


RESEARCH ARTICLE

One size does not fit all: A qualitative study exploring preferences and barriers towards the design of a loneliness reduction intervention in patients with coronary heart disease

Mitti Blakoe^{1,2}  | Selina Kikkenborg Berg^{1,2} | Ida Elisabeth Højskov³ | Pernille Palm¹ | Camilla Bernild¹

¹Rigshospitalet, The Heart Center, Department of Cardiology, Copenhagen University Hospital, Copenhagen, Denmark

²Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark

³Rigshospitalet, The Heart Center Department of Cardiothoracic Surgery, Copenhagen University Hospital, Copenhagen, Denmark

Correspondence

Mitti Blakoe, Rigshospitalet, The Heart Center, Department of Cardiology 3154, Copenhagen University Hospital, Blegdamsvej 9, Copenhagen, Denmark. Email: mitti.blakoe@regionh.dk

Funding information

The author disclosed receipt of the following financial support for the research of this article: University hospital of Copenhagen, Rigshospitalet research grant [grant number E-22281-07]

Abstract

Aim: To explore preferences and barriers towards the design of a loneliness reduction intervention in patients treated for coronary heart disease who experience loneliness.

Design: A qualitative study using patient involvement methodology.

Methods: Seventeen patients participated in either focus groups or individual interview sessions. The interview guide was based on patient involvement methodology. Interviews were analysed using deductive content analysis.

Results: Four overall findings emerged as follows: (a) An intervention involving a social network member must comply with patients perceived social norms; (b) An intervention involving a peer provides benefits from reciprocity and shared experiences, but also requires surplus mental energy; (c) The history of an existing relationship can act as both provider and barrier for confidentiality and (d) Start-up, timeframe and structure of the intervention should be individually tailored to the patient's preferences. Findings illuminated preferences and barriers towards the design of a loneliness reduction intervention in patients with coronary heart disease.

KEYWORDS

coronary heart disease, focus groups, loneliness, patient involvement, qualitative research, social support

1 | INTRODUCTION

Coronary heart disease (CHD) is an enduring and life-threatening disease by which patients are affected both physically and mentally in the early rehabilitation period following in-hospital CHD treatment (Visseren et al., 2021). Patients can be affected physically by severe fatigue and loss of appetite (Falun et al., 2016) and psychologically by emotional distress (Albus, 2010) and fear of sudden death

(Junehag et al., 2014; Pryor et al., 2014). Also, patients may be required to perform new health behaviours, for example in relation to physical activity or new medications, which may be experienced as an additional source of stress (Condon & McCarthy, 2006; Junehag et al., 2014; Mead et al., 2010). In the process of adapting the aftermath from CHD treatment, patients report having an increased need for practical, informational and emotional support from social network members (Junehag et al., 2014; Pryor et al., 2014). However,

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2022 The Authors. *Nursing Open* published by John Wiley & Sons Ltd.

5%–30% of the population in Western societies report that they experience a lack of social support and thus an associated feeling of loneliness in their everyday life (Hawkey & Cacioppo, 2010).

Loneliness can be defined as: “A distressing feeling that accompanies the perception that one’s social needs are not being met by the quantity or especially the quality of one’s social relationships” (Hawkey & Cacioppo, 2010).

In patients with CHD, loneliness is an important issue to address as evidence suggest that loneliness, besides its negative impact on patients capacity to physically and mentally adapt to the critical event, also negatively impacts health outcomes (Leifheit-Limson et al., 2010; Murphy et al., 2008) and cardiac and all-cause mortality (Barth et al., 2010) For example, a recent study has revealed that patients who experience loneliness has a two-fold risk of 1 year mortality (Christensen et al., 2019).

The comprehensive evidence linking loneliness with poor health outcomes has led to an increasing interest in developing loneliness reduction interventions. The hypothesis is that loneliness reduction interventions have the potential to reduce emotional stress and promote condition management and consequently, improve health behaviours and health outcomes (Clayton et al., 2019; Masi et al., 2011).

2 | BACKGROUND

In the social integration literature, social support is conceptualized into two main domains: structural and functional social support (Uchino, 2006). Structural support is the number of contacts in an individual’s environment, for example, marital status or social contacts per week. Functional support on the other hand, deals with the quality of the relationships and covers issues such as emotional support (e.g. feelings of being cared for), practical support (e.g. assistance with a task) or information provision (Uchino, 2006). Evidence point to that especially the lack of functional support negatively affects health outcomes (Barth et al., 2010). Consequently, patients perceived social support is not solely related to the number of social network members but also, and more importantly, to their ability to provide the functional support needed in a given life circumstance.

Previous social support interventions targeting patients with CHD has sought to promote both functional and structural aspects of social support and has typically consisted of either: (a) strengthening existing social network relationships (e.g. friends, family or local community groups), (b) offer the patient a peer (i.e. a person with a similar disease as the recipient), or (c) offer psychosocial interventions provided by health professionals. However, the vast majority of these interventions has intervened regardless of patients existing degree of social support and has not specifically been targeting patients suffering from loneliness (Clayton et al., 2019). For the purpose of providing a loneliness reduction intervention in a population affected by acute and critical illness, the social integration literature suggest that the intervention strategy should be adapted to the domains of social support known to be needed when affected by an acute disease, that is, informative, emotional and practical support

(Cacioppo et al., 2015; Pietromonaco & Collins, 2017). Conversely, studies that have been targeting people who experience loneliness have mainly been focusing on healthy populations (Cacioppo et al., 2015; Masi et al., 2011). Researchers in this area stresses that to solve the problem of loneliness the focus has to be on the quality instead of quantity of the relationships, as the human connection has to be meaningful and satisfying for the people involved (Cacioppo & Patrick, 2008; Fakoya et al., 2020). Also, that it is advantageous to involve the target population in the design of the intervention and thus, enhance the performance of tailored loneliness reduction interventions (Fakoya et al., 2020; Masi et al., 2011).

To fill in the gap of evidence on how to advantageously intervene on loneliness in a population affected by a life-threatening and critical event, as in the case of patients treated for CHD, we chose to engage the target population in the development of the intervention design. By engaging the target population, we sought to enhance the opportunity of developing a relevant and sustainable loneliness reduction intervention. Patient and public involvement methodology (Hayes, 2012) offers a suitable approach in this regard, as it potentially improves the relevance and acceptability of health service interventions, by gaining insight into the target population’s attitudes and perspectives.

3 | AIM

To explore preferences and barriers towards the design of a loneliness reduction intervention targeting patients treated for coronary heart disease who experience loneliness.

4 | METHOD

This qualitative study used patient and public involvement (PPI) methodology to explore patients’ preferences and barriers towards the design of a loneliness reduction intervention. The involvement of patients in the development of the intervention was planned according to recommendations in “INVOLVE Briefing notes for researchers: Public involvement in NHS, public health and social care research” (Hayes, 2012). Patient and public involvement methodology is defined as research being carried out “with” or “by” patients and members of the public rather than “to,” “about” or “for” them (Hayes, 2012). The ambition is to use patient and public involvement methods (Hayes, 2012) to gain a wider and deeper understanding of the needs and preferences towards a loneliness reduction intervention in patients treated for CHD who experience loneliness and, thus, validate the relevance of the proposed intervention in collaboration with the target population.

Patients representing the target population were invited to a dialogue, to discuss the structure of a loneliness reduction intervention. The intervention is based on the engagement of an informal caregiver from the patients’ social network, for example, a neighbour, friend or family or alternatively, the engagement of a peer. By

listening to the participant's views and ideas, they were given a voice on, firstly, how to develop a meaningful design and secondly, potential barriers to the success of the implementation of the intervention (Beck, 2020; Leask et al., 2019).

The reporting of results in this study is in accordance with consolidated criteria for reporting qualitative studies (COREQ) (Tong et al., 2007).

4.1 | Participants, selection and recruitment

During the period January 14th to June 29th, 2019, patients admitted to medical, invasive (Percutaneous Coronary Intervention [PCI], Cardiac stent) or surgical (Coronary Artery Bypass Grafting [CABG]) treatment for CHD were approached. Patients were approached by the first author at the first opportunity following treatment procedure, that is, when the patient was considered mentally and physically approachable. Patients who were unable to provide written consent due to severe cognitive or physical dysfunction or patients who did not speak or understand Danish were not approached. In total 258 patients were approached and received written and oral information about the purpose of the study and the right to withdraw at any time with no consequences for their further treatment.

Patients who accepted participation were handed a sealed envelope with three questions originating from the Danish National Health Survey (Christensen et al., 2012), concerning their subjective perception of social support. A sealed envelope was chosen to protect patients' privacy, as a lack of social support may constitute a sensitive issue (Cacioppo & Patrick, 2008). Based on the prognostic properties of the item responses in the questions (Blakoe et al., 2021) patients were classified as lonely or not lonely as presented in Table 1.

In total, 32 patients were classified as lonely and accepted an invitation to an interview session 8–12 weeks following discharge. Patients were randomly invited to either focus group sessions or individual interview sessions. Invitations were sent approximately 4 weeks following discharge by mail or e-mail, and 17 accepted participation.

The choice of combining focus group (Kidd & Parshall, 2000) and individual interview sessions (Dicicco-Bloom & Crabtree, 2006) occurred situationally following the two focus group sessions. On one hand, the focus group sessions created a reflexive interaction forum bringing forward enriching discussions between participants. On the other hand, there was a tendency to discuss potential preferences and barriers towards the presented loneliness reduction interventions in a general and impersonal way. To provide a space for private thoughts and feelings we choose to enrich the empirical material with individual interview sessions.

Participants represented both urban and rural areas in Denmark. An overview of the participants involved in the interview sessions is presented in Table 2.

The two focus group sessions lasted 32 and 60 min each and were conducted in hospital, consisting of three and four participants,

respectively. We chose to let the dynamic of the group to come forward, and therefore, no attempt was made on reducing differences in the data collection process. Focus group sessions were facilitated by the first author (MB), and the last author (CB) acted as an observer.

Participants invited to an individual interview session chose where the interview was to be conducted. Six were conducted in participants' homes and four were conducted in hospital. Individual interview sessions lasted between 24 and 103 min. Individual interview sessions were conducted by the first author (MB).

All interviews were audio recorded and transcribed verbatim.

4.2 | The patient involvement interview session

The interview guide content was based on patient involvement methodology (Hayes, 2012; Leask et al., 2019). Therefore, the questions asked had an evaluative approach.

The interview session was performed in extension of an interview session exploring how loneliness influences well-being and health behaviour in the early rehabilitation period following CHD treatment.

Initially, in both the focus group and individual interview sessions a draft of a loneliness reduction intervention was verbally presented to the participants, Box 1.

Participants were not provided with further details of the intervention structure, which deliberately led them to express their immediate attitude towards involving a member from their existing social network in a loneliness reduction intervention. Subsequently, participants were asked additional questions on preferences and barriers towards different dimensions of the intervention, that is, *How would you feel about pointing out an informal caregiver from your social network?, Do you think it could impact your relationship with the network member if he/she did not accept the invitation to be an informal caregiver? -and why/why not, Do you believe an intervention involving a social network member as an informal caregiver is beneficial in the early rehabilitation period following CHD treatment? -and why/why not? Would you yourself have accepted to receive an intervention like this, and why/why not?* Additional questions were asked when appropriate. Furthermore, questions were asked on preferred structure of the intervention, that is, start-up time, frequency and duration.

After debating the potential preferences and barriers, participants were presented with a similar intervention, involving a peer (i.e. a person with a similar disease) as the informal caregiver and similar questions were asked. This alternative social support option is relevant if the patient does not have a social network member, they believe suitable to provide adequate social support and, therefore, suitable to manage the role as an informal caregiver.

4.3 | Analysis

Patient and public involvement methodology does not assign to a specific method of analysing the empirical material. (Hayes, 2012).

TABLE 1 Classification of loneliness

Screening question	Item response	Responses N (%)	Univariate ^a Mortality HR (95% CI)	Multivariable ^b Mortality HR (95% CI)	Point	Classified as lonely
"Do you live alone" ^c	No	5,221 (72.8)	1	1		>2 points in total
	Yes	1,879 (26.2)	1.15 (0.76–1.74)	1.07 (0.60–1.92)	1	
"Does it ever happened that you are alone even though you wish to be with others?" ^d	No	3,417 (47.7)	1	1		1
	Yes, but rarely	1,705 (23.8)	0.87 (0.55–1.36)	0.89 (0.52–1.54)		
	Yes sometimes	1,318 (8.4)	1.49 (0.98–2.27)	1.13 (0.65–1.98)	1	
	Yes, often	538 (7.5)	2.09 (1.29–3.40)	2.24 (1.24–4.03)	2	
"Do you have anybody to talk to if you experience problems or need support?" ^e	Yes always	4,303 (59.9)	1	1		1
	Yes often	1,801 (25.1)	1.30 (0.90–1.88)	1.20 (0.75–1.92)		
	Yes sometimes	592 (8.3)	0.92 (0.47–1.78)	0.72 (0.30–1.69)		
	No never or almost never	291 (4.1)	2.71 (1.55–4.74)	2.65 (1.32–5.32)	2	

^aUnivariate Cox proportional hazards regression model with age as the time scale.

^bMultivariable Cox proportional hazards regression model with age as the time scale adjusted for educational level, comorbidity (Tu comorbidity index), smoking, alcohol intake, medicine compliance, body mass index.

^cMissing N = 69.

^dMissing = 201.

^eMissing = 192.

Bold values = statistically significant increased risk of one-year mortality.

TABLE 2 Overview of the participants involved in the interview sessions

	Participant	Age	Gender	Location	Time in minutes
Focus group interviews	FG1	85	M	In hospital	32
	FG2	69	M	In hospital	
	FG3	74	M	In hospital	
	FG4	67	M	In hospital	
	FG5	56	M	In hospital	60
	FG6	63	M	In hospital	
	FG7	88	M	In hospital	
Individual interviews	II1	74	F	Home	103
	II2	63	M	In hospital	66
	II3	74	F	Home	59
	II4	63	M	In hospital	64
	II5	79	M	In hospital	34
	II6	53	M	Home	42
	II7	64	F	In hospital	24
	II8	73	M	Home	41
	II9	66	F	Home	36
	II10	62	F	Home	60

To enhance reliability of the findings, it seemed suitable to handle the substantial amount of empirical material using deductive content analysis. Deductive content analysis is operationalized when the aim was to connect prior formulated aspects of the subject of interest and organize the data material in this context (Elo & Kyngas, 2008).

The written transcript was read several times to make sense of the material. Then categories were grouped in a matrix accordingly to the headings in the interview guide, and subsequently, fitting meaning units (spoken preferences or barriers towards the presented intervention) into the matrix. The process of fitting meaning units into a matrix of interview headings, allowed opposing attitudes towards different aspects of the presented interventions to come forward. The first author (MB) performed all analysis in discussion with the last author (CB) until agreement was reached. The results were discussed with the co-authors (IEH, PP, SKB). We attempted to grasp the meaning and significance transmitted in the interviews throughout the sorting and analyses of the data material.

4.4 | Ethics

The investigation was approved by (jr. number: VD-2018-490) and the regional ethics committee. All interview sessions were recorded after participants provided written consent. The study conforms to the Declaration of Helsinki (18).

5 | RESULTS

Overall, participants in the present study expressed a desire to receive a loneliness reduction intervention. However, it was crucial

that the intervention accommodated the individual's preferences and barriers on social support. The empirical material provided valuable insight into these preferences and barriers in patients treated for CHD who experience loneliness. In the following we strive to bring forward the nuances in the study findings.

5.1 | Intervention I: an intervention involving a network member must comply with perceived social norms in the existing relationship

All participants confirmed that support from network members was very much needed in the early rehabilitation period following CHD treatment. However, some described imagined benefits from an intervention that involved a member of the existing social network, whilst others expressed various barriers.

The expected benefits were primarily described as something that would accrue to the social network member. Participants described how the increased information and knowledge on how to provide support could potentially decrease the network members' uncertainty on how to act in this unfamiliar situation, as exemplified in this quote:

II3: "I think it is a very good idea...It gives the relative an idea of what is going on... My son was not at all prepared for such a major operation, and it would have opened the conversation so that you can talk about what is really happening...And why the patient needs help"

As this quote illustrates, participants also expressed the view that the intervention could legitimize the increased need for support in the

BOX 1 The overall concept of the loneliness reduction intervention

Patients who have undergone CHD treatment will answer a short questionnaire before discharge, about their experience of social support from their existing social network members. Patients experiencing sparse or inadequate social support will be invited to point out a person from their social network, for example, a neighbour, friend or family, who potentially wants to get involved as an informal caregiver in a social support intervention. If the social network member accepts the role as an informal caregiver, the intervention will consist of nurse consultations with the caregiver.

The nurse consultations seek to bring out the informal caregivers' relational and communicative skills and provide the caregiver with an overall understanding of the physical and emotional consequences following a CHD event. The aim of the nurse consultations is to inform and support the caregiver on how to provide informative and emotional support to the patient in the rehabilitation period following discharge to home. Practical support is not a part of the intervention.

The overall aim of the social support intervention is to provide the patient with an informal caregiver for the duration of the rehabilitation period, and thus provide an opportunity to have conversations on for example, thoughts related to the CHD event or to receive advice and support on how to make health behavioural changes.

rehabilitation period, especially about emotional support. Furthermore, participants expressed the view that increased support from a social network member could help motivate health behavioural changes. One participant said:

II3: "The relative could have motivated me and said: 'You must do this and that', and then I would probably have said: 'yes, I must do that too'"

In addition, several participants stated that the intervention could provide a feeling of safety by knowing that "someone is there for you."

The majority of participants also expressed various doubts about the basic idea of involving a member from their social network, especially about asking a network member to be their informal caregiver.

FG2: "I would feel like I was imposing something on that person...In any case, I will not allow myself to ask anyone for this... It violates a boundary"

As this sequence from the focus group session illustrates, barriers were mainly related to social norms, as it was described as inappropriate

to ask someone for help who did not engage voluntarily. There was also concern about putting pressure on the network member, and a risk of disturbing the balance and reciprocity in the relationship between the patient and the network member. Other barriers mentioned were a lack of trust towards the network members' abilities and social skills needed to be an informal caregiver. One participant said:

II2: "No... There is no one in my network... No... Either they live too far away... And I live in the countryside, so we do not see each other... We have not seen each other for several years... No, there is no one".

Interviewer: "What about some of the friends from the pub?"

II2: "No... that's a mentally ill person and three alcoholics who can't walk 20 meters... So no, I don't think so (laughs)."

Interviewer: "So, there is no one you believe could be an informal caregiver in your network?"

II2: "No not at all... Not in that way"

Besides practical issues such as distance to the social network member, some participants also mentioned lack of time as a barrier. Several participants furthermore expressed a resistance to the basic idea of involving a social network member in their disease course and personal issues, as stated by an informant in the focus group session:

FG2: "I do not want to let anyone into my private life... Understand me right, I do not mind people, not at all... But that kind of things must be dealt with in the health care system... I do not believe in involving friends and acquaintances and family - it gets too close"

In the interview session, participants were also asked how they imagined it could impact the existing relationship between patient and network member if the network member rejected the invitation to be an informal caregiver. On this question, participants were equally divided between the view that it would not impact the existing relationship and that it would negatively impact the relationship.

5.2 | Intervention II: an intervention involving a peer provides benefits from reciprocity and shared experiences, but also requires mental surplus

After debating the imagined benefits and barriers related to a loneliness reduction intervention involving a social network member, participants were introduced to a similar intervention concept, also targeting patients with sparse or inadequate social support, but involving a peer, that is, a person with a similar disease as the patient. In response to the

overall introduction, the majority of the participants expressed mutual potential benefits but also some concerns and barriers.

The main expected benefit of having a peer was about the exchange of experiences on, for example, symptom management, practical and psychological issues and exchange of experiences from hospitalization. One participant said:

II1: "You get to see the others, how they master their everyday life, and that can be rewarding... And then your own problems become a little less"

Several of the participants said that they themselves had missed the opportunity to exchange experiences during their own rehabilitation period.

Furthermore, the view was said that a peer could motivate actions in everyday life, as verbalized in this quote;

II10: "I think it sounds really good...Because both people have gone through the same trajectory and know what it's about... They can support each other and maybe try to motivate each other, and just get in gear a little bit more. I think that would be great!"

Participants agreed that it could be valuable to share experiences with a peer on how to live with heart disease and how to deal with the changes in everyday life.

A recurring concern amongst the participants was related to the chemistry in the relationship with the peer and a doubt about whether they themselves would wish to end the intervention, and thereby risk disappointing the peer.

II10: "The worst thing that could happen was that you might realize that the relationship does not work, but that you do not want to say it because you do not want to hurt the person"

Another barrier mentioned was doubt about having a mental surplus sufficient to be in a reciprocal relationship in the early rehabilitation period.

Participants were also asked which characteristics the peer should have. None of them had special requests about the age or gender of the peer. However, some of the participants considered it to be beneficial if the peer had had similar and recent heart disease.

5.3 | History in an existing relationship can act as both a provider for confidentiality and as a barrier to speaking frankly

One of the main differences between having a person from the existing social network (Intervention I) and a peer (Intervention II) as an informal caregiver in a loneliness reduction intervention was the ability to speak frankly. One participant said:

FG5: "I would be most comfortable in a forum with the fellow peers I have had... I would feel safe by saying "I am not feeling well, and I have cried all day and I do not think I am getting better" I actually think I could say that in a group of peers... But I would not be able to... I would have a hard time tell that to a relative"

The majority of the participants expressed a similar view; that it would be easier to speak frankly with a peer than to a person from their social network, because they would not have to think about worrying the peer if they felt sad or felt a lack of progress in their recovery.

Some participants also articulated that they could not speak frankly with their social network members because of the history of the relationship, a history that could not impact a relationship with a peer. However, some participants said the opposite, that they would not feel the same level of confidentiality with a peer as with a person from their existing social network.

After debating the pros and cons of involving a social network member (Intervention I) or a peer (Intervention II) as an informal caregiver in an intervention, they were asked which intervention they would have chosen themselves if they had had the opportunity when discharged from hospital. The majority preferred peer support, either individually or in groups, whilst some preferred to involve an existing network member. Two participants did not prefer either but instead preferred a healthcare professional or virtual interaction in, for example, a chat forum. The preferred type of informal caregiver in a loneliness reduction intervention is presented in Table 3.

5.4 | Start-up, timeframe and structure of a loneliness reduction intervention should be individually tailored and adjusted accordingly

At the end of the interview session participants were asked about their preferences for the intervention structure about start-up time, timeframe and frequency of interaction with the formal caregiver either in the form of a social network member or a peer.

All participants agreed that it was most appropriate to be introduced to the intervention offer during hospitalization, but that the patient's decision to participate in the intervention should be made after discharge to home. One said:

I1: "Well, at discharge...Then I did not have that emptiness... Nor powerlessness... The experience of being alone... I did not have it when I walked out the door"

Several of the participants expressed similar views, that they did not recognize their own need for social support during hospitalization, as the emotional consequences from the CHD event first appeared when they came home. For the same reason, some participants said that they would have rejected the intervention if asked

TABLE 3 Selected quotes in relation to participants preferred type of informal caregiver in a loneliness reduction intervention

Choice of intervention	Social network member	Individual peer	Peer group	Other
Argument related to the choice of intervention	<p>II3: "I would probably have chosen a network member"</p> <p>Interviewer: "Why?"</p> <p>II3: "I do not know. The peer is also good, because then you would not have had to explain so much. But family and friends they have been with you from the beginning, and knows who you really are as a person"</p> <p>II6: "The first one we talked about, the relative. Because you use it immediately after you are discharged"</p> <p>II8: "I would choose the relative... I would not choose the group... They would only talk about their own problems"</p>	<p>II1: "Maybe two and two (i.e. individual peer)... Because then it will probably be a little more personal"</p> <p>II2: "I probably would have taken that" (pointing to individual peer)</p> <p>Interviewer: "Why is it the most appealing offer?"</p> <p>II2: "It's someone who has had it themselves" (i.e. a CHD event)</p> <p>II7: "The individual peer"</p> <p>Interviewer: "Could it be combined with some of the others"</p> <p>II7: "No... then it would be too much... There is plenty to think about right at the beginning"</p> <p>FG7: "I would prefer a volunteer... The thing about involving a relative, I do not like that much... No, it would be better if it was someone who had a heart disease... so you have some common interests"</p>	<p>II9: "I would choose the group in the first place... You can then hear from the others what they think about things... How they feel and what they thought about it"</p> <p>II10: "Peer as a group... I think it would be a good thing. But you had to meet physically, not over the phone or anything"</p> <p>FG5: "I would like a peer in a group too... a best friend where you start from a group... I think that would be great"</p>	<p>II4: "It should be a health professional, I think. Because you also do not know, even, with your loved ones... How they react to it. That it would be too stressful a thing to ask about. But not the middle one" (i.e. the peer)</p> <p>II5: "Immediately I think, I don't know if I would involve my family... And if I wanted a new friend, hmmm... No, I do not need to talk to anyone"</p>

during hospitalization, but that they would have agreed if asked following discharge.

When asked for how long an intervention was needed, the participants had different preferences spanning between 1–6 months. However, common to them was that the timeframe should not be strict, but individually adjusted along the way.

About the structure of the intervention, the need for an individually adjusted intervention was also verbalized. The preferred frequency of interaction with the informal caregiver varied between the need for daily interaction in, for example, a telephone call and weekly face-to-face meetings. The opportunity of being able to continuously adjust the frequency was important. Participants thought that both the meeting place and frequency should be agreed upon between patient and the informal caregiver, but that a health professional should set an overall framework, especially at the beginning of the intervention period.

6 | DISCUSSION

An established consensus exists in the healthcare system, that support from social network members plays a vital role in the recovery of patients with CHD. This is founded on the comprehensive evidence on social support and its impact on patients' well-being (Hawkey & Cacioppo, 2010), health behaviour (Magrin et al., 2015; Mondesir et al., 2018) and health outcomes (Barth et al., 2010; Christensen et al., 2019). However, in healthcare interventional research, little attention has been given specifically to patients who experience loneliness. Therefore, there is a need for actions to illuminate potential care pathways, which can reduce loneliness in this vulnerable patient population.

In this study, we made use of patient and public involvement methodologies to explore attitudes towards a loneliness reduction in patients treated for CHD who experience loneliness. In the following discussion we strive to bring forward the expressed preferences and barriers expressed by the participants and reflect the findings drawing in relevant research.

Loneliness and loneliness reduction interventions is a multifaceted and complex. (Cacioppo et al., 2015; Hawkey & Cacioppo, 2010). Likewise, in the interview sessions the participants expressed opposing attitudes towards the intervention structures presented, both between participants but also, internally for each participant.

A consistent finding in this study was the confirmation of the initial assumption and the findings of other researchers; that social support was experienced as crucial after discharge to home following in-hospital CHD treatment (Junehag et al., 2014; Karatas & Bostanoglu, 2017; Leifheit-Limson et al., 2010). When debating different loneliness reduction intervention structures, participants expressed imagined benefits but also mutual barriers.

For several participants, a substantial barrier towards involving a member from their social network as an informal caregiver in the intervention, was the action of asking for help. For these

participants, asking for help was perceived as incongruent with the norms in the existing relationship. For some participants, this incongruence was combined with a concern about burdening the network member. Similarly, in the social integration literature it has been found that increased need for help can induce a feeling of guilt in patients' (Svedlund & Axelsson, 2000) and that the acceptance of help is a balancing act that requires consideration of the demands on other people's time and resources (Cohen & Janicki-Deverts, 2009; Pietromonaco & Collins, 2017). These psychosocial mechanisms may explain why other participants expressed the view that the engagement of network members in a structured intervention could serve as a way of legitimizing asking for help.

Despite the psychical and emotional consequences of acute illness people in general, strive to be the same person they were before the event (Junehag et al., 2014). This existential need for maintaining normality was also expressed by participants in the present study and furthermore, that the need for maintaining normality could take precedence over needs for emotional, practical or informational support, and be a reason for not activating their social network. Conversely, studies concerning relatives of patients treated for CHD show that they often feel insecure about how to provide the support needed, especially with regard to informative and emotional support (Halm, 2016; Nissen et al., 2018). This finding highlights the importance of incorporating the dyadic perspective and the renegotiation of roles in the intervention structure. Furthermore, a loneliness reduction intervention should incorporate actions to support patients' relational prerequisites for receiving the social support provided.

In the second part of the interview session, participants were presented with a similar intervention, but one that involved a peer as an informal caregiver, instead of a social network member. The majority of the participants had fewer barriers towards this intervention, and mainly expressed imagined benefits. A surprising finding in this regard was the statement from some participants that they could speak more frankly with a peer than with a social network member. This is probably founded in the opportunity to exchange experiences on, for example, symptom management or practical and psychological issues, without disturbing the balance and reciprocity in an existing social relationship or worrying about the network member. In studies on peer support it has been similarly found that patients appreciate the opportunity to share the challenges they face and the successes they experience with other patients (Isaksen & Gjengedal, 2006; Parry & Watt-Watson, 2010).

An overall expressed benefit from a loneliness reduction intervention, whether it involved a social network member or a peer as an informal caregiver, was the presumption that it would help motivate health behaviour changes. This is in line with evidence that health behaviour and lifestyle change spread through networks, and that the process of sharing feeds into people's internal capacity (Cohen, 2004; Vassilev et al., 2014), whilst lifestyle changes can be difficult to undertake alone (Magrin et al., 2015; Mondesir et al., 2018).

At the end of the interview sessions, participants were asked about the preferred start-up time for the intervention. All participants agreed

that it was most appropriate to be introduced to the intervention offer during hospitalization, but that the decision on accepting the intervention should be made after discharge to home. This preferred structure was founded on a lack of recognition of their own need for social support during hospitalization. However, after discharge to home the emotional and practical consequences emerged, and therefore, participants would have agreed to receive the intervention at this stage in the disease course. This finding is valuable in order to optimize the future construction of loneliness reduction interventions.

Participants had different preferences on the intervention period in the range from 1–3 months. In a previous study investigating supportive needs in people living with heart disease it was reported that even 12 months after admission, many people still had unresolved concerns about lifestyle modifications (Pryor et al., 2014). Therefore, an intervention may be useful for a longer period than expected by the participants. Participants also had different preferences for the frequency of interacting with the informal caregiver in the intervention period, which underpins the findings of this study, that the overall structure of a loneliness reduction intervention must be individually tailored and adjusted accordingly. However, in line with social support research (Hawkey & Cacioppo, 2010; Uchino, 2006), the findings in the present study stress the importance of a loneliness reduction intervention to focus on the functional aspects of support provided by the informal caregiver, rather than on structural aspects.

6.1 | Implications for future research

Strong evidence exists on the association between loneliness and morbidity (Valtorta et al., 2018) and mortality (Barth et al., 2010; Holt-Lunstad et al., 2015; Vila, 2021) in patients treated for CHD. Despite this, no targeted and evidence-based loneliness reduction intervention has convincingly succeeded to reduce loneliness in a CHD population. The findings in the present study, has potential to provide valuable knowledge to future interventional studies targeting patients with CHD. Taking the findings into consideration, may potentially increase loneliness reduction interventions likelihood for achieving success.

6.2 | Strengths and limitations

In this study, approximately half of eligible patients accepted to participate in the interview sessions. As there may be essential differences between participants and non-participants, especially about psychosocial mechanism and preferences and barriers towards social relation structures, findings reported may not be representative of every reality.

The tendency for the participants in the focus group sessions to describe their preferences and barriers towards a loneliness reduction intervention in a more general and impersonal way, may have compromised the nuances of the findings in these sessions. Therefore, individual interview sessions were performed. These

sessions brought to a greater extent forward, not only the preferences and barriers towards the structure and content of the interventions', but also an extended and personal description of why these preferences and barriers was present.

The PPI sessions was performed in extension of a sessions exploring the influence of loneliness on well-being and health behaviours in the early rehabilitation period following CHD treatment. The interview sessions were clearly separated by a pause. Even so, the thoughts and feeling coming forward in the prior session has presumably affected the findings in the patient involvement session. This may serve as a strength in the present study, as the participants have had a change to reflect on their need of social support and thus, express how these needs could be accommodated.

7 | CONCLUSION

In this study, patient and public involvement methodology proved useful to provide insight into attitudes and perspectives towards the design of a loneliness reduction intervention in patients who experience loneliness following in-hospital CHD treatment. The empirical material revealed that participants had a desire to receive a loneliness reduction intervention in the early rehabilitation period following treatment. However, the intervention had to accommodate the individual's distinguish need towards the type of informal caregiver (social network member versus peer) in order to increase the likelihood of the intervention achieving success. Also, the intervention should target the functional aspects of social support and renegotiation of roles between patient and informal caregiver should be incorporated. The intervention structure, both in relation to start-up time of the intervention, intervention period and intervention frequency, should be individually tailored.

The findings can enhance the development of sustainable loneliness reduction interventions in clinical practice targeting patients with CHD who experience loneliness.

ACKNOWLEDGEMENTS

We wish to sincerely thank the participants who volunteered and generously gave of their time to take part in focus groups or individual interviews. Your contribution has been vitally important. We also wish to thank Malene Lindegaard Juul Larsen for helping with the questionnaire survey and Signe Westh Christensen for helping with the transcription of the interviews.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Mitti Blakoe, Selina K. Berg, Ida E. Højskov, Pernille Palm, Camilla Bernild: Study design. Mitti Blakoe, Camilla Bernild: Data collection and data analysis. Mitti Blakoe, Selina K. Berg, Ida E. Højskov, Pernille Palm, Camilla Bernild: Manuscript writing.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available in an anonymized form, on request from the corresponding author, [MB]. The data are not publicly available due to privacy/ethical restrictions.

ORCID

Mitti Blakoe  <https://orcid.org/0000-0002-3631-973X>

REFERENCES

- Albus, C. (2010). Psychological and social factors in coronary heart disease. *Annals of Medicine*, 42(7), 487–494. <https://doi.org/10.3109/07853890.2010.515605>
- Barth, J., Schneider, S., & von Kanel, R. (2010). Lack of social support in the etiology and the prognosis of coronary heart disease: A systematic review and meta-analysis. *Psychosomatic Medicine*, 72(3), 229–238. <https://doi.org/10.1097/PSY.0b013e3181d01611>
- Beck, M., Simoný, C., Damsgaard, J. B., & Missel, M. (2020). The patient's voice in the development of complex interventions. *Iris Journal of Nursing & Care*, 3(3), 1–4. <https://doi.org/10.33552/IJNC.2020.03.000564>
- Blakoe, M., Christensen, A. V., Palm, P., Højskov, I. E., Thrysoe, L., Thorup, C. B., Borregaard, B., Mols, R. E., Rasmussen, T. B., & Berg, S. K. (2021). Prognostic value of a brief loneliness questionnaire for patients with coronary heart disease: Proposal for a prediction model. *Journal of Clinical Nursing*, 00, 1–11. <https://doi.org/10.1111/jocn.16023>. Online ahead of print.
- Cacioppo, J. T., & Patrick, W. (2008). *Loneliness. Human nature and the need for social connection*. W. Norton & Company, N.Y.(Book).
- Cacioppo, S., Grippo, A. J., London, S., Goossens, L., & Cacioppo, J. T. (2015). Loneliness: Clinical import and interventions. *Perspectives on Psychological Science*, 10(2), 238–249. <https://doi.org/10.1177/1745691615570616>
- Christensen, A. I., Ekholm, O., Glümer, C., Andreasen, A. H., Hvidberg, M. F., Kristensen, P. L., Larsen, F. B., Ortiz, B., & Juel, K. (2012). The Danish national health survey 2010. Study design and respondent characteristics. *Scandinavian Journal of Public Health*, 40(4), 391–397. <https://doi.org/10.1177/1403494812451412>
- Christensen, A. V., Juel, K., Ekholm, O., Thrysoe, L., Thorup, C. B., Borregaard, B., Mols, R. E., Rasmussen, T. B., & Berg, S. K. (2019). Significantly increased risk of all-cause mortality among cardiac patients feeling lonely. *Heart*, 106(2), 140–146. <https://doi.org/10.1136/heartjnl-2019-315460>
- Clayton, C., Motley, C., & Sakakibara, B. (2019). Enhancing social support among people with cardiovascular disease: A systematic scoping review. *Current Cardiology Reports*, 21(10), 123. <https://doi.org/10.1007/s11886-019-1216-7>
- Cohen, S. (2004). Social relationships and health. *American Psychologist*, 59(8), 676–684. <https://doi.org/10.1037/0003-066X.59.8.676>
- Cohen, S., & Janicki-Deverts, D. (2009). Can we improve our physical health by altering our social networks? *Perspectives on Psychological Science*, 4(4), 375–378. <https://doi.org/10.1111/j.1745-6924.2009.01141.x>
- Condon, C., & McCarthy, G. (2006). Lifestyle changes following acute myocardial infarction: Patients perspectives. *European Journal of Cardiovascular Nursing*, 5(1), 37–44. <https://doi.org/10.1016/j.ejcnurse.2005.06.005>
- Dicicco-Bloom, B., & Crabtree, B. F. (2006). The qualitative research interview. *Medical Education*, 40(4), 314–321. <https://doi.org/10.1111/j.1365-2929.2006.02418.x>
- Elo, S., & Kyngas, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107–115. <https://doi.org/10.1111/j.1365-2648.2007.04569.x>
- Fakoya, O. A., McCorry, N. K., & Donnelly, M. (2020). Loneliness and social isolation interventions for older adults: A scoping review of reviews. *BMC Public Health*, 20(1), 129. <https://doi.org/10.1186/s12889-020-8251-6>
- Falun, N., Fridlund, B., Schaufel, M. A., Schei, E., & Norekval, T. M. (2016). Patients' goals, resources, and barriers to future change: A qualitative study of patient reflections at hospital discharge after myocardial infarction. *European Journal of Cardiovascular Nursing*, 15(7), 495–503. <https://doi.org/10.1177/1474515115614712>
- Halm, M. A. (2016). Specific needs, concerns, strategies and advice of caregivers after coronary artery bypass surgery. *Heart and Lung*, 45(5), 416–422. <https://doi.org/10.1016/j.hrtlng.2016.07.001>
- Hawkey, L. C., & Cacioppo, J. T. (2010). Loneliness matters: A theoretical and empirical review of consequences and mechanisms. *Annals of Behavioral Medicine*, 40(2), 218–227. <https://doi.org/10.1007/s12160-010-9210-8>
- Hayes, H., Buckland, S., & Tarpey, M. (2012). *INVOLVE Briefing notes for researchers: Public involvement in NHS, public health and social care research*. National Institute for Health Research.
- Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science*, 10(2), 227–237. <https://doi.org/10.1177/1745691614568352>
- Isaksen, A. S., & Gjengedal, E. (2006). Significance of fellow patients for patients with myocardial infarction. *Scandinavian Journal of Caring Sciences*, 20(4), 403–411. <https://doi.org/10.1111/j.1471-6712.2006.00421.x>
- Junehag, L., Asplund, K., & Svedlund, M. (2014). A qualitative study: Perceptions of the psychosocial consequences and access to support after an acute myocardial infarction. *Intensive & Critical Care Nursing*, 30(1), 22–30. <https://doi.org/10.1016/j.iccn.2013.07.002>
- Karatas, T., & Bostanoglu, H. (2017). Perceived social support and psychosocial adjustment in patients with coronary heart disease. *International Journal of Nursing Practice*, 23(4), e12558. <https://doi.org/10.1111/ijn.12558>
- Kidd, P. S., & Parshall, M. B. (2000). Getting the focus and the group: Enhancing analytical rigor in focus group research. *Qualitative Health Research*, 10(3), 293–308. <https://doi.org/10.1177/104973200129118453>
- Leask, C. F., Sandlund, M., Skelton, D. A., Altenburg, T. M., Cardon, G., Chinapaw, M. J. M., De Bourdeaudhuij, I., Verloigne, M., Chastin, S. F. M., & Teenage Girls on the Move Research, G (2019). Framework, principles and recommendations for utilising participatory methodologies in the co-creation and evaluation of public health interventions. *Research Involvement and Engagement*, 5, 2. <https://doi.org/10.1186/s40900-018-0136-9>
- Leifheit-Limson, E. C., Reid, K. J., Kasl, S. V., Lin, H., Jones, P. G., Buchanan, D. M., Parashar, S., Peterson, P. N., Spertus, J. A., & Lichtman, J. H. (2010). The role of social support in health status and depressive symptoms after acute myocardial infarction: Evidence for a stronger relationship among women. *Circulation: Cardiovascular Quality and Outcomes*, 3(2), 143–150. <https://doi.org/10.1161/CIRCO.UTCOMES.109.899815>
- Magrin, M. E., D'Addario, M., Greco, A., Miglioretti, M., Sarini, M., Scignaro, M., Steca, P., Vecchio, L., & Crocetti, E. (2015). Social support and adherence to treatment in hypertensive patients: A meta-analysis. *Annals of Behavioral Medicine*, 49(3), 307–318. <https://doi.org/10.1007/s12160-014-9663-2>
- Masi, C. M., Chen, H. Y., Hawkey, L. C., & Cacioppo, J. T. (2011). A meta-analysis of interventions to reduce loneliness. *Personality and Social Psychology Review*, 15(3), 219–266. <https://doi.org/10.1177/1088868310377394>
- Mead, H., Andres, E., Ramos, C., Siegel, B., & Regenstien, M. (2010). Barriers to effective self-management in cardiac patients: The patient's experience. *Patient Education and Counseling*, 79(1), 69–76. <https://doi.org/10.1016/j.pec.2009.08.003>

- Mondesir, F. L., Carson, A. P., Durant, R. W., Lewis, M. W., Safford, M. M., & Levitan, E. B. (2018). Association of functional and structural social support with medication adherence among individuals treated for coronary heart disease risk factors: Findings from the REasons for geographic and racial differences in stroke (REGARDS) study. *PLoS One*, *13*(6), e0198578. <https://doi.org/10.1371/journal.pone.0198578>
- Murphy, B. M., Elliott, P. C., Le Grande, M. R., Higgins, R. O., Ernest, C. S., Goble, A. J., Tatoulis, J., & Worcester, M. U. C. (2008). Living alone predicts 30-day hospital readmission after coronary artery bypass graft surgery. *European Journal of Cardiovascular Prevention and Rehabilitation*, *15*(2), 210–215. <https://doi.org/10.1097/HJR.0b013e3282f2dc4e>
- Nissen, N. K., Jonsdottir, M., Spindler, H., & Zwisler, A. O. (2018). Resistance to change: Role of relationship and communal coping for coronary heart disease patients and their partners in making lifestyle changes. *Scandinavian Journal of Public Health*, *46*(6), 659–666. <https://doi.org/10.1177/1403494818756562>
- Parry, M., & Watt-Watson, J. (2010). Peer support intervention trials for individuals with heart disease: A systematic review. *European Journal of Cardiovascular Nursing*, *9*(1), 57–67. <https://doi.org/10.1016/j.ejcnurse.2009.10.002>
- Pietromonaco, P. R., & Collins, N. L. (2017). Interpersonal mechanisms linking close relationships to health. *American Psychologist*, *72*(6), 531–542. <https://doi.org/10.1037/amp0000129>
- Pryor, T., Page, K., Patsamanis, H., & Jolly, K. A. (2014). Investigating support needs for people living with heart disease. *Journal of Clinical Nursing*, *23*(1–2), 166–172. <https://doi.org/10.1111/jocn.12165>
- Svedlund, M., & Axelsson, I. (2000). Acute myocardial infarction in middle-aged women: Narrations from the patients and their partners during rehabilitation. *Intensive & Critical Care Nursing*, *16*(4), 256–265. <https://doi.org/10.1054/iccn.2000.1516>
- Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, *19*(6), 349–357. <https://doi.org/10.1093/intqhc/mzm042>
- Uchino, B. N. (2006). Social support and health: A review of physiological processes potentially underlying links to disease outcomes. *Journal of Behavioral Medicine*, *29*(4), 377–387. <https://doi.org/10.1007/s10865-006-9056-5>
- Valtorta, N. K., Kanaan, M., Gilbody, S., & Hanratty, B. (2018). Loneliness, social isolation and risk of cardiovascular disease in the English longitudinal study of ageing. *European Journal of Preventive Cardiology*, *25*(13), 1387–1396. <https://doi.org/10.1177/2047487318792696>
- Vassilev, I., Rogers, A., Kennedy, A., & Koetsenruijter, J. (2014). The influence of social networks on self-management support: A metasynthesis. *BMC Public Health*, *14*, 719. <https://doi.org/10.1186/1471-2458-14-719>
- Vila, J. (2021). Social support and longevity: Meta-analysis-based evidence and psychobiological mechanisms. *Frontiers in Psychology*, *12*, 717164. <https://doi.org/10.3389/fpsyg.2021.717164>
- Visseren, F. L. J., Mach, F., Smulders, Y. M., Carballo, D., Koskinas, K. C., Bäck, M., Benetos, A., Biffi, A., Boavida, J. -M., Capodanno, D., Cosyns, B., Crawford, C., Davos, C. H., Desormais, I., Di Angelantonio, E., Franco, O. H., Halvorsen, S., Hobbs, F. D. R., Hollander, M., ... Group, E. S. C. S. D (2021). 2021 ESC guidelines on cardiovascular disease prevention in clinical practice. *European Journal of Preventive Cardiology*, *42*(34), 3227–3337. <https://doi.org/10.1093/eurjpc/zwab154>

How to cite this article: Blakoe, M., Berg, S. K., Højskov, I. E., Palm, P., & Bernild, C. (2022). One size does not fit all: A qualitative study exploring preferences and barriers towards the design of a loneliness reduction intervention in patients with coronary heart disease. *Nursing Open*, *9*, 1114–1125. <https://doi.org/10.1002/nop2.1151>