Effectiveness of Befriending Interventions: A Systematic Review and Meta-Analysis

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Abstract

Objective

Befriending is an emotional supportive relationship in which one-to-one companionship is provided on a regular basis by a volunteer. It is commonly and increasingly offered by the voluntary sector for individuals with distressing physical and mental conditions. However, the effectiveness of this intervention on health outcomes is largely unknown. We aim to conduct a systematic review of the benefits of befriending.

Design

Systematic review.

Methods

A systematic search of electronic databases was conducted to identify randomized controlled trials and quasi-experimental trials of befriending for a range of physical and mental health indications including depression, anxiety, mental illness, cancer, physical illness, and dementia. Main outcomes included patient-relevant and disease-specific outcomes, such as depression, loneliness, quality of life, self-esteem, social support, and well-being.

Results

A total of 14 trials (2411 participants) were included; seven were judged at low risk of bias. Most trials showed improvement in symptoms associated with befriending but these associations did not reach statistical significance in all trials. Befriending was significantly associated with better patient reported outcomes across primary measures (standardised mean difference [SMD] 0.18 [95% CI, -0.002–0.36, $I^2 = 26\%$, 7 trials]). However, there was no significant benefit on single outcomes, including depression, quality of life, loneliness ratings, self-esteem measures, social support structures, and well-being.

Conclusions

There was moderate quality evidence to support the use of befriending for the treatment of individuals with different physical and mental health conditions. This evidence refers to an overall improvement benefit in patient reported primary outcomes, albeit with a rather small effect size. The current evidence base does not allow for firm conclusions on more specific outcomes. Future trials should hypothesize a model for the precise effects of befriending and use specified inclusion and outcome criteria.

Article Summary: Strengths and Limitations of this Study

- This is the first comprehensive systematic review that identifies the benefits of befriending in multiple outcomes.

- The selection of patient reported primary outcomes in each study for analysis avoided bias of studies reporting significant secondary outcomes.

- There may be missing data on participation rates and this influenced our recommended guide for future befriending interventions.

Introduction

Individuals with physical or mental health impairments can often become isolated and have limited support networks. One possible avenue for building and sustaining social relationships in the community for these individuals is through befriending. This term was initially introduced in the 16th century and was known as a process of "act[ing] as a friend to, to help, favour, to assist and promote."[1] This humanistic purpose later evolved into a formal befriending program for suicidal crisis in 1962 which redefined befriending as the provision of "companionship and support of a friend to [a client] especially in a lay capacity"[2]. The practice of befriending has been largely adopted by the voluntary sector, with over 3500 schemes existing in the UK alone [3], where volunteers support a range of populations including individuals with mental illness or dementia, suffering from bereavement, requiring refuge and suicide prevention. Despite this, there has been criticisms about the precise definition of befriending, its mechanisms and how and for whom it is used most effectively [4, 5]. Currently applied in social and health care settings, befriending is often conceptualised and practiced as a marked alternative to staff-delivered, professional care (i.e., placebo in clinical settings) where volunteers provide compassionate social support and companion resources to meet the care needs of the befriender. For the purposes of this review, we identify befriending as a supportive and uni-directional relationship that aims to alleviate loneliness and provide social support through the provision of one-to-one regular companionship by volunteers.

There is relatively little research examining befriending interventions, but what has been done provides some promise for their effectiveness. Some evidence suggests that befriending can provide individuals with a new direction in life, re-establish engagement with social activities and encourage self-esteem for mental illness (e.g. schizophrenia [6]) and

health conditions (e.g., heart failure [7]) but these studies are largely conducted using qualitative methods and do not evaluate specific outcomes in well-designed comparative studies.

A recent meta-analysis on the impact of befriending on depressive symptoms and emotional distress found a modest effect in varied patient groups including individuals with prostate cancer or dementia [8]. However, this review was limited in that it focused on depressive symptoms and emotional distress only, and included studies examining peer support and paid professional staff. Since relationships such as mentoring, peer support, and befriending have individual distinctive features that provide different support functions and have different aims with regard to promoting social inclusion (e.g., peer support incorporates themes of mutual support and self-help) [4] , a more comprehensive review updating and assessing the effectiveness of befriending will be beneficial. It will not only provide additional insight into other clinical and social outcomes but may also reveal additional insight into other populations and aid future implementation of befriending services.

Thus, the aim of this systematic review was to evaluate the evidence for the effectiveness of befriending across a broad range of health conditions and clinical and social outcomes.

Methods

This review followed guidance published by the Centre for Reviews and Dissemination and the Cochrane Collaboration [9, 10].

Study Eligibility Criteria

Randomized controlled trials (RCTs) that compared befriending with usual care or no treatment in any physical health or mental health area were eligible. We included studies for

individuals of all ages, residing in the community and allocated to a befriending intervention, irrespective of ethnicity, gender, nationality or health status. Befriending was defined as an intervention that introduces the patient to one or more individuals whose main aim is to provide the patient with additional social support through the development of an affirming, emotion-focused relationship over time. The relationship should be established by and monitored via an agency. The social support should be primarily non-directive and emotional in nature, with the core focus of building a "friendship". Studies were excluded where informational, instructional or appraisal support formed a key component of the intervention.

Additionally, the befriending sessions were delivered by volunteers and offered as a free service. When befriending is used as a comparison to a therapy-based study (e.g., control befriending), this was excluded as this type of befriending is typically administered by a paid professional worker with a focus on developing a directive, non-emotional focused relationship. Studies where the volunteer was a member of the patient's existing social or care provider network (e.g., family member, caseworker, general practitioner) or was an individual who had experienced the same conditions as the patient (e.g., peer, mentor) were also excluded.

To be comprehensive, non-randomized studies such as case series that evaluated befriending for a particular outcome that was not identified elsewhere (e.g., cancer) were included for review.

Identification and Selection of Studies

Nine databases and grey literature sources were searched from inception to February 2016 without language restriction. A systematic search of the literature was conducted using online databases, relevant psychiatric journals and grey literature which included: MEDLINE; EMBASE; PsycINFO; Cochrane Central Register of Controlled Trials;

CINAHL; Web of Knowledge; BI, Web of Science and Google Scholar. Electronic searches were supplemented with manual scanning of the reference lists of retrieved articles and known reviews of social support interventions. The flow of studies is illustrated in Figure 1.

Specific search strategies were developed for each database, using a combination of text terms and subject headings where applicable. Please see Supplementary File 1 for more detail. Overall, this involved four lists of search terms:

a) 'volunteer descriptors' including befriend*, companion, friend, lay helper, compeer, peer, buddy, unpaid carer, informal caregiver, voluntary caregiver, naturalistic support, supported socialisation, psychosocial support, supported friendship, peer assistance, intentional friendship, consumer run services, consumers as providers, consumers-as-providers, community support, community services, paraprofessional*, nonprofessional volunteer*, nonprofessional worker*, citizen participation, civic participation, program, voluntary, helping others, supported socialization.

b) 'mental health descriptors' including mental health, mental illness, mental problem, mental disorder, mental health scheme, mental health charity, mental health project, mental health program*, mental health organisation, mental health service, mental health care, psychiatry, psychiatric scheme, psychiatric charity, psychiatric project, psychiatric program*, psychiatric organisation, psychiatric service, psychiatric care, psychosis, schizophrenia, severe mental illness, depression, anxiety, disorder, eating disorder, phobia.

c) 'health descriptors' including end of life care, palliative care, palliative, dementia, dementia care*, physical disabilities, HIV, AIDS, cancer, diabetes, heart failure, alcohol*, drug abuse, obsessive compulsive disorder, autism, health condition, health, physical.

d) 'outcome descriptors' including motivation*, motive*, reason*, opinion*, attitude*, experience*, reward*, benefit*, success*, drawback*, negativ*, positive*, 'failure*, challenge*, difficult*, altruistic, psychological health, functioning, happiness, satisfaction, self-esteem, empowerment, well-being, outcome*.

One reviewer (JS) screened titles and abstracts to determine potential inclusion, with a 10% random sample of records independently screened by a second reviewer (MC). Articles were double blind coded. Inclusion was subsequently confirmed by a team of three reviewers (JS, MC, SP) who independently checked the full text of all retrieved articles. Uncertainties and disagreements were resolved through team discussion and/or contact with study authors (see Supplementary File 2 for the list of excluded articles).

Data Collection and Study Appraisal

A broad and inclusive search strategy was adopted for a systematic appraisal, assessment and extraction of information from reports. We extracted data about baseline characteristics and outcomes including patient relevant and disease specific outcomes. For categorical data, we extracted details about each category assessed and the number of individuals with an outcome in each category. Continuous data such as the Hamilton Anxiety and Depression Scale were extracted as means and SDs at baseline, follow-up, and the change from baseline and used to calculate mean differences with 95% CIs. Results (mean difference, 95% CIs, and P values) from the between group statistical analyses, reported by the study, were also extracted. All relevant sources were used for data extraction including full-text journal articles, abstracts, and clinical trial registry entries.

The extraction of findings, data outcomes and concepts from key papers was completed independently by two authors (JS, MC). Data extraction included author details,

year of publication and publication type, participant demographic details, sample size, interventions investigated, outcomes measured, results of intervention, and key findings.

To assess the methodological quality of the studies included, we used two procedures designed to preserve group comparability in the Cochrane Collaboration Risk of Bias tool [11]. Briefly, this assesses allocation concealment to protect against selection bias, and loss to follow-up. Study quality was rated 'high' if allocation was adequately concealed and at least 80% of participants underwent follow-up, 'medium' if one of these criteria was met, and 'low' if neither was met. Two authors (JS and MC) assessed the risk of bias, and disagreements were resolved by discussion.

Data Synthesis

Studies were grouped by conditions and outcomes. Outcome variables that were assessed in at least four eligible RCTs comparing befriending to another intervention were qualified for inclusion in a separate meta-analysis. This resulted in meta-analyses for seven outcome types. Reported measures included a mix of dichotomous and continuous outcomes. We translated continuous measures to a standardised effect size (i.e., mean of intervention group minus mean of control group, divided by the pooled standard deviation). Per standard protocol, outcomes reported as dichotomous variables were translated to standardized effect sizes using the logit transformation.

The Comprehensive Meta-Analysis software package, version 2.2.021, was used for all analyses and calculations. Heterogeneity was investigated using forest plots and measured using the I^2 statistic, which estimates the percentage of total variation across studies that can be attributed to heterogeneity rather than chance. Where data were considered too heterogeneous to pool or not reported in a format suitable for pooling (e.g., data reported as

medians), we used a narrative synthesis for evaluation. As a result of the varied nature of the interventions include, a random effects model was adopted and analysed.

Patient-reported outcomes are increasingly important in the evaluation of psychosocial treatment and complex interventions in particular mental health care, as such outcomes capture patients' views, feelings and judgements. Recent evidence suggests a large number of variance of patient ratings across symptoms, quality of life and needs can be explained by one global factor [12]. Additionally, the assessment of primary outcomes only may provide valuable insight into the effectiveness of interventions as it avoids reporting bias (especially for studies that provide only significant secondary outcomes), and ensures that the analysis considers what the study and intervention model regarded as important [13]. We therefore separately compiled patient reported primary outcomes for analysis.

Results

Selection of studies

Searches generated 20,706 records. After the removal of duplicates and the application of inclusion and exclusion criteria on titles and abstracts, 129 full-text papers were evaluated. A final 14 studies (2411 participants) reported data on befriending interventions for individuals and were subsequently included in this review (Figure 1).

Characteristics of populations and outcome measures

The characteristics of the 14 included studies are summarized in Table 1. The included studies were published between 1991 and 2015. The total number of individuals assessed was 2411, which ranged from one study of four participants to one study of more than 500 participants. Eleven studies were randomized controlled trials [14-24] and three

were quasi-experimental studies [25-27]. Eight studies were conducted in the UK, two in

Canada, two in USA, one in Finland and one in Australia. Seven studies were rated high

quality, three studies medium, and four low (Supplementary File 3).

Table 1. Summary of studies, demographics, measures and outcomes

Study / Year / Country	Population	Sample size	Depression measure	Loneliness measures	Quality of Life measure	Social support measure	Well-being measure	Other measures	Study Quality	Time Point	Study Outcomes
Charlesworth (2008) UK	Carers in dementia	236	HADS	Own scale	EQ-5D	MSPSS	-	Anxiety (HADS), social network (PANT), clinical symptoms (PNAS)	High	6 months 15 months 24 months	No effect
Coe (2013) UK	Women with perinatal anxiety and depression	189	HADS	-	-	MSSI	-	Anxiety (HADS), relationship (MORS)	Low	12 months	Effect for anxiety, depression, relationship, social support
Davidson (2004) USA	Individuals with severe mental illness	260	CES-D$^{\#}$	-	-	-	WBS	Nonpsychotic psychiatric symptomatology (GHQ), social functioning (SFS), psychiatric symptoms (BPRS), functional impairment (GAF-M), diagnosis	Medium	4 months 9 months	No effect

Author (year), Country	Population	N							Quality	Duration	Effect
								(SCID), satisfaction (own scale), self-esteem (RSE)			
Harris (1999) UK	Women with chronic depression	86	PSE-10	-	-	-	-	-	High	13 months	Effect for depression
Heller (1991) UK	Isolated elderly women with low support	265	CES-D	Own scale*	-	PSS[#]	PGC	Physical health, activities of daily living (ADL), social network (NES), stressful events, social competence (own measure)	Low	20 weeks	No effect
Hughes (1999) UK	Individuals with learning disabilities	4	-	-	-	-	-	Social network[#] (network size), social activities (frequency)	Low	4 months	No effect
MacIntyre (1999) Canada	Elderly individuals	22	-	-	-	PRQ[#]	-	Functional ability (ECOG), health perception (HPQ)	Low	12 weeks	Effect for social support and well-being
McCorkle (2008) USA	Individuals with severe mental illness	154	-	-	-	Composite measures of ISEL and LQoL[#]	Composite measures of RSE, RAS, HHS,	Psychiatric symptoms (HSC, CSI)	High	6 months 12 months	Effect for social support

Study	Population	N						Other outcomes	Quality	Follow-up	Effect
							MDES, LRI, LQoL				
McNeil (1991) Canada	Depressed elderly individuals	30	BDI	-	-	-	-	Aerobic capacity (Cooper Test)	Medium	6 weeks	Effect for depression
Mountain (2014) UK	Socially isolated elderly individuals	248	PHQ-9	DJG	EQ-5D ONS	-	ONS	Mental well-being (SF-36#), self-efficacy (GSE)	High	6 months	No effect
Rantanen (2015) Finland	Elderly individuals with mobility limitations	121	-	-	WHOQOL-BREF#	-	WHOQOL-BREF	Physical capacity, social relationship, lower extremity (WHOQOL-BREF, SPPB)	High	3 months	Effect for physical capacity
Sheridan (2015) Ireland	Individuals with severe mental illness	107	BDI	SELSA-S	-	-	-	Social functioning (SFS#), support networks (PANT), self-esteem (RSE)	Medium	3 months 9 months	No effect
Walshe (2016) UK	Older adults receiving end of life care services	179		DJG	WHOQOL-BREF#	mMOS-SS		Social network size, carer burden (CBS-EOLC) and contact with health and social care services	High	4 weeks 8 weeks	No effect
White (2012) Australia	Individuals with	510	HADS	-	-	-	-	Anxiety (HADS), care needs (SCNS),	High	3 months 6 months 9 months	No effect

colorectal cancer							colorectal symptoms (own measure), use of health services (frequency)			

ADL, Activities of Daily Living Scale; BDI, Beck Depression Index; BPRS, Brief Psychiatric Rating Scale; CBS-EOLC, Caregiver's Burden Scale in End-of-Life Care; CES-D, Center for Epidemiological Studies Depression Scale; CSI, Colorado Symptom Index; DJG, De Jong Gierveld Loneliness Scale; ECOG, Performance Status Scale; EQ-5D, EuroQol-5D; GAF-M, Global Assessment of Functioning-Modified; GHQ, Global Health Questionnaire; GSE, General Perceived Self Efficacy; HADS, Hamilton for Anxiety and Depression Scale; HHS, Herth Hope Scale; HPQ, Health Perceptions Questionnaire; HSC, Hopkins Symptom Checklist; ISEL, Interpersonal Support Evaluation List; LQoL, Lehman Brief Quality of Life Interview; LRI, Life Regard Index; MDES, Making Decisions Empowerment Scale; mMOS-SS, modified Medical Outcomes Study Social Support Survey; MORS, Mothers Object Relationship Scale; MSPSS, Multidimensional Scale of Perceived Social Support; MSSI, Maternal Social Support Index; NES, Network Embeddedness Scale; ONS, Office for National Statistics Well-being Scale; PANT, Practitioner Assessment of Network Type; PGC, Philadelphia Geriatric Centre Morale Scale; PHQ-9, Patient Health Questionnaire; PNAS, Positive and Negative Affect Schedule; PRQ Personal Resource Questionnaire; PSE-10, Present State Examination; PSS, Perceived Social Support Scale; RAS, Recovery Assessment Scale; RSE, Rosenberg Self-Esteem Scale; SCID, Structured Clinical Interview for DSM-IV; SCNS, Supportive Care Needs Survey; SELSA-S, Social and Emotional Loneliness Scale for Adults; SF-36, Short Form Health Instrument; SFS, Social Functioning Scale; SPPB, Short Physical Performance Battery; WBS, Wellbeing Scale; WHO QOL-BREF, World Health Organisation Quality of Life Short Version Scale.

*Scale developed by Paloutzian and Ellison (1982)[28].

#Primary outcome reported as a Patient Reported Outcome Measure.

With respect to diagnostic categories, befriending was implemented in a range of populations including five studies for elderly participants who required physical and emotional support [17, 18, 20, 24], were depressed [19], or had mobility limitations [21]. Three studies focused on individuals with severe mental illness as diagnosed by ICD-10 [15, 22, 27] and two studies focused specifically on women with anxiety and depression [16, 25]. The other four studies examined separate categories, including carers in dementia [14], individuals with learning disabilities [26], and individuals with colorectal cancer [23].

In terms of outcome measures, depression was evaluated in nine studies [14-16, 19, 20, 22, 23, 25], loneliness was assessed in five studies [14, 17, 20, 22, 24], quality of life was evaluated in five studies [14, 18, 20, 21, 24], self-esteem was measured in three studies [15, 20, 22], social support in six studies [14, 17, 18, 24, 25, 27], and well-being in four studies [15, 17, 20, 21, 27]. A range of other outcomes were also measured in each individual study and these included social networks [24, 26], clinical symptoms [14, 15, 27], social functioning [15, 22], functional impairment [18], physical health [17, 19, 21], functional ability [18], health perception [18], care needs [23] and carer burden [24].

All studies identified a primary outcome which included measures across depression [14-16, 19, 23, 25], social support [17, 18, 27], social network [26], mental well-being [20], quality of life [21, 24] and social functioning [22] (Table 2). There were seven patient reported outcomes and seven clinician reported outcomes. Specific to patient only reported outcomes, there was one outcome for depression [15], mental well-being [20], social functioning [22], respectively, and two outcomes for social support [17, 18] and quality of life [21, 24].

Table 2. Study selection and details for patient reported primary outcomes

Study	Primary Outcome	Type of rating
Charlesworth (2008)	Depression	Clinician
Coe (2013)	Depression	Clinician
Davidson (2004)	Depression	Patient
Harris (1999)	Depression	Clinician
Heller (1991)	Social Support	Patient
Hughes (1999)	Social Network	Patient
MacIntyre (2002)	Social Support	Patient
McCorkle (2008)	Social Support	Patient/Clinician
McNeil (1991)	Depression	Patient
Mountain (2014)	Mental well-being	Patient
Rantanen (2015)	Quality of life	Patient
Sheridan (2015)	Social functioning	Patient
Walshe (2016)	Quality of life	Patient
White (2012)	Depression	Clinician

Characteristics of befriending intervention

The nature of the befriending intervention was characterized by who delivered the befriending, who the befrienders were, whether training was offered, how the scheme was delivered, whether the pair went through a matching process and the length of adherence (Table 3).

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Table 3. Summary of befriending interventions

Study	Lead agency	Befriender	Training	Delivery	Intensity	Matching	Adherence
Charlesworth (2008)	Local voluntary organisation	Volunteer befrienders	1 day for befriending facilitator and 12 h for befrienders, including boundaries, listening skills, carers' problems, health and safety and confidentiality	Face to face in patient's home	Weekly 1 hour sessions over 6 months	Yes, on locality and knowledge of carer and befriender preferences	48% requested a befriender, 32% received 6 months. Intended intensity rarely achieved due to carer time commitments
Coe (2013)	Local voluntary organisation	Volunteer befrienders	6-day training course, including child development, perinatal problems and roles and responsibilities	Face to face in patient's home / attendance at a support group	Weekly contact over 12 months	Not specified.	15-24% did not attend the service, or did not continue
Davidson (2004)	Local voluntary organisation and academic	Volunteer befrienders (stipend received for the session)	Yes, initial training and orientation as well as ongoing monthly support meetings	Face to face in patient's home and in the community	Weekly contact for 2-4 hours over 9 months	Yes, based on shared interests, age and gender	36% did not meet with their partner

Harris (1999)	Academic and social care	Female volunteer befrienders	3-day training course	Face to face in patient's home	One contact per week for 1 h over 12 months	Yes – on similarity of background experience	23% did not meet befriender at all and 19% had 1 meeting. 40% received full 12 months, 19% had between 2-6 months befriending
Heller (1991)	Academic	Trained female interviewers	Yes, details not specified	Telephone only	Twice a week for 5 weeks, then once a week for 5 weeks	Not specified	Not clear
Hughes (1999)	Local voluntary organisation	Volunteer befrienders	2-day training course, ongoing support in monthly group meetings	Face to face at group house	Once a week over 4 months	Not specified	75% did not continue
MacIntyre (1999)	Community agency program	Undergraduate students (part of coursework hours)	Yes, training provided on safety in relation to mobility aids and client's diagnosis	Face to face in patient's home	Once a week for 3-4 hours over 6 weeks	Yes – on suitability, general interests, expectations and personality	Not clear
McCorkle (2008)	Local voluntary organisation and academic	Volunteer befrienders	Yes	Face to face at patient's home	4 hours monthly over 12 months	Yes, on client's age, gender, race, ethnicity, interests and psychiatric condition	Not clear

McNeil (1991)	Health and academic	Two undergraduate psychology students	Not clear	Face to face in patient's home (or nearby)	Two visits per week of 20-40 min over 6 weeks	No	100% adherence. Cancelled visits rescheduled within several days
Mountain (2014)	Health and academic	Volunteer befrienders	Yes – one session lasting between 1-2.5 hours. Covers information on research study, making one-to-one calls. Up to 5 volunteers simultaneously received four 1 hour sessions in group facilitation skills. They were supported by a written manual.	Individual and group telephone only	One call of 10-20 minutes a week over 6 weeks, followed by 1 hour teleconferences of up to six participants once a week over 12 weeks.	Not specified	Not specified
Rantanen (2015)	Academic	Volunteer befrienders	Yes – 3-day training course covering rights and responsibilities of volunteers, safety, social skills and duties; monthly support sessions	Face to face at various out-of-home activities	Once a week over 3 months	Yes – based on discretion e.g., locality	80% of patients met at least 7 times with the volunteer

Sheridan (2015)	Academic	Volunteer befrienders (stipend received for the session)	Yes – 1-day training program	Face to face at patient's home and in the community	Once a week for 2 hours over 9 months.	Yes – based on demographic, social and leisure profile	Not specified
Walshe (2016)	Health and academic	Volunteer befrienders	Yes – training addressed issues of safety, boundaries, organisational requirements and basic communication skills.	Typically, face to face at patient's home and in the community but telephone contact was possible.	Once a week for 1-3 hours for 4 weeks	Yes – details not specified	Not specified
White (2012)	Health and academic	Volunteer befrienders	Yes – 3-day training program in supportive communication, techniques, listening skills, emotional support. Provided with manual and received ongoing supervision and training.	Telephone only	Once a week over 9 months	Not specified	Not specified

The befriending intervention was typically facilitated by an external agency such as the local voluntary organisation that already supports such a program and was evaluated and supported by an academic institution.

Although the befriender had volunteered for the role in all studies, there were two studies that provided a stipend to the befriending pair during their sessions for their activities [15, 22]. Volunteers ranged in age, gender and occupation. Most volunteers were provided training except for two studies who we were unable to verify training details. Training ranged from one session of one hour to a six-day training course. Volunteers were often provided further support in monthly group meetings.

Befriending was given either face-to-face at the patient's home, which was focused on the development of a supportive, one-to-one social relationship, or over the phone which was focused on providing practical, informational, emotional and supportive care. In face-to-face interactions, befriending was always delivered one-on-one, but over the telephone, befriending was delivered initially in a one-to-one arrangement followed by group teleconferencing opportunities.

Befriending involved a variable number of contacts and duration, where sessions were typically arranged for weekly visits/calls for a minimum of 6 weeks to a maximum of 12 months. However, there was one study that delivered a befriending scheme for twice weekly visits across 6 weeks. Participants were engaged for a minimum of 20 minutes to 180 minutes during their session. Median figures suggest weekly contacts of 1 hour's duration delivered for approximately 3 months.

Seven studies included details on matching which discussed an attempt of matching the befriending pair based on similarity of background, interests, locality, age and gender. Adherence to the program was described in 10 studies and ranged from 32% to 100% of the

scheme's duration. However, as befriending schemes differed in length it is difficult to estimate how long a befriending pair did regularly convene.

Effectiveness of befriending

Befriending was evaluated across multiple outcomes including depression, loneliness, quality of life, self-esteem, social support, well-being and patient reported primary outcomes (Figure 2, Supplementary File 4).

Eight comparisons of befriending and usual care or no treatment included a measure of depression as their primary outcome and provided suitable data for meta-analysis. Befriending had no effect on depressive scores (p=0.12), with a standardised mean difference (SMD) of -0.05 (95% CI 0.11 to -0.21, $I^2 = 41\%$).

Five comparisons of befriending to usual care or no treatment assessed quality of life as an outcome. Befriending demonstrated a borderline significant effect on this measure (p=0.08); there was a SMD of 0.24 (95% CI 0.52 to -0.03, $I^2 = 57\%$).

Five comparisons included a measure of loneliness and demonstrated a SMD of -0.03 (95% CI 0.12 to -0.18, $I^2 = 0\%$). Five comparisons examined social support measures, with a SMD of 0.08 (95% CI 0.28 to -0.11, $I^2 = 59\%$; whilst five comparisons assessing well-being reported a SMD of 0.15 (95% CI -0.08 to 0.38, $I^2 = 49\%$). These outcomes did not reach statistical significance.

Seven comparisons of patient reported primary outcomes provided a significant effect on this measure (p = 0.05) with a SMD of 0.18 (95% CI -0.002 to 0.36, $I^2 = 26\%$).

Discussion

Main findings

The review identified 14 trials that tested befriending for patients with different diagnoses such as cancer, depression, and severe mental illness. The befriending schemes shared several key characteristics. They match individual patients with volunteers, who are given brief training, and although there are some variations between befriending programs (in terms of their frequency, length of contact and method of delivery), a core component is the fostering of a social relationship between a volunteer and patient who engage in social and recreational activities. In our evaluation of befriending programs, we found evidence only for the effectiveness of befriending in combined primary outcomes reported by patients, although the effect was small.

Strengths and limitations

This review used a systematic approach to collate the published literature to date on befriending interventions. The review used rigorous methodology with a wide search strategy. Another strength is our selection of patient reported primary outcomes in each study for analysis to avoid bias of studies reporting significant secondary outcomes. We further stratified analyses based on outcome type to identify and investigate differences between associations.

One limitation relates to data on participation rates. Not all of the studies reported participation rates, and of those that did, it was not always possible to derive an average of the rate of participation. There was also a lack of data on participant engagement with befriending across time. It might be that participants initially engage very well with befriending schemes but after time drop out, when in fact greater experience with the intervention is needed for participants to find it helpful. Such findings will have an impact on determining the optimal length of time for befriending which, given the paucity of relevant data in the included studies, could not be established in this review.

An additional limitation is the combination of different patient reported outcomes in one meta-analysis. The importance of incorporating patients' views about outcome measurement and reporting within RCTs has been highlighted by recent guidance [29] and although different constructs may appear to be conceptually distinct, there is significant overlap between patient reported outcomes such as depression, well-being, and quality of life. For instance, greater well-being is associated with enhanced quality of life [30] and there is evidence that a general subjective appraisal factor is able to summarise all subjective evaluation outcomes [12].

Comparison with literature

This review is unable to entirely support previous reports that patients engage well with a befriending program and that there are some benefits. In contrast to an earlier review and meta-analysis [8] we were unable to replicate the significant effect of befriending on depressive symptoms. Whilst the earlier review conducted their analyses in short- and long-term befriending, we did not identify a significant result for either case. However, the studies reviewed differ widely, with only four studies [14, 16, 17, 19] overlapping between the two reviews due to our inclusion criteria. It is thus difficult to draw direct comparisons with the previous review given the nature of our befriending definition.

Implications for research and practice

As the quality of trials identified in the review remains inconsistent, it is unclear whether befriending does have an impact on outcomes. Although an overall significant effect was found for patient reported outcome measures, such a small effect size does not appeal to an adoption of this intervention. As our current evidence does not allow for conclusions about more specific effects, future research should specify a model for the hypothesized effect of

befriending, select patients accordingly and use an appropriate outcome measure. The current system of measuring different outcomes when participants did not necessarily have a problematic baseline of the given measure to start with will make finding effects that are statistically and practically significant difficult. It is thus questionable whether the established criteria capture the importance of befriending at all, or rather it is being used for its humanistic, integrative and cohesive function.

Regardless, qualitative reviews suggest that befriending can be a useful complement to current clinical practices given its user acceptability and potential to influence mental health outcomes and personal relationships [4, 5, 31, 32]. However, a number of practical factors should to be considered when designing future befriending practices and build this into an appropriate befriending model. This includes (1) defining the targeted population; (2) balancing the frequency, length and modality of befriending; (3) identifying how befriending influences clinical and social outcomes; and (4) the nature of the infrastructure required to delivery community befriending services. For instance, a sample befriending model for an elderly individual with depression would include participants with a moderate level of depression prior to commencing the program. Once engaged, this would involve regular face-to-face meetings with the volunteer to provide support as well as helping out with groceries and everyday living. The focus of this pairing would be to build a 'genuine friendship', and to ensure success, the volunteer and patient will be matched well, and the pair/organisation will develop realistic outcomes together in a supportive and sustainable context. To establish an empathic relationship, training for the participants' expectations, attitudes and behaviour, targeting mutuality and reciprocity between the pair will be provided. Other befriending models can further consider whether, for some mental and/or physical conditions, befriending is only useful in the early phase of illness, whether multiple befriending pairs (i.e., group befriending) or a longer befriending commitment (e.g., greater than one year) would provide

more social support, and whether a focus on specific activities (e.g., recreational vs physical) with different media (e.g., online) would be more suitable for particular patient groups.

Conclusions

The current review has identified patient reported gains as a result of befriending. However, due to the large heterogeneity in the extracted studies, it is unclear how precisely befriending programs can facilitate social integration and recovery for particular individuals. Future research into befriending should examine befriending models designed for specific patient groups, with defined befriending principles and precise inclusion criteria.

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Authors contribution

JS was responsible for conceptualising the design of the study, identifying the included reviews and drafting the results. MC also contributed to the identification of relevant reviews. JS and SP were responsible for interpreting the data and revising the work for important intellectual content. All authors approve this version for publication and are accountable for the content of the work.

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Competing Interests

All authors have completed the ICMJE uniform disclosure form at

http://www.icmje.org/coi_disclosure.pdf and declared that no competing interests exist.

Data sharing

No additional data available.

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Figure Legends

Figure 1.PRISMA Diagram.

Figure 2. Effectiveness of befriending. Standardized mean difference (SMD) indicate no improvement in depression, loneliness, quality of life, self-esteem, social support, and well-being scores with befriending. The square data markers indicates SMD from primary studies, with sizes reflecting the statistical weight of the study using random-effects meta-analysis. The horizonal lines indicate 95% CIs. The diamond data marker represens the overall SMD and 95% CI for each outcome. The vertical dashed line shows the summary effect estimate, the dotted shows the line of no effect (SMD = 0).

Table 1. Summary of studies, demographics, measures and outcomes.

Table 2. Study selection and details for patient reported primary outcomes.

Table 3. Summary of befriending interventions.

Supporting Information

Supplementary File 1. Search Strategy

Supplementary File 2. Excluded Articles and Reasons.

Supplementary File 3. Study Quality.

Supplementary File 4. Funnel Plot of standard error by standard difference in means.
The funnel plot is centred at the value under the null hypothesis of no effect (i.e., 0). The white region in the middle corresponds to p-values greater than 0.10, the grey-shaded region for p-values between 0.10 and 0.05, the dark grey-shaded region for p-values between 0.05 and 0.01, and the region outside of the funnel for p-values below 0.01. Egger's regression test intercept 0.242 (t = -1.93, d.f. = 6, p = 0.112). There is no evidence of publication bias.