Original Article

Facebook as an effective recruitment strategy for mental health research of hard to reach populations

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ABSTRACT

Recent reports indicate that Facebook (FB) may facilitate recruitment of hard to reach participants into mental health research. The present study aimed to contribute to this emerging literature by exploring recruitment data from a recently completed trial of online treatment for symptoms of anxiety and depression that targeted Arab people. The present study compared traditional recruitment strategies such as media releases, emails, and print advertisements with Facebook strategies including boosting posts, promoting websites, events and FB public fan pages. The main outcomes of interest were the number of started applications and the time and cost per application associated with the FB and traditional recruitment strategies. A target sample of 350 was sought and a total of 81 participants applied to participate over the 42-week recruitment period. Overall, 86% of the resultant applications occurred via FB recruitment and a Poisson regression analysis indicated the FB strategies were more time-effective, recruiting participants 2.5 times faster than the traditional strategies. However, there were no differences in cost-effectiveness for FB ($US37 per participant) and traditional strategies ($US40 per participant). The findings of the current study add to existing literature detailing the value of FB recruitment strategies, alongside more traditional strategies, as a way of recruiting hard-to-reach populations for research. However, more research is needed to explore alternative and optimal strategies for the successful recruitment of hard to reach populations via FB and other online social media platforms.

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1. Introduction

Facebook (FB) is the most popular social media platform in the Western world, with an estimated global membership of 1.49 billion people (Facebook, 2015a). The use of FB has extended beyond maintaining social contacts to use as a platform for commerce, health, education, and a broad range of other purposes. By virtue of its widespread use, relative anonymity, cost-effectiveness and acceptability, FB is increasingly being used as a strategy of recruitment for research (e.g., Batterham, 2014; Berry and Bass, 2012; Eysenbach et al., 2012; Harris et al., 2015; Koenings et al., 2015; Nelson et al., 2014; Wen-Cheng et al., 2011; Young et al., 2014) replacing traditional recruitment strategies (Harris et al., 2014; van Voorst et al., 2015). More recently, FB has also been successfully used to facilitate recruitment of populations who might not respond to traditional recruitment strategies, including adolescents (Amon et al., 2014, 2015), young adults aged 18–23 (Loxton et al., 2015) and ethnic minorities (Ünlü Ince et al., 2014).

For example, a recent study (Ünlü Ince et al., 2014) reported a comparison of outcomes when using different promotional techniques to

recruit Turkish immigrants in Holland to a research trial. These researchers compared traditional promotional techniques, including email distribution lists, press releases, digital mailing, flyers, and newspapers advertisements, with a FB *personal* and *public fan page* designed specifically for the research study. FB *public fan pages* are profiles or sites created in Facebook for organisations to share their stories and connect with people who choose to *like* their page and become fans. FB *personal pages* are profiles or sites created for individuals to share their information (Facebook, 2015b). Ünlü Ince et al. (2014) noted that their FB personal and public fan pages resulted in 76% of applicants to the research trial, a proportion superior to all the other recruitment strategies they employed combined. Other studies have reported similar results comparing FB with traditional recruitment campaigns (Loxton et al., 2015). This highlights the potential of Facebook in the recruitment of other hard-to-reach ethnically diverse populations, such as the Arab community.

The term *Arabs* refers to individuals of an Arabic speaking background with origins from 22 countries in North Africa and the Middle East (Victorian Arabic Social Services, 2010). Arabs are a difficult to reach and under-researched population in mental health research (Abudabbeh and Hays, 2006; Redwood and Gill, 2013). As of May 2014, the total number of Arab FB users was 81 million, compared with 54 million 12 months earlier, representing an FB

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penetration rate in May 2014 of 21.5% (Arab Social Media Report, 2014). The growing numbers of FB users in the Arab region indicate that this platform could be used to facilitate recruitment of Arabs into mental health research. However, to our knowledge, there are no published accounts of using FB for this purpose. Given the limited evidence of efficacy of psychological treatments with Arab people (Gearing et al., 2012; Takriti et al., 2005), recruitment of Arabs to mental health research is an urgent priority.

The present study aimed to contribute to the emerging literature by comparing traditional and FB recruitment strategies using data from a recent trial of internet-delivered cognitive behavioural treatment (iCBT) for anxiety and depression that targeted Arab people (Kayrouz et al., 2016). At the time of the study, FB offered several promotional strategies including: (1) promoting posts; (2) promoting public fan pages; (3) promoting websites and (4) promoting events. The present study also sought to extend on the available literature by also comparing the time and costs associated with traditional and FB strategies. Consistent with recent reports, it was expected that FB strategies would be superior to traditional recruitment strategies.

2. Method

2.1. Design

The evaluation of recruitment strategies involved a *post hoc* design. The design was enacted as a response to the low participation rate arising from traditional strategies for a trial of a free internet-delivered cognitive behaviour therapy for Arabs (Kayrouz et al., 2016) and the emerging literature about the effectiveness of Facebook as a recruitment strategy (e.g., Harris et al., 2015; Loxton et al., 2015). Consequently, the research team thought it was important to report findings in order to inform other researchers about the potential of FB in reaching hard to reach populations. A formal evaluation of cost, time, and scale of recruitment was performed in order to better understand the outcomes and limitations of each strategy. Details of the main study are described in more detail in Kayrouz et al. (2016) and relevant information is summarised below.

2.2. Background information about the main study

The main study aimed to evaluate the efficacy and acceptability of a culturally modified version of an evidence-based treatment, the Wellbeing Course (Dear et al., 2015; Titov et al., 2013, 2014, 2015a,b) for use with Arab people. The modified course, the Arabic Wellbeing Course, is a five-lesson iCBT intervention delivered over eight weeks targeting symptoms of anxiety and depression (Kayrouz et al., 2015). The main study was approved by the Human Research Ethics Committee of Macquarie University, Sydney, Australia, and registered as a clinical trial with the Australian New Zealand Clinical Trials Registry, ACTRN12614000124639.

The main study aimed to recruit 350 Arab people, regardless of location in the world. Inclusion criteria for participation in the main study were the following: (1) person who self-identified as being of Arabic ancestry (i.e. the person, their parents or grandparents were born in an Arabic-speaking country); (2) living anywhere in the world including Arab and non-Arab countries; (3) between the ages of 18 and 70; and (4) having reliable internet access. Exclusion criteria for participation were the following: (1) experiencing very severe symptoms of depression (defined as a total score ≥ 23 or a score > 2 on question 9 of the PHQ-9) (Kroenke et al., 2001); and (2) if taking medication for anxiety or depression, not having been on a stable dose for at least one month.

2.3. Outcome measures (present study)

The present study examined two outcome measures evaluating the cost and time effectiveness of traditional and FB strategies. The two

outcome measures of interest included the following: (1) the cost in $US of starting a new application due to the overall strategy (Facebook vs. Traditional), that is, the cost-effectiveness per person who applied; and (2) the time taken in weeks for a new application to occur because of the overall strategy (Traditional vs. Facebook), that is, time-effectiveness per person who applied.

The comparison of strategies was enabled through the collapsing of several, diverse recruitment strategies into two overall clusters of strategies, considered here as "Traditional" and "Facebook". Recruitment was defined as those who started an application to the main study. Within each strategy, several steps were taken to attract participants. Over a period of 14 weeks, "Traditional" community engagement efforts such as radio interviews, newspaper advertisements, email circulation to health professionals, religious and secular organisations were taken. Some of these strategies and their effectiveness may have overlapped, making the unique comparison between more specific strategies unclear. However, paid FB strategies occurred at a different time, with some weeks no FB strategies used. Thus, a distinct period of 28 weeks is used to compare a recruitment window where Facebook strategies were used uniquely, against the window of recruitment where traditional strategies were used.

The time and date of each started application to the main study were recorded by the research clinic software system. For traditional and FB strategies, new applications arising during the implementation of the respective strategies were used to measure the effectiveness of the overall strategy. Fig. 1 shows a timeline of when traditional and FB recruitment strategies were implemented and the new applications arising at the time the recruitment strategies were used. A notable point from the figure is the immediacy of a successful application within the week or close after the recruitment. Thus, recruitment appears to translate to applications within the week, and without a delayed effect.

2.4. Procedure

Details of the promotional strategies are included in Table 1. Most of the traditional strategies were presented in English, with the exception of the two newsletters, the heading of the flyer, and the radio interviews, which were in Arabic. All of the Facebook strategies were presented in English. The reading age/literacy level assumed was the ability to read a local English or Arabic newspaper. Compared to FB, the text used in traditional strategies was longer and provided more details about the main study (see Figs. 2 vs. 4–6). Culturally appropriate images (see Figs. 2 and 6) and content were used across both strategies. The content of both strategies addressed the barriers of cost, the stigma of seeking help, and the lack of trust in mental health services (Gearing et al., 2012; Kayrouz et al., 2014), by emphasising that participation was free, anonymous and could be done from home (see Figs. 2, 3 and 6). All recruitment campaigns targeted adults of Arabic ancestry who experience stress, anxiety or depression living in Western (e.g., Australia, UK and the USA) and Arab (e.g., Lebanon, Egypt, Saudi Arabia and Kuwait etc.) countries.

2.4.1. Traditional recruitment strategies

The recruitment campaign began by utilising traditional strategies (see Table 1). These strategies included the following: (1) a media release by the University media and communications department to relevant media organisations; (2) emails with attached flyers (see Fig. 2) to 94 different relevant Arab organisations (e.g., medical, secular and religious organisations), 108 health professionals and to approximately 80 interested individuals; (3) two newspaper advertisements in English, costing $US 440 (see Fig. 3) and two editorials in Arabic in an Australian Arabic newspaper; (4) flyers (see Fig. 2) in English in religious organisations and the Australian Lebanese Medical Association's newsletter; and (5) information about the research on websites of the University and five mental health related organisations. Due to a slow rate of recruitment from these traditional strategies, and the emerging