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Cohabitants' perspective on housing adaptations: a piece of the puzzle

ABSTRACT

As part of the Swedish state-funded healthcare system, housing adaptations are used to promote safe and independent living for disabled people in ordinary housing, through the elimination of physical environmental barriers in the home. The aim of this study was to describe the cohabitants' expectations and experiences of how a housing adaptation, intended for the partner, would impact on their everyday life. In-depth interviews were conducted with cohabitants of nine people applying for a housing adaptation, firstly at the time of the application and then again three months after the housing adaptation was installed. A longitudinal analysis was performed including analysis procedures from Grounded Theory. The findings revealed the expectations and experiences in four categories: Partners' activities and independence; Cohabitants' everyday activities and caregiving; Couples' shared recreational/leisure activities and Housing decisions, with a core category putting the intervention into perspective: Housing adaptations – A piece of the puzzle. With the cohabitants' perspective new insights on housing adaptations emerged, which are important to consider when planning and carrying out successful housing adaptations.

KEYWORDS

Home modifications; ageing; disability; participation; spousal caregiving; occupational therapy, activities of daily living;

INTRODUCTION

The growing number of older adults and people living at home with disability [1] increases the role of family and friends in providing care and support. Over recent decades informal caregiving for older adults has increased in Sweden [2] and in the United States, more than 50 million individuals now provide care annually [3]. Besides being an arena for informal caregiving, the home is a central place in most people's lives: for younger adults [4] as well as for older people [5]. To be able to remain living at home despite disabilities and being in need of care, changes to the built home environment might be necessary. When people consider altering their homes, studies have indicated that the aesthetics of the adaptation, costs associated with the installation, available space in the home and considerations about the future (such as health changes and the resale value) all affect the decision to have the house adapted [6]. When altering the home, the meaning of the home can change and it might be necessary to change habits and learn new routines for daily activities [7]. Most likely, this would be the case for both the individual in need of a housing adaptation as well as the cohabiting partner or informal caregiver, but the research focusing on the cohabitant experiences is scant.

A housing adaptation (HA) is an individually tailored intervention eliminating physical barriers in the home environment. It includes alterations on fixed features of the home such as replacing a bathtub with a shower place or building a ramp at an entrance staircase. It does not include interventions relating to assistive devices or loose objects such as reorganising furniture to get more space. All Scandinavian countries provide individual grants for HAs. In Sweden, the intervention aims at promoting safe and independent living for people with disabilities in ordinary housing and is regulated by the Swedish Housing Adaptation Act. The publicly funded HAs are administered by the Swedish municipalities and can be granted after a needs-based assessment [8]. In 2014, the most commonly granted HAs were removal of thresholds, installation of grab bars, ramps at entrances and timers on kitchen stoves. Grants for approximately 116 million € were granted and 58% of the grants regarded adaptations for less than 520 €. More than 72% of the applicants were 70 years or older [9].

With an increasing number of older people [10] who are expected to age-in-place in the face of disability and dependence on others, the need of interventions such as adaptations and modifications of the home are likely to increase. Home modifications, a related but broader concept, include housing adaptations as well as adaptations such as rearrangement of furniture and provision of assistive technology and assistive devices [11]. Several positive outcomes of home modifications and HAs for the client have been demonstrated, e.g. in relation to falls [12-14], usability [15, 16] and activity [16-18].

While some studies have explored the applicants' experiences of HAs [19] and home modifications [6, 20], studies with an explicit focus on the cohabitants' or caregivers' expectations and experiences of sharing home where HAs have been made are lacking. Considering that the informal caregiver is, to a large extent, the spouse of the person in need of care, this knowledge is important when designing a person-centred HA intervention which also might facilitate caregiving tasks. Regarding home modifications, Messecar et al (2002) identified as many as 44 different home environmental modification strategies initiated and used by caregivers to support caregiving tasks [22]. Still, we don't know how cohabitants experiences HA that are carried out by a professional. In a systematic review on assistive technology it was suggested that assistive technology helps caregivers by diminishing some of the physical and emotional efforts entailed in supporting individuals with disability [21]. Moreover, it was shown that health risks related to caregiving, such as back pain, were in some cases prevented by home modifications and 48% of the family caregivers mentioned that mental and physical strain was reduced [23]. Two qualitative studies from Australia on

home modifications included the perspective of cohabitants and families and showed that home modifications increased applicants' independence, resulting in some of them no longer having to rely on others, and also resulting in the role of the caregiver and the activities of the caregiver becoming easier following the home modification [20, 24]. Whether these indications of positive effects on caregiving for cohabitants are true also regarding housing adaptations are not known. Neither is it known how cohabitants experience alterations made to their homes. Thus, considering the important role of a cohabitant of an individual in need of HA in providing care and support, and the fact that it is also their home that is altered, more in-depth knowledge about cohabitants' experiences are needed. The aim of this study was therefore to describe the cohabitants' expectations and experiences of how a housing adaptation, intended for the partner, impacted on everyday life.

METHODS

Design

The study has a qualitative descriptive and longitudinal design including interviews of cohabitants, at the time the HA was applied for and three months after the HA was completed. The analysis was inspired by the principles of Grounded Theory [25] and longitudinal analysis [26].

Study context

Cohabitants of persons applying for housing adaptation grants were recruited to the present study from a larger ongoing evaluation study regarding the housing adaptation process for older people and people with disabilities in Sweden [27]. Nine applicants (also called partners) and their cohabitants were asked to participate and in the present study and the interviews with the cohabitants were used. The first interviews with the cohabitants were made shortly after the HA grant was applied for and a follow-up interview was offered 3 months after the HA grant was approved and the adaptation of the physical home environment was completed.

The cohabitants

The cohabitants were selected based on their partner's inclusion and a purposeful selection was made based on the applicant. There was an ambition for the sample to be as diverse as possible [28], as regards the applicant, in terms of gender, age, type of dwelling, level of ADL dependency, use of mobility aids and specific adaptations applied for. The sampling was also guided by the desire to include the most information-rich cases. In the present study, the final sample of cohabitants consisted of three women and six men being 52 to 90 years old (median 68 years). See Table 1 for further details on the cohabitants. All names used are pseudonyms.

Table 1. Description of the cohabitants, their partners' and home contexts'.

Description of the cohabitants, their partners and home contexts
<p><i>Annika and her husband</i> had recently move to a two-room apartment in a multi-dwelling block. They were in their 60s. Annika was currently on sick-leave and her husband was retired. Annika's husband had a traumatic brain injury (TBI) some years ago, had aphasia and used an electric wheelchair outdoors and a cane indoors. He was dependent on help from his wife in personal activities in daily life (PADL) and instrumental ADL (IADL). Annika's husband applied for an HA grant for an automatic door opener at the lift in the building. The application was granted and the automatic door opener was installed.</p>
<p><i>Bertil and his wife</i> have lived in a one-family house for many years. They were in their late 70s and were both retired. They were an active and independent couple, but Bertil's wife got a sudden illness some time ago. After returning from the hospital, she needed to use a wheeled walker and high thresholds made it impossible for her to move around on her own. Bertil helped her with IADL. She applied for an HA grant to remove thresholds and to install a rail on the entrance steps outside. The grant was approved and the HAs were made.</p>
<p>About five years ago, <i>Carl and his partner</i> moved together into a one-family house in a rural area. They were of working age and Carl worked but his partner retired early. Carl's partner had a neurological disability and pain which limited her mobility. At the time of the application for the HA, the pain had gradually worsened and she was dependent on a wheelchair, home-help services, and Carl's assistance with PADL and IADL. She applied for an HA grant to get a ramp at the entrance and to remove thresholds indoors, which was granted and the adaptations were made.</p>
<p><i>David and his wife</i> were in their late 60s and both retired. They had lived in a one-family house for many years. David's wife had had Parkinson's Disease for more than ten years and for the last two years she had become increasingly dependent on her husband for help. She used a wheeled walker both indoors and outdoors. David had his own health problems and the burden to assist was heavy on days when his wife was extra immobile and needed help with PADL. They applied for an HA grant for a ramp at the entrance, to put ramps at the door to the balcony and to widen the shower area in the bathroom. The application was approved and the adaptation made.</p>
<p><i>Elias and his wife</i> were in their late 60s, both retired and lived in an apartment. Elias's wife had a lifelong disability and used an electric wheelchair outdoors and a regular one indoors. Elias helped his wife with PADL and IADL. The application regarded a longer tap handle in the kitchen and grab bars in the bathroom. The application was approved and the adaptations were installed.</p>
<p><i>Frans and his wife</i> were in their 70s and retired. They lived in a two-storey house with bathroom and bedroom on the upper floor. Frans's wife had poor balance and often fell—a year ago she fell and fractured her pelvis. Frans worried about his wife's safety but so far she had not needed home-help services. Frans had his own health problems. They applied for an HA grant to install a new toilet on the ground floor, for Frans's wife to avoid walking up the stairs during the day. The HA grant was approved, but instead of installing a toilet, a stair lift was suggested. The couple was disappointed and did not participate in the follow-up interview.</p>
<p><i>Gerda and her husband</i> were 90 years old and lived in a large one-family house. Gerda and her husband had had several HAs made. He had recently become dependent on a wheelchair to move indoors after a leg amputation. Gerda walked with a wheeled walker but managed independently. He received home-help services for all PADL needs. The current HA grant regarded widening of the door opening to the toilet, installing grab bars to enable rising and moving from the wheelchair, and installing a ramp at the entrance. It was approved and the adaptations were installed.</p>
<p><i>Hans and his wife</i> had recently moved into an apartment in a multi-dwelling block. They were in their 70s and retired. Hans's wife used a wheeled walker indoors and a wheelchair outdoors. She had help with PADL they had help with IADL from their children and home-help services. Hans's wife applied for an HA grant to install a ramp at the balcony to level out the height difference. The application was granted and the adaptation installed. As Hans's wife's health became worse they participated in a joint follow-up interview.</p>
<p><i>Iris and her husband</i> lived in a two-storey house with their teenage daughter. Iris was in her late 50s and her husband was some years older and he was retired. He had had a stroke and used a regular wheelchair indoors</p>

and an electric one outdoors. He received help from his wife and home-help service with PADL and IADL. The application concerned widening of the kitchen door opening, removal of thresholds and to put grab bars in the newly, refurbished bathroom. The adaptations were approved and installed, but due to a changeable life situation they refused to participate in the follow-up interview.

Please note, all names are pseudonyms.

Data collection

A semi-structured interview guide was developed, based on the aim of the study, and was used at both interviews. For the follow-up interview the guide was revised based on preliminary analysis. The first interview with the cohabitants took place directly after the HA grant was applied for. The follow-up interview was made three months after the application was granted and installed. It was on average 7 months between the first interview and the follow-up interview. The interviews were conducted in the couples' homes by the last author (LE), a researcher and occupational therapist with many years of experience working with people with disabilities and conducting qualitative interviews. On three occasions, at the request of the couple, the interview was carried out as a joint interview, with both applicant and cohabitant responding. The interviews lasted from 10 to 60 minutes. All interviews were digitally recorded and transcribed verbatim.

Data analysis

First, all initial interviews were read through to grasp a sense of the whole. Then, line-by-line coding on five initial interviews was made. The codes were condensed to 35 focused codes concerning expectations of changes in the daily life, previous experience of HAs, the meaning of home, health problems for the cohabitants and their partners, caregiver-burden, daily activities, thoughts on relocation, other formal and informal help, previous patterns, and habits of daily activities. The condensed codes were then used to code the remaining initial interviews. Then a longitudinal analysis was initiated (Saldana, 2003) by having a more holistic, case-based approach. This, included an analysis of each cohabitant's data (initial and follow-up interview) focusing on detecting changes over time. Codes regarding changes in expectations, experiences, health and wellbeing, caregiver-burden, the physical home environment and activities in daily life were generated. Finally, as a last stage, the two analysis approaches were combined by matching the condensed codes with the longitudinal codes which resulted in four final categories and a core category.

To organise the data and facilitate the analyses the NVivo 10 software was used.

Ethical considerations

The study was approved by the Ethical Review Board in Lund, Sweden (Dnr: 2012/566).

FINDINGS

The findings show that the needs of the partner were the point of departure for the cohabitants' expectations and experiences on the housing adaptation, but also how it would impact on their everyday life. This is described in four categories: *Partners' activities and independence*; *Cohabitants' everyday activities and caregiving*; *Couples' shared recreational/leisure activities* and *Housing decisions*. The expectations and experiences were influenced by and intertwined with the cohabitants' and applicants' health situation and whether or not the cohabitant provided care for the partner. The HA can be seen as a stepping stone in a complex everyday life often filled with caregiving tasks - captured in the core category: *Housing adaptations – a piece of the puzzle*.

Housing adaptations – a piece of the puzzle

The housing adaptation was a piece of the puzzle, where the cohabitants and their partners' health situation overshadowed the intervention. The cohabitants had diverse expectations on how the HA would impact everyday life. A few cohabitants seemed to have high, almost unrealistic expectations of reducing the burden of care, while others thought that the HA would hardly matter at all. Cohabitants who expressed the caregiving as burdensome, and who struggled with their own health problems, had expectations of how the HA would reduce the burden of care. Those cohabitants were sometimes disappointed and described the HA as not working properly.

The cohabitants' expectations and experiences were also influenced by how they perceived their partners' health and their total life situation changed over time. For example, before it took place cohabitants might state that the HA was going to be very important for the partners' independence, but afterwards they said that the situation was even more problematic, as changed health problems had generated additional dependence in activities, even if the HA per se worked well.

In contrast, cohabitants who did not express many expectations at the time of the application, or cohabitants having partners whose diseases and disabilities improved during the time of the HA saw large positive effects. That a partner could move around independently indoors with a wheeled walker thanks to both HAs and improved health made the effects stronger for the cohabitants. Further, when life was moving on and partners became more independent and active again the HA was not given much thought, merely seen as a stepping stone back to the ordinary, although appreciated.

In summary, the expectations and experiences of the HA in everyday life were expressed in the light of how the cohabitants perceived their own and their partners' health and wellbeing, and whether the cohabitants felt burdened by being a caregiver or not. Changes in health over time could change the cohabitant's expectations or perception that the expectations were not met, even if the adaptation was made according to the application. Further, for couples that experienced everyday life as a struggle, a properly working HA was taken for granted and after the installation new issues were more urgent to address. Clearly, the HA was merely a piece of the puzzle.

Partners' activities and independence

What the cohabitants mostly wanted and expected for their partners was for them to be more independent or to fully regain independence in everyday life. This included regaining the ability to move around inside the home, to be able to get out to the garden or the balcony, and to be able to leave and enter the building independently. Bertil was certain that removing thresholds and getting a rail at the entrance steps would be important to his wife:

“Oh yes! Especially now that spring and summer are coming up... the fact that she can get outside...it'll make a difference. Absolutely!”

The wish that the HA would enable their partners to perform more activities of daily life at home was expressed. One example was that a grab bar in the bathroom would enable a partner to move on and off the toilet stool independently. Even small adaptations such as getting a longer tap handle in the kitchen were expected to give important routes to independence, by enabling the partner to be able to get a glass of water on her own.

Hopes for increased safety for the partner were also raised, for example it was expected that mounting of grab bars and removal of thresholds would reduce the risk of falling when moving around and carrying out activities in the home. One partner hoped that building a toilet downstairs would lead to his partner not needing to climb the stairs so often and thus reduce the risk of falling. He explained:

“I am very worried when she uses the stairs.”

After the HAs the cohabitants' experiences were mixed, with some expectations being fulfilled and others not. Some cohabitants expressed enthusiastically how valuable the HAs had been and that the partner had regained activities and could manage more independently than before. Carl could see that the regained abilities to perform activities and be mobile had generated a positive mood shift in his partner:

”And she’s become...well...happier. More energetic! She’s doing more things than she did before!”

Instead, cohabitants of applicants who got their grant application turned down or did not get the specific adaptation they had hoped for were disappointed. One cohabitant explained that the automatic door opener to the lift door had not resulted in increased independence for the partner. The adaptation was not enough for the partner to be able to leave and enter the building and the apartment independently. Even if the application only covered an automatic door opener at the elevator the cohabitant was frustrated that more adaptations had not been made. Annica said:

“It’s just a tiny, silly adaptation. It’s stupid really, there should be an adaptation both by the storage area and upstairs too. But how that’s going to happen I don’t know.”

Some cohabitants explained that the HAs functioned well but the disease of their partner had become worse than before the HA was initiated. Consequently, their partners had become less active and more dependent at home than before. Even if HAs such as ramps would enable mobility, reduced cognitive function or increased levels of pain caused less functioning than before. One example of this was expressed by Elis concerning his wife:

Interviewer: Does she need less help from you now, when she has got the long arm (for the kitchen faucet) and the grab bar in the bathroom?

Elis: It is probably more or less the same. I've noticed that she is getting worse, so I guess she probably will need more help than she did before.

Cohabitants' everyday activities and caregiving

This category contains the expectations and experiences that the cohabitants had regarding the HA's influence on their own activities and everyday life, which was mostly related to the provision of care for their partner. Some cohabitants had their own health problems which made caring for the partner strenuous and the HA even more valuable. David had heart problems which impacted on his endurance and mobility. He explained:

“Anything that can be done to help her do more things herself helps me too.”

Commonly, the cohabitants expressed the expectation that the HA would facilitate their caring situation. One couple applied for widening of the shower area in the bathroom, so that the cohabitant could more easily assist the partner in taking a shower or washing her hair.

The cohabitants also expressed that if the partners could manage more on their own and be less dependent on them, it would be appreciated. Fewer or less strenuous caring activities would give the cohabitant relief and more freedom. This could be seen in one case where, if the partner got the thresholds removed indoors and the differences in levels evened out, the cohabitant would not be interrupted every time the partner wanted to move around indoors. Constant interruptions in their own activities to assist the partners were a usual part of everyday life. One example is from Carl, who says:

“I can never be on my own. Suddenly she needs water. And she can’t exactly reach the bathroom on her own and fill a bottle and put it in her lap and try to manoeuvre herself out. It doesn’t work!”

Being less depended upon would also enable the cohabitant to carry out more activities of their own choice, being able to leave their partner unattended or to get some rest. Some cohabitants hoped that the HA would make this possible. One cohabitant held computer classes at a senior citizens’ centre and hoped that the HA would enable his wife to manage on her own the hours he wanted to be away. He considered the classes to be his “breathing space” in a tough week with a lot of caring responsibility.

The cohabitants did not express any expectations that the HA would be useful for themselves when performing daily activities. However, afterwards, when the adaptations had been installed for a while some cohabitants spoke about the advantages of the HA in their own life. For example, grab bars were useful for rising or they chose to use the entrance with the newly installed ramp when throwing out the rubbish. Bertil realised that the rail on the entrance steps would also be beneficial to him, at least in winter time:

“It’s great! For her, of course, it’s even better. I think that, come the winter, I’ll benefit from it as well, because those steps can get very slippery. It’ll be good to have it then!”

Not everyone considers caregiving to be easier after the HA, for example, widening of bathroom doors or installation of grab bars met their purpose but other situations and activities had become problematic instead. For other cohabitants the expectations were met. For example, Carl expressed that the fact that, along with the HA, his partner had started to feel better and have less pain had improved not only his partner’s, but also his own everyday life:

”Now I can go out to my garage and potter about for a few hours without having to run in and check on her the whole time.”

Couples’ shared recreational/leisure activities

Even if most expectations regarded the partners’ chances to be more independent than before, the cohabitants sometimes expressed the desire to regain recreational and leisure activities they used to enjoy and do together. The desire to take a walk together by the sea, meet friends not seen for a long time or to make car trips was expressed, and one couple hoped to be able to travel to attend a wedding.

Even less demanding activities such as enjoying the garden or balcony together had had to be given up and with the HA, the hope came back. Gerda explained that she and

her husband had taken pleasure in taking a drink in the garden, but now that her husband needed a wheelchair he could not get outside as he couldn't force it over the threshold:

“We used to sit out here every Saturday and Sunday before dinner and have a drink. It was almost sacred. We have a fountain, but we haven't turned it on once (this year). Life isn't as full as it used to be, but I suppose these are just little things really.”

She almost apologised for still longing for those activities, but it was clear that they gave meaning to her life. Unfortunately, after the ramp was installed they still could not use the garden when they were alone, as it turned out that neither of them was strong enough to manoeuvre his wheelchair outside, despite the ramps.

After the HA most of the long-term hopes and expectations were still hopes and had not been fulfilled yet. But the expectations remained and one couple who wanted to take a vacation, had started to make plans for a longer car trip with friends.

Housing decisions

The HA grant application also generated reasoning and expectations as to whether the present home was the appropriate one to stay put in. For some a move was the reason for applying for the HA grant and others were so emotionally attached to the home that relocation was not an issue. However, thinking and deciding about staying put or relocation was an ongoing process for several which reflected their reasoning on HAs. For some, the HA was expected to be the way to make sure a move was not needed. For David, who considered their home to be almost perfect, the HA was to be a way of optimising the home to fully meet their needs:

”If we get this adaptation we'll just stay here. Then we'll get some workmen in to do all the things we need, paint outside, for example. You couldn't find anything better than what we've got here. No long walk to the car when you have to go shopping. You don't need to carry shopping bags huge distances.”

However, after the HA David experienced that he had changed his mind. Now, when the home environment was perfectly adjusted to fit their needs, other needs arose. He wanted them to move to private senior housing:

”David: It's so that it might be easier to get out, so that both of us can have a little entertainment and leisure time.(...)Then maybe I can get away for a couple of hours every day. Get out and chat to people...and her too, come to think of it. We wouldn't always need to together at the same place then...”

Some cohabitants kept their thoughts on a possible move to themselves, afraid that their partner would not get the HA application approved. Gerda found out later on that she no longer wanted to move. Her husband had gotten the HAs and she felt less affected by her health problems. She reflected on her change of opinion:

“Yes, it was very depressing. I wanted us to move into a home, but, you know, now I don't want that anymore, I don't, at least.”

DISCUSSION

This study adds knowledge on how HAs are perceived by illustrating expectations and experiences of the cohabitants. By focusing on the cohabitant the findings highlight the perspective of a partner, of a caregiver, of a person sharing a home and life with an individual who, for health-related reasons, is in need of adjusting the built home environment – a perspective under-studied in housing adaptation research [29].

The findings highlight that the experiences of having and using the HA were marked by the cohabitants' perceptions of the applicants and cohabitants' health and changes in health over time. In situations when health had become worse during the intervention process the benefits of the HA were shadowed by new challenges in managing everyday life and activities. Previous research has shown that applicants for housing adaptation grants seemed to wait a long time before applying, until the needs became urgent and everyday life was too difficult to handle [30]. The longitudinal findings of this study show that in a relatively short period of time the health and caring situation can change, also putting the HA into another light, thus the HA was seen as a piece of the puzzle. Encouraging people with disabilities to apply earlier in the process and also to reduce the time between application and installation [17] would possibly make it easier for people to make use of the HA and actually reach the goals of independence and safety [30].

The findings show that the cohabitants' hopes and expectations of the HA above all concern the partner's mobility, safety and independence in activities of everyday life in and around the home. This is in line with the aims of the intervention to promote safe and independent living for people with disabilities in ordinary housing [8], and in line with previous research on how HAs are evaluated and perceived by the applicant [17, 19, 31, 32].

The findings did not confirm the suggestion by Tanner et al [20] that the HA impacted negatively on the meaning of home or the homeliness of the dwelling, at least not from the perspective of the cohabitants. Functionality was put above aesthetics by all cohabitants, and in this respect our findings are in line with Ahn & Ledge [33] who argue that a modified home environment does not necessarily impact on how the older person perceives the home environment. Even if some cohabitants raised concerns that a ramp could disrupt the aesthetics of the exterior and maybe reduce the property value at a future sale still, over time, once the HA was installed, this was no longer a concern.

Further, cohabitants who perceived the HA to be useful for their partners, along with improved health status, did not focus much in the interviews on the effect of the HA once it was installed. Instead, it was described as a stepping stone. As older people constantly use different coping strategies to stay in their "residential comfort zone" [34], it is reasonable to assume that after a problem is solved and the cohabitants are back in their comfort zones the previous problem and coping strategy used becomes of little or no importance. This has clinical relevance, for example during follow-up on HA interventions, however further research is needed to confirm our findings.

Even if the HA only was a piece of the puzzle, it seemed to trigger thoughts on big decisions such as relocation. Previous research has shown relocation decisions to be long processes, influenced by perceptions of health and being able to perform the habits and activities one values as important to do [35, 36]. The intention of HAs is to support ageing-in-place and they are seldom provided if the applicant is considering relocation – a fact which some of the cohabitants were aware of. Still, these findings show that a move to a new dwelling can trigger the need for a HA. But, most importantly, the thoughts on moving/staying put are influenced by several intertwined aspects [36] that rejecting HA grant application due to thoughts on moving, might not promote ageing-in-place. In clinical

practice, it is important to remember that the HA intervention is directed at one person in a couple, but it impacts on the residential reasoning of both, which highlights the importance of viewing the couple as a unit [37].

In addition, the findings illustrate that the cohabitants also expect the HA to be beneficial for their own everyday life. It is possible that increased independence of the partner raised hopes and expectations for the cohabitant to be less needed for assistance and informal care. For some cohabitants the HA was explicitly applied for to facilitate caregiving tasks. The wish to gain relief from a burdensome caring situation and to facilitate caregiving has been expressed in studies on spousal caregiving [38-40]. However, in interventions with HAs, this study highlights the need for also incorporating the cohabitant when planning interventions. A perspective neglected when it comes to HAs but highlighted also in other areas such as stroke interventions and dementia interventions [41, 42].

Method discussion

Turning to methodological limitations, the cohabitants in this study were recruited based on their partners having applied for a housing adaptation, implying an overall positive attitude to HAs. It has been suggested that individuals who do not think of HAs as useful do not apply for or make an HA [43]. Further, this study was a part of a larger longitudinal survey study on housing adaptations which restricted the sample of cohabitants. The cohabitants were included primarily based on inclusion criteria and information about the partner. Not being able to sample cohabitants directly was a limitation of the study. However, the ambition of getting diversity in the sample was considered to be reached. The sample size of nine cohabitants is a limitation, but as follow-up interviews were conducted this contributed to richness in the data, including variations in experiences and expectations, which was aimed for in the present study.

It was a strength that the same interviewer carried out both interviews. The longitudinal design of the study was a strength put forward by the findings showing changes in expectations over time. Some cohabitants of applicants that had the HA application rejected did not want to participate in the follow-up interview, which is a limitation of the study, where valuable knowledge possibly went missing.

The analysis approach used was inspired by Grounded Theory [25] and longitudinal analysis [26] aiming at describing and explaining cohabitants' expectations and experiences of HAs intended for the partner. However, the ambition was not to develop theory, which is why the findings are presented in a core category and categories describing some cohabitants expectations and experiences of the HA process. In future studies, it would be valuable to initiate theory development on caregivers' roles and experiences on housing adaptations.

Conclusion

In conclusion, this paper adds to the knowledge on how older people and people with disabilities perceive housing adaptations made to their homes by adding the perspective of the cohabitant. First and foremost, the cohabitants' concerns regard the partners' possibility to achieve independence and regain activities. However, the cohabitants' role as caregiver, the importance of regaining joint leisure activities and their reasoning on housing decisions calls for increased attention to the cohabitant-perspective when carrying out housing adaptations in the municipalities.

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