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Article Title: Opinions Towards Physical Activity, Sedentary Behavior and Interventions to Stimulate Active Living During Early Retirement: A Qualitative Study in Recently Retired Adults

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Running Head: PA and SB in recently retired adults: focus groups

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Opinions towards physical activity, sedentary behavior and interventions to stimulate active living during early retirement: a qualitative study in recently retired adults

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Abstract

This study aimed to obtain qualitative information about physical activity (PA), sedentary behaviors (SB) and their determinants and about recently retired adults' needs regarding PA interventions. Four focus group interviews were organized. The most commonly reported PA types were walking, cycling, swimming and fitness. The most commonly reported SB were reading, TV viewing, and computer use. Car use was limited. Most adults agreed their habits had changed during retirement. The most striking PA determinant was the feeling of being a 'forgotten group', having too few tailored PA initiatives available. Furthermore, participants were not aware of the negative health effects of SB and not motivated to decrease their SB. Concerning new PA interventions, very diverse ideas were put forward, reflecting the diversity of the target group. It seems that a dynamic intervention in which participants can choose which PA type they want to increase is preferable for recently retired adults.

Keywords: Focus group; interview; exercise; sitting time; Belgium

Background

Over the last decades, life expectancy has increased steadily in developed countries (World Health Organization, 2006). As the prevalence of major chronic diseases rises with age, this increase in life expectancy induces a large medical burden and high health care costs (Organization for Economic Cooperation and Development, 2006). To prevent or delay the development of chronic diseases (e.g. sarcopenia, type 2 diabetes and cardio-vascular diseases), older adults should adopt a healthy lifestyle with sufficient physical activity (PA) and a limited amount of sedentary behaviors (SB) (Hamilton et al., 2008; Landi et al., 2010). However, PA typically declines with increasing age (Troiano et al., 2008), while SB (e.g. TV viewing, reading) increases (Clark et al., 2010).

The transition to retirement is an important turning point in an older adult's life. Retirement usually introduces a decline in total PA, probably caused by a decrease in work- and transport-related PA, that is not sufficiently compensated by an increase in leisure-time PA (Barnett et al., 2014; Slingerland et al., 2007). The change in SB during early retirement has been studied less often: retirement has been associated with a decrease in overall sitting, probably because the decrease in occupational sitting is only partly replaced by an increase in leisure-time SB like TV viewing and reading (Barnett et al., 2014; Touvier et al., 2010; Sprod et al., 2015). However, the impact of retirement on other specific SB besides TV viewing and reading remains unclear.

Overall, retirement offers opportunities to develop a healthy lifestyle, as the time previously spent working can be spent on other activities and new habits can be developed (Mein et al., 2005; Sprod, 2015). Furthermore, persons who are about to retire or retired recently seem to be particularly receptive to behavior change (e.g. smoking cessation) (Lang et al., 2007). Finally, ageing and more specifically retiring can lead to social exclusion (i.e. actual and symbolic exclusion from material and social resources; Vranken, 2001) because of the 'forced' exclusion of the labour force (Grenier & Guberman, 2009). Interventions focusing on healthy behaviors could be a useful means to prevent such feelings of social exclusion. Consequently, early retirement seems to be an ideal

stage to implement interventions to prevent older adults from lapsing into an inactive and/or sedentary lifestyle, and from becoming socially excluded.

Before interventions targeting recently retired adults can be developed and implemented, it is important to identify the specific intrapersonal, interpersonal and environmental determinants of PA and SB during early retirement. However, the current evidence base is limited: only a few qualitative studies examined intra- and interpersonal determinants of PA during (early) retirement and no studies could be located on the determinants of SB during early retirement. A review of the studies on determinants of PA during (early) retirement showed that intrapersonal (e.g. social norms and beliefs on ageing and retirement, need for personal challenges, perceived health benefits of physical activity, financial constraints) and interpersonal factors (e.g. social interactions, social support) can be important motives for (insufficient) PA in recently retired adults (Barnett, Guell, & Ogilvie, 2012). Nonetheless, more evidence on these and other (e.g. environmental) determinants of PA and on determinants of SB during early retirement is needed.

One review paper previously reported on the effectiveness of interventions to increase PA in older adults around the age of retirement (55-70 years), and concluded that most interventions to promote PA were effective at 12 months, but not at 24 months (Hobbs et al., 2013). However, an important shortcoming of these interventions was that they usually were not specifically tailored to adults who retired recently, but to older adults in general. As recently retired adults are supposed to be particularly susceptible to behavior change (Lang et al., 2007), specific tailoring to this target group could increase the effectiveness of interventions. Furthermore, no previous interventions focused on SB. Finally, a sound process evaluation of interventions is often lacking, leading to insufficient knowledge about which components of interventions are actually working and how the target group evaluates the intervention (Short et al., 2013). Absence of such information makes it difficult to optimize the content of future interventions.

Consequently, with the present qualitative study we seek to address some of these shortcomings. Through focus group interviews with recently retired adults, we aim to obtain qualitative information about the change and specific multidimensional determinants of PA and SB during early retirement, about recently retired adults' opinions on currently existing PA programs/interventions, and about their needs and wishes regarding new interventions. The present study is part of the developmental stage of the Intervention Mapping Protocol, that was developed to guide the design of evidence-based interventions (Bartholomew et al., 2011). Consequently, the information arising from this study will be used to inform the content of a randomized controlled trial aiming to increase PA and decrease SB in recently retired Belgian adults.

Methods

Participants

Retirement can be defined as ‘a permanent and complete withdrawal from the labor force’. However, in the focus group sessions, also adults who were still doing voluntary work after retirement from their main occupation were included. In Flanders, the formal retirement age varies between 58 and 65 years, depending on the type of occupation (<http://www.onprvp.fgov.be>).

For the focus group interviews, a convenience sample of 40 individuals was recruited out of a sample of 566 recently retired adults (>6 months, <5 years) who participated in the baseline measurements of a longitudinal study (December 2012 – May 2013) examining changes in PA, SB, mental and physical health after retirement (author et al., 2015). In order to be eligible for that study, participants had to be able to walk 100 meters without assistance. To recruit these 40 participants, a stratified random sample of 114 participants of the longitudinal study received an invitation letter for the focus group interviews in September 2013. To ensure variability in socio-demographic characteristics and because the change in PA after retirement differs according to socio-economic status (stronger decrease in adults from lower occupational groups; Barnett, Ogilvie,

& Guell, 2012), a comparable number of men and women, and individuals of high and low socio-economic status was contacted.

The first 40 adults who responded positively to this invitation letter, were invited to a focus group session. In total, four focus group interviews were organized in October and November 2013, each with 8 to 10 participants (total n=37; 3 participants canceled their attendance before the start of the sessions). All participants lived in Ghent (city center and suburbs) and the focus group interviews took place at the University campus in Ghent.

Socio-demographic, health- and PA-related information (gender, age, BMI, ethnicity, educational level, marital status, presence of a chronic health disease, compliance with PA guidelines) that was collected in the baseline postal questionnaire (December 2012 – May 2013) was used to describe the characteristics of the 37 focus group participants. Of the 37 participants, 19 (51.4%) were female, 36 had the Belgian nationality (97.3%), 19 (51.4%) were of low socio-economic status (did not attain a college or university degree), 20 (54.1%) were married or living with a partner and 8 (21.6%) suffered from a chronic condition. Only 5 participants (13.5%) did not reach the health guideline of 150 min/week of moderate-to-vigorous PA. Mean age was 62.9 (standard deviation [SD] 1.9) years and mean BMI was 25.4 (SD 5.2) kg/m².

Procedure

All data were collected by the same two trained researchers (moderator and co-moderator) in October and November 2013. At the beginning of each session, all participants signed an informed consent form and permission to audiotape the interview was obtained. The interviews took place in a medium-sized room and lasted between one and a half and two hours. All participants received a small incentive (bowl with fresh fruit) for their participation. Ethical approval for the study was obtained by the Ethics Committee of the Ghent University Hospital.

During the focus group interviews, a semi-structured questioning route was used as a starting point to stimulate the group discussion (Table 1). The questioning route was pilot tested in a

convenience sample of two retired adults for relevance and comprehensibility in September 2013 and minor textual modifications were made after testing. Four main themes were discussed: 1) current PA/SB and changes in PA/SB during early retirement, 2) determinants of PA and SB during early retirement, 3) opinions about currently available PA programs for recently retired adults, 4) ideas and advice regarding possible new PA interventions/programs for recently retired adults. All questions were broad and open-ended. More detailed optional questions were asked when the discussion did not start or continue spontaneously.

After each focus group interview, the two researchers debriefed, discussed themes/ideas presented during the session, main impressions and differences with previous focus groups.

Data analyses

A verbatim written transcription of each focus group was made, based on the information of the audiotapes. After obtaining full transcripts of the focus group interviews, a qualitative content analysis of the transcriptions was conducted using the qualitative data analysis software NVivo10 (QSR International Pty Ltd., Doncaster Victoria, Australia). A thematic analysis method was used to analyze the data, combining both deductive and inductive analysis techniques. A data framework (code tree) to code the data was used and was based on the major themes of the interview guide (i.e. deductive analysis). Furthermore, the inductive analysis was done to capture potential additional themes that were not covered in the code tree. One researcher (DVD) processed the data; in case of doubt, a second researcher (LM) was involved and inconsistencies were discussed until a consensus was reached.

Results and discussion

An overview of the main results of the focus group interviews is shown in Table 2.

Current PA/SB habits and changes during early retirement

Current PA and changes during early retirement

The most commonly reported types of PA were walking, cycling, swimming and fitness (in a club or at home, e.g. cycling on a home trainer). Participants reported both walking and cycling for transport (e.g. to do errands) and during leisure-time (organized and non-organized). In addition to these types of PA, also household-related PA and working in the garden were frequently reported.

Most adults agreed that their PA habits had changed during early retirement. However, they indicated that these changes were dependent on the content of their former job and on their activity level before retirement. Most adults who were active during leisure-time before retirement, reported that they remained active after retirement. The main difference was that their PA is now scheduled at a different time (mostly during the day).

“For me, not much has changed, I’ve been going to the fitness, like forever. But, in the past, I combined this with work. The only thing that changed, is when I do it.”

Most adults who previously had a sedentary job and were insufficiently active during leisure-time, started doing leisure-time PA after they retired, because more time became available. Nonetheless, adults who had an active job reported that retirement is a period of well-deserved rest and that they are not very active now.

“When I worked, I was very active at work. So, when I retired, I came to a stop. Now, I do a lot of activities, but these are mainly sedentary activities. I have to admit that I am not active anymore.”

Current SB and changes during early retirement

The most commonly reported SB were reading, TV viewing, computer use (mainly reported by men), courses (e.g. photography, languages) and sitting during meals. Most participants reported a limited amount of car use, with car use being much lower now than during their working career. Furthermore, the change of SB during retirement also seemed to be dependent on their former job:

adults who previously had an active job reported an increase in SB after retirement, while those with a sedentary job reported a decrease after retirement.

In summary, regarding the first theme, most adults confirmed that their PA habits had changed after the transition to retirement, and that the direction of these changes was dependent on the type of PA (decrease in work-related PA, increase in leisure-time PA) and on their former working situation (blue-collar versus white-collar). These findings are similar to the results reported in previous quantitative studies (Barnett, Ogilvie, & Guell, 2012; Barnett et al., 2014; Slingerland et al., 2007) and can probably be explained by the fact that during their working career, blue-collar workers with a physically demanding job usually do not feel the need to be active during leisure-time. These thoughts do not align with the predominant neoliberal active ageing agenda, formulating later life as a period of active ageing. Neoliberal policies tend to manage the potential problems associated with ageing (e.g. workforce shortages due to high number of retired adults, rising health care costs and high social security costs) by extending working life for as long as possible (e.g. by ending early-retirement programs, making retirement more flexible and ensuring jobs for older workers): within this agenda, ‘active’ older adults are supposed to be less expensive for the society (Moulaert & Biggs, 2012). Our focus group interview results, however, suggest that many of the blue-collar workers in our sample, have feelings of resistance against this neoliberal agenda, such that it is challenging to introduce a PA habit to their retirement.

Since the impact of retirement on SB has not been examined in detail in previous studies, the focus group interviews added some innovative information on this theme: as expected, an increase in TV viewing and computer use was reported (see also Barnett et al., 2014 and Touvier et al., 2010) and participants spent a lot of time reading, but low levels of car use were reported during early retirement. This could possibly be explained by the fact that all participants lived in or near Ghent, a large city in Flanders with good cycling facilities and a well-developed public transit system. In smaller cities or at the countryside, car use will probably be higher. Overall, the types of PA and SB

reported and specific interests varied largely between participants, making it difficult to decide on which specific behaviors future interventions should focus. To reach as many adults as possible, multiple behavioral domains (e.g. transportation, leisure-time, household) should probably be targeted simultaneously in an intervention.

Determinants of PA/SB during early retirement

Only a few previous studies have examined the determinants of PA and SB in this target group. Nonetheless, such information is crucial to determine the content of behavioral interventions, confirming the importance of our focus group interviews. The few studies in recently retired adults that could be identified reported only on psychosocial determinants of PA like social support, social interactions, health benefits, time-related barriers and the importance of lifelong PA patterns in order to stay active during retirement (Barnett, Ogilvie, & Guell, 2012; Beck et al., 2010). The importance of these factors also emerged from our focus group interviews, but additionally several other notable determinants were mentioned.

Knowledge of PA guidelines

Almost all participants were aware of the current health guidelines regarding PA (10000 steps/day, 150 min/week of moderate-to-vigorous PA). A commonly mentioned concern was that these guidelines may be too physically demanding, so many adults emphasized the importance of taking into account the possibilities and boundaries of their own body.

“... I think you need to feel this, I really listen to what my body says, I never count my steps or movements. So yes, for me 15 minutes of activity may be sufficient, while for someone else this is peanuts.”

It seems difficult to convert this knowledge about the health guidelines for PA into concrete actions and actually doing sufficient PA. Future interventions could include an ‘educational’ aspect, working with older adults to identify opportunities for them to achieve 150 min/week of PA or more feasible goals for those limited by chronic illness, impairment or disability. This could include discussing possibilities to incorporate PA in their daily life, by emphasizing that PA does not need to

be a deliberate activity, but can be part of other activities (e.g. walking or cycling to do errands, playing with grandchildren) and by helping them to find out how they can plan their PA, for instance at fixed times of the day (e.g. do a 30 minute walk three times per week after breakfast). This is in accordance with the Self-Regulation Theory (Maes & Karoly, 2005) and Health Action Process Approach Model (Schwarzer, 2008), which have been shown to be effective to increase PA.

Knowledge of PA opportunities

The adults reported that they receive information about PA opportunities through magazines (e.g. ‘Ghent’, a magazine published by the city council), Internet, (local) television, health insurances or indirectly through contact with friends and family. Participants who were familiar with the Internet mentioned they could easily find sufficient information on the Internet. Nonetheless, some participants emphasized that many retired adults do not have adequate technical knowledge to find such information on the Internet. Furthermore, it was reported that some websites are not up-to-date (e.g. timetables swimming pools) or lack important detailed information (e.g. specific content or target group of lessons).

“You can ask for a lot of information by email. Then they send you everything they have, but still, you need to figure it out yourself, it remains unclear what the actual content of the programs is.”

Knowledge of PA benefits

The most commonly reported benefits were physical and mental health benefits (e.g. less back pain, increased sleep quality, less concerns/anxiety), social benefits (e.g. social contacts, opportunity to ‘chat’), enjoyment and increased energy levels.

Knowledge of negative consequences of SB

None of the participants were aware of the negative health effects of prolonged sitting, or the importance of breaks in sedentary time. Consequently, no one was motivated or recognized the need to decrease his/her SB.

“If I have been active during the day, isn’t it normal then that I sit down at night?”

“When you are active during the day, you don’t have to feel guilty for sitting down all night. I can watch TV for four hours or more and I really enjoy that.”

“What should I do to break up my sitting time? Walk around the table? Run outside? (ironically)”

As none of the participants recognized the negative health effects of prolonged sitting, no one was motivated to decrease his/her SB or could answer on questions about potential determinants to reduce SB. This imposes an important challenge for future interventions: in order to make a focus on decreasing SB possible, it will first be crucial to increase knowledge about the negative health consequences of sitting independent from PA. Previous research also pointed out that European adults are not yet familiar with the concept of SB and that more education is needed on recent insights regarding SB and its health risks (De Cocker et al., 2015). Furthermore, prevailing social norms concerning SB in this target group could be addressed. The recently retired adults who took part in this study felt that high levels of SB are legitimate at their age, having ‘earned’ the opportunity to rest after decades of often intense and demanding employment. However, for the sake of their health, breaks in sedentary time could usefully be incorporated in retired adults’ daily lives.

Environmental barriers (PA)

The participants mentioned environmental (physical) barriers being mainly related to active transportation (walking and cycling): the most commonly reported physical barriers were paving stones, tram rails (mainly dangerous for cyclists), wrongly parked cars, poorly maintained sidewalks and dangerous crossings. Regarding leisure-time walking and cycling, the participants reported few barriers, but mainly opportunities (e.g. signposted cycling routes, many public open spaces and green zones). The most important determinant for overall sports participation was accessibility (distance to and price) of sports centers. Specifically for swimming, participants mentioned limited

crowdedness in swimming pools as a crucial determinant: they disliked swimming in a crowded swimming pool.

Ecological models (Sallis, Owen, & Fisher, 2008) state that health behaviors are influenced by an interplay between individual, psychosocial, physical environmental and policy-related determinants, and this was confirmed here. The participants mentioned several physical barriers, mainly related to active transportation. It was remarkable that the most commonly reported barriers (tram rails, poorly maintained or uneven sidewalks, paving stones) were barriers that are expected to be primarily important for older (65+) adults, because from that age, mobility often starts to decrease (Van Cauwenberg et al., 2012; Van Cauwenberg et al., 2014). Although the current sample was somewhat younger and their overall physical health was good, similar physical barriers towards PA were reported as in older adults. These findings confirm the importance of designing ‘inclusive built environments’, with good access for all ages including older adults. Creating supportive environments can enable older adults to participate in mainstream activities, come outdoors and keep living in their homes for as long as possible. Nonetheless, strong collaboration between researchers, policy makers, practitioners and residents is needed to fulfill this aim of inclusive design (Clarkson & Coleman, 2015).

Other barriers (PA)

The most commonly reported barriers towards PA were bad weather (mainly rain), social barriers (mainly having no partner to be active with), financial issues and lack of time. Some participants realized that ‘lack of time’ was an excuse for having no motivation to be active. On the contrary, some participants reported ‘having too much time’ as a barrier for PA. They experienced retirement as a major life event and found it difficult to organize their life and fill in all the additional free time.

“I really have been searching for a long time. You retire, and some people have been preparing their retirement, but I did not do that, I never looked forward to it. Then suddenly, you are retired and what then? Then, the problem is that all structure disappears. When you work, you are organized, you have to work from that time until that time, and also your other activities are organized. But now, suddenly, I had so much time, and I could not organize myself. That is the main problem when you are retired. It took me two years to find out how I could organize my life.”

Furthermore, some other barriers specific to this target group emerged. Many participants reported age-related health barriers (e.g. back or knee pain, fear for injuries). The most important specific barrier was that the target group felt like they were a ‘forgotten group’. Almost all participants mentioned that too few PA initiatives are available tailored for their age group. They felt too old for regular PA programs (for adults) and too young for PA initiatives specifically tailored to older adults. According to Beck and colleagues (2010), social relationships and feelings of belonging or being able to fit in are important motives for PA in this specific population. When retired adults have to participate in PA initiatives that are aimed at the general population, feelings of not belonging may be present and may be a reason for quitting. The importance of this barrier can also be explained from the perspective of the Self-Determination Theory (Deci & Ryan, 1985), stating that feelings of ‘relatedness’ and ‘competence’ are important to develop intrinsic motivation to be active. Consequently, for future interventions, it will be important to focus on overcoming the specific barrier of being a ‘forgotten group’.

“... but I really find it difficult to find a group with, how should I say it, people like us. There really is an important gap there. When you are 30, you can participate in anything you want, but for us...”

“I think people like us often stop with PA when they feel they are a burden to the group. I mean, you are part of a group, but they always have to wait for you. At a certain moment you will say ‘I quit, I’m getting too old’. You have to give up someday...”

Another problem that was commonly mentioned, was that currently available PA programs are often too expensive, too physically demanding and too obligatory. Furthermore, lessons are

usually guided by young instructors, who have no feeling with the target group and cannot give tailored tips (e.g. on injury prevention).

PA opportunities: availability, concerns and strengths

Overall, most participants were aware of many opportunities for PA in Ghent, but their main concern was that these were opportunities for ‘young’ adults (e.g. fitness clubs, PA programs initiated by the city council) or ‘old’ adults (local health centers) but that the current PA programs were not tailored to the needs of recently retired adults. For regular activities, like walking and cycling, they felt like sufficient opportunities (e.g. walking clubs for all ages, organized cycling clubs, signposted cycling routes) were available, but for other activities (e.g. nordic walking, dancing, aquafitness), lessons or programs are lacking. Most participants felt too old for regular PA programs, but too young for activities organized in local health centers (i.e. only for 55+ adults). Nonetheless, some participants were laudatory about activities organized by local health centers, and felt at home there.

“What I think, is that there are insufficient organized opportunities for the ‘middle group’. On the one hand, you have the commercial fitness centers, where young adults go to, and on the other hand the local health centers. And nothing in between... Because we are in a phase somewhere in between young and old, there is nothing there.”

“... but I never subscribed for lessons in a local health center because people who go there are very old. I feel like only people older than 70 go there, for me, that’s a bit too slow.”

“I just joined a local health center, after 4,5 years I finally found my way, and I really enjoy it there. They give PA lessons, but only for adults older than 55, there are no younger adults, that’s really pleasant.”

The reported strengths were strongly dependent on personal positive experiences. Several participants reported the availability of special-priced season passes (e.g. special pass for 10 lessons, valid for 6 months) as a particular strength, because this increases the freedom to choose when they participate (reduced feeling of obligation). Furthermore, PA lessons in small groups with a personal

approach were positively evaluated, as well as the vitality of and quality of lessons offered in some local health centers.

Priorities (PA)

For most participants, PA was not a top priority in life. They were in search of overall balance, both mentally and physically. They agreed that PA was important, but also emphasized that other themes (e.g. intellectual challenges, enjoyment, family, good food) were at least as important in life. A regularly mentioned explanation for their diverse priorities was the role that is inherent to their age and position in society: the participants felt like they had an intermediary function and that many people (children, grandchildren, parents, friends,...) counted on them, making it difficult to prioritize PA.

“We are the sandwich generation. Our children count on us, and the grandchildren, and our parents, for whom we also need to take care. If you do all of this, you are quite busy...”

According to the principles of the Self-Regulation Theory (Maes & Karoly, 2005), goal selection, setting and representation is a necessary first step to change behavior. To be able to set an increase in PA as a behavioral goal, efforts could be made to relate PA to the specific tasks and challenges recently retired adults are confronted with (e.g. care for grandchildren or parents), and to emphasize that PA is not only about being deliberately active, but can also be integrated into other everyday activities. These may include, for example, looking after their grandchildren, tidying the home, or enjoying life.

Ideas/advice about possible new PA interventions for recently retired adults

Need

The existing opinions about the need for new PA interventions were very mixed. About half of the participants were satisfied with the currently available PA programs and felt like sufficient opportunities were available if one wanted to be active, while the other half of the participants were disappointed and mentioned that they wanted to be active, but that insufficient tailored or

appropriate PA initiatives were available. Some participants reported that they were not interested in becoming more active and would not participate in PA initiatives, even if tailored programs were available.

Focus

Diverse ideas were put forward concerning the potential focus of new interventions. Some participants wanted new initiatives to be focused on individual PA (e.g. receiving information about walking routes) while others preferred structured PA initiatives (e.g. group lessons for retired adults). Furthermore, some participants wanted new PA initiatives to be offered specifically for recently retired adults, while others preferred mixed age groups based on PA level.

“... because it really stimulates you to be active if the group does not only consist of older adults. I don't like it if people think in 'boxes': old people with old people, young people with young people. Why not mix up?”

In general, most adults agreed that new interventions should be informal, non-obligatory (e.g. by using season passes) and non-competitive. They emphasized that lessons should be given by experienced instructors who are aware of the specific needs and problems of the target group.

Challenges

The participating adults agreed that ‘recently retired adults’ are a diverse target group with diverse profiles, needs and wishes, making it difficult to propose interventions that are suitable for everyone. An important message they gave was that interventions should not be too compulsory; most participants currently experienced a compulsory promotion approach of local and federal governments, by distributing imperative messages about the need to be active and by ‘hyper communication’ through different media, leading to adverse effects on their actual PA levels.

Finally, most participants realized it would always remain challenging to reach inactive adults with new interventions, but they could not see an immediate solution for this problem.

“Of course, you can build more swimming pools or organize more lessons, but if people do not have the ‘culture’, not the urge to be active, they will not be active.”

Communication

The participants of the different sessions agreed that each communication channel has its (dis)advantages. Most participants did not like communication through email, flyers or mass media. Preferred ways of communication were the magazine distributed by the city council, and information (i.e. brochures or verbal information) provided by general practitioners or health insurances. Participants who were familiar with the use of Internet, preferred communication through an informative website, but these adults realized that this type of communication would not be optimal for all recently retired adults. An interesting idea that was proposed by some participants, was the development of an informative brochure delivered at the start of retirement, with information about PA opportunities in the neighborhood, next to more general information about retirement.

When summarizing these results, we can conclude that participants’ opinions were mixed and in accordance with the specific barriers they experienced towards PA. Some participants emphasized that PA interventions should be tailored to the specific needs of recently retired adults, while others were satisfied with the current PA opportunities that are targeted to adults in general. Similarly, diverse opinions were expressed about which type of PA interventions should focus on (e.g. leisure-time PA or active transportation; walking, cycling or sports), whether the intervention should focus on structured or unstructured PA (organized lessons versus lifestyle PA), and how information should be communicated (e.g. internet, magazines). These strong individual differences in needs and preferences confirm the importance of providing a dynamic intervention for this target group, instead of the static interventions (e.g. structured PA programs) that have been developed for older adults in the past (Hobbs et al., 2013; Van Roie et al., 2010). Principles of the Self-Regulation Theory (Maes & Karoly, 2005) like offering choice, integrating personal action planning

and goal setting, and providing tailored feedback can be used to develop such a dynamic intervention.

Furthermore, regarding the optimization of currently available structured PA programs offered by local organizations (e.g. sports services, local health services), results of our focus group sessions showed that it is important to expand the offerings for the ‘forgotten group’ of retired adults. Mixed-age sessions/lessons should be available, as well as lessons solely targeted to older adults. In addition, instructors should be specifically trained to work with older adults (e.g. injury prevention), the offer should be non-competitive, free trial lessons should be provided, and the price of PA lessons or programs should be as low as possible.

Limitations and strengths

The present study has some limitations that need to be acknowledged. First, participation was voluntary, which may have led to recruiting mainly motivated and active individuals. Descriptive statistics confirmed that mainly active individuals participated in the focus group interviews, as only 5 adults did not reach the health guideline for PA. This could have biased the findings. Second, our findings are perceptions of the participants and should not be interpreted as representing their actual behavior. However, we believe that these perceptions are of substantial importance and should be taken into account when developing interventions to address PA and/or SB. Next to these limitations, some important strengths are present. To our knowledge, this was the first study examining broader determinants of PA and SB during early retirement, and opinions of recently retired adults on currently available programs and potential future interventions. A second strength is the use of a semi-structured questioning approach, inducing that different opinions are more likely to surface.

Conclusion

The focus group interviews made it possible to formulate some specific recommendations for the development of interventions to stimulate active living in recently retired adults. First,

interventions should not target one specific type of PA; participants should receive a dynamic intervention in which they can choose which type of PA they wish to increase on how they want to do this. Second, psychosocial as well as physical environmental determinants should be targeted, as both are important for recently retired adults. Several general determinants (e.g. social support, time-related barriers, physical benefits) can be targeted, but additionally, some specific determinants and strategies should certainly be incorporated in the content of interventions (e.g. feelings of not belonging, specific physical environmental barriers). Third, principles of the Self-Regulation and Self-Determination theories can be used to develop an intervention, by using strategies such as incorporating goal setting and action planning, prioritizing PA, offering choice options and focusing on relatedness. Finally, in order to aim for a decrease in SB, knowledge about the health risks of prolonged sitting should first be increased.

Ethics, consent and permission

All participants completed an informed consent form and agreed that the interviews were audiotaped. All participants consented that anonymous quotes could be published. The study was approved by the Ethical Committee of the Ghent University Hospital.

Conflict of interest statement

The authors declare that they have no competing interests.

Reference list

- Barnett, I., Guell, C., Ogilvie, D. (2012). The experience of physical activity and the transition to retirement: a systematic review and integrative synthesis of qualitative and quantitative evidence. *International Journal of Behavioral Nutrition and Physical Activity*, 9, 97.
- Barnett, I., Ogilvie, D., Guell, C. (2012). Physical activity and the transition to retirement: a systematic review. *American Journal of Preventive Medicine*, 43, 329-336.
- Barnett, I., van Sluijs, E.M.F., Ogilvie, D., Wareham, N.J. (2014). Changes in household, transport and recreational physical activity and television viewing time across the transition to retirement: longitudinal evidence from the EPIC-Norfolk cohort. *Journal of Epidemiology & Community Health*, 2014, 68, 747-753.
- Bartholomew, L.K., Parcel, G.S., Kok, G., Gottlieb, N.H. (2011). *Planning health promotion programs: an intervention mapping approach*. 3rd edition. San Francisco, CA: Jossey-Bass.
- Beck, F., Gillison, F., Standage, M. (2010). A theoretical investigation of the development of physical activity habits in retirement. *British Journal of Health Psychology*, 15, 663-679.
- Clark, B.K., Sugiyama, T., Healy, G.N., Salmon, J., Dunstan, D.W., Shaw, J.E., et al. (2010). Sociodemographic correlates of prolonged television viewing time in Australian men and women: the AusDiab study. *Journal of Physical Activity & Health*, 2010, 7, 595-601.
- Clarkson, P.J., Coleman, R. (2015). History of inclusive design in the UK. *Applied Ergonomics*, 46, 235-247.
- Deci, E.L., Ryan, R.M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- De Cocker, K., Veldeman, C., De Bacquer, D., Braeckman, L., Owen, N., Cardon, G., De Bourdeaudhuij, I. (2015). Acceptability and feasibility of potential intervention strategies for influencing sedentary time at work: focus group interviews in executives and employees. *International Journal of Behavioral Nutrition and Physical Activity*, 12, 22.
- Grenier, A.M., Guberman, N. (2009). Creating and sustaining disadvantage: the relevance of a social exclusion framework. *Health and Social Care in the Community*, 17, 116-124.
- Hamilton, M.T., Healy, G.N., Dunstan, D.W., Zderic, T.W., Owen, N. (2008). Too little exercise and too much sitting: inactivity physiology and the need for new recommendations on sedentary behavior. *Current Cardiovascular Risk Reports*, 2, 292-298.
- Hobbs, N., Godfrey, A., Lara, J., Errington, L., Meyer, T.D., Rochester, L., et al. (2013). Are behavioral interventions effective in increasing physical activity at 12 to 36 months in adults aged 55-70 years? A systematic review and meta-analysis. *BMC Medicine*, 11, 75.
- Landi, F., Abbatecola, A.M., Provinciali, M., Corsonello, A., Bustacchini, S., Manigrasso, L., et al. (2010). Moving against frailty: does physical activity matter? *Biogerontology*, 11, 537-545.

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Lang, I.A., Rie, N.E., Wallace, R.B., Guralnik, J.M., Melzer, D. (2007). Smoking cessation and transition into retirement: analyses from the English Longitudinal Study of Ageing. *Age and Ageing*, 36, 638-643.

Maes, S., Karoly, P. (2005). Self-regulation assessment and intervention in physical health and illness: a review. *Applied Psychology and International Review*, 54, 267-299.

Mein, G.K., Shipley, M.J., Hillsdon, M., Ellison, G.T., Marmot, M.G. (2005). Work, retirement and physical activity: cross-sectional analyses from the Whitehall II study. *European Journal of Public Health*, 15, 317-322.

Moulaert, T., Biggs, S. (2012). International and European policy on work and retirement: reinventing critical perspectives on active ageing and mature subjectivity. *Human Relations*, 66, 23-43.

Organization for Economic Cooperation and Development. (2006). Study projects growing pressure on public health spending over and above effects of ageing society. Paris, France.
<http://www.oecd.org/topic/>

Sallis, J.F., Owen, N., Fisher, E.B. (2008). Ecological models of health behavior. In K. Glanz, B.K. Rimer, & K. Viswanath (Eds.), *Health behavior and health education: Theory, research and practice* (pp. 465-486). San Francisco: Jossey-Bass.

Schwarzer, R. (2008). Modeling health behavior change: how to predict and modify the adoption and maintenance of health behavior. *Applied Psychology*, 57, 1-29.

Short, C.E., James, E.L., Plotnikoff, R.C. (2013). Theory- and evidence-based development and process evaluation of the Move More for Life program: a tailored-print intervention designed to promote physical activity among post-treatment breast cancer survivors. *International Journal of Behavioral Nutrition and Physical Activity*, 10, 1214.

Slingerland, A.S., van Lenthe, F.J., Jukema, J.W., Kamphuis, C.B.M., Looman, C., Giskes, K., et al. (2007). Aging, retirement, and changes in physical activity: prospective cohort findings from the GLOBE Study. *American Journal of Epidemiology*, 165, 1356-1363.

Sprod, J., Ferrar, K., Olds, T., Maher, C. (2015). Changes in sedentary behaviours across the retirement transition: a systematic review. *Age and Ageing*, 44, 918-925.

Touvier, M., Bertrais, S., Charreire, H., Vergnaud, A.C., Hercberg, S., Oppert, J.M. (2010). Changes in leisure-time physical activity and sedentary behaviour at retirement: a prospective study in middle-aged French subjects. *International Journal of Behavioral Nutrition and Physical Activity*, 2010, 7, 14.

Troiano, R.P., Berrigan, D., Dodd, K.W., Mâsse, L.C., Tilert, T., McDowell, M. (2008). Physical activity in the United States measured by accelerometer. *Medicine & Science in Sports & Exercise*, 2008, 40, 181-188.

Van Cauwenberg, J., Van Holle, V., De Bourdeaudhuij, I., Clarys, P., Nasar, J., Salmon, J., et al. (2014). Using manipulated photographs to identify features of streetscapes that may encourage older adults to walk for transport. *PLoS One*, 9, e112107.

“Opinions Towards Physical Activity, Sedentary Behavior and Interventions to Stimulate Active Living During Early Retirement: A Qualitative Study in Recently Retired Adults” by Van Dyck D et al.

Journal of Aging and Physical Activity

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Van Cauwenberg, J., Van Holle, V., Simons, D., Deridder, R., Clarys, P., Goubert, L., et al. (2012). Environmental factors influencing older adults' walking for transportation: a study using walk-along interviews. *International Journal of Behavioral Nutrition and Physical Activity*, 9: 85.

Van Dyck, D., Cardon, G., Deforche, B., De Bourdeaudhuij, I. (2015). The contribution of former work-related activity levels to predict physical activity and sedentary time during early retirement: moderating role of educational level and physical functioning. *PLoS One*, 10, e0122522.

Van Roie, E., Delecluse, C., Opdenacker, J., De Bock, K., Kennis, E., Boen, F. (2010). Effectiveness of a lifestyle physical activity versus a structured exercise intervention in older adults. *Journal of Aging and Physical Activity*, 18: 335-352.

Vranken, J. (2001). Unravelling the social strands of poverty: differentiation, fragmentation, inequality, and exclusion. In H.T. Andersen & R. Van Kempen (Eds.), *Governing European Cities: Social Fragmentation, Social Exclusion, and Urban Governance* (pp. 71-91). Ashgate: Aldershot.

World Health Organization. (2006). Health topics. Ageing and life course. Geneva, Switzerland.
<http://www.who.int/ageing/en>

Table 1. Questioning route used in the focus group interviews

<p>1. Current PA/SB and changes during early retirement</p> <ul style="list-style-type: none">- Which types of PA do you do and why?- Have you become more or less active after you retired?- Which types of SB do you mainly do and why?- Did your SB change after you retired? <p>2. Determinants of PA/SB during early retirement</p> <ul style="list-style-type: none">- Are you aware of the current PA guidelines? Which guidelines do you know?- Which barriers prevent you from being active?- What are the main benefits you experience from being active?- How high is PA on your list of priorities in life?- Where are you mainly active and which environmental factors hinder or stimulate you to be active?- Are you willing to decrease your sedentary behavior? Why or why not? <p>3. Opinions about currently available PA programs for recently retired adults</p> <ul style="list-style-type: none">- Which PA programs and opportunities do you know here in Ghent and surroundings?- How do you know these PA programs and opportunities?- Why do you or don't you participate in the currently available programs/activities? <p>4. Ideas and advice about possible new PA interventions/programs for recently retired adults</p> <ul style="list-style-type: none">- Do you feel a need for new PA interventions/programs for recently retired adults?- What should be the focus of new PA interventions/programs? Which type of PA? Which concept?- How do you want to be informed about new PA interventions/programs?
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PA = physical activity, SB = sedentary behavior

Table 2. Main results of the focus group interviews

Theme	
Current PA/SB and changes during early retirement	<p>Current PA Walking and cycling (leisure-time and transport), swimming, fitness/home trainer Household-related PA and working in the garden</p> <p>Changes in PA during early retirement Depending on job and activity level before retirement</p> <ul style="list-style-type: none">- Active during leisure-time: still active after retirement, but PA scheduled at different moment because more time available- Insufficiently active during leisure-time (leisure-time + job): started with leisure-time PA after retirement- Insufficiently active during leisure-time, but busy/active job: inactive after retirement, well-deserved rest, time for intellectual hobbies <p>Current SB Meals, reading, TV viewing and computer use, courses Limited amount of car use</p> <p>Changes in SB during early retirement Decrease in car use Depending on former job</p> <ul style="list-style-type: none">- Active job: more sitting after retirement- Sedentary job: less sitting after retirement
Determinants of PA/SB during early retirement	<p>Knowledge of PA guidelines PA guidelines (10 000 steps, 30 min/day) are common knowledge Be as active as possible, taking into account physical limitations</p> <p>Barriers towards PA Weather, financial barriers Social barriers: lack of social support Age-related health barriers: fear for injuries, back pain, knee pain, stiffness, fatigue Lack of time Feeling that no tailored PA initiatives are available: too old for regular sports/PA, too young for PA for older adults Retirement as major life event: organization of life? No structure, difficult to fit in PA in daily life</p>

Theme

Benefits from PA

Physical and mental health benefits

Social benefits

Enjoyment, energy

PA on priority list

In search of overall balance, both mentally and physically

Important share for other priorities (food, enjoyment, intellectual challenges, family)

Sandwich generation: many people count on them

Environmental determinants (physical barriers)

Depending on type of PA

- leisure-time cycling/walking: many opportunities, few physical barriers (presence of industrial zones, dogs)
- transport-related cycling/walking: paving stones, tram rails, parked cars, poorly maintained sidewalks, dangerous crossings
- sports: importance of accessibility of and crowdedness in sports centers

More physical barriers in city center than suburbs

Motivation to decrease SB

Knowledge on negative effects of SB is lacking

No motivation to decrease SB

Currently available PA programs

Availability and problems/concerns

Sufficient opportunities (city, local health centers, fitness clubs, walking or cycling clubs), but not tailored to specific needs

Mainly opportunities for ‘typical’ activities, not for specific activities (e.g. nordic walking)

No tailored programs available: too young for local health centers, too old for regular PA programs

Young instructors: no feeling with target group

Organized PA programs: too expensive, tight schedule/obligation, too physically demanding

Communication

Magazines (city magazine), Internet, television, health insurances, indirectly (through friends, family)

Much information on Internet, but not easy to find: depending on technical knowledge and type of PA

Strengths

Special-prized season tickets for older adults: freedom to choose when they participate

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Theme

Some local health centers are vital and tailored to needs of recently retired adults

PA lessons in small groups: personal approach

Ideas about possible new PA interventions

Need for new interventions

Diverse opinions: satisfaction with current PA opportunities versus feeling that no appropriate PA initiatives are available, disappointment

Focus

Discussion point: individual differences in needs: alone versus structured PA, mixed age groups based on PA level versus only recently retired adults

Informal (e.g. season tickets), no competition

Experienced instructors with knowledge about needs and problems of target group

Challenges

Reaching inactive adults

Approach of local and federal governments is too compulsory (people have to be active): adverse effects

Diverse target group, difficult to find ideal solutions, many different needs and wishes

Preferred communication

City magazine, indirect communication (friends, family), general practitioners, health insurances

Tailored brochure at start of retirement

Not: email, flyers, mass media

Difficulty: each communication channel has (dis)advantages

PA = physical activity, SB = sedentary behavior