Breast cancer screening motivation and behaviours of women aged over 75 years

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Abstract
Objective: In Australia, breast screening is offered free every two years to women aged 50–74 years. Women aged ≥75 are eligible to receive a free mammogram but do not receive an invitation. This study aimed to explore the motivations and behaviours of women living in Australia aged ≥75 years regarding ongoing breast cancer screening given the public health guidance.

Methods: Sixty women aged ≥75 were recruited from metropolitan, regional, and rural areas across Australia to participate in a descriptive qualitative study. Semi-structured interviews were used to seek reflection on women's experience of screening, any advice they had received about screening beyond 75, their understanding of the value of screening and their intention to participate in the future. Thematic analysis of transcripts led to the development of themes.

Results: Themes resulting from the study included: reasons to continue and discontinue screening, importance of inclusivity in the health system and availability of information. Regular screeners overwhelmingly wished to continue screening and had strong beliefs in the benefits of screening. Women received limited information about the benefits or harms of screening beyond 75 and very few had discussed screening with their Primary Healthcare Provider. No longer receiving an invitation to attend screening impacted many women's decision-making.

Conclusion: More information via structured discussion with health professionals is required to inform women about the risks and benefits of ongoing screening. No longer being invited to attend screening left many women feeling confused and for some this led to feelings of discrimination.

KEYWORDS
behaviour, breast cancer, mammogram, motivation, older women, oncology, qualitative, screening
1 | INTRODUCTION

Breast cancer is recognised as the most prevalent form of cancer worldwide, occurring in women at any age, but with increasing rates later in life.\(^1\) Screening for breast cancer via mammography is an effective means of detecting early-stage cancer, yet considerable controversy exists regarding the most appropriate outcome measures for cancer screening tests, including measures of all-cause mortality, cause-specific deaths and quality of life.\(^2,3\) In many countries, including Australia, screening is offered biennially to women between the ages of 40–70 years through a nationally funded programme.\(^2,4\) The age group for which screening is generally considered most effective is between 50 and 74.\(^5\) After the age of 74 many programs around the world advise women to make a choice about ongoing screening.\(^6–9\) Some funded programs recommend there should be no upper age limit\(^10–12\) and others suggest that the benefits of ongoing screening for women over 75 are unclear.\(^4,9\)

Studies show that women aged ≥75 years generally have positive attitudes to mammography screening and report high levels of perceived benefits, including early detection of breast cancer and a desire to stay healthy as they age.\(^6,8,13,14\) With increasing availability of data, potential harms of population-based screening programs due to overdiagnosis are becoming more evident.\(^15,16\) Some women aged over 74 participate in screening regardless of recommendations from health professionals and government guidelines.\(^17–19\) Results of a recent review found that knowledge of the recommended guidelines and the potential harms of screening are limited and many older women believe that the benefits of continued screening outweigh the risks.\(^8\)

Clinical practice guidelines recommend that discussions with older women should include reference to life expectancy.\(^20,21\) Despite a lack of randomised trials in women aged ≥75, evidence suggests that a substantial proportion of breast cancer cases among women of advanced age with limited life expectancy are over-diagnosed.\(^22\) However, increased life expectancy and improved health status in this age group may shed a different light on the effectiveness of early detection and life-years gained.\(^23\) Studies have reported that Primary Healthcare Provider (PHP)’s appear uncomfortable discussing life expectancy in relation to discontinuation of cancer screening.\(^7,24–26\) Other studies have reported resistance from older people to using life expectancy in conversations about screening.\(^8,27–29\)

Few studies have been undertaken to understand screening motivation and behaviours among women aged ≥75.\(^6,11\) To date, a comprehensive understanding of screening behaviours among women ≥75 years in Australia is lacking, which limits our understanding of the potential for harm or benefit of ongoing screening in this age group and their screening motivations.\(^30\) This study aimed to explore the motivations and behaviours of Australian women ≥75 regarding breast cancer screening participation. Primary focus was placed on decision-making, sources of information utilised and the perceived value of screening beyond the age of 75.

2 | METHODS

2.1 | Study design

To address the gap in existing knowledge, a descriptive qualitative design was chosen. Qualitative description is an appropriate approach to use where little is known about the topic area and information is required directly from those experiencing the phenomenon under investigation.\(^31,32\)

2.2 | Participants

We recruited a purposive sample of 60 women aged ≥75 years from the general population.\(^33\) To recruit a purposive sample, a range of sampling methods shown to be successful in recruiting older people were employed.\(^34\) This included advertising using a range of print and social media channels, community-based methods and network/snowball sampling.

2.3 | Procedures

The study was approved by the University Ethics Committee (HREC) and all participants provided informed consent prior to interview. Individual semi-structured interviews were conducted via telephone or an online video platform (i.e. Zoom) by JA and VDS utilising an interview guide. The interview guide was informed by an extensive scoping review of the current literature and review of government reports regarding breast cancer screening in Australia. Interviews were between 45 and 90 min duration and were digitally recorded with participant permission and transcribed verbatim. Interviews were conducted until data saturation was achieved.\(^35\)

2.4 | Data analysis

Interview transcripts were imported into NVivo\(^36\) software to support analysis. Transcripts were independently reviewed by two researchers (JA and VDS) and an initial thematic coding framework using Braun and Clarke’s\(^37\) six-step process was developed. The research team met regularly throughout the analysis process to share coding and to confirm theme development and refinement. The Consolidated Criteria for Reporting Qualitative Research (COREQ)\(^38\) was utilised to ensure methodological rigour and transparent reporting (see Supporting Information S1).

3 | RESULTS

Sixty women aged ≥75 years volunteered to participate in an individual interview. A range of socio-demographic information was gathered (see Table 1). The age range of the participants was

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*The text is trimmed for brevity. The full document can be accessed via the provided link.*
of breast cancer, awareness of peers who have been diagnosed with breast cancer, encouragement from family and friends and, in rural areas, a desire to support the continuity of the service to their area.

Many participants identified the importance of screening to the maintenance of health as they age as well as a responsibility.

Well, I’ve said I live on my own. My goal is to live in my own home. Always. And to do that, I have to ensure that I’m healthy and fit and able to do it. So, it’s just one of the things that I will do to make sure that my body is fit and healthy. I see that it’s my responsibility to keep myself healthy.

(P.01, Age 78).

Screening was also seen as a ‘routine’ behaviour with few negative associations.

It was just part of my normal routine. So, yes, I never thought of, you know, never worried about it.

(P.26, Age 75).

Further to the above, some women described screening as facilitating peace of mind about health and supporting longevity.

I just want to live the longest, healthiest life I can. … I’ve got arthritis everywhere and you know, it hurts like anything, but hey, that’s nothing compared to cancer. Or my sister who has dementia. Every time I look at her, I think I’m a lucky person

(P.22, Age 78).

For some women, a family history of breast cancer was a reason for them to continue screening after age 75 because it ensured early detection. This included knowing a family member who was diagnosed at an older age.

You know, a lot of people wouldn’t be motivated like I was because I knew what my mother had gone through, you know, and I thought, oh, I’m going to be careful

(P.09, Age 75).

For some women ongoing screening was encouraged by family and friends and knowledge of how breast cancer had negatively impacted their lives. The negative experiences of friends provided a cautionary tale for some participants.

Well, it’s because two friends of mine who had breast cancer and died from it were diagnosed after they were 75. One of them said to me, don’t ever, ever stop screening. So, I just took that advice. And that would have been 10 years ago that that happened, and I won’t stop screening

(P.03, Age 76).
In addition, motivation to continue screening was sometimes linked to the desire to remain healthy enough to interact with family and friends.

... I’ve got millions of grandchildren and great grandchildren... So, I need to be, I need to be Nanny or Nana, for all of them. I need to still be somebody they can talk to (P.08, Age 81).

For women in rural areas ongoing screening was seen as one way to ensure the mobile service would continue to visit the area for the benefit of the whole community.

... we are so lucky these things are available ... and I think if it helps to keep the general population healthier..., to me, it has a ripple effect. And I, I think it’s our duty to do things like that when they’re available (P.43, Age 76).

3.2 Reasons for discontinuing screening after age 75

Of the 47 participants who reported consistently attending breast screening before the age of 75, only seven women had decided to stop screening by the age of 75. Reasons for this varied depending on circumstances. For those with complex health conditions, including a range of chronic conditions, breast screening was no longer a priority; for others the absence of reminders removed screening from their regular routine. For some, the decision to stop screening was clear if they decided they would not undertake treatment if a cancer was found.

I think it was a letter I received, and I just thought, oh, one thing less to do ... But if it became fairly obvious, I had cancer, I definitely wouldn’t go for any treatment .... And look, I’m 80. I don’t have any dependants. I don’t have any family I’m in contact with ... I definitely wouldn’t have surgery or any kind of radiation or chemotherapy (P.41, Age 80).

For others, advice from screening staff, and/or discussion with their PHP, informed their behaviour.

... according to my GP, you’re very unlikely to die of breast cancer. You’ll probably die of something else, as you get older ... You know, it’s very slow moving as you age ...was the reference I think .... No. It was a bit of out of sight. Out of mind. (P.06, Age 85).

One participant discontinued screening because she believed she was no longer eligible.

Well, I was told that when I went that last time, kind of this is it. Thank you for coming. But that’s going to be no longer available to you. And I considered, you know, going privately. ... No, my understanding was I was no longer welcome. ... but yes, certainly that was the, that was the message that I got. (P.13, Age 82).

Some participants noted potential barriers to ongoing participation in screening that may impact them in the coming years with increasing age and/or frailty. These included transport and access to services.

No, it’s all right while you drive. Well, depending where the ... centres are, but you know once you can’t drive and you’re sort of relying on other people or public transport, it becomes really difficult. (P.06, Age 85).

3.3 Importance of inclusivity in the health system after age 75

Feelings of alienation and ageism were common responses to notification that women ≥75 would no longer receive reminders from the screening service. At least half of all participants expressed feelings of ageism and a desire to see the reminders continue. This was based on several factors. Some women questioned the inference that, at the age of 75, a women’s risk is suddenly different from that of a younger woman. Others raised the paradox that risk may be ‘reduced’ given that cancer is widely described as a disease of ageing. It was noted that conversations with health staff at this age appeared to run counter to those throughout their lives signalling that health routines such as regular screening are no longer worthwhile and that treatment options were less suitable. Use of a cut-off point based on age was quite offensive to many older women.

I think that’s brushing us off a bit. And I find that’s very offensive, actually. I think it should be as long as we want to go. And I mean, everyone’s very different in the way they age. ...I think it depends on the individual (P.07, Age 76).

Well, in essence that we should not have the elderly be left behind. Because I may be 85 but I’m really well. I mean, I’m pretty independent. I drive my car I’m mentally very fit. I’m really well. And you can’t just dismiss people due to age. (P.54, 85 years).

The argument that older women may die ‘with’ rather than ‘of’ breast cancer was not persuasive to those participants who had friends or associates diagnosed with breast cancer at an older age.
Early detection was seen as particularly important because treatment options were often more difficult for older people to endure.

...like even ladies older than me, contract it. And I think that's sort of very sad, you know. So I think ..., for as long as we can keep getting the screening, I'm all for it because I think that's very sad to get to the end of a life. And you hear say an 85-year-old’s been diagnosed with breast cancer.

(P.43, Age 76).

3.4 | Availability of information to support decision making about screening

There was limited information available to assist women to make a decision about screening participation, particularly where discussions with a PHP had not occurred. Time limited appointments were often cited by participants as reasons why information was not available.

... So, you know, you get your allotted time and you're lucky to sort of deal with what you went there for, in that allotted time. Without sort of starting conversations about peripheral things.

(P.25, Age 86).

Where conversations regarding screening had occurred with PHP's they often supported the woman's decision.

Yeah. I did talk to my GP about it, and he said, ... it's up to you. He said there's no reason why you should stop having it. And if you're over 75 you're still eligible to have it for free.

(P.04, Age 75).

Very few women had accessed information on relevant websites, and some were unfamiliar with the process of finding information online. Many women relied on family and friends for information about the importance of screening and its place in health maintenance after 75 years.

... you pick up little snippets here and there and kind of put them into the breast cancer box in your brain, then it gradually kind of gets a little bit more information. And talking to friends, of course, who've had the experiences. You get a lot of information from them.

(P.13, Age 82).

With limited sources available, women gained information from other women often through social networks and/or community groups.

Except that women really don’t have the information to make the decision. ...I would say from my group, ... they wouldn't have the necessary skills to make that decision. ...And certain sections of the community who won't see their GP and take the word of their next-door neighbour

(P.31, Age 75).

The notion of life expectancy in decision making was considered by some participants. One participant held the strong belief that detecting cancer early was an important factor.

I guess a lot of people after that age do think, well, it's not worthwhile. That the problem of having surgery is going to be more complicated than living with it. And is it going to prolong your life anymore or is that worthwhile? But I mean, these days the surgery and the treatment doesn't seem to be all that difficult. It's got a lot, lot easier, so long as it's caught early.

(P.07, Age 76).

Others considered life expectancy in different time frames to that of health professionals.

... it would be really nice if you had an end date. If you knew when you were going to die. So that you could make that choice, .... If you know that you're going to live for another seven or eight years when you, when you discover a lump that maybe you want to get the thing out of there.

(P.13, Age 82).

One participant believed that age should not be considered a barrier and that it should not be the primary factor in decision making.

And just because I'm 80 doesn't mean we stop trying to fix things... we've worked hard on staying fit. ...And so that kind of leads us to expect more. We were brought up with the doctor is the God. You don't question him, and he's the one who knows.

(P.13, Age 82).

4 | DISCUSSION

Results from this study indicate that many women ≥75 wish to continue participating in breast cancer screening for a number of clinical and psychosocial reasons. Previous studies confirm cancer screening decisions for older people are influenced by a range of different factors including: a personal belief in the values of screening, fulfilling a duty, a way of taking care of oneself, and for peace of mind. In this study, many women were driven by strong positive attitudes towards screening as a strategy for dealing with cancer risk and a means of achieving peace of mind. Participants wanted to continue taking responsibility for their own health and viewed screening as just one more way to do this. It was clear that
having a family history of cancer or having close acquaintances diagnosed with cancer was a motivating factor. Importantly, a sense of social obligation to maintain health routines was identified as a motivator for continued screening.

Findings reported here echo those of other studies highlighting the desire for personal autonomy in health maintenance. Limiting this capacity appeared to have indirect consequences for ongoing wellbeing, particularly relating to diminished self-perception of the value attributed to older women within the broader community. Even though decision-making about screening occurred with limited information, the element of choice was important to many women in this study.

A small number of women reported an intention to discontinue screening. The reasons for this varied and for some it was not a conscious decision, but rather a result of not receiving an invitation (as they did prior to age 75). Sometimes this decision was guided by the demands of other health priorities and/or a knowledge that they would not seek treatment should a cancer be found. In discussion with their PHP, other women were advised their risk of getting breast cancer at a later age was reduced and that any cancer found now was more likely to be slow growing and not life limiting. It was apparent that messaging surrounding eligibility was unclear for some women. Participants identified a range of reasons for discontinuing screening including transport issues, parking problems, and not wanting to burden family members. Similar issues have been raised in previous studies with varying degrees of impact.

Previous research has identified that older adults may be more open to discontinuing screening when PHPs clearly state they may not live long enough to benefit from screening and explain from an individual perspective why this information contradicts previous positive messages about cancer screening. Many of the women in the current study had not discussed breast cancer screening with their PHP. Where discussion had occurred, the PHP often supported the woman’s decision to continue (or discontinue) screening. This support was often guided by knowledge that the service was freely available with generally minimal associated intervention. It may also reflect the challenge of having such conversations where PHP’s reportedly have limited knowledge of the benefits/harms of ongoing screening and feel uncomfortable discussing life expectancy.

Authors have highlighted that the dominant public messages around the benefits of screening make it difficult for people to make the decision to cease screening. The beliefs of older women themselves are often a more important predictor of their screening decision than a clinician’s recommendation. Similar findings have been reported in recent Australian research undertaken to assess different strategies for communicating to older adults about ceasing cancer screening. Within the current study the experience, attitude and perception of peers were particularly influential in both positive and negative ways. In some cases, the opinions of peers increased misconception regarding eligibility and risk/benefits of screening. This was indicative of the psycho-social factors influencing decision-making in relation to ongoing screening.

A key strength of this study was the focus on women ≥75 years who are outside of the targeted population screening age group. With limited focus on this age group, these voices have not previously been heard. In-depth interviews provided rich data and key insights useful for policy and practice. A sample of 60 participants from across Australia, represents one of the largest samples for research on this topic and provided clear insight to the consistency or otherwise of messaging to women within respective States/Territories.

4.1 Study limitations

The largest group of participants were regular breast screeners who were keen to continue screening, and this may have influenced their decision to participate in this study. Conversely, women who chose not to participate in breast cancer screening (or participated irregularly) were more difficult to reach and less likely to discuss their decision-making. This may be due to a perception that choosing not to screen was less favourable amongst peer groups.

4.2 Clinical implications

The findings from this study indicate a need to provide information through a range of age-appropriate resources to women aged ≥75 in lay terms to explain the benefits and risks of continuing breast cancer screening. This would acknowledge the wide experience of health status in this age group and avoid making recommendations based solely on age. Not doing so may represent a potential harm to women from a psycho-social perspective. A range of tools to assist PHPs to communicate with older women need to be identified and implemented. This may include utilisation of evidence-based Decision Aids and shared decision making.

5 CONCLUSION

While the benefits of regular breast screening are well-documented in early detection and improved survival rates, it is important to consider individual factors when determining the most appropriate screening schedule for older women. Age, overall health, life expectancy, and individual risk factors must be considered to facilitate informed decision making about screening after age 75. Ultimately, the goal is to ensure that older women receive the most effective and appropriate breast cancer screening, promoting early detection and improving outcomes while minimising unnecessary harm or anxiety.

AUTHOR CONTRIBUTIONS

All authors provided editorial support and read and approved the final manuscript prior to submission.
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CONFLICT OF INTEREST STATEMENT
There are no conflicts of interest.

DATA AVAILABILITY STATEMENT
Due to ethical requirements of La Trobe University, data can only be shared between relevant researchers and not made available to the public.

ETHICS STATEMENT
All aspects of the project were conducted in accordance with ethical requirements and the project was granted approval by the La Trobe University Ethics Committee Approval Number 21249. Informed consent was obtained from all participants prior to interview. Given the geographic location of some participants and limited use and understanding of technology, verbal consent was provided in some instances. Verbal consent was recorded and transcribed verbatim as evidenced in respective transcripts.

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**SUPPORTING INFORMATION**

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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