

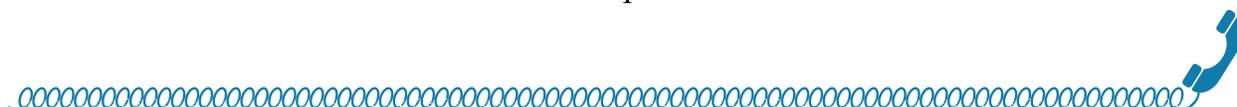
Increasing prosocial behaviour in community-dwelling older adults through phone visiting programs: A systematic review



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Executive Summary

Older adults represent 17.5% of the Canadian population and experience high rates of loneliness and social isolation. Loneliness impacts quality of life, mental health, physical health, and mortality rates. There is a need to examine ways to reduce loneliness and social isolation. Phone visiting programs may provide partial solutions. Several organizations provide phone visiting programs for older adults yet little research has been done to evaluate the effectiveness of phone visiting on loneliness and /or mood or to study the optimal implementation of phone visiting programs.

Objectives

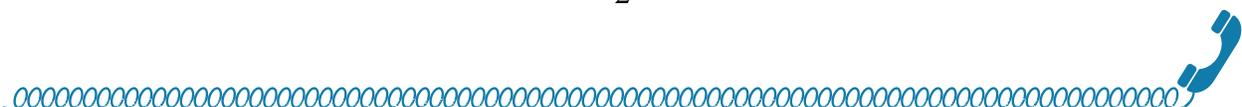
The objectives of this systematic review were to explore information pertaining to the optimal implementation of phone call programs for community-dwelling older adults and synthesize existing studies that examined the impact of phone visiting programs on mood and/or loneliness.

Methods

The systematic review was conducted in accordance with the JBI methodology for mixed methods systematic review. A peer reviewed search strategy was created by the librarian team member.

Selection Criteria

All original qualitative, quantitative, and mixed-methods published articles, theses, and dissertations were included in any language. **Population-** Older adults 60 years and over living in the community. Studies were excluded for those older adults in hospital or receiving 24-hour care. **Intervention/Phenomenon of Interest-** The particular research being addressed was one-on-one voice-only phone visiting programs for socialization. **Outcomes-** The research



specifically addressed the experience of participating in a phone visiting program and/or loneliness, and/or mood.

Study Selection

After duplicate articles were removed each title and abstract was reviewed by two team members for inclusion/exclusion. All included articles at title and abstract screening were read in full by two team members to determine inclusion/exclusion.

Results

A total of 8741 records were found resulting in 11 articles being included after exclusion criteria were applied.

Quantitative Meta-analysis

Upon meta-analysis a statistically significant reduction in **loneliness** was found. Positive observed effects of phone programs on reducing **depression** were found. However, true effects were inconclusive. There were not enough studies that examined **stress** or **anxiety** to show any significant results.

Qualitative Meta-Aggregation

Three qualitative studies were found all showed positive findings which resulted in three themes: 1) Makes You Feel Better, 2) Needing Connection (Knowing Someone is Out There, Need for Relationships), and 3) Beyond the Phone Call (Getting Over a Hurdle, Finding Meaning).

Implications

More research is needed to strengthen the findings of this systematic review. There is a need to expand phone visiting programs and create best practice documents and orientation packages to optimize existing phone visiting programs and establish new ones. Further, we need to establish an information sharing platform to connect researchers and leaders to put research into practice.



Conclusion

There is evidence to support the use of phone visiting programs to reduce loneliness, make older adults feel better and more connected, and this continues into other aspects of their lives. More research is needed to strengthen the findings.

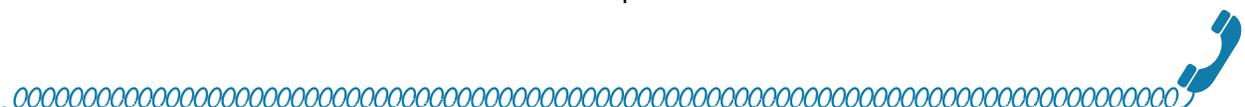
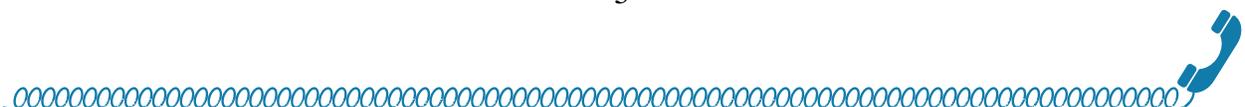


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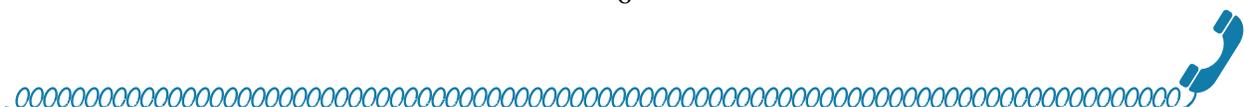
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Older adults are a large and growing segment of the Canadian population but unfortunately they experience inordinate rates of loneliness and social isolation (Simard & Volicer, 2020; Statistics Canada, 2016). Loneliness reduces quality of life and also impacts physical health, mental health, and increases mortality rates (WHO, 2021). A potential solution for lonely and socially isolated older adults are telephone visiting programs that are inexpensive, convenient, widely accessible, and easy to use. There are a number of phone visiting programs operated by organizations across North America; however, there is limited data to support the impact of phone programs on loneliness and/or mood. In this systematic review, we compiled available academic studies, theses, dissertations, and selected organizational websites that examined phone visiting programs. We explored the experience of participating in a phone visiting program and its impacts on loneliness and/or mood.

Background

The United Nations (UN) has declared 2021-2030 the decade of healthy aging and has outlined a need to strengthen research on challenges affecting older adults (United Nations, 2022). As part of the decade of healthy aging, the World Health Organization (WHO) (2021) is advocating for research to strengthen evidence for interventions that will lessen loneliness for older adults. Older adults over the age of 65 represent 9% of the global population, 17.5% of Canadians, and older adults are burdened by high rates of loneliness (Statistics Canada, 2021; Raina et al., 2018; Savage et al., 2021). This predisposition toward feelings of loneliness is in part due to an asocial cultural shift with the emergence of individualism, increased solitary living, and dependence on technology (Hill et al., 2015). However, this situation has been further exacerbated by the introduction of stay-at-home measures during the COVID-19 pandemic, leading to 43.1% of older adults reporting feelings of loneliness (Savage et al., 2021).



Loneliness has been coined an epidemic with 10% of North American older adults reporting loneliness ranging from 24% in 65-70-year-old men to 45% in women 85 years and older (Simard & Volicer, 2020; Statistics Canada, 2016). Both loneliness and mood influence how older adults experience their daily lives while also impacting their overall health (Brown & Astell, 2012; Cho et al., 2019). The WHO found that loneliness and social isolation impact physical health, mental health, quality of life, and longevity (WHO, 2021). Older adults who are lonely are more likely to smoke, drink, have inadequate nutrition, and to experience cognitive decline (Nicholson, 2012). Lonely older adults have an increased risk of physiological challenges including heart disease, stroke, and the common cold (Nicholson, 2012). Other impacts of loneliness include sleep disturbance, depression, and fatigue (Cho et al., 2019, Taylor et al, 2018). Further, a meta-analysis showed that, after accounting for physical health differences, mortality rates increased by 26-32% in those who reported feeling lonely, socially isolated, or were living alone (Holt-Lunstad et al., 2015). The upsurge in physical and mental health challenges has a financial impact because of the increased need for medical and supportive interventions. Providing older adults with opportunities to maintain meaningful relationships with others is crucial in lessening the mental and physical consequences of loneliness (Smith, 2011, p.1).

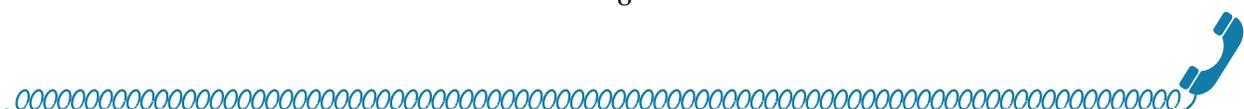
The direction for this systematic review was based on two previous research studies from this team regarding loneliness in older adults: “The Experience of Community-Dwelling Older Adults Socially Distancing During the COVID-19 Pandemic in Saskatchewan” (Nelson et al.2022) and “Phone Visiting as a Novel Clinical Experience for Healthcare Students” (Mayer at al., 2022). In the first study, the team interviewed 40 participants 4 times (April, May, June and December of 2020) and the research uncovered increased feelings of anxiety, low-mood, and



loneliness (Nelson et al., 2022). Older adults were forced to be more isolated than prior to COVID-19 and missed activities such as volunteerism and community involvement (Nelson et al., 2022). Further, as COVID-19 continued, community-dwelling older adults became less concerned with their physical safety and more concerned with meeting their social and emotional needs (Nelson et al., 2022). In this study, a gap was identified in services for many older adults who were lonely and socially isolated. Further, many of the older adults expressed how they appreciated participating in the research simply because they enjoyed the phone conversations.

To help fill this gap, our research team implemented an intervention, which paired healthcare students with older adults in weekly social phone conversations. This served as a clinical experience for students and provided an opportunity for older adults to increase their social contacts. Both the older adults and the students benefited socially from the phone conversations with the students expanding their communication skills and the older adults enjoying an opportunity to socialize and share their knowledge (Mayer et al., 2022). This research pointed to the need to further examine the impact of phone programs on older adults.

The COVID-19 pandemic exacerbated the problem of loneliness in older adults. Many of those impacted adapted to forced isolation by utilizing technologically sophisticated forms of communication including social media and video-based platforms. However, these tech-centric forms of socialization tend to further isolate older adults due to their relative lack of experience, access, and comfort in adopting new technologies (Hill et al., 2015). This also aligned with our research in which we found that older adult participants stated that they preferred telephone calls and would rather not use video calls, text messaging or other high-tech forms of communication. Therefore, a need was uncovered to identify and adapt appropriate forms of socialization



practices for older adults experiencing loneliness. Phone visiting programs have been identified as potentially significant sources to increase older adult socialization.

Through searching the literature and organizational websites we discovered several outreach programs that used phone interventions to combat loneliness in an increasingly asocial society: Friendly Calls Program (Canadian Red Cross, 2022), Visiting Program (CHATS, 2022), Phone Pals (Sinai Health, 2022), Etobicoke Support Services (ESS Support Services, 2022), and Friendly Visiting and Telephone Reassurance (Empowered Aging, 2022). However, while these programs provided phone call socialization services for older adults, there was a lack of information regarding the optimal duration, frequency, and effectiveness of phone visiting programs. A need exists to examine the impact of phone visiting programs on loneliness and/or mood and to examine the optimal implementation of a phone visiting program. The overarching research question that guided the synthesis was: What knowledge exists on the effectiveness of telephone programs as an intervention for lonely or socially isolated older adults? The following sub-questions deepened the inquiry:

- What is the effectiveness of phone interventions on loneliness and social isolation in older adults who live independently? (Quantitative)
- What is the experience of older adults using a phone intervention on loneliness and social isolation? (Qualitative)

Objectives

The objectives of this systematic review was to explore information pertaining to the optimal implementation of phone call programs for community-dwelling older adults and synthesise existing studies that examined the impact of phone visiting programs on mood and/or



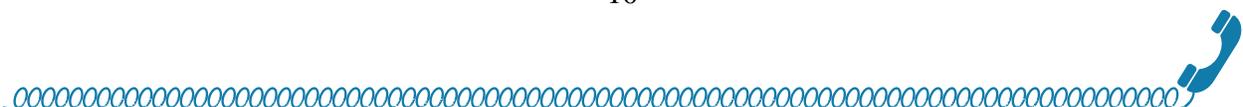
loneliness. Both qualitative and quantitative data were extracted from existing academic literature, theses, dissertations, and select organizational websites. This data was compiled and used in the construction of various knowledge translation products for academics, community organizations, and older adults. This information will be used to support community organizations to better address the needs of lonely older adults.

Methods

A preliminary search of PROSPERO, MEDLINE (EBSCO), the Cochrane Database of Systematic Reviews, JBI Evidence Synthesis, Campbell Systematic Reviews, and Epistemonikos was conducted and no current or in-progress systematic reviews were found on the use of phone programs with older adults.

The systematic review was conducted in accordance with the JBI methodology for mixed methods systematic review (MMSR) (Lizarondo et al., 2020; Stern et al., 2020). An initial limited search of MEDLINE (EBSCO) was undertaken to identify seed articles. The text words contained in the titles and abstracts of relevant articles and the index terms used to describe the articles were used by a health sciences librarian to develop a full search strategy for MEDLINE (OVID) which was then peer-reviewed by a second health sciences librarian. The seed articles were also used to test the search strategy to ensure they appeared in the results. The search strategy, including all identified keywords and index terms, was adapted for each included database and/or information source. The reference list of all articles and sources included after full-text screening were screened for additional studies relevant to the research question.

The following databases were searched: MEDLINE (OVID), CINAHL with Full Text (EBSCO), PsycInfo (OVID), and Embase (Elsevier). In addition, the following sources were included in the search for theses, dissertations, and trial protocols: ClinicalTrials.gov, WHO



International Clinical Trials Registry Platform (ICTRP), and ProQuest Dissertations and Theses. Targeted organizational websites which were also examined included: Friendly Calls Program (Canadian Red Cross, 2022), Visiting Program (Community and Home Assistance to Seniors (CHATS), 2022), Phone Pals (Sinai Health, 2022), Etobicoke Support Services (ESS Support Services, 2022), and Friendly Visiting and Telephone Reassurance (Empowered Aging, 2022). When relevant protocols were found, a search was made to try to locate the published article and the author was contacted to determine if there was an available published article.

Studies were accepted in any language; however, only English language studies were found. This may be due to the use of English language search terms and the databases used. Studies published on any date were included and the date of included articles ranged from 1984-2022.

Selection Criteria

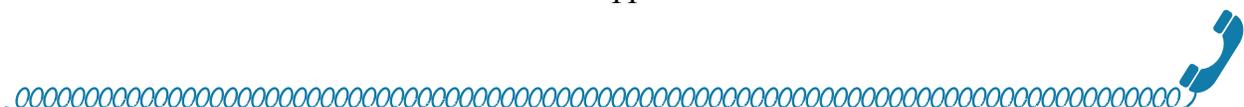
All original peer-reviewed published and unpublished qualitative and quantitative studies were included in the review that met the inclusion and exclusion criteria.

Participants

In order to be included, the majority of participants in a given study had to be 60 years or older living independently in free-standing homes, apartments, or seniors living complexes. They may or not be receiving supports such as meals, housekeeping, or homecare. Studies were excluded if the majority of the participants were not a minimum of 60 years or if they were receiving 24-hour care such as supportive care environments (e.g. care facilities or hospitals).

Intervention/Phenomenon of Interest

In order to meet inclusion criteria, the intervention/phenomenon of interest was a one-on-one audio telephone program for the purposes of socialization by trained or untrained volunteers,



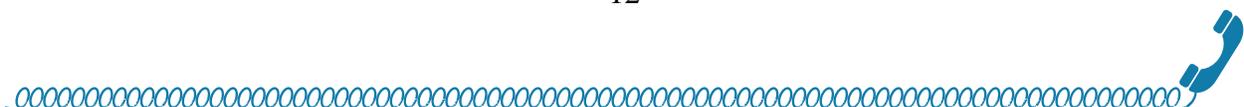
students, or employees. Phone programs could be provided through any medium, such as the phone or computer, however, programs that used exclusively group calls or other forms of communication such as video calls, text messages, other forms of messaging, robot calls, or emailing were eliminated. Phone programs for wellness checks, psychological counselling purposes, pharmacological purposes, health follow-ups, or any physical health promotion were excluded.

Outcomes

Studies were included that examined the experience of participating in a phone program, or examined any measure of loneliness and/or mood (including depression, stress, or anxiety). Studies were included that used any validated or unvalidated scale, or qualitative measure to determine the outcome.

Study Selection

All identified citations were collated and uploaded into Covidence (Veritas Health Innovation, Melbourne, Australia) to remove duplicates. Records were then imported into the JBI System for the Unified Management, Assessment and Review of Information (JBI Sumari; JBI, Adelaide, Australia). Following a pilot test, titles and abstracts were screened by two or more independent reviewers and assessed against the inclusion criteria. Any discrepancies were discussed by the reviewers who reached a consensus. Where this was not possible, a third reviewer was included. Potentially relevant studies were retrieved in full for full-text screening. The full text of selected citations was assessed in detail against the inclusion criteria by two independent reviewers with discrepancies resolved through discussion by the initial reviewers or a third reviewer who was asked to input when consensus could not be achieved.



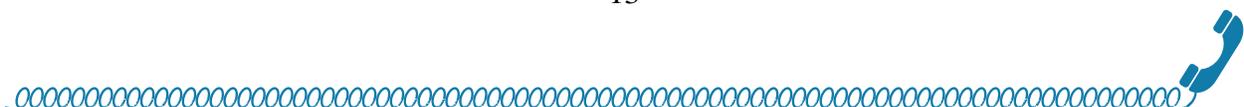
Study Appraisal

Two team members completed qualitative appraisal for each article using the appropriate qualitative or quantitative JBI quality appraisal tool. Due to the limited number of studies on the subject, all studies were included in the systematic review regardless of quality of the article, therefore, the quality appraisal is not reported here.

Results

A total of 8741 records were found. After the initial title and abstract screening, 8651 articles were removed. A further 79 articles were excluded on full-text screening leaving 10 articles for inclusion in the systematic review. One of the excluded articles was a protocol and contact with the author revealed a newly published article that was then included. The total number of included articles was 11.

Seven of the studies were quantitative (Berkman et al., 1999; Calsyn et al., 1984; Heller et al., 1991; Kahlon et al., 2021; Lowthian et al., 2018; Mountain et al., 2014; Sandu et al., 2021; Sekhon et al., 2022), one qualitative (Cattan et al., 2011), and three mixed methods (Lee et al., 2021; Noble et al., 2022). Six of the studies occurred in the United States of America (USA) (Calsyn et al., 1984; Heller et al., 1991; Kahlon et al., 2021; Lee et al., 2021; Lowthian et al., 2018; Noble et al., 2022; Sandu et al., 2021), two in the United Kingdom (UK) (Cattan et al., 2011; Mountain et al., 2014), one in Australia (Lowthian et al., 2018), one in Canada (Sekhon et al., 2022), and one in Israel (Berkman et al., 1999). The duration of the friendly phone interventions was anywhere from four weeks to one year. The most common frequency of phone calls was once per week (seven studies), with one study completing daily calls, another twice weekly, and two studies had no set frequency but reported the total number of calls. The length



of the calls varied from as little as one minute to 170 minutes with the calls most commonly being between 10-30 minutes (six studies).

Overall results

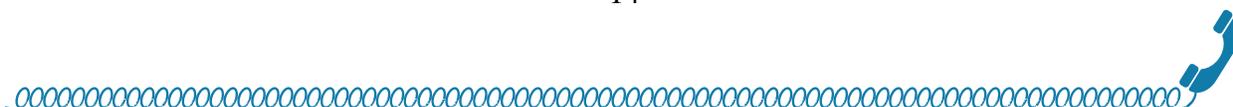
A review of organizational websites which provide phone programs, academic literature, theses, and dissertations revealed that people are using phone programs with the hopes of reducing social isolation and loneliness. A number of programs in North America were found that provided phone programs for older adults. There were a limited number of quantitative and qualitative studies published that examined the use of phone programs in relation to the experience, loneliness, and factors of mood.

Existing Community Phone Programs

A targeted search of organizational websites that offered phone programs revealed five programs: Friendly Calls Program (Canadian Red Cross, 2022), Visiting Program (CHATS, 2022), Phone Pals (Sinai Health, 2022), Etobicoke Support Services (ESS Support Services, 2022), and Friendly Visiting and Telephone Reassurance (Empowered Aging, 2022). While not an exhaustive search, the programs found represent a cross section of programs provided in Canada and the United States. As outlined in table 1, most of the programs were free of charge with the exception of one in which participants paid by the minute. The phone programs were mostly targeted at older adults. The frequency of the phone calls of community phone programs matched the included studies with the majority of programs offering once per week phone calls; however, the duration of phone calls varied.

Table 1.

Overview of Community Phone Visiting Programs



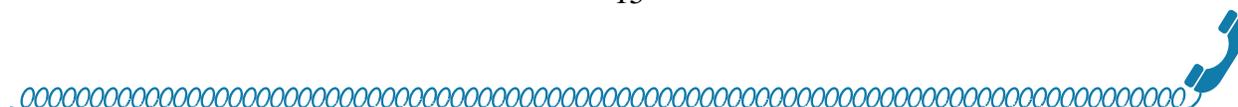
Organization	Fee for service	Participants	Duration	Frequency
Canadian Red Cross-Friendly Calls Program Canada	Free	55 years and older – self-referred or referred by others	20-60 minutes tailored	Once/Week Tailored
Community and Home Assistance to Seniors (CHATS) – U.S.	Free	55 years and older	Unclear	unclear
Phone Pals U.S.	Pay per minute	None specified	As long as you like	Paid service as often as you wish
ESS Support Services Canada	Free	Seniors and adults with disabilities	10-30 minutes	Once a week
Friendly Visiting and Telephone Reassurance U.S.	Free	Aged 60+	Unclear	Once per week

Quantitative results

Multiple measures of mood, loneliness, or experience could be studied; however, only loneliness, depression, anxiety, and stress were deemed to have adequate data to attempt meta-analysis. The analysis is predicated on pre- and post-intervention differences as effect size. Control groups, for those studies that included them, were ignored. The number of studies was low, (loneliness = 5, depression = 5, anxiety = 2, stress=1). Some of the studies measured more than one outcome.

Loneliness

Several different scales were used to study loneliness in the available studies: Studies which included loneliness used the UCLA Loneliness scale (Kahlon, 2022; Lee, 2021; Lowthian, 2018), the deJong Gierveld Loneliness scale (Kahlon, 2022, Mountain, 2014), and Paloutzian

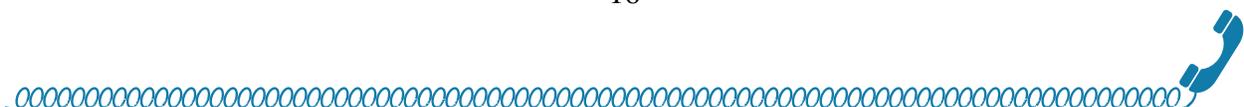


Loneliness Scale (Heller, 1991). Both the UCLA Loneliness Scale and the deJong Gierveld Loneliness scale measured subjective loneliness, but differed in that UCLA Loneliness Scale examined the affective domain whereas the de Jong Gierveld measured the cognitive domain (Penning, 2014). The Paloutzian scale was shown to be comparable to the UCLA Loneliness Scale (Heller, 1991). Although Sandu et al. (2021) used the UCLA Loneliness scale in their study, it was not included in the meta-analysis because the article did not include a post-intervention n , mean, and standard deviation.

Loneliness studies provided for a significant meta-analytical model with a 95% confidence interval on observed effects of between (0.189–0.487), in standardized mean difference effect size, or Hedges' g . The value of τ^2 was near zero (3.08×10^{-6}). This implies that all populations in the universe of populations sampled by the studies share a common effect size (Cooper, Hedges & Valentine, 2019). The resultant conclusion was that there is a consistent true effect size for the intervention on loneliness, for all populations in the universe of populations sampled by these studies. Furthermore, this true effect size is positive (loneliness decreased), and is estimated as 0.388 with a confidence interval of 0.189–0.487 (Hedges' g). The random effects meta-analysis confirmed that for the studies sampled there is a positive relationship between phone programs and decrease in loneliness. Noble et al. (2022) provided further support for the benefits of phone programs on loneliness with the question, "Do the calls make you feel less lonely?" with 61.5% responding yes, 7.7% no, and 23.1% not applicable.

Depression

Three different scales were used to measure depression in the available studies: Patient-Health Questionnaire 8 or 9 (Kahlon, 2022; Mountain, 2014; Sekhon, 2022), Centre for Epidemiological Studies Depression Scale (Heller, 1991), and Geriatric Depression Scale

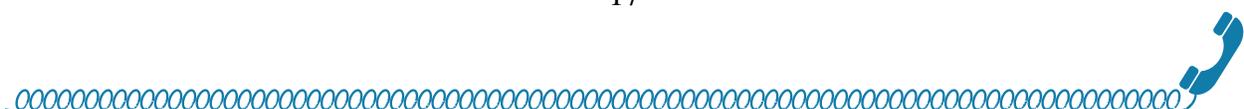


(Lowthian, 2017). All three scales were shown to measure depression and have inter-item reliability and convergent/discriminant validity (Amtmann, 2014; Zhang, 2020).

For depression, a significant meta-analytical model with a 95% confidence interval on observed effects of between (0.025–0.571) was found (in standardized mean difference effect size, or Hedges' g). Therefore, the observed effects are statistically significant. However, the prediction interval, which estimates the dispersion of the true effects, was (-0.618, 1.214). As this prediction interval spans zero, one cannot conclude that the meta-analytic effect produced positive results. The prediction interval may be interpreted to mean that some populations would have adverse effects, some would have little to no effect, and some would have varying degrees of positive effect from the intervention. Thus, although the observed effects are significant the true effects are inconclusive, suggesting that the effect of phone interventions on depression varies widely depending on the population. Noble et al. (2022) did not study depression but did ask the question, “Do the calls make you feel happier or more hopeful?” Eighty-four point six responded yes and 7.7% responded no and another 7.7% not applicable.

Anxiety and Stress

Limited studies were found which measured anxiety or stress. Anxiety was measured using the Generalized Anxiety Disorder Scale -7 (Kahlon, 2022; Sekhon, 2022). The model estimates a mean of observed effects of 0.19 with a non-significant p-value of 0.23. The 95% confidence interval on observed effects is -0.12–0.51. Based on the limited data and non-significant estimate of the mean observed effects, one cannot conclude that the interventions had a positive result on anxiety. Stress included two studies: Lee et al. (2021) and Sekhon et. al (2022); both used the Perceived Stress Scale. The model estimated a mean of observed effects of 0.037 with a non-significant p-value of 0.81. The 95% confidence interval on observed effects



was -0.25–0.33. Therefore, the model was not significant and no correlation between the phone intervention and stress could be determined for this meta-analysis.

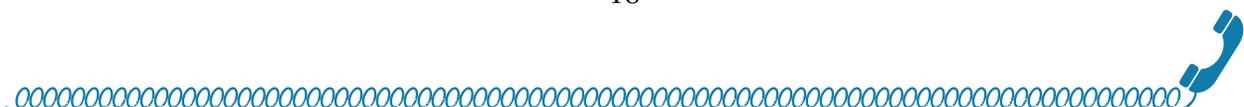
Quantitative meta-analysis showed a positive, consistent true effect for loneliness. Depression showed positive observed effects, but the prediction interval of true effects included both negative and positive effects and was therefore inconclusive. Anxiety or stress simply did not have enough studies to show significance upon meta-analysis. Moreover, the small number of studies for anxiety and stress may violate various assumptions of the random-effects analysis.

Qualitative results

Qualitative results were reported in three studies (Cattan et al., 2011; Lee et al., 2021; Noble et al., 2022). In each of the qualitative studies, participants reported having positive experiences with phone visiting programs. Meta-aggregation was used to draw the themes from each of the studies and then determine three cohesive themes. The three themes and their sub-themes were: 1) Makes You Feel Better, 2) Needing Connection (Knowing Someone is Out There, Need for Relationships), and 3) Beyond the Phone Call (Getting Over a Hurdle, Finding Meaning).

Makes you Feel Better

The first theme describes the subjective positive feeling participants experienced when they spoke with their phone partners. Participants in the included studies described feeling better knowing that they were going to receive a phone call and feeling better after the phone call (Cattan et al., 2011; Noble et al., 2022). Both studies described the feeling of well-being that came from speaking to someone on the phone and looking forward to the phone call. One participant in the Cattan et al. (2011) study described that knowing they were going to receive a



phone call kept them feeling ‘lifted.’ Similarly, Noble et al. (2022) described the participants experience of receiving phone calls as making them feel better.

Needing Connection

In this theme, participants spoke of the need to connect to other people and build relationships (Cattan et al. 2011, Lee et al., 2021, Noble et al. 2022). Needing Connection was divided into two sub-themes: Knowing Someone is Out There, and Need for Relationships.

Knowing Someone is Out There. Cattan et al. (2011) identified participants need to know that there was someone who cared about them and that they could contact someone if they needed.

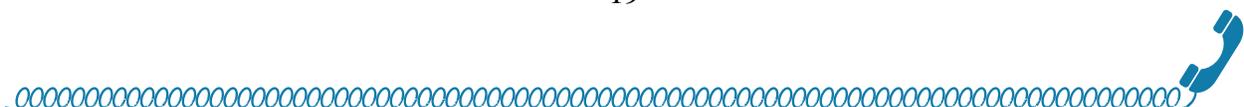
As expressed by one participant, “You can’t put it into words. It’s just knowing that there’s somebody there, especially when you live on your own. It’s just priceless.” (Cattan et al., 2011).

A participant in the Lee et al. (2021) study described how, when you are alone, there is comfort in knowing that there is someone to call.

Need for Relationships. All three studies described participants need for relationships with others (Cattan et al., 2011, Lee et al., 2021, Noble et al., 2022). In these studies, the participants were lacking people in their lives to be in relationship with and have someone with whom to speak (Noble et al., 2022). Having someone other than their pet to speak to was considered a positive (Cattan et al., 2011). Other participants spoke about wanting to be friends with their phone partner outside of the program (Lee, 2021). All of the studies spoke to the phone program providing them with someone to have a connection with that was otherwise lacking in their life.

Beyond the Phone Call

This theme speaks to the impact of the phone program on the participants’ feelings in other aspects of their life which was described in two studies (Cattan et al., 2011, Noble et al.,



2022) This theme was divided into two sub-themes: Getting Over a Hurdle and Finding Meaning.

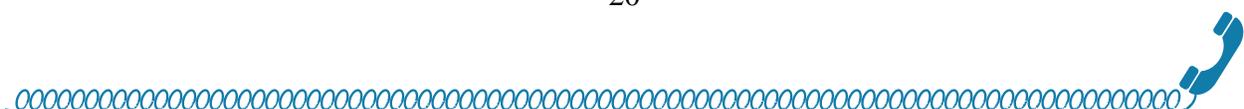
Getting Over a Hurdle. The study by Cattan et al. (2011) revealed how phone programs helped older adults overcome a barrier in their lives, assisting them to move forward. In the words of one participant, “It has opened up that new part of me. Whereas before I found it hard to talk to people, now I... [look forward to having a chat]” (Cattan et al., 2011). Another participant spoke to now feeling safe due to the phone call and feeling like life was worth living (Cattan et al., 2011).

Finding Meaning. Prior to the phone experience, participants in the included studies felt alone and that no one shared their experience. A participant found meaning in building relationship with others stating, “It’s hard when you feel like nobody cares. It made me feel like something to something instead of nothing to nothing.” (Noble, 2022). Other participants felt that they were part of the world and not alone (Cattan et al., 2011).

Although there were only three qualitative studies, each showed participants had positive experiences with phone programs. Phone visiting programs were found to provide an event for participants to look forward to and to make participants feel better. Phone visiting programs also met the participants’ need for connection and those positive feelings went beyond the phone call and encouraged them to make positive changes in other areas of life.

Quantitative and Qualitative Data Aggregation

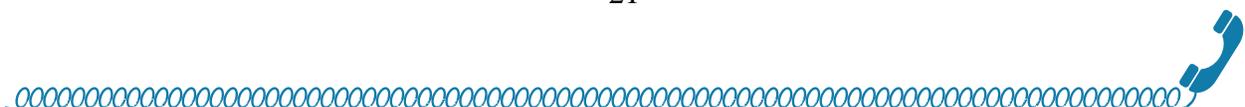
It was difficult to aggregate qualitative with quantitative data because they measured different outcomes. Quantitative studies measured the specific outcomes of Loneliness, Depression, Anxiety, and Stress. Whereas, in qualitative studies participants spoke to their experience in their own words which were relational and expressions of well-being.



Loneliness was the only quantitative outcome that showed significant positive findings for true effects. Improvements in loneliness were also evident qualitatively in the theme, *Needing Connection*, which provided support to the quantitative evidence of improvement in loneliness through building relationships with others. Depression, which was shown to have significant observed effects but inconclusive true effects, was supported qualitatively as well with the theme *Makes you Feel Better*. Although the studies did not examine improvements in depression specifically, participants described experiencing a ‘lift’ and feeling good. Depression occurs over weeks, months, or years which would make it harder to make a significant improvement in the outcome. Conversely, *Makes you Feel Better* is a subjective feeling that can change moment-to-moment or day-to-day. One might still be depressed but something could make them feel incrementally better in that moment. Interestingly, stress and anxiety, which were unable to show quantitative significance on meta-analysis, also were less apparent in qualitative theming. No specific themes spoke to stress or anxiety.

Program Evaluations

Three studies aimed to evaluate the usefulness of phone programs (Kahlon et al., 2021; Lowthian et al. 2018; Noble et al., 2022). Kahlon et al. (2021) found that 88% of all participants were either somewhat satisfied or very satisfied with the phone intervention. In support of phone program satisfaction Lowthian et al. (2018) had a high rate of phone intervention completion at 87%. The optimal duration of the phone calls was variable with some individuals happy with five-10 minutes while others wanted phone calls that lasted 30-45 minutes (Lowthian et al., 2018, Noble et al., 2022). Participants in the study by Lowthian et al. (2018) were satisfied with once/week phone calls which was the most common duration found in the available articles.



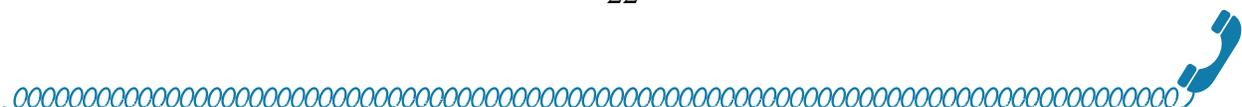
Lowthian et al. (2018) also found that participants enjoyed the convenience of phone calls compared to other forms of socialization.

Strengths and Limitation

A comprehensive exploration of existing studies on one-on-one voice-only phone programs which examined the outcomes of experience, loneliness, and/or mood was completed. A thorough search for available articles on phone programs and experiences, loneliness, or mood in a variety of databases in any time period ensured that we captured data from the greatest possible number of studies. We rigorously followed the steps of the systematic review. A minimum of two independent researchers completed each step of article selection, article evaluation, data extraction, and meta-aggregation. Analysis was completed with the input of all team members including patient-partners who were community-dwelling older adults.

In spite of the many strengths there were also a number of limitations. Unfortunately, there has been limited study on the use of phone programs in community dwelling older adults on loneliness and mood. As such the meta-analysis and meta-aggregation was limited. Loneliness was the only outcome that we could state had statistically significant positive results. Depression showed positive observational effects but we were unable to show conclusive true effects. If more studies were available, true effects may have been seen to be positive. Anxiety and stress were studied in too few studies to reveal statistically relevant findings. There were only three qualitative studies which made the strength of meta-aggregation limited. While the available studies showed positive findings, more quantitative and qualitative work is needed in this area.

Another limitation was the possibility of not locating all available articles. In spite of a thorough attempt to locate all relevant articles, some articles may have been missed. We did not



find relevant articles in other languages in spite of attempts to do so. Additionally, due to time constraints, we had limited opportunity to contact and receive responses from authors to receive additional information. For example, we were unable to find the quantitative article for a mixed-methods study for which we found a published qualitative article. Another article was missing data needed for meta-analysis. However, we were able to follow up with authors on a published protocol and locate their newly published article.

Additionally, the inclusion/exclusion criteria eliminated studies that may have included valuable data. Studies were included only if they used one-on-one voice-only phone calls, therefore, we excluded video calls, in-person visiting, and group calls. This led to the exclusion of a number of articles. We also excluded individuals that were not living in the community. A number of studies were excluded that used phone calls for older adults in hospitals and care facilities. These decisions were consistent with our protocol and were based on the team's earlier research that showed that older adults were interested in low-tech, one-on-one options. The team also wanted to keep the scope of the systematic review narrow, in order to focus specifically on telephone calls. Future systematic reviews could incorporate group calls, video calls, or other communication options.

Finally, it was challenging to compare studies and look for optimal phone program implementation due to the variety of phone visiting programs and methods of measuring outcomes. The located studies implemented the phone programs with differing frequency, duration, and program length. These variables made it difficult to determine optimum implementation of a phone program. The studies also measured different outcomes (loneliness, depression, anxiety, stress, quality of life, overall health) making comparison between scales challenging. Within outcomes, different scales were used such as loneliness which was measured



using three different scales depending on the study. Although the scales measured the same concepts, the scales were not the same which may have led to variable results.

Gaps

There are limited studies on the use of phone programs for community-dwelling older adults. There is a need for further study on the use of phone visiting programs on experience, loneliness, and/or mood. The studies also occurred over a limited time frame anywhere from four weeks to one year. There is a need to examine the benefit of phone visiting programs over a longer timeframe to see if loneliness and/or mood outcomes continue to improve. Additionally other factors could be measured such as rates of hospitalizations or admission to care facilities. All of the existing research created phone visiting programs specifically for the purposes of the research but valuable insight could also be gained from existing ongoing community phone visiting programs.

Implications

Older adults who are lonely, experiencing low mood, or are socially isolated require support. Phone visiting programs may provide part of the answer. Phone programs are low-tech, convenient, inexpensive and have the potential to improve lives. Policies and practices need to be adopted which make phone programs more available for older adults, allow for more research, and open communication channels between researchers and policy makers.

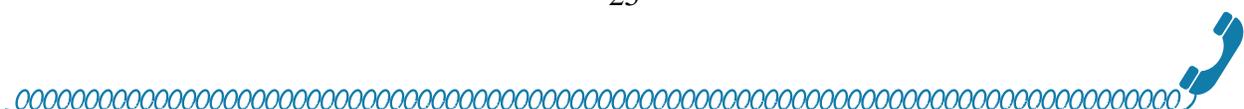
Knowledge dissemination on the widespread nature of loneliness amongst older adults and the health and well-being costs associated with loneliness is needed. A campaign directed at older adults to recognize signs and symptoms of social isolation, loneliness, and/or low-mood could assist in creating a pathway to a phone intervention that mitigates these challenges.



Campaigns could include contact information for available supports such as phone visiting programs and the benefits of these programs. Further, a public awareness campaign could assist in destigmatizing older adults who are feeling lonely or isolated and help get them connected with existing supports.

At this time, several organizations in North America offer phone programs. However, consistency between phone visiting programs to ensure high quality evidence-based programs appears in its infancy. Few programs currently exist which suggests additional phone visiting programs are immediately necessary, increasing widespread access for older adults. In order to successfully expand phone visiting programs, consistent guidelines are required.

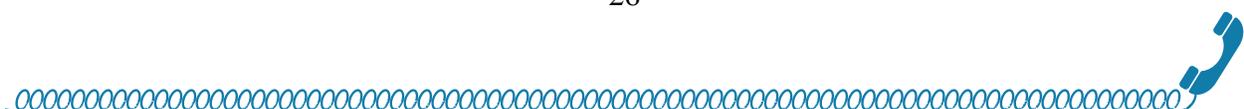
A repository of teaching and operationalization resources is required to ensure consistency among phone programs to assist additional organizations to start a phone program. The information package could include general phone program information, volunteer and participant recruitment, participant and volunteer onboarding, and volunteer training. Participant and volunteer information is needed at the outset of the program such as their living situation, availability, existing physical and mental health concerns, their expectations of the program, and preferred characteristics of their volunteer such as age, sex, and interests. Volunteer training information required could include existing research on phone programs, information on making conversation, confidentiality, and what to do in an physical or mental health emergency. The package requires co-design in collaboration with researchers, stakeholder organizations, participants of phone programs, and volunteers of phone programs. This repository could be used to recruit and build capacity of existing community organizations such as service groups, church groups, older adult groups, or others to start a phone visiting program in their community.



Financial resources need to be allotted to the formation and sustainability of older adult phone visiting programs. These phone visiting programs could be effective money-saving initiatives to reduce physical and mental health challenges that are an expense to the health system. It could also improve the quality of life for older adult. Research shows that older adults who are lonely are more likely to experience increased physical and mental health challenges and more likely to need full-time care (WHO, 2021). There is a need for socialization strategies like phone visiting programs for older adults.

In order to bring research into action, communication pathways must be created between researchers, organizational leaders, and government leaders. An online portal for researchers and organizational and government leadership would allow for information sharing that is difficult and tentative at present. Researchers could upload their research information and policy suggestions that could influence organization and government and organizational leadership. Leaders could seek relevant research in their areas of policy which match their mission and vision. This portal could be used as two way information sharing site in order to get research those with decision-making influence. A side benefit of the portal would be to connect those with similar initiatives. In the case of phone visiting programs for older adults, this research could be uploaded for leaders in health promotion and health care to make informed decisions. Health promotion leaders could also ask questions and seek out more information from researchers.

Further research is essential to strengthen the evidence on the impact of phone visiting programs. Both qualitative and quantitative research is needed to add to the body of knowledge on the experience of phone programs and its impact on loneliness and/or mood. Research is also needed on other forms of communication such as video calls, messaging, and other digital social media sites on their use in improving loneliness and/or mood in older adults.



Conclusions

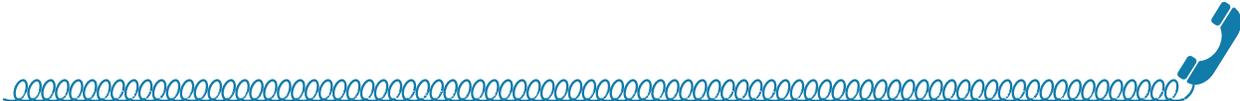
Phone visiting programs show promise to reduce loneliness and improve measures of mood. However, more research is needed to strengthen this evidence. The meta-analysis shows a statistically significant reduction in loneliness which was also supported by qualitative evidence. Although improvements in depression were shown in individual studies, meta-analysis was inconclusive which suggests that it may have positive effects in some populations and negative or inconclusive impacts in others. There was not enough study on stress and/or anxiety to form conclusions from meta-analysis. Qualitative studies were also limited. All three studies showed that participants enjoyed the phone program and this intervention made them feel better, helped meet their need for connection, and the impacts went beyond the duration of the phone call. There is an urgent need to find and implement interventions that mitigate loneliness and improve mood in older adults. Phone visiting programs are inexpensive, convenient, and accessible and may be part of the solution.

Knowledge mobilization activities

Knowledge mobilization of this research is integrative and continuing. A systematic review protocol has been submitted for publication on PROSPERO and a presentation was provided to a manager of the Canadian Red Cross- Friendly Calls Program. This report and commensurate presentation will serve as a knowledge translation method. We are working to publish an academic article to highlight the findings of this systematic review and will present at academic conferences. Contact with organizations that provide, or have resources to offer, phone visiting programs has been ongoing. Conversations continue to encourage clinical placements for



students that include phone visiting initiatives as a way to teach and learn about older adult care including loneliness and social isolation.

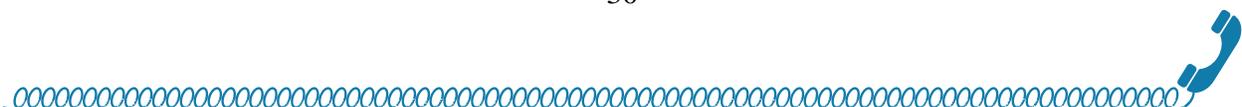


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