Internet Interventions 1 (2014) 74–83

Contents lists available at ScienceDirect

Internet Interventions

journal homepage: www.invent-journal.com/

Reaching and recruiting Turkish migrants for a clinical trial through Facebook: A process evaluation

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ARTICLE INFO

Article history:
Received 2 May 2014
Received in revised form 26 May 2014
Accepted 26 May 2014
Available online 6 June 2014

Keywords:
Ethnic minorities
Recruitment
Depressive symptoms
Internet-based treatment
Randomized controlled trial

ABSTRACT

Ethnic minorities are underrepresented in mental health research, especially in randomized controlled trials. Recruiting ethnic minorities is challenging and there is a need to develop effective recruitment strategies.
This study used data from a randomized controlled trial examining the effectiveness of an online guided self-help intervention for Turkish migrants with depressive symptoms. The recruitment process comprised six strategies in Dutch and Turkish: 1) a press release; 2) digital mailing; 3) the distribution of research information leaflets; 4) advertisements; 5) the Internet (in general terms); and 6) Facebook (FB). We describe the content and approach of each of the strategies and how effective they were in recruiting participants for our study. FB is evaluated in a step-by-step description of the recruitment strategy, together with its results in terms of effectiveness, specifically regarding data of FB Friends and messages received by FB Friends through FB.
Results showed that a total of 287 applied for the trial. The majority of applicants were recruited through FB (75.6%, n = 224), of whom 74 (33%, n = 224) were included in the trial. Traditional recruitment strategies were far less successful, yielding only 16.4% (n = 47) of the total of 287 applicants, of whom only 3 (3.1%) were included in the trial.
Traditional recruitment strategies, such as research information leaflets and advertisements in newspapers, appear ineffective in recruiting ethnic minority groups for research purposes. The use of FB proved to be a more successful method. Future research should examine the factors that account for the potential effectiveness of FB as a recruitment method for hard-to-reach populations.

1. Introduction

Ethnic minorities are underrepresented in mental health research, and their inclusion in clinical research has been a challenge for many researchers (Miranda et al., 2003; U.S. Department of Health and Human Services, 2001; Hussain-Gambles et al., 2004). Research shows that cultural characteristics are an important factor hindering the recruitment of ethnic minorities in clinical research. These characteristics include language barriers, religious beliefs and a negative attitude towards psychotherapy (Brown et al., 2014). However, not all of these barriers are due to cultural characteristics (Brown et al., 2014). In a systematic review, Brown and colleagues (2014) identified several barriers for participation in research by ethnic minorities. It was found that more mundane factors in the family or community, in health services and in the research process itself also play a critical role in successful recruitment. These practical issues are also often encountered when working with native populations with a low socio-economic status and are thus not exclusive to ethnic minorities. Consequently, the underrepresentation of ethnic minorities in clinical research has several negative implications such as inhibiting psychotherapy development and delivery (Brown et al., 2014). This can affect the generalizability of the study findings towards the ethnic minorities concerned.

In the past decades, several evidence-based psychotherapies have been developed in order to treat mental disorders, including depression. However, research examining the direct effect of psychotherapy in ethnic minorities is sparse (Ünlü Ince et al., 2014). A recent meta-analysis suggested that psychotherapy is equally as effective in ethnic minorities as in native populations, after examining the ethnicity proportion of the population samples in 56 clinical trials in relation to the effect of psychotherapy (Ünlü Ince et al., 2014). Although these first findings are promising, insufficient randomized controlled trials are available to make direct comparisons between ethnic minorities and native groups. Moreover, there is still a gap between the unmet needs for treatment of

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http://dx.doi.org/10.1016/j.invent.2014.05.003

ethnic minorities in both clinical and research settings. Tailor-made recruitment strategies are factors that might play an important role in filling this gap.

Although recruiting ethnic minorities in clinical research is difficult, Brown and colleagues (2014) have given several suggestions to overcome recruitment barriers. In their systematic review they suggest that the difficulty of recruiting ethnic minorities must be addressed at an early stage by modifying the protocol for research. Furthermore, human and financial resources should be expanded from the beginning of the research. It is noticeable, however, that all nine studies in this review were conducted in the United States, indicating a lack of European research on ethnic minorities. This focus on the inclusion of ethnic minorities in the United States may be positively influenced by US guidelines and policies that mandate the inclusion of ethnic minorities in clinical research by the National Institute of Health (NIH). European countries don't have such policies yet (Bhopal, 2009). Although several suggestions are given in the systematic review, these are mainly of a generic nature and do not provide concrete methods to improve recruitment strategies among ethnic minorities. It seems therefore, that more concrete strategies need to be developed to improve the inclusion of ethnic minorities in clinical research.

An innovative way to recruit participants for research is via the Internet, which can be utilized in many forms, such as by offering online psychotherapy. For example, Internet-interventions are shown to be easily accessed, have a high level of anonymity and a low threshold for acceptability (e.g. Griffiths and Christensen, 2006; Muñoz, 2010). Numerous studies have confirmed the effectiveness of online psychological interventions in the treatment of depression in adults (Richards and Richardson, 2012; Andersson and Cuijpers, 2009). However, little is known about the effectiveness of Internet-based psychotherapies in ethnic minorities since ethnic minorities are so far underrepresented in randomized controlled trials as well (Ünlü Ince et al., 2014).

Another advantage of the Internet may be the potential to recruit larger samples at low costs (Ramo and Prochaska, 2012; Jones et al., 2012; Barrera et al., 2014). Many Internet-based studies, however, continue to use more traditional recruitment methods such as newspapers and magazine advertisements, rather than the Internet itself (e.g. Alexander et al., 2008; Warmerdam et al., 2008).

The current study used data from a randomized controlled trial on the effectiveness of a web-based problem-solving therapy for Turkish migrants with depressive symptoms in the Netherlands (Ünlü Ince et al., 2013). The intervention was adapted to the specific needs of Turkish people living in the Netherlands. During the recruitment process, we faced several challenges in recruiting through traditional media, such as advertisements in Turkish newspapers. We also made use of recruitment strategies via the Internet, particularly through Facebook (FB). Because this was by far the most successful method, and is rather new, we decided to systematically describe how we used this method. We also provide some explanations for the potential success of this method in recruiting ethnic minorities for randomized controlled trials. Accordingly, we aim to contribute to the knowledge base of recruitment strategies for hard-to-reach populations, including ethnic minorities.

This paper will provide a detailed description of the recruitment process and the effectiveness of each recruitment strategy applied during the trial. We will do this by: 1) describing the recruitment strategies used; 2) evaluating the effectiveness of each recruitment strategy; 3) providing a step-by-step description of the use of FB as a recruitment strategy; and finally 4) exploring the recruitment process through FB in terms of users ("Friends") and messages received by "Friends".

2. Methods

2.1. Background information about the main study

This study used data from a randomized controlled trial examining the effectiveness of an online guided self-help intervention for Turkish migrants with depressive symptoms (Ünlü Ince et al., 2013). In brief, participants were recruited among the Turkish migrant population and included when they met the following inclusion criteria: 1) 18 years or older; 2) depressive symptoms; 3) access to a computer with Internet and an e-mail address and 4) a Turkish background (meaning the participant and/or at least one parent were born in Turkey).

Participants with suicidal ideations were excluded. We applied a strict protocol for study inclusion of participants, including the exclusion of suicidal participants. Contact with individuals who were potentially at risk for suicide is a feature of many rct's and independent of the recruitment strategy applied (i.e. not FB specific). This protocol was approved by an independent Medical Ethics Committee (METc VUmc) as written in the protocol paper of the study (Ünlü et al., 2010). The exclusion procedure steps were as following: suicidality was assessed in two steps as part of the online screening. First, the suicide item on the Beck Depression Inventory II (BDI-II) was presented (Beck and Steer, 1987; Beck et al., 1996). Second, if the response was affirmative, the suicide risk was measured with the suicidality section of the Mini-international Neuropsychiatric Interview (MINI) (Sheehan et al., 1998; Lecrubier et al., 1997; Van Vliet and De Beurs, 2007; Engeler, 2004). Participants with a moderate or high risk were advised to contact their general practitioner and were also referred to the online portal for suicide prevention (www.113online.nl). We added this description in the Methods section.

People could show their interest in the study by sending an e-mail to the researcher to obtain further instructions for the screening. A detailed description of the study procedure and the results of the trial have been published elsewhere (Ünlü et al., 2010; Ünlü Ince et al., 2013).

2.2. The recruitment strategies

The recruitment of participants for the randomized controlled study took place from June 2010 to March, 2012. Six strategies were applied during this recruitment process, in Dutch as well as in Turkish (shown in Table 1). These were 1) a press release; 2) digital mailing; 3) the distribution of research information leaflets; 4) advertisements; 5) the Internet (in general terms); and 6) Facebook. Five of these six strategies can be characterized as 'regular strategies' meaning that they are well-known and frequently used strategies to engage study participants (i.e. Van Ballegooijen et al., 2013; Warmerdam et al., 2008).

As these strategies appeared not to be effective in recruiting Turkish individuals for our study, we explored a rather new method, i.e. recruiting participants through Facebook (FB).

We will describe all these above-mentioned strategies in more detail, by focusing on (1) the content and approach of each one and (2) how effective they were in recruiting participants in our study. FB will be also evaluated not only in a step-by-step description of the recruitment strategy, and its results, but also by presenting data in terms of Friends and messages received by Friends through FB.

2.3. Description of the recruitment procedure

2.3.1. Press release

The recruitment of participants started with a press release in Dutch published by the communications department of our university. This strategy is often successful in engaging participants for research on Internet-based guided and unguided interventions for common mental disorders (i.e. Van Spijker et al., 2014; Van Ballegooijen et al., 2013). The press release contained a brief description on the study and information on participation possibilities for Turkish persons with depressive complaints. Press agencies could use the press release either for publication or as means to contact the researcher for further information about the study.

2.3.2. Recruitment through direct emailing

E-mails with information about the research project and a call for participants in Dutch and Turkish were disseminated among several networks. This strategy was applied in parallel to the press release. The e-mails were disseminated within the personal professional network of the researcher (BÜI), among psychology students at the faculty of Psychology and Education of our university, key persons in (intercultural) health care teams/organizations in the Netherlands (a total of 85), Turkish migrant advocacy organizations, (a total of 30) and Turkish migrant related websites (a total of 40). We also asked whether these organizations could forward the e-mail to their network or potentially interested people.

2.3.3. The distribution of research information leaflets

We prepared leaflets (both in the Dutch and Turkish languages) containing detailed information about the research project and a call for Turkish individuals with depressive complaints to participate. These leaflets were distributed in person (BÜI) among several organizations, including five regional mental health services, seven general health practitioner offices in the Amsterdam region, twenty Turkish religious or socially oriented organizations and two mosques in the Amsterdam region. Furthermore, we distributed research information leaflets by mail among Turkish people through the municipality of Zaandam. In total, we distributed 1000 information leaflets.

2.3.4. Advertisements

Recruiting volunteer study participants from the community through advertisements in (regional) newspapers is an often applied and successful strategy for public health studies (i.e. Warmerdam et al., 2008). As we targeted people in the Turkish community, we decided to place an advertisement about the research project in a European version of a Turkish newspaper. This advertisement contained a small banner in print that was published for 45 days in the newspaper.

2.3.5. Recruitment through the Internet (in general terms)

The recruitment strategies as described above were not very successful. Therefore, we extended our strategy by visiting Internet forums where we thought we could approach potential participants more directly. This is a relatively new recruitment strategy (Koo and Skinner, 2005). Forty-five Turkish and health-related discussion forums (public and closed) were visited. An open (or public) discussion forum is characterized by an open exchange of messages that can be seen by everyone and a closed (or semi-closed) forum requires registration or approval by the administrator. The principal investigator (BÜI) created personal accounts and placed announcements about the research project in appropriate discussion board topics (such as advertisements or research). In addition, a Twitter (a social networking website) account was created and five tweets (short post that is shared online with everyone) were posted. One post was re-tweeted (shared) by three followers (those who are able to see the posts on Twitter).

2.3.6. Recruitment of study participants through FB

FB was initially designed for college students (Ellison et al., 2007) but became one of the currently most popular and largest social-networking sites (eBizMBA, 2014). It provides a virtual world to keep users in touch with their friends by sharing personal information such as messages, photos, videos and links. Users may utilize it for interaction with people they are connected with (private) and people they are not connected with (public).

In order to join the site, participants need to create a personal profile, and be registered in the database of FB users. Then it is possible to get connected with other people who are registered on FB as well. In order to get in contact with other FB members, so called 'Friends', one needs to send a friend request and when the friend confirms this request one is befriended (and vice versa). Users are allowed to befriend up to 5000 FB members.

FB can also be used for commercial and business purposes by creating adverts, which are shown to potentially interested people on FB.

Our first activity on Facebook began with an advertisement. It consisted of a banner in four formats, in Turkish and Dutch with a picture of either a man or woman, published on Facebook for 20 days (cost: 400 Euro). After clicking on the banner, people were directed to the research website with detailed information about the project.

The recruitment methods were extended by using FB actively, in the last 15 months of the study from January 2011 to March 2012. The principal investigator (BÜI) registered on FB by creating a personal profile of the research project (Fig. 1 shows a screenshot of this profile). The personal profile contains several components, which are separately manageable by the user. The main component is the Timeline, which is comparable with a virtual blackboard. This is the place where all posts, such as messages, photos and videos are shared by the user with their friends. This is also the area where users can choose to share personal information such as demographic details, personal interests, and favorite activities, which are visible on the profile in fixed boxes. Short posts that are shared about what the user thinks, feels or does are also presented on the Timeline. These posts are known as status updates. Friends are also able to leave messages on the Timeline of other friends or a comment on a post that is already shared. Furthermore, it is possible to show your interest in posts by clicking on "like".

Besides the Timeline, FB provides other communication channels to stay in contact with friends. Not only private messages can be sent to other users (to communicate in a more private setting), but also chat conversations can take place when friends are online at the same time (or if at least one is online). It is even possible to set up a video call with friends after installing a plug-in on the computer.

Finally, it is possible to stay in contact with public figures, organizations, businesses or common-interest topics, which are registered as groups or (fan) pages. These are, in contrast to personal profiles, visible to everyone on the Internet regardless of being friends on FB (see Fig. 3 for a screenshot of the fan page of our project). Fan pages have limited options compared to research profiles, which can only be liked or where posts can be exchanged.

The researcher (BÜI) started the recruitment procedure by creating a personal profile and a fan page of the research project on FB (shown in Figs. 1 and 3). The researcher shared details about the project, such as the research website, contact information, pictures from the intervention and information leaflets to download. Then, these FB profile and fan page were made public in order to make it visible to anyone who clicks on the research profile. Fig. 2 shows a screenshot of the status updates that were shared on the Timeline of the research profile.

To promote the research project, we joined several FB groups related to Turkish migrants and Turkish groups focusing on (general) health and psychology in Dutch and Turkish. These groups can be found by typing relevant terms in the search box on FB, which results in several suggestions matching the search. Announcements and information about the research project were shared in these groups by writing messages on the Timeline of the groups. These messages were public to everyone who joined these groups.

2.4. Data-collection on FB

Socio-demographic information on the FB Friends was extracted from their personal profiles (described in detail in a separate section), in so far as this was filled in and shared with FB Friends. Socio-demographic information included a) gender; b) age; c) education (we categorized education as follows: low level, none to at most 6 years of primary schooling; middle education, up to 10 years of schooling; and higher education, up to 18 years of education); d) country of birth; and e) country of residence.

Table 1
The recruitment procedure in terms of strategy, applicants and final inclusion.

Type of recruitment strategy	Details of recruitment activity	Total applicants n = 287[a]	Total included participants n = 96
		(n, %)	(n, %)
1. Press release		2 (0.7%)	2 (2.1%)
1 press release in Dutch	1 news article in Dutch newspaper	1	1
	1 news article on the website of a Dutch national center for intercultural healthcare	1	1
	2 radio interviews (national and regional radio broadcasting stations)	0	0
	Request to send 30 research leaflets by a small Dutch center for life, health and care	0	0
2. Digital mailing		15 (5%)[b]	0
Personal network of the researcher			0
All psychology students of the faculty of Psychology and Education (VU)			0
85 e-mails to key persons in (intercultural) health care teams/organizations	5 Dutch mental health care organizations placed an announcement on their website		0
30 Turkish migrant related organizations		1	0
40 Turkish migrant related websites	2 Turkish migrant related websites placed an announcement online		0
3. Distribution of research information leaflets		27 (10.6%)	0
1000 research information leaflets distributed among 5 regional mental health services; 7 health practitioner offices; 20 Turkish religious or socially oriented organizations; and 2 mosques			
4. Advertisements		0	0
1 advertisement in a European version of a Turkish newspaper	A small banner for 45 days (215 Euro)	0	0
1 advertisement on Facebook	A small banner in 4 formats for 20 days (400 Euro)	0	0
5. Internet (in general)		3 (1.0%)	1 (1.0%)
Visits to Turkish migrant and health-related forums	45 announcements placed on Internet forums	3	1
Use of Twitter (social networking website)	5 tweets (short posts shared with public) shared	0	0
6. Facebook (research profile and fan page)		224 (75.6%)	74 (77%)

[a] Only n = 2 (0.7%) participants included in the trial identified their recruitment channel. Furthermore, 14 participants (4.9%) indicated that they found out about the trial through friends or family.
[b] These participants were recruited by e-mail, however, they did not specify the exact source of the e-mail.

3. Results

3.1. Press release

The press release was picked up pro-actively by several media and relevant stakeholder organizations, which resulted in several requests for interviews with the principal investigator and/or requests for more detailed information. One Dutch regional newspaper published a news article about the research project. Furthermore, a Dutch national center for intercultural healthcare organization published a news article about the project on their website as did some psychologists with Turkish individuals among their clients. Two Dutch radio broadcasting stations, one oriented towards ethnic minorities and one regional station, interviewed the principal researcher (BÜI) on the project as well. In addition, a small Dutch center for life, health and care asked us to send (30) research information leaflets for dissemination among Turkish visitors in their waiting room. Contrary to our experiences with previous trials (i.e. Van Ballegooijen et al., 2013) this recruitment strategy was not very successful, since it yielded only two (!) people applying for the trial. Both of these participants were included in the trial (shown in Table 1).

3.2. Recruitment through direct emailing

We do not know how many of the recruitment emails were actually forwarded to interested people. At least five Dutch mental health care organizations and two Turkish migrant related websites published an announcement about our research project on their website as a consequence of our direct mailing strategy.

This recruitment strategy was, however, not successful either. Only 15 people sent an e-mail with a request to apply for the trial (5% of the total 287 applicants) and none of them met the inclusion criteria. Three had a low depression severity, six applicants had a suicidal risk and six did not return the informed consent form.

3.3. The distribution of research information leaflets

This more directly and regionally targeted recruitment strategy yielded somewhat better results. A total of 27 participants applied for the trial by sending an e-mail to the researcher, comprising 10.6% of all applicants (n = 287). However, none of these applicants were included in the trial, due to several reasons. Three had a low depression score on the CES-D, four applicants had a suicidal risk, five did not fill in the baseline assessment and two declined to participate.

3.4. Advertisements

The result of this recruitment strategy was unexpectedly disappointing — no applications for participation in the study were received.

3.5. Recruitment through the Internet (in general terms)

A total of 3 people applied for the trial as a result of the Internet discussion forums. Unfortunately, these individuals did not provide details of the websites they had visited or where they had noticed the information about the study. Only one of these applicants was successfully included in the trial.

In the following sections, a detailed description of the recruitment method applied on FB will be given. This method was by far the most effective of the strategies in terms of reaching and recruiting participants for the trial. We will present the FB recruitment activities and results in the following four sections: the research profile, Friends on FB, characteristics of Friends who contacted the researcher and the content of the messages or conversations on FB.

Fig. 1. Screenshot of the research profile on Facebook.

3.6. Recruitment of study participants through FB

The banner as a recruitment strategy was not successful either as it resulted in no applications for study participation.

3.7. The research profile

At the start, this method did not appear to be successful in reaching and recruiting participants for the trial, since we did not receive any applications. Therefore, as a next step, people from these groups were invited at random to join our research project fan page, and friend requests (about 700) were sent by the researcher, of which 584 were accepted. Subsequently, friends of our friends list and other people from Facebook started to add our research profile as a friend, which resulted in 3308 friends on the research profile by the end of the trial. The fan page received 45 likes by the end of the trial.

3.8. Friends on FB

Fig. 4 shows the flow chart of the FB Friends activity on Facebook. The personal profile attained a total of 3308 friends. We categorized these friends into three groups according to the 90-9-1 principle (Van Mierlo, 2014; Nielsen, 2006; Arthur, 2006). This principle is based on the activity of people on social networking sites. It assumes that 90% of people just observe and don't participate. These are called Lurkers. 9% contribute occasionally and are labeled Contributors; and 1% are the most active users, creating new content, and are known as Superusers. The Lurkers on our profile were those who didn't show any activity on our profile or page; the Contributors were friends who only commented or liked posts or status updates; and Superusers consisted of those who contacted the researcher directly.

The Superusers group comprised 348 friends who contacted the researcher by sending a message on FB. 139 of these applied to participate. The Contributors group consisted of 440 friends, of whom 332 "liked" status updates or posts and 108 commented on a total of 36 status updates shared by the researcher on the Timeline. 28 friends from the Contributors group applied for the trial. Finally, the Lurkers group showed no action on our profile; however 57 of these applied for the research project directly by sending an e-mail to the researcher (Fig. 4).

FB yielded 224 applicants in total. However, only 74 were included in the trial. Of the excluded applicants, 10 were excluded due to low depression severity, 46 due to suicidal risk, 30 did not return the informed consent, 4 declined to participate and 60 did not fill in the baseline assessment.

3.9. Characteristics of friends who contacted the researcher on Facebook (Superusers)

The recruitment strategy on FB changed into an interactive situation in which friends started to contact the researcher by sending messages on FB. Not everyone sent a message, however. The Superusers group consisted of 348 friends, as shown in Table 2.

In order to describe the socio-demographic characteristics of the Superusers, we used the demographic details shared on the FB profiles of these friends. This information is visible after clicking the profile details of a friend. This information is, however, not shared by everyone, nor it is always complete (resulting in missing data). Therefore, only those demographic details that were available were used in our analyses.

Of the 348 friends (Superusers) who sent us a message, 46.0% (n = 160) were male and 36.2% (n = 126) were female (17.8%; n = 62 was unknown) as shown in Table 2. The mean age was 34.95 (SD = 10.33) with a range of 17–63, based on the information of 85 friends. The

Fig. 2. Screenshot of the status updates.

educational level was high for 16.7% (n = 58) of our FB friends, average for 8.0% (n = 28) and low for 0.9% (n = 3) friends (74.4%, n = 259 was unknown). The largest group of friends who sent us a message were from the Netherlands (20.7%; n = 72) and from Turkey (17.8%; n = 62). Other European countries such as Germany (13.8%), Belgium (3.4%) and France (3.4%) were also represented in our sample. However, this information was missing for 63.8% (n = 127) of our friends.

3.10. The content of the messages or conversations on FB by Superusers

During the recruitment period, the researcher was online for a couple of hours weekly, in order to be visible and reachable for friends. However, not everyone who sent a message to the researcher applied for the trial. In fact, the reasons for contacting us on FB were varied, as shown in Table 2. We categorized the reasons for messaging into five groups: 1) application for the trial (n = 139); 2) psychological problems (n = 34); 3) getting acquainted (n = 78); 4) invitation to an event (n = 42) and 5) other reasons (n = 101).

The main reason for our FB friends to contact the researcher was to apply for the trial (35.3%, n = 139). The following is an example of a conversation with a woman who applied for the trial: *Friend*: Hello, how are you? I want to get acquainted with you. *Researcher*: Hello [First Name], thank you. I am [First Name] from the VU University and work as a researcher and lecturer. Did you look at our research website? *Friend*: No. My name is [First Name]. I have been living in the Netherlands for 2 years. *Researcher*: Nice to meet you [First Name]. *Friend*: What is your name? What is your project about? *Researcher*: You can get detailed information about our project on our research website: [Research Website]. *Friend*: Okay, I'll take a look. Are there any costs to participate? *Researcher*: No, there are no costs. *Friend*: I want to participate. I have sent an e-mail, I would be happy if you can help me.

Another 19.8% (n = 78) of the friends wanted to get acquainted/be befriended with the researcher. The following is an example of message

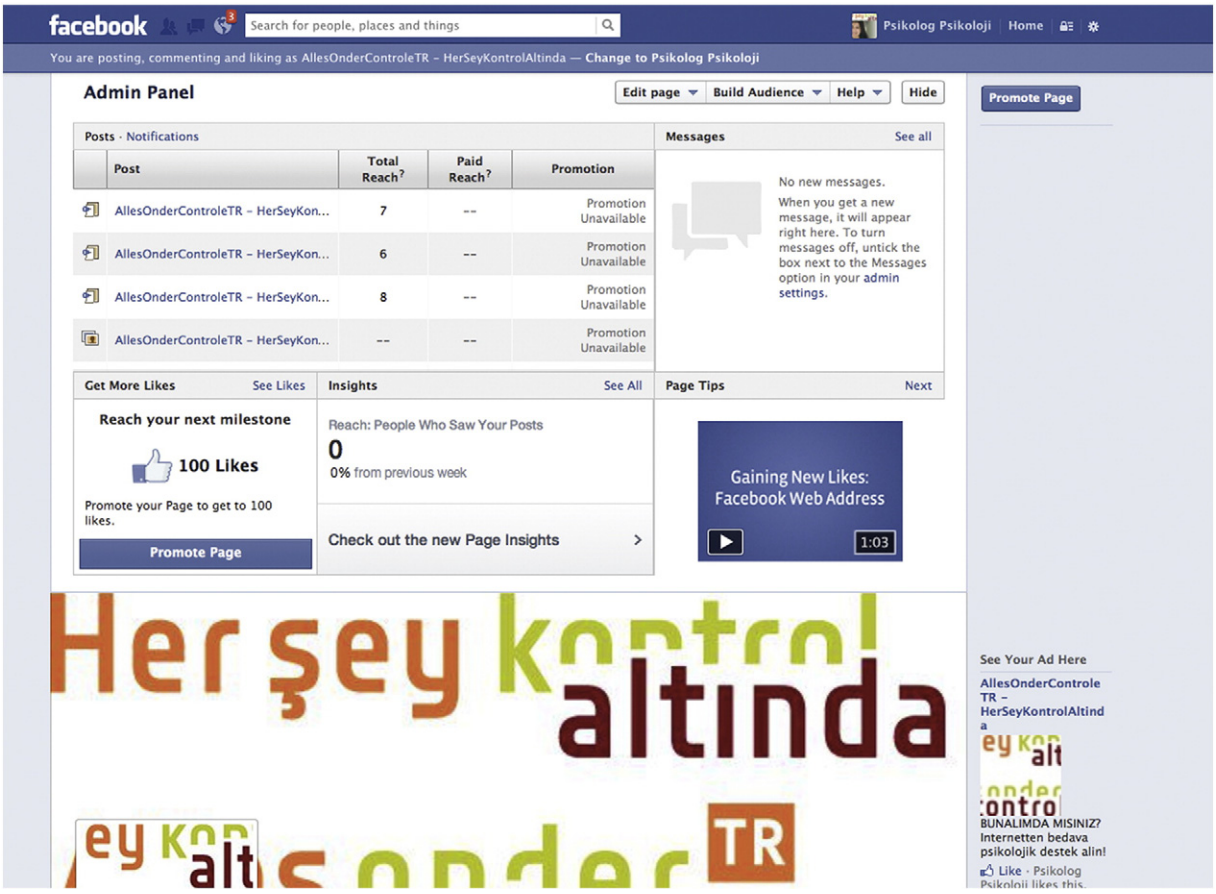

Fig. 3. Screenshot of the Facebook Page.

from a man who added us as a friend: *Friend*: Warm greetings from Cologne, I wish you a happy holiday.

Another 8.6% (n = 34) of the friends contacted the researcher because they wanted to talk about their personal psychological problems. These problems ranged from depressive complaints to family problems and suicidal ideations. The following section is an example of a message exchange (due to the time delay between the messages, this was an asynchronous chat conversation) with a woman who had suicidal ideations: *Friend*: Hello *Researcher*: Hello, how are you? *Friend*: Thank you, how are you? It's hard to reach you, I guess *Researcher*: It can take some time to respond to the messages on Facebook, but if you want you can contact us by phone or e-mail. Did you take a look at our website? *Friend*: I'm writing from my mobile. I am tired of life and I turn in upon myself continuously. I think about committing suicide very often. I have poisoned myself several times, it's impossible to go to a psychologist — please help me I would be happy if you would help me. *Researcher*: Ms. [First Name] Thank you for sharing your problems with me. I guess you are going through a hard time. I would love to help you, however our project is not geared towards this kind of problem. I would advise you to go to your general practitioner or doctor to get professional help for your problems. *Friend*: Thank you for your advice. I will contact my general practitioner.

Inviting the researcher to a Turkish event was another reason for contact, accounting for 10.7% (n = 42) of the messages. Invitations varied from film events, theater performances, concerts and meetings, to religious conferences. An example of such an invitation message is as follows: *Friend*: On Thursday [Date], [Title] a hilarious theater performance by [Names]. Don't miss it!

The rest of the 101 friends (25.6%) who contacted the researcher had other reasons, including advertising, invitations to join an FB group on migrant related topics, expressing thanks for setting up this project and searching for a Turkish doctor (for physical complaints).

3.11. The final inclusion of participants

The entire recruitment process yielded a total of 287 Turkish people applying for participation in the trial (shown in Table 1). The five regular recruitment strategies resulted in a total of 47 applicants, of whom only 3 were successfully included in the trial. The FB recruitment strategy resulted in 224 applicants, of whom 74 were included. Two applicants did not specify their recruitment channel; both were excluded because of suicidal risk. Finally, 14 applicants who applied for the trial indicated that friends or family had referred them. Of this group, only 8 people were included. The reasons for exclusion were suicidal risk (n = 5), failure to return the informed consent (n = 2) and not completing the baseline assessment (n = 1).

4. Discussion

The current study was part of a randomized controlled trial studying the effectiveness of a web-based problem solving therapy for Turkish migrants with depressive symptoms in the Netherlands. The results of this study showed that the majority of the applicants were recruited via Internet, mainly through FB (75.6%, n = 224), of whom 74 (77%) were included in the trial. Traditional recruitment strategies such as the distribution of research leaflets in Turkish organizations and clinics and advertisements in a Turkish newspaper were not successful, accounting for only 16.4% (n = 47) of the total (n = 287) applicants, and only 3 (3.1%) were included in the trial.

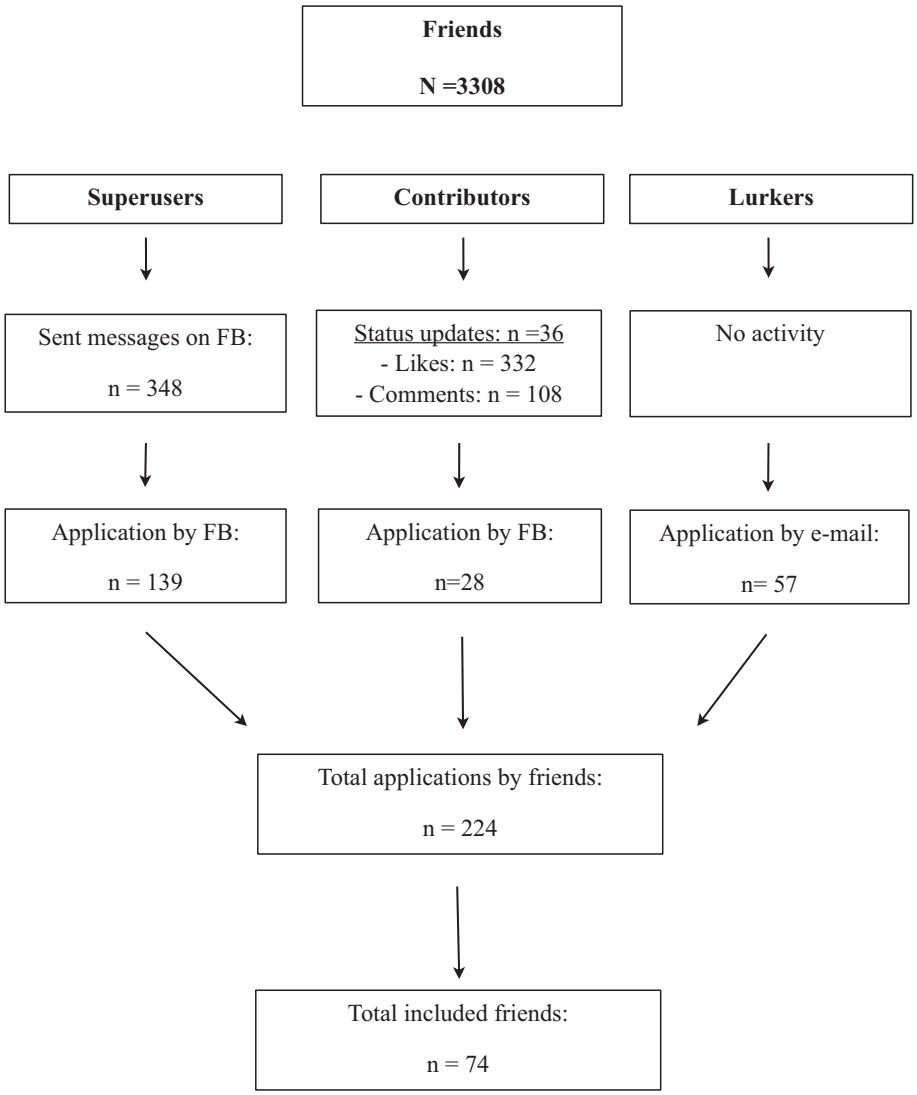

Fig. 4. Flowchart of the applications via Facebook.

Recruitment for this study was not an easy task, both in terms of obtaining the required number of participants and the time needed to assess their suitability for inclusion. Our study thus confirms that the recruitment of ethnic minorities for clinical trials is a multifaceted challenge. We applied several known as well as innovative strategies such as using FB for recruitment purposes. Traditional recruitment strategies were less successful for this target group, even when both languages (Dutch and Turkish) were used. This is in contrast to many randomized controlled Internet trials, in which traditional recruitment strategies are often used effectively to recruit participants from the general population (e.g. (van Bastelaar et al., 2011; Warmerdam et al., 2008). However, the proportion of ethnic minorities in these Internet trials was low.

The proportion of ethnic minorities in this trial was also low. Several reasons could underlie the limited effectiveness of most of the recruitment strategies applied in our randomized controlled trial (Ünlü Ince et al., 2013). First, we do not know what the level of exposure of potential participants was of the recruitment strategies applied, with the exception of FB: a total of 3308 people became friends, of whom 224 applied for the trial to take part. It is possible that during recruitment, Turkish migrants were not able to read our invitation to participate or if they had read it, they could have been of the opinion that they were not depressed. Furthermore, fear of stigma might also have influenced the willingness to take part in our trial. For example, Turkish migrants in Germany who were more depressed were found to experience stigmatizing concerns (Heredia Montesinos et al., 2012). It might also be that the Turkish persons we have reached with the more traditional recruitment strategies were not in favor of Internet-based interventions or study participation. Given that the prevalence of depression treatment seeking and study participation of Turkish migrants is hindered by many obstacles, it might have been that Internet-based treatment and study participation were not attractive for this group neither.

4.1. Comparison with prior work

Our study shows that recruiting ethnic minorities for randomized controlled studies is possible but not without difficulties in terms of the time and effort needed. FB might be a potentially effective method to recruit research participants through the Internet (Ramo and Prochaska, 2012; Jones et al., 2012; Barrera et al., 2014). It is a widely used social-networking website with more than 1.2 billion active users (Facebook, 2014). Registration on FB is free, personal profiles can be created, users can communicate and share information with other users. However, FB has rarely been used as a recruitment strategy for studies involving ethnic minorities (Barrera et al., 2014).

Two studies that have made use of FB mainly used advertising campaigns targeting children (Mychasiuk and Benzies, 2012) and patients with diabetes (Greene et al., 2011). One study focused on college students by opening a fan page on FB to communicate with study

Table 2
Characteristics of the people who sent a message on Facebook (Superusers).

	Total sample n = 348 (n, %)
Gender	
Female	126 (36.2%)
Male	160 (46.0%)
Unknown	62 (17.8%)
Age (M, SD)[a]	34.95 (10.33)
Education	
Low	3 (.9%)
Middle	28 (8.0%)
High	58 (16.7%)
Unknown	259 (74.4%)
Country of residence	
The Netherlands	72 (20.7%)
Germany	48 (13.8%)
Belgium	12 (3.4%)
France	12 (3.4%)
Turkey	62 (17.8%)
Other	15 (4.3%)
Unknown	127 (36.5)
Country of origin	
The Netherlands	9 (2.6%)
Turkey	107 (30.7%)
Other	10 (2.9%)
Unknown	222 (63.8%)
Reason for message	
Application for trial	139 (35.3%)
Psychological problems	34 (8.6%)
Making acquaintance	78 (19.8%)
Invitation to an event	42 (10.7%)
Other	101 (25.6%)

[a] The mean age is based on the data of 85 individuals. The age of 263 individuals is unknown.

participants who were already included in the study and chose to subscribe to the fan page (Berry and Bass, 2012). Another study used FB to locate study participants for a follow-up study of adolescent girls (Jones et al., 2012). However, none of these focused particularly on ethnic minorities.

Other studies show that the Internet in general is potentially effective as a recruitment strategy among ethnic minorities, however, these studies did not use FB specifically (e.g. (Ramo and Prochaska, 2012; Barrera et al., 2014). For example, Barrera and colleagues (2014) used Google AdWord campaigns in Spanish and English to recruit pregnant women with post-partum depression for a randomized controlled trial in the US. This strategy led to 6745 applications from pregnant women and a total of 176,295 clicks by Web users in general, resulting in 2575 included participants. In that study, the majority of the applicants were Spanish-speaking women from Latin America.

Our results also showed that many friends on FB contacted the researcher by message on FB. Most of these were males, and were highly educated and living in the Netherlands. This is of interest as with other recruitment strategies females are in the majority. It is also in contrast to the included sample of participants, of whom 59 were female (62%) and 37 male (38%). Our trial reached a wider geographical area than initially intended, showing the power of the Internet. Ethnic minorities, who are known to be a hard-to-reach population (Health and Human, 2001; Miranda et al., 2003), seem to become visible and reachable by using FB for research. One possible explanation for the success of FB as a recruitment strategy is the lower threshold for getting in contact with the researcher. Research shows that the willingness to become friends on FB increases when the profile photo is displayed (Wang et al., 2010), as was the case with our FB research profile.

Furthermore, offering the option to choose between two languages (Dutch or Turkish) may have been another possible factor in the success of FB. Since the majority of the participants in the main trial consisted of first-generation migrants who preferred the Turkish language, this may have lowered the threshold to take part in the trial (Ünlü Ince et al., 2013). While many participants are only included in intervention studies if they read and speak the language of the country they live in (Hussain-Gambles et al., 2004), our results show that the use of the native language of ethnic minorities seems to play an important part in overcoming this barrier.

Finally, a large proportion of the people who applied to partake in the trial were unfortunately excluded. The main reason was the suicidal risk among 29% of the applicants who completed the screening (n = 221); these were mainly women (59.4%), aged 33.5 years on average. This exclusion rate due to suicidal risk is in contrast with native population studies (i.e. (Andersson et al., 2005; Johansson et al., 2012). It seems therefore that FB is a potentially effective recruitment channel for reaching a high-risk group that is generally hard to reach.

4.2. Limitations

The study findings are limited in several ways. First, we could not obtain complete demographic information from our Friends on FB. Many of them did not share this on their profile. Second, it was not possible to verify the accuracy of the demographic characteristics shared on the FB profiles. Third, we were not able to compare participants recruited by traditional methods with those recruited by the Internet in terms of demographic characteristics and depressive complaints since not everyone completed the screening. Fourth, the representativeness of the sample recruited by FB is hard to determine. The included participants comprised mainly young women (mean 35.2 years) with a middle to higher educational level. This is a higher proportion of this group compared to the general Turkish population in the Netherlands (CBS, 2013), however, it is in line with characteristics of study samples in non-migrant population trials (Van Straten et al., 2008; Warmerdam et al., 2008). Finally, although FB was shown to be a more successful recruitment method than traditional ones, we did not achieve the intended sample size of 200 participants, owing to limited time and resources.

4.3. Future research and implications

The results of this study have promising implications for future research and clinical fields. The use of Internet, particularly FB, seems to be an effective way to target hard-to-reach populations. The Internet seems also to lower the threshold to contact a professional by message or chat. Furthermore, it can be an effective recruitment strategy in clinical trials in ethnic minority groups. Future research studies may consider Internet and FB as potential recruitment methods and make their research visible and reachable for target groups.

5. Conclusion

Traditional recruitment strategies, such as the distribution of information leaflets and placing advertisements in newspapers, appear ineffective strategies to recruit ethnic minority groups for research purposes. The use of the Internet proved to be more effective, specifically FB was a more successful method to reach and recruit Turkish participants for a clinical trial. Future research should examine the factors that account for the potential effectiveness of FB as a recruitment method for hard-to-reach populations.

Conflict of interest

None declared.

Acknowledgments

This paper is part of a study supported by the VU University Amsterdam and the Trimbos Institute (Netherlands Institute of Mental Health and Addiction). BÜI drafted the manuscript and PC, EvtH and HR contributed to the further writing of the manuscript. All authors read and approved the final manuscript.

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