

Psychological Distress and the Use of an App for Social Support Among Men and Women with Fertility Concerns

Phyllis Zelkowitz^{1,2,3}, Felicia Brochu^{1,2}, Shrinkhala Dawadi^{1,2}, Eden Gelgoot^{1,2,3}, Siobhan O'Connell^{1,3}, Stephanie Robins^{1,3}

1 Jewish General Hospital, Montreal, Quebec, Canada; 2 McGill University, Montreal, Quebec, Canada; 3 Lady Davis Institute, Montreal, Quebec, Canada

INTRODUCTION

- Feelings of isolation are common among people with infertility
- Online forums and chat rooms allow people to exchange information and experiences and to receive empathetic reactions from others who understand the medical and emotional challenges of infertility
- Infotility* is a mobile health app developed by researchers and fertility health care professionals to provide information and support to fertility patients.
 - The app includes a forum monitored by peer supporters with experience of infertility and its treatment.
- This study explores users' experience of the forum and whether psychological distress is related to *Infotility* forum use.

METHODS

159 women and 42 men (n=201) were recruited at fertility clinics in Montreal and Toronto to test *Infotility*.

Study Design:



- Infotility* users were divided into three unique groups (determined by Google Analytics):
 - active posters on the forum (18.4%),
 - lurkers who read messages but did not post (30.3%), and
 - non-users (people who did not use the forum, 51.2%).
- One-way analysis of variance and post hoc Bonferonni tests were used to compare the PSS-4 and GAD-7 scores of these 3 groups.

RESULTS

Table 1: Comparing mental health characteristics to use of *Infotility* forum

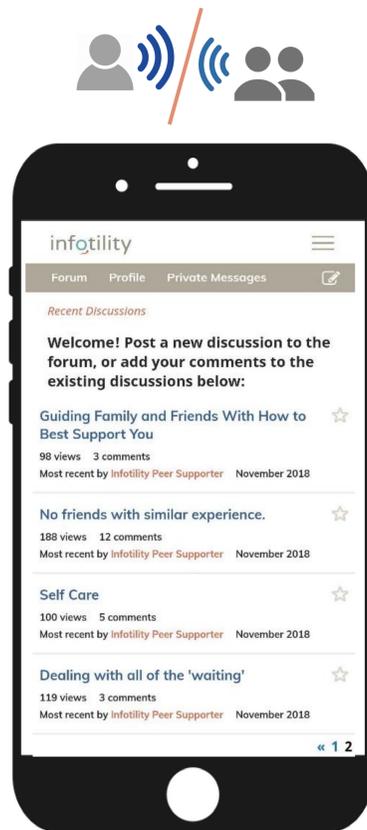
| | GAD-7 Total score (range 0-21) | | PSS-4 Total score (range 0-16) | |
|--------------|-----------------------------------|------|-----------------------------------|------|
| | Mean | S.D. | Mean | S.D. |
| Non-user | 7.40 | 5.75 | 6.56 | 2.99 |
| Lurker | 5.63 | 4.56 | 6.70 | 3.44 |
| Poster | 9.94* | 5.95 | 8.31* | 3.42 |
| Total sample | 7.30 | 5.58 | 6.91 | 3.26 |

DISCUSSION

- The *Infotility* forum was of particular interest to users experiencing psychological distress.
- Participants who used the forum perceived it as comforting, supportive, and reliable. It provided participants a way to share their own experiences, and communicate with others in similar situations.
- This study highlights the importance of monitored forums and peer support for those undergoing fertility treatment, particularly for those experiencing distress.

MAIN FINDINGS

Infertility patients appreciated the peer-monitored forum as part of a mobile app.



Participants reported that the forum:

- Reduced stress and social isolation
- Normalized the experience of infertility
- Provided useful information

"What I benefitted from was the opportunity to read how other people were coping with their situations and to be able to post my own thoughts/feelings. I felt less alone knowing I could contribute to the forum."

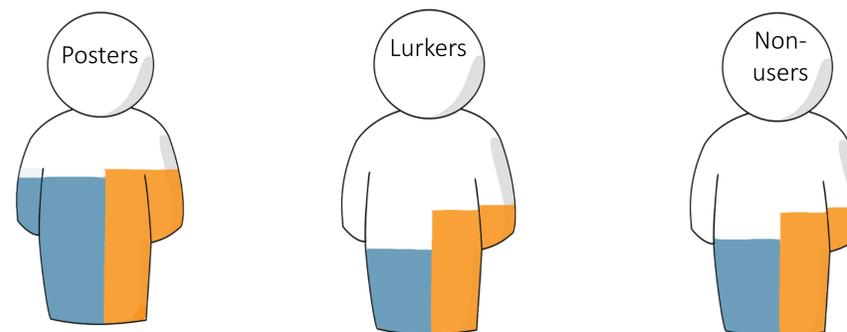
"Knowing there are real people going through the struggles of fertility. Although, I didn't use it as my own soundboard, I sought comfort in reading the support given to others."

"I was able to express myself without judgement and get answers to questions I had."

"I liked the peer support very much, it helped me calm down and feel like I have someone I can vent to."

"This app made me feel that I'm not the only one going through an infertility problem and gave me confidence and comfort."

Distressed participants were more likely to post on the forum.



Posters had significantly higher GAD-7 scores and PSS-4 scores than lurkers and non-users (p<0.05, see Table 1).

● GAD-7 Total score
● PSS-4 Total score

PATIENT DEMOGRAPHICS

| Characteristics | % or Mean (SD) | N |
|-------------------------------|----------------|-----|
| Age | 35.3 (4.9) | 199 |
| Sex | | 201 |
| Female | 79.1 | 159 |
| Male | 20.9 | 42 |
| Immigrant Status | | 196 |
| Immigrant | 39.3 | 77 |
| Born in Canada | 60.7 | 119 |
| Annual Household Income (CAD) | | 196 |
| Less than \$80,000 | 30.6 | 60 |
| \$80,000 and mores | 69.4 | 136 |
| Ethnicity | | 198 |
| White | 61.6 | 122 |
| Non-white | 38.4 | 76 |
| Language | | 201 |
| English | 69.2 | 139 |
| French | 30.8 | 62 |
| Months in fertility treatment | 18.5 (18.7) | 193 |
| Infertility diagnosis | | 199 |
| Female-factor only | 32.7 | 65 |
| Male-factor only | 23.6 | 47 |
| Mixed-factor | 13.6 | 27 |
| Unexplained / still testing | 30.2 | 60 |

MEASURES

Before using the app, participants completed a background questionnaire, the **Perceived Stress Scale (PSS-4)** and the **Generalized Anxiety Disorder 7-Item Scale (GAD-7)**.

- The PSS-4 is a self-report measure of the amount of stress encountered in daily life in the past month.
- The GAD-7 assesses symptoms of anxiety in the past two weeks.

For each scale, answers were summed to create total scores. The higher the score, the more stress or anxious symptomatology the participant expressed.

After using *Infotility* for 6 to 8 weeks, participants answered follow-up questionnaires including two open-ended questions:

- Please tell us what you liked best about the app, and why.
- Please tell us what you liked least about the app, and why

The responses that pertained to the forum were examined for general themes.