An interview-based study of non-attendance at screening for cardiovascular diseases and diabetes in older women

Non-attendees' perspectives

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Author contributions
MD and VL designed the interview study. MD collected field data. MD drafted this manuscript and performed the analyses and interpretation of the findings. MD, LSA, and VL conducted debriefing sessions during the analysis process. VL and LDS confirmed the interpretation of the empirical data. All authors contributed with constructive criticism during the preparation of the manuscript. All authors have read and approved the final manuscript.

Conflict of interest
No conflicts of interest have been declared by the authors.

ABSTRACT
Aims and objectives: This study explored non-attendees' perspectives on a screening program for cardiovascular disease (CVD) and diabetes mellitus (DM) among women aged 60–77 years.

Background: Non-attendance in screening is a common concern and has been associated with increased morbidity and mortality. Whether non-attendees need targeted information to participate in screening is unknown. Thus, it is important to explore the reasons for non-attendance, particularly as non-attendees' perspectives have not been fully explored.

Design: An interview study
Methods: The data were obtained through semi-structured interviews with 10 women sampled from a population who declined to participate in a women’s screening program for CVD and DM. Additionally, reflective notes on the interview context were documented. The data were collected in 2013. Kvale and Brinkmann’s method for data analysis was applied.

Results: All informants found the screening offer personally irrelevant, but this belief was changeable. The informants' perceptions of screening were based on subjective health and risk beliefs, personal knowledge of diseases and the screening program, and distrust in the healthcare system.

Conclusion: Personal experiences, beliefs, and self-protective strategies influence individuals' subjective interpretations of a screening program’s relevance. The perception that screening is irrelevant seems to be rooted in non-attendees’ personal health-related assessment and knowledge. Consequently, whether non-attendance is determined by an informed decision is questionable. Negative experiences with the healthcare system led to hesitation toward screening in general.

Relevance to clinical practice: This study is relevant to healthcare workers as well as decision makers from a screening and preventive perspective. The findings highlight important issues that should be addressed to encourage invitees to accept screening invitations and to facilitate informed decision making about screening participation.

Keywords: Nursing, screening, non-attendance, patient experience, cardiovascular diseases, diabetes, interviews, qualitative study.

What does this paper contribute to the wider global clinical community?

- The perception of screening offers as personally irrelevant can be changed.
- Beliefs and knowledge, as well as decisional ambivalence, are critical issues to address to encourage invitees to accept invitations to receive screening.
- This study provides insight into essential issues to address to ensure that invitees receive information that reinforces informed decisions; these issues are also pivotal to increasing attendance rates in future screening programs.
INTRODUCTION

There is a clear need to reduce women's risk of cardiovascular disease (CVD) and diabetes (DM) as well as the associated economic costs, but the most (cost-)effective preventive strategy remains unknown. One solution may be to offer screening programs to women older than 60 years, as women's CVD risk increases after this age (Stramba-Badiale 2009). However, non-attendance is a common concern in screening programs because studies have suggested that non-attendees have higher morbidity (Langhammer, Krokstad, Romundstad, Heggland, & Holmen, 2012) and mortality (Lindholt, Juul, Fasting, & Henneberg, 2005; Thomas et al., 2002). Consequently, exploring non-attendance is relevant to ensuring that screening programs achieve their desired effect. An exploration of non-attendance was thus conducted as part of a screening program for CVD and DM among older women.

BACKGROUND:

The purpose of screening is to detect risk factors and unknown diseases at an early stage, which allows for earlier interventions and improvements in prognoses (Danish Health and Medicine Authority 2014). DM and certain CVDs, such as peripheral artery disease (PAD) and abdominal aortic aneurysm (AAA), are mostly asymptomatic and are typically only diagnosed by screening. The aim of screening for PAD is to decrease cardiovascular morbidity and mortality. Medical therapy and lifestyle changes significantly reduce the CVD risk in patients with PAD (Norgren et al., 2007). Additionally, diagnosing and surgically repairing AAA before rupture can decrease the mortality from 76% to 1-3% (Lindholt, Green, & Søgaard 2013).

According to the Danish Health and Medicine Authority (2014), the decision to implement new screening programs requires an evaluation of whether the benefits of screening outweigh the possible physical, psychological, and social consequences for the participants. The U.S. Preventive Service Task Force (2014) has reservations about introducing AAA screening for women due to the possible effects on quality of life. However, Ashton et al. (2002) did not find differences in the levels of anxiety among men who screened positive for AAA compared with those with negative screening results. Nevertheless, studies concerning the psychological consequences of AAA screening are limited and are mainly based on the male perspective. When considering screening as a preventive strategy, awareness of the invitees' decision making regarding health management is needed to ensure that an
The literature suggests that non-attendance is associated with age (Lindholt, Juul, Henneberg, & Fasting, 1998), lifestyle, especially smoking (Dryden, Williams, McCowan, & Themessl-Huber, 2012), required travel distance (Schomerhorn et al., 2008), socioeconomic status (Langhammer et al., 2012; Lindholt et al., 1998), and marital status (Culica, Rohrer, Ward, Hilsenrath, & Pomrehn, 2002). Non-attendees are less likely to consider health checks and screening beneficial (Dryden et al., 2012, Søgaard, Lindholt, & Gyrd-Hansen, 2013). From the non-attendees’ perspective, the factors underlying non-attendance are related to beliefs about personal risk and diseases (Eborall et al., 2012), personal relevance (Ellis et al., 2015), perceptions of being too busy, belief that one is healthy, use of recent tests, and fear of receiving a diagnosis (Nielsen, Dyhr, Lauritzen, & Malterud, 2004). There is limited evidence that favors screening for targeted asymptomatic diseases. Thus, the aim of this study was to explore non-attendees’ perspectives on screening for CVD and DM among Danish women aged 60–77 years.

METHODS

Design

This interview study was part of a screening program for CVD and DM that was offered to 1984 Danish women, who were identified in the Danish Civil Registration System. The screening program was designed and initiated by experts within the CVD field. The screening examinations included those for PAD, AAA, DM, carotid plaques, atrial fibrillation, hypertension, and dyslipidemia. The screening invitations included a text-based plain language statement and a pre-booked time for screening with an option to reschedule or decline the invitation by phone, email or surface mail. Women who did not respond to the screening invitation received a second invitation. The screening population was drawn from the Danish Civil Registration System from October 2011 to January 2013. Only women born in 1936, 1941, 1946, and 1951 who lived in Viborg Municipality were selected. At
the time of the invitation for screening, the women's mean ages were 61, 66, 71, and 76 years. In total, 74.3 percent attended the screening.

The study included qualitative interviews inspired by Kvale and Brinkmann (2015) and was conducted to improve the understanding of participants’ experiences from their perspective, including the meaning attached to their experiences. Two pilot interviews were conducted, but changes to the main study were not indicated, and we therefore decided to include these in the final interview survey. Overall, ten interviews were conducted, audio-taped and transcribed verbatim by the first author.

**Participants**

A purposeful sampling strategy was applied and included variations in age to ensure that the informants represented different age groups of non-attendees in the invited screening population (Patton, 1990). We selected informants for the interview by randomly choosing a minimum of two non-attendees within the four target age groups invited to screening. The inclusion criteria were as follows: (a) declined participation in the screening program, (b) willingness to participate, and (c) ability to contribute to our research question. Nineteen non-attendees were approached, and twelve agreed to participate. Two were not home at the time of recruitment, but they contacted the Research Center to state that they would participate if more informants were required. The procedures used for recruitment are presented in Table 1.

**Data collection**

Individual face-to-face interviews with female non-attendees were conducted from September to October 2013 in the informants' homes. The time from receiving the second screening invitation to the interview was four months. The duration of the interviews was 40-90 minutes, including obtaining informed consent.

A semi-structured interview guide was developed for this study with references to the literature on non-attendance at health checks with general practitioners (GPs) and screening for CVD and DM (Kvale & Brinkmann, 2015). The interview guide began with an introductory question, “Would you please tell me about yourself?”, followed by questions including “How did you experience receiving the screening invitation?”, “Would you elaborate on why you did not attend?” and “What do you think about offering screening for CVD and DM?”

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As the interviews were perceived as a practice (Lorentzen, 2007), reflective notes on the interview context, as well as the emotional tone in the interviewee-interviewer interaction, were documented after each interview (Kvale & Brinkmann, 2015; Lorentzen, 2007). For example, the notes described how the informants welcomed the interviewer, changes in informants’ attitudes during the interview and statements before and after the interview.

Data analysis

The analysis entailed a non-linear and iterative process of analyzing the empirical data based on Kvale and Brinkmann’s (2015) three contexts of interpretation. The first context, self-understanding, refers to condensing meaning units into smaller units within the informant’s self-understanding. The second context, critical commonsense understanding, extends beyond reformulating the informants’ self-understanding and focuses on their experiences and the meaning of their statements (Table 2). Meaning units were coded based on an inductive reflective coding process (Figure 1). The third context, theoretical understanding, includes a theoretical framework for interpreting the meaning of the statements.

The software program NVivo, version 10 (QRS International Pty Ltd, Victory, Australia), was used to facilitate the analysis and was employed as a structural tool. The identified experiences related to non-attendance were subsequently categorized into a main theme and underlying subthemes.

Informant and interviewer – the interview as a practice

On reflection, considering interviews as a practice contributed to the analysis of the interviews and notes in several ways. First, this approach enabled an understanding of the importance of applying reflective practices and reflexivity during the interviews (Lorentzen, 2007). Second, this process provided insight into how skeptical informants may perceive the interviewer as a representative of the healthcare system rather than as a researcher. Third, this approach acknowledged the fact that awareness of the interview itself can lead to changes in the interviewees’ perspectives during the interview (Kvale & Brinkmann, 2015).

Half of the informants met the interviewer with resistance and skepticism. Prior to and in the beginning of the interview, the focus was on sharing previous negative experiences and expressing
dissatisfaction with the healthcare system. One informant was especially angry and emotionally affected, saying, “You can probably feel how upset I am” (Informant 5). A common initial response from skeptical informants to the presence of the fieldworker was “I’m busy.” The same angry informant (5) explained that her granddaughter would visit soon and that she had to take care of her, therefore stating, “we’re busy”, and indicating that she had little time for the interview. However, the data revealed that the informants’ expressions of “being busy”, skeptical, and resistant disappeared over the course of the interview, as though their dialogue with the fieldworker allowed them to vent their frustrations with the healthcare system. Their focus then shifted toward the thematic dimensions of the interview. For the angry and “very busy” informant (5), this change, which occurred as a result of venting, became very clear when her granddaughter arrived, as she completely ignored the child and focused continuously on the interview.

The informants’ resistance was also reflected in their hospitality toward the fieldworker. The “very busy” and skeptical informants offered beverages, such as coffee, after the interview. In contrast, non-skeptical informants tended to offer beverages prior to the interview. Not offering a beverage may seem trivial, but in Danish culture, offering a beverage indicates hospitality and openness toward the visitor, whereas not being offered a beverage indicates that the visitor is unwelcome.

**Ethical considerations**

This study was considered to be non-interventional by the regional ethics committee, and therefore permission was required only from the National Data Protection Agency. Non-attendees were contacted by phone, and the ethical principles of non-maleficence and self-determination were therefore considered (The Northern Nurses, 2003). In adherence with these considerations, all of the phoned non-attendees were asked to contact a named person from the project team if they had any difficulties due to the phone call or interview.

Oral consent was obtained during the phone call and during the planned interview. Written consent was obtained prior to the interview. To address concerns about being interviewed and signing the informed consent form, the interviewee and interviewer agreed to perform the interview under the condition that the audio-taped interview would be deleted before the interviewer left if the informant
regretted participating in the interview. However, none of the informants withdrew their consent. The consent procedure is described in Table 1.

We managed potential distress among informants during the interview by adopting a respectful, humble, and empathic approach, by performing active listening, and by giving them the opportunity to express their frustrations.

Rigor

Trustworthiness was ensured by utilizing Lincoln and Guba's (1985) four criteria, i.e., credibility, transferability, dependability, and confirmability. Credibility was achieved by conducting debriefing sessions between the researcher and supervisors and by providing excerpts of the data to support the readers' evaluations of the credibility of results. Transferability was ensured by describing the sampling strategy, the informants' demographic data, and the context to demonstrate the other settings and populations to which the study's conclusions are applicable. Dependability was established by transparently describing the research design and the process of gathering and analyzing data to enable the readers to follow the decision process. Confirmability was established by researcher triangulation in all three phases of the analysis, in which the researchers discussed themes to identify any “blind spots” in the empirical data. Furthermore, method triangulation was performed by using a combination of both interviews and reflective notes.

RESULTS

The demographic details of the informants are presented in Table 3. Finding the screening offer personally irrelevant was revealed to be the main theme. The presented underlying subthemes are as follows: Personal health and risk beliefs, personal knowledge, distrust in the healthcare system, and ability to change the belief that the screening offer is personally irrelevant (Table 4).

Screening seems personally irrelevant

Personal health and risk beliefs

Health status was assessed in terms of different beliefs related to feeling healthy, being physically capable, and having body awareness. Feeling healthy was the most common reason for considering the screening examination to be unnecessary and personally irrelevant. High physical
capability was considered to preclude severe illness. Several informants were convinced that they were capable of feeling whether something was wrong: “I know my body and I know how it reacts, and I can feel when something is wrong…I believe that it’s a matter of awareness of one’s own body” (Informant 1). In contrast, although a high level of self-rated health was a reason for non-attendance, a few did not attend because of low self-rated health caused by severe physical and mental disability.

Perceived personal risk of CVD and DM was expressed in terms of hereditary risk, lifestyle, and age: “My father had many blood clots, and he died from it. That makes me wonder if I’m at risk, but then I think about all the people older than me who are at even higher risk. However, my husband has mentioned that I’m not exactly among the slim ones” (Informant 6). This response indicated an inclination to underestimate personal risk regardless of awareness of increased risks related to obesity and familial predisposition. The analysis revealed that the other informants had a similar tendency to underestimate health problems. Furthermore, risk perceptions changed when the interview shifted from a general to a personal perspective, revealing a belief of “others but not me”.

Reliance on personal health and risk assessments as indicators of the relevance of screening was related to a preference for uncertainty over clarification of possible health risks or diseases. Living in uncertainty seemed easier to manage because the informants feared that clarification would cause lifelong anxiety due to the awareness of having a potential disease, particularly if it was an incurable disease: “I have muscular dystrophy, but there is no treatment, so what is the benefit of knowing about it then?” (Informant 7).

Personal knowledge

Questioning the utility of disease prevention was related to beliefs about the efficacy of prevention and the consequences of preventive interventions. Responses such as “they (blood clots) come if they come” (Informant 5) indicated a lack of awareness that CVD is preventable and a consequent failure to recognize the potential benefits of screening. Most of the informants who questioned the efficacy of disease prevention preferred to prevent disease with alternative solutions rather than with traditional preventive strategies: “It is very good if you can prevent…but I would rather do it with herbal medicine… I have a good elixir of life that I take in January each year” (Informant 7). Questioning the efficacy of prevention was also associated with a preference to live life to the fullest and to not risk a lower quality of life due to preventive interventions or knowledge of having a potential
disease: “I prefer to live to the fullest for a shorter amount of time rather than living longer with a reduced quality of life” (Informant 5).

The informants’ responses were contradictory regarding the possibility of having diseases without symptoms. When talking about the general potential benefits of screening, an informant expressed the following: “Sometimes, unidentified health problems are revealed” (Informant 9). However, when the interview turned to a personal perspective related to the possibility of having asymptomatic diseases, the informant stated, “I don’t think I have any health problems.”

The informants seemed unaware of what the screening examination included, but they still believed that they understood the screening invitation. The informants declined the need for more information to help them decide whether they wanted to participate. Regardless of their lack of awareness of the screening offer and its purpose, some considered the screening offer unnecessary because they relied on health experts: “I have blood samples taken at my GP, so if anything is wrong, they will find out” (Informant 9). Other informants considered the screening examination unnecessary because their previous test results had been normal, e.g., their decisions may have relied on 7- to 10-year-old electrocardiograms or ultrasounds of the carotid arteries (excerpt in Figure 1). These trends indicate that non-attendees often rely on a false sense of security by overestimating the value of blood samples and old test results. Moreover, the informants’ descriptions of monitoring efforts in other settings revealed that these practices could not substitute for the screening examination.

None of the informants expressed worries related to the screening examination. However, as the informants were likely to be unaware of what the screening examination included, their statements should be interpreted with caution. One informant was concerned about whether the screening examination would result in further examinations and consequent pathologization: “You can quickly enter a state where you need to be tested and treated for this and that” (Informant 4).

Distrust in the healthcare system

Previous negative experiences with the healthcare system appeared to have caused general distrust in the healthcare system and health professionals. This distrust influenced their feelings about the relevance of screening and was thus a contributing factor to non-attendance. Additionally, negative experiences led to the development of different general beliefs about the healthcare system.
However, the informants’ beliefs were formed not only by their own experiences but also by their relatives’ or acquaintances’ negative experiences.

Distrust in screening was related to a negative experience with other screening programs, not necessarily with the current screening program. Distrust was based on beliefs such as the following: “If you have had a benign tumor in the breast, studies have shown that you can provoke the development of a cancer as a result of worrying about the mammography result” (Informant 1).

Another informant questioned the credibility of mammography: “The last time I was invited for mammography, it was reported in the media that mammography was unreliable...if you cannot rely 100% on it, I think it is useless” (Informant 5). Consequently, the informants seemed to transfer this skepticism to other screening programs. Informants who expressed having lost confidence in the healthcare system, screening, and health professionals in general were likely to consider screening not worthwhile.

Non-attendance seemed to be associated with the informants’ beliefs regarding when to seek medical advice. A tendency to only consult GPs for severe illness was revealed and was related to being raised in this manner and experiencing a loss of confidence in the healthcare system. Furthermore, this belief led to a preference for alternative therapy over seeking medical advice: “Doctors make prescriptions and initiate further examinations...I prefer using alternative treatment. I take gallbladder cleanse treatments so that the doctor doesn’t suggest surgery. I want to hold on to my organs” (Informant 4).

Dissatisfaction with the healthcare system affected the informants’ experience of receiving the screening invitation and with whom they discussed the screening offer. The informants’ experiences varied from being unconcerned to being irritated and occasionally distressed, and a number of emotions were expressed during the interview. Unconcerned informants received the invitation with a feeling of indifference: “It doesn’t concern me” (Informant 9). They did not see themselves as being at risk of CVD or DM, and as a result, they were not concerned with their risk and were generally relaxed about it. Additionally, they relied on previous tests. Irritated informants were characterized by beliefs that the Danish healthcare service incorrectly prioritized its scarce resources, and they suggested spending money on the sick instead of on screening. Additionally, they expressed distrust, questioned the efficacy of disease prevention and referred to the importance of “body awareness.” Although they were concerned about their risk, they distrusted the system and chose to decline participation in the
program, and they expressed irritation because of this distrust. Distressed informants perceived mail from the hospital to be distressing, e.g., “It was with trembling fingers that I opened the letter from the hospital” (Informant 2), and they perceived the decision of whether to attend screening in a similar manner: “Should I, shouldn’t I, it would have been much more comfortable if I hadn’t received the invitation” (Informant 5). In cases of decisional ambivalence, previous experiences and beliefs were stronger than the relevance of the screening offer: “One of the reasons I don’t participate is that I have heard so many negative things about screening. For example, my husband’s grandmother was once told after an examination that she should not expect her husband to get old due to his pulmonary emphysema; however, he lived 20 more years. Poor woman, in all those years she was thinking about whether it was the end every time he was a little sick... I do not want to know things like that” (Informant 5). Despite this resistance toward screening, this informant expressed decisional ambivalence: “Deep down, there is this uncertainty of whether it was the right decision to not participate”. Additionally, these informants were characterized by fearing that identifying potential health problems would cause distress.

Distrust led to reluctance to discuss the screening invitation with others, as skeptical informants were unlikely to have discussed the invitation with their GP or acquaintances. A few discussed it with their husbands, but the husbands’ attitudes did not lead to non-attendance: “I have only mentioned it to my husband…and he says that it is up to me. I have not discussed it with my daughter because she would say that I should participate” (Informant 5). For the skeptical informants, the invitation remained private because they feared being persuaded to attend if they discussed the invitation with others.

Ability to change the belief that the screening offer is personally irrelevant

During the interviews, supplementary information about the screening program and its purpose was provided. The informants appeared to view the relevance of the screening offer differently during the interview and after receiving this information; for example, they became aware of the fact that GP visits were not a substitute for the screening examination and better understood the purpose of the screening offer. The informants expressed three tendencies regarding their decision to not participate, i.e., doubt, regret, and maintenance. One informant expressed being doubtful as follows: “I assumed that it didn’t concern me because I have examinations at my GP. Looking back, I
should have accepted this screening opportunity since I don’t get scanned at my GP” (Informant 10). Similarly, changes in health also led the informants to view the relevance of the screening offer differently; one regretted her non-attendance after having a cardiovascular event: “After receiving the invitation from you...I was hospitalized with a blood clot in my leg...then, I got a guilty conscience for having declined the invitation” (Informant 6). A few of the informants maintained their decision to not attend because they did not acknowledge a reason to change their mind.

**DISCUSSION**

This study illustrates that the reasons for non-attendance at screening are multi-faceted, as all informants reported more than one reason for not participating. Nevertheless, the reasons were interrelated. This study found that personal beliefs, negative experiences and self-protective strategies influenced the informants’ perceptions of the relevance of the screening offer. These beliefs seemed to distinctly support and rationalize the informants’ decision to not attend the screening. However, beliefs were also used as self-protective strategies in relation to personal risk perception and the relevance of being screened.

The perception of the screening offer as personally irrelevant was based on “feeling healthy” and using “body awareness” as indicators of health as well as the informants’ perceptions of the relevance of screening. Similarly, Lupton and Chapman (1995) found that laypeople rely more on “body awareness” than on experts’ advice. A screening examination may require healthy individuals to revise their perception of being healthy to being ill, and this change could cause them to lose faith in relying on “body awareness.” Furthermore, Nielsen et al. (2004) found a tendency toward preferring not to disrupt one’s feeling of being healthy with the risk of uncovering possible health problems.

Additionally, this study indicated that informants were generally aware of the possibility of having CVD and DM without symptoms. However, when the direction of the interview changed from a general to a personal perspective, a tendency to rely on “body awareness” was revealed. The belief of having a low personal CVD and DM risk was also related to finding the screening offer personally irrelevant. However, similar to Bjerrum, Hamm, Toft, Munck, and Kragstrup (2002), we found that laypeople may assess the importance of CVD risk factors differently than health professionals. The identified tendency to underestimate potential health risks, such as smoking, overweight, or predisposition to CVD, may explain this difference in risk assessment. Other possible explanations include that despite
being aware that CVD is the leading cause of death in women, women may not have translated this knowledge into a personal risk (Kling et al., 2013) or may be convinced that others’ risks are higher than their own (Coleman, 1993). Thus, it is important to address laypeople’s risk perceptions in future screening programs.

Notably, a change in attitude toward the screening offer tended to occur during the interviews, indicating that the perception of the screening offer as personally irrelevant can be modified. Specifically, these changes in attitude were caused by the realization that the screening process is more thorough than their examinations at routine GP visits and by a newfound awareness of the potential benefits of screening. Similar to Ellis et al. (2015), we found that personal knowledge of prevention and diseases hindered the informants’ ability to recognize the relevance and purpose of the screening offer. This result highlights the importance of addressing non-attendees’ knowledge of screening, as whether the informants’ decision to not attend screening was based on an informed “no” was unclear. Addressing this ethical concern involves emphasizing awareness of the screening invitation. The invitation in the current screening offer was text-based and did not seem to capture the non-attendees’ attention, given the observed lack of awareness regarding the screening examination and its purpose. A suggested approach to facilitate informed decision making about screening is to discuss the decision with health professionals (Madsen & Fraser, 2015). However, this study found that non-attendees were unlikely to discuss the screening invitation with their GP. Consequently, specific efforts to support informed decision making regarding screening are needed when screening is offered as a prevention strategy. According to a Cochrane review, decision aids, such as pamphlets and web-based tools, are beneficial when facing a screening decision. Decision aids reduce decisional conflict by increasing knowledge and clarifying personal values and can increase the number of laypeople with correct risk perceptions (Stacey et al., 2014). Adding pictures of the screening examinations to the screening invitation may also help capture the readers’ attention, support their assessments of how screening differs from routine care at the GP, and, most importantly, ensure informed decisions.

Finally, this study demonstrates that interviewing is a social practice. Thus, interviews often occur differently than expected (Lorentzen, 2007) and can lead to changes in the interviewees’ perceptions (Kvale & Brinkmann, 2015). Distrust toward the healthcare system led to hesitation toward the interviewer. Therefore, the interpersonal dynamics during the interview became crucial to...
promoting a positive interviewee-interviewer interaction and generating information about the explored phenomenon. By applying reflective practices and reflexivity during the interview (Lorentzen, 2007), skeptical informants received the opportunity to voice frustrations; this opportunity became an essential prerequisite for the informants to focus on the thematic dimension of the interview. The informants may have considered the interviewer to be a public representative to whom they could voice their frustrations and share their experiences, and this perception would explain why skeptical informants accepted the interview request despite declining the screening offer.

Limitations

This study provides a nuanced understanding of non-attendance from a gender-specific female perspective only.

The informants were aware that the interviewer represented the screening program, and this knowledge may have caused the informants to be less critical. In contrast, this awareness may have led the informants to express potential negative attitudes toward screening.

The appropriateness of the sample size was based on the number of interviews that seemed sufficient to clarify the phenomenon of “non-attendance.” When the last two interviews did not provide new information, we determined that data saturation had been reached (Kvale & Brinkmann, 2015).

CONCLUSION

This study illustrates that the reasons for non-attendance at screening are multi-faceted and interrelated. Personal experiences, beliefs, and self-protective strategies influenced the informants’ perceptions of the relevance of the screening offer. The beliefs and barriers to screening were apparently stronger than the perceived relevance of the offer for the informants who questioned their decision to not participate. When offering screening, attention must be devoted to providing invitees with information that facilitates informed decision making, which entails making decisions that are in accordance with their preferences.

RELEVANCE TO CLINICAL PRACTICE

Addressing non-attendance is a multifactorial process that requires non-attendees’ attention and trust. This study indicates that the text-based screening invitation did not capture non-attendees’
attention, as the informants were unaware of what the screening examination involved. Adding illustrations of the screening examinations to the invitation may be beneficial for not only gaining laypeople’s attention but also supporting them in their assessments of whether and how a screening offer differs from the routine care received from a GP. Addressing non-attendees’ risk-related beliefs seems to be central to acknowledging the relevance of being screened. Offering targeted material and decision aids may be beneficial in terms of achieving more accurate risk assessments. Additionally, future CVD and DM preventive campaigns may benefit from addressing laypeople with low self-rated risk. Visual-based invitations combined with targeted material may also facilitate informed choices when facing screening decisions. Furthermore, a public debate about screening may reinforce the relevance of participation and increase the sense of security related to screening, thereby preventing the distress caused by decisional ambivalence. Nevertheless, increasing response rates in future screening programs requires more than focusing on non-attendees only. Capturing the attention of laypeople and encouraging the perception of health professionals as reliable requires positive experiences with the healthcare system.

REFERENCES


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Table 1. Procedure for recruiting informants and obtaining informed consent.

<table>
<thead>
<tr>
<th>Identifying potential informants</th>
<th>Non-responders to the screening invitation were recorded by a secretary, who was responsible for inviting the screening population.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Based on the list of non-attendees, the first author selected potential informants, taking into account the year of birth and traveling distance.</td>
</tr>
<tr>
<td>Contacting potential informants</td>
<td>The first author contacted the potential informants by telephone.</td>
</tr>
<tr>
<td>Providing information during the phone call</td>
<td>Potential informants were given information about the study.</td>
</tr>
<tr>
<td></td>
<td>Information on ethical rights was provided, including the right to withdraw.</td>
</tr>
<tr>
<td></td>
<td>If the informants expressed interest in participating, a home visit was scheduled.</td>
</tr>
<tr>
<td>Canceling the interview appointment</td>
<td>If the informants wanted to cancel the interview appointment, they were instructed to contact a secretary who was not involved in the study.</td>
</tr>
<tr>
<td></td>
<td>Canceling the appointment was possible by phone, e-mail, and letter.</td>
</tr>
<tr>
<td>Obtaining informed consent</td>
<td>Informants who agreed to be interviewed received written information.</td>
</tr>
<tr>
<td></td>
<td>The material included information about the interview study, including ethical rights, the interview time, and contact information for the interviewer and the uninvolved secretary.</td>
</tr>
<tr>
<td></td>
<td>Prior to the formal interview, the informants received verbal and written information, including information regarding their ethical rights.</td>
</tr>
<tr>
<td></td>
<td>The informants were encouraged to take the time to consider whether to participate before signing the informed consent.</td>
</tr>
</tbody>
</table>
Table 2. Overview of the analysis steps.

<table>
<thead>
<tr>
<th>Analysis steps</th>
<th>Context of interpretation</th>
<th>Self-understanding</th>
<th>Critical commonsense understanding</th>
<th>Theoretical understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducted in a non-linear and iterative process.</td>
<td>Step 1 Gaining overall impression of the empirical text.</td>
<td>Step 2 Identifying and condensing meaning units.</td>
<td>Step 3 Coding meaning units.</td>
<td>Step 4 Organizing codes into subthemes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Step 5 Reorganizing subthemes. Identifying main theme.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Step 6 Applying theoretical frame for interpreting the meaning of the statements.</td>
</tr>
<tr>
<td>Question for meaning units: “What does the text say about the informant’s experience?”</td>
<td>Question for meaning units: “What is the meaning of the experience?”</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Details of the interviewees.

<table>
<thead>
<tr>
<th>Informant</th>
<th>Age</th>
<th>Marital status</th>
<th>Self-reported health</th>
<th>Risk factors for CVD and DM</th>
<th>Social status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>67</td>
<td>Married</td>
<td>Healthy. No diseases.</td>
<td>Smoking.</td>
<td>Retired, previously a health care worker.</td>
</tr>
<tr>
<td>4</td>
<td>67</td>
<td>Married</td>
<td>Healthy.</td>
<td>Former smoker.</td>
<td>Retired, previously a music teacher.</td>
</tr>
<tr>
<td>5</td>
<td>67</td>
<td>Married</td>
<td>Healthy. No diseases.</td>
<td>None.</td>
<td>Retired, previously an assisting wife.</td>
</tr>
<tr>
<td>7</td>
<td>72</td>
<td>Widowed</td>
<td>Healthy. Slowly developing muscular dystrophy.</td>
<td>Family history of CVD.</td>
<td>Retired, previously a public employee.</td>
</tr>
<tr>
<td>9</td>
<td>77</td>
<td>Married</td>
<td>Healthy. Hypertension.</td>
<td>Former smoker.</td>
<td>Retired, previously a hairdresser.</td>
</tr>
</tbody>
</table>

Table 4. Main theme and subthemes of non-attendance.

<table>
<thead>
<tr>
<th>Main theme</th>
<th>Subthemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screening seems personally irrelevant</td>
<td>• Personal health and risk beliefs.</td>
</tr>
<tr>
<td></td>
<td>• Personal knowledge.</td>
</tr>
<tr>
<td></td>
<td>• Distrust in the healthcare system.</td>
</tr>
<tr>
<td></td>
<td>• Ability to change the belief that the screening offer is personally irrelevant.</td>
</tr>
</tbody>
</table>
Figure Legend

Figure 1. Example of coding

<table>
<thead>
<tr>
<th>Statement</th>
<th>Condensed form</th>
<th>Code</th>
<th>Subtheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;I'm fine... it seemed a little extraneous to me... you probably consider cardiovascular diseases as important, but my heart has been tested it was probably 7-8 years ago when I got a heart diagram, and he (GP) said that I was as strong as an ox...&quot;</td>
<td>The informant considers her health to be fine and that screening is unnecessary because a previous electrocardiogram was normal.</td>
<td>Self-rated health</td>
<td>Personal health and risk beliefs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Estimated effect of previous test</td>
<td>Personal knowledge</td>
</tr>
</tbody>
</table>