faculty perspectives on handling failure" (27); "The first few days of medical school" (21); "Best advice for medical school" (20); and "Taking the first Gross Anatomy test" (19). Videos were watched more in the beginning of the semester, with a downward trend as Gross Anatomy progressed, peaking slightly during the week of the first exam (see Fig. 2).

3.2. Focus group analysis

Data from the focus group revealed the following emergent themes:

3.2.1. User-friendly strategies for coping with stress

Students found certain Facebook content to be most helpful to their coping. Specifically, the video-narratives with advice from older students and faculty as well as links to online resources were identified as most useful. One participant said: "I looked at most of