

Exploring physical activity changes and experiences of older adults living in retirement villages during a pandemic

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Abstract

Objective: To explore physical activity changes and participation among physically active older adults living in retirement villages during the coronavirus (COVID-19) pandemic.

Methods: Semi-structured interviews were conducted over the telephone. The interviews were recorded and transcribed verbatim. Reflexive thematic analysis was conducted.

Results: Seventeen older adults were interviewed, and they engaged in many types of physical activity before the COVID-19 lockdown. During the COVID-19 lockdown, the most common physical activity that older adults participated in was walking. Mental well-being and socialisation were affected during the lockdown, with older adults employing several strategies to help them cope.

Conclusions: During the COVID-19 pandemic, physically active residents of retirement villages maintained their physical activity, but with reduced intensity and variety. In some cases, this impacted their mental and physical health. Physical activity resources aimed at facilitating diverse and sufficiently intense physical activity may benefit this group, and others.

KEYWORDS

ageing, coronavirus, exercise, qualitative research

1 | INTRODUCTION

The 2019 coronavirus (COVID-19) was declared a worldwide pandemic on 11 March 2020.¹ Older adults were identified as most susceptible to infection by coronavirus (COVID-19)² and were advised to practice physical distancing to minimise the risk of contracting COVID-19.

Physical distancing consists of minimising physical interactions between people.^{3,4} Older adults practicing physical distancing may make changes to their lifestyle routines, including reducing the number of social activities they participate in outside the home and modifying or curtailing the type of physical activity (PA) they undertake during these periods of lockdown. Lockdown is defined

as the enforcement of strict restrictions on social interaction, entry to public areas and travel.⁵ In addition, there are reduced opportunities to be physically active in organised group activities due to the closure of fitness and sports facilities. Consequently, these changes and the closure of facilities could increase sedentary behaviour among older adults. Sedentary behaviour increases the risk of depression,⁶ mortality and major chronic diseases⁷; therefore, any reduction in PA could have negative effects for older adults during this pandemic.

A previous qualitative study revealed that attendance at a group-based PA program declined during the COVID-19 pandemic.⁸ The authors also reported that older adults understood the necessity to continue PA at home while isolating and they were unaware and not interested in using online PA videos.⁸ Therefore, there is a need to better understand whether and how older adults continued to be physically active during this pandemic, identify PA that interests them while they are practicing physical distancing, and how they managed other constraints (eg closure of exercise facilities and cancellation of group PA) associated with COVID-19 restrictions.

Some older adults choose to live in retirement villages as they age. An estimated 5.7% of Australians aged older than 65 years have transitioned to live in a retirement village.⁹ A retirement village is a housing environment built to support older adults who are generally independent with easy access to social activities and communal facilities (eg hall),⁹ and on site security. Exploring residents' perspectives and experiences will help us understand how they can be better supported to live healthy and independent lives should another pandemic arise. Limited research to date has focused on understanding the experiences of older adults during the pandemic and the impact it has had on their PA participation. Therefore, the present study aimed to explore the PA experiences of older adults living in retirement villages during a pandemic (COVID-19).

2 | METHODS

The COnsolidated criteria for REporting Qualitative research (COREQ), which consists of 32 criteria designed for interviews,¹⁰ was followed when reporting the findings of this study.

2.1 | Study design

This was an exploratory qualitative study that took a phenomenological approach using semi-structured interviews.¹¹ The underlying focus of our study was to explore the lived experiences of older retirement village residents and how COVID-19 has affected their PA experiences.

Practice impact

Older adults continued to engage in physical activity during COVID-19. However, the intensity and nature may have been insufficient to gain/maintain health benefits. Our findings may guide health-care services and retirement villages to develop and implement integrated resources to promote adequate intensity and dose of physical activity during future pandemics.

2.2 | Participant recruitment and study setting

Participants were recruited from a convenience sample of older adults who lived in two retirement villages in Perth, Western Australia, who had participated in a previous research (validation) study and gave approval to be contacted for participation in future research. The recruitment process was completed by the lead researcher, NYL, from 4 June to 24 June 2020. Participants were contacted by phone, and if they were interested in participating, they received further information about the research (ie information sheet including a summary, purpose and reasons for doing the research) via email. Participants sent back a statement of consent to confirm voluntary participation if they were interested, and the date for an interview was arranged. Inclusion criteria were as follows: adults aged 65 years and above, able to ambulate independently with or without a walking aid (self-reported), able to understand and speak English, and participated in at least 30 minutes of moderate-intensity PA on at least 2 days a week before the COVID-19 outbreak. In addition, because of recruitment being linked to the previous retirement village study, all participants were living in retirement villages.

2.3 | Data collection

All interviews were conducted over the phone due to government-recommended COVID-19 restrictions, and the conversations were audio-recorded. Demographic data were collected, and an interview guide was used to lead the initial questions, where required additional questions were asked (see Appendix S1). The interview questions were presented in everyday language, were easy to understand and were rephrased when required. Written comments were also made by the researcher during the interview. Interviews were conducted until no new information was obtained (ie

saturation), and this was estimated as likely to occur between 16 to 24 participants.¹² Steps were taken to minimise researcher bias including proper sequencing of the questions asked (ie general questions were asked first followed by more focused questions about COVID-19), avoiding using words or asking leading questions that could initiate bias, asking questions using neutral tones and analysing all the data collected. NYL was supervised by EB, an experienced qualitative researcher throughout the data collection process. None of the researchers had any role or occupation at the retirement villages.

2.4 | Data analysis

Two independent researchers used Braun and Clarke's six phases of reflexive thematic analysis to analyse the data.^{13,14} Reflexive thematic analysis was selected because it is a suitable method of sharing the content of the interview, identifying patterns of the data and presenting interpretation of the data.¹⁵ An inductive approach was adopted whereby the analysis was based on the 'meanings in the data'.¹⁶ Each interview transcript was read and re-read to increase familiarisation with the data. Data were transferred to Excel to assist in the display of data and to easily examine patterns.¹⁷ Relevant words and phrases were highlighted across each interview and then allocated a relevant code. Codes with the same meaning were then grouped to form themes. These themes were organised into sub-themes. To improve trustworthiness, the findings from the two researchers were compared and collated before being sent to a third researcher for review.¹⁸ A concept map was developed to understand the relationship among the themes in relation to the research question using Draw.io online diagram editor. Concept maps are used to organise concepts (in this case the themes) and establish relationships between concepts.¹⁹ All authors provided feedback and adjustments prior to confirmation of the concept map.

2.5 | Ethical approval

Curtin University Human Research Ethics Committee approved the research (Approval Number: HRE2020-0271). All participants provided a statement of consent sent through email, and consent to participate was also audio-recorded before participation in the study.

3 | RESULTS

3.1 | Participant demographics

Nineteen participants were contacted. Two participants declined to participate due to lack of interest. Seventeen participants were interviewed and reached data saturation.

TABLE 1 Characteristics of participants

Variable	Participants (n = 17)
Age [M (SD) years]	75 (4) years
Sex [male n (%): female n (%)]	5 (29%): 12 (71%)
Highest education level attained [n (%)]	
High school	9 (53%)
Higher education (university and others)	8 (47%)
Living arrangements [n (%)]	
Home alone	7 (41%)
Home with partner	10 (59%)
Self-rated general health [n (%)]	
Poor	0 (0%)
Fair	0 (0%)
Good	5 (29%)
Very good	8 (47%)
Excellent	4 (24%)

Abbreviations: %, percentage; M, mean; n, number of participants; PA, physical activity; SD, standard deviation.

The duration of the interviews ranged from 13 to 54 minutes. The characteristics of the participants are shown in [Table 1](#).

3.2 | Reasons for doing PA

Participants talked about the importance of PA participation to their lives. More than half of the participants were physically active to maintain their health and fitness. *'We know that we've got to keep moving, if we don't you're just going to sleep and fade away, that's sort of a motivation I suppose, and the other motivation is that the healthier, the fitter you are, the less likely you are to get other stuff or things wrong with you'* (Participant 6) and *'It's very important for physical health and for mental health'* (Participant 14).

A few participants undertook PA to maintain their weight. *'I don't want to put on a lot of weight'* (Participant 5) and *'I really need to do, not strong exercise but some exercise, to keep my weight down'* (Participant 15), while others emphasised that performing PA helped to maintain their functional independence. *'It means being able to do things, go out walking, stay at home and do what I need to do at home'* (Participant 4) and *'To keep myself more agile so that I don't fall over'* (Participant 11).

Positive experiences were reasons for ongoing engagement in PA. Many expressed enjoyment while performing PA. *'It's a way of keeping healthy. I enjoy the walking and the exercise generally and mostly it's just to maintain my health levels'* (Participant 3) and *'I enjoy activities because I usually do them outside, in the*

fresh air'. (Participant 11). Some spoke about 'feeling good' after completing their PA. 'I found it really makes me feel happier and I felt my body felt stronger' (Participant 2) and 'PA is very important to me. I always feel good after I have done PA' (Participant 1).

3.3 | Concept map

A number of themes and sub-themes were developed from the interview data (Figure 1).

3.4 | Types of PA before the COVID-19 pandemic

Walking was the most common type of PA performed by all the participants. In addition to walking, all participants performed different types of PA each week (Table 2). The different types of PA included aerobic PA such as water-based activity or cycling, a few also participated in strengthening exercises at the gym. Some of the participants performed PA alone such as home exercises or in a group such as dancing.

3.5 | Types of PA during COVID-19 lockdown

All participants continued their outdoor walking and could walk with one other person during the lockdown; however,

they needed to physically distance while walking (ie walk 1.5 m apart). Almost half of the participants increased their duration of walking:

During that time and during the lockdown, because we had more time we were walking probably twice a day so we did more walking, during the shutdown because we weren't having to go, we go each afternoon to pick our grandchild from school so instead of doing that we go for another walk.

(Participant 6)

A few of them took up home exercises:

I've actually made or saved two litres of milk cartons you know those plastic bottles two of them I filled up with yellow sand and the other two I fill up with water and I actually use those as weights to do my upper body arm exercises.

(Participant 9)

A few participants did home and gardening activities. 'Keeping active like keeping busy within the house or outside' [housework and gardening] (Participant 11). All other PA was stopped due to cancellation of group PA (ie dancing) and closure of leisure or exercise facilities such as water-based PA, sports, gym and the opportunity shop ('op shop') (ie a shop selling second-hand goods operated by participants for charity).

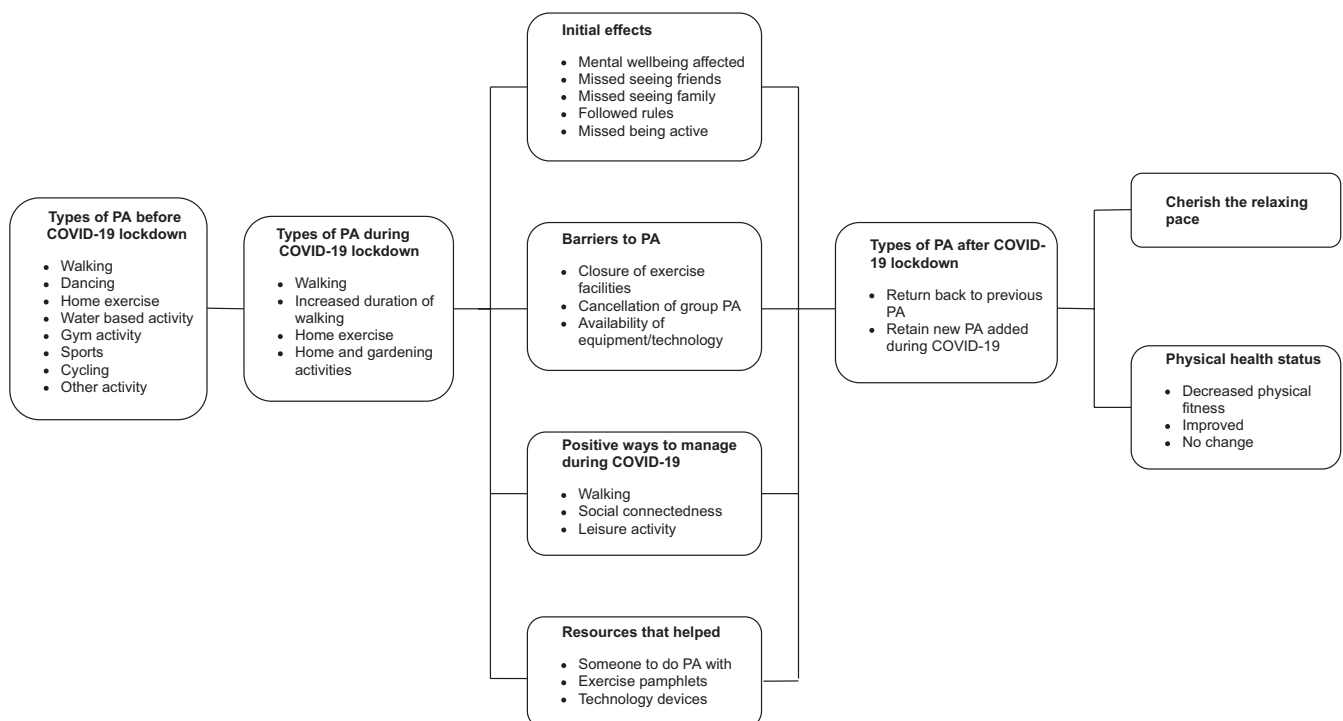


FIGURE 1 Concept map of the data

TABLE 2 Types of PA before the pandemic

Sub-themes	Quotes
Walking	I go for a walk through the village which could take anything from 20 minutes to an hour (Participant 9)
Dancing	Line dancing once a week here in the auditorium, and then before covid, we were going dancing every Thursday evening at a hall, that's new vogue dancing, which is like English sequence dancing (Participant 6) I've enjoyed the social side of physical activity with other people such as line dancing (Participant 16)
Home exercise	I wake up in the morning, I do about 20 minutes or so of exercises mainly stretching and flexibility exercises (Participant 1) I do a little bit of weight lifting but not for very long (Participant 10)
Water-based activity	I go with my two neighbours. Do a little bit of swimming, but mainly walking (Participant 17)
Gym activity	Before the pandemic, I went to the gym three times a week (Participant 13)
Sports	Play table tennis for with [husband] and myself for about 50 to 60 minutes a day (Participant 8) Croquet, though I don't know if you call it that. You hit the ball with a mallet from a hoop (Participant 5) I just did the lawn bowls (Participant 2)
Cycling	Cycling is, we stay in the same suburb, we just go cycle around (Participant 12)
Other activity	The op shop might. That's because I am lifting something (Participant 4) I deliver the mail around the village it's walking but it's a regular activity and that's usually about between half an hour each week (Participant 6) I do all the housework ...mostly I do most of the housework, vacuuming, mopping the floors or that I do the cooking to me that's all activity (Participant 11) But if I go to the workshop, I um, there's all sorts of things I do in the workshop. I'll be changing tyres on the car or changing the oil on the car or greasing up the car or and all that sort of physical stuff (Participant 12) I do gardening, I water my garden most mornings (Participant 14)

3.6 | Initial effects of being in lockdown

Decreased mental well-being was a commonly mentioned effect of the COVID-19 lockdown for these participants. Words used to describe their feelings were 'caged up', 'concern and worried', 'isolation', 'restricted', 'shut us out', 'prisoner in your own home', 'go mad', 'lonely' and 'boring'. One participant said 'A little bit, probably mentally and, mentally, on it, caged up inside. We're not used to being caged up inside all the time and staying home all the time' (Participant 4). Most participants also missed seeing their family; 'I would love to see my grandchildren and my children' (Participant 2) and friends (including friends who they do group PA with):

After prime movers... sometimes some of us ladies go and have a coffee at the park centre. We go and have a coffee together at the café.... so, not doing that, I don't like not doing that because I missed, I have missed the social interaction with the other ladies.

(Participant 7)

Following government rules were important to some of the participants:

Well, at the beginning of the COVID, we were all told to stay in your home and being a good citizen that's what I did. I might've gone outside into my

veggie garden, but I might've stayed at home and not even going for walks.

(Participant 9)

A few of the participants missed performing PA:

Not walking at all was really hard. Even the days that we have, now when it's raining. It's really hard. I sort of missed the walk. Because we have gone into the routine of doing this walk everyday now. It's really good. Whereas, before, we thought well, it doesn't really matter, it matters somehow. I don't know why.

(Participant 4)

The effect of not being able to undertake PA they were previously doing before COVID-19 appeared to be less of a concern to the participants because (a) they were doing other activities at home; 'We make sure that I kept busy, we sorted a lot of old paperwork and we sorted other things and I caught up on some sewing and things like that' (Participant 11); (b) some of them increased their duration of walking; 'Well the walking, during COVID, I started doing a lot more walking. Then I started walking with a friend in the building. If I go with her, we do a long walk, usually 10,000 steps' (Participant 1); and (c) a select few took up other types of PA such as home exercise; 'I was feeling a bit sad or miserable you know and then as soon as I introduced my exercise [home exercise] because I heard it then a lot of times that exercise was good you know for your well-being,

and then as soon as I started exercise, I felt good as I used up some energy that I have, so it's really improved my well-being, that's definitely so' (Participant 2).

3.7 | Barriers to being physically active

The commonly cited barriers to participating in PA were as follows: (a) closure of exercise facilities; 'I couldn't do the pool because it was closed' (Participant 17); and (b) cancellation of group PA; 'Prime movers came to a stop... and we were not allowed to go and play table tennis, dancing also stopped' (Participant 7); and (c) lack of technology or equipment; 'The exercises I do at home are fine, but they are not the same as doing it at Fremantle. Well, obviously the machinery that you use, I haven't got in the house here, but mostly it's available at Bentley and in the gym there' (Participant 3).

3.8 | Positive ways to manage during COVID-19

There were numerous strategies participants undertook to help them feel better during the height of the pandemic. The majority cited **walking** helped them evoke positive emotions. 'At the beginning, I thought they would try to confine over 65s at home and I used to creep out early and do my walks, so I didn't... I kept it up I thought I'd go mad otherwise' (Participant 10). Another popular strategy was maintaining **social connectedness** with their friends and family. 'If we have a cup of coffee with the neighbours, we all sit, we have been sitting in our driveways and a metre and a half apart' (Participant 11). Some participants pursued their **leisure activity** at home. 'I did lots of sewing, made a couple more rugs, did cross stitch and quite a lot of crafts, crafty things that you don't get a lot of time for otherwise' (Participant 6). Leisure activities are activities pursued for pleasure, and some examples provided by the participants were dot the dots, sewing, patchwork and reading.

3.9 | Resources that helped during COVID-19

Some of the resources that helped the participants to continue being physically active were as follows:

- (i) someone to do PA with; 'I walked because my partner is far more disciplined, so I walked with him and once I've done the walk I feel much better' (Participant 11);
- (ii) provision of exercise pamphlets from health professionals; 'Book was called 'Encouraging People Aged 65 Years and Over to Participate in Strength Training' and 'it's got

the workout menu from home and I found that this was invaluable for me, to be honest' (Participant 2); and (iii) technology devices such as Wii and Fitbit; 'I think the wii is excellent, because it's fun andespecially the things like tennis, when I was playing against the wii, it used to knock me right out. Really puffing after. I think the wii is excellent, although I presume there's other things like the wii that you can do' (Participant 3).

3.10 | Types of PA after the COVID-19 lockdown

There were mixed responses by the participants about their future plans. The majority of the participants suggested they would embark on all the PA they were previously doing before the lockdown. 'Go back to doing the same things [table tennis, cycle, dancing, line dancing, walking]' (Participant 8). A few also suggested they would keep doing the PA they added as well. 'Just doing the bowls, but I just want to keep doing the exercise [home exercise] because I could feel the difference that is, the well-being for me' (Participant 2).

3.11 | Cherish the relaxing pace

Over a third of the participants enjoyed the time they had to themselves at home, and they felt the pace of life had slowed also. Some of the words used to describe their emotions with their newfound pace were 'peace and quiet', 'happy to stay at home', 'refreshing and relaxing', 'don't have to be out and about all the time' and 'relaxed'. One participant said:

I think I'm a little bit stressed over, a bit less stressed over deadlines. I find that before the pandemic I must do something by, I must have my breakfast early in the morning, I must be up and ready early. Now, I'm a lot more relaxed than with those types of time. Although I'm retired and it didn't matter really, but I think all the years of having to be ready and early. I've now shed that a little bit, I now take a cup of tea back to bed and read the paper which I would never dream of doing before [laughter].

(Participant 16)

3.12 | Physical health status

There were mixed comments about the effects of the COVID-19 lockdown to the health of the participants. Almost half of the participants noted that there was no change to their physical health. 'No, I didn't notice any

change at all' [physical health] (Participant 6). Over a third of the participants described a decrease in their physical fitness such as strength, endurance, flexibility or energy levels. 'Well, I know when I got back to tennis I wasn't as sharp' [laughter] (Participant 5). A small number of participants emphasised that their physical health improved. They substituted their usual PA with exercises they could do on their own such as home exercises, and increased the duration of walking and frequency of stair climbing to maintain their fitness. 'It definitely improved my balance a lot and I can feel it and I also have a little bit of sciatica on my left side and that actually seems to have gone since I started the exercises [home exercise]' (Participant 2).

4 | DISCUSSION

The findings of this study indicate that older adults followed public health advice during COVID-19 and performed PA when it was safe to do so while adhering to physical distancing recommendations. This concurs with a previous study reporting older adults performed some PA during lockdown.²⁰

Participants recognised PA as important to maintain health and fitness, weight and evoking positive experiences. The participants perceived benefits of PA could explain their behaviour of continuing their PA during COVID-19 lockdown, and could be supported by the health belief model. The health belief model is one of a number of models proposed to explain the factors influencing maintenance and change in health behaviour.²¹ One of the factors was that an individual's beliefs regarding the benefits of their actions (in this case the benefits of PA) will influence their behaviour,²¹ which align with the findings of our study.

All participants engaged in light or moderate-intensity PA such as walking, gardening or housework during COVID-19 lockdown. Due to the cancellation of group activities or closure of exercise or leisure facilities, they engaged in fewer formal PA options and over a third of the participants commented that there was a reduction in their physical health (ie strength and fitness) after COVID-19 lockdown. This seemed particularly noticeable for those that had participated in strength training at a gym. This suggests that the intensity and nature of PA performed by participants during lockdown may have been insufficient. It also appeared that the majority of participants did not do enough multimodal types of PA (ie balance, resistance and cardiovascular) as recommended by the Australian PA guidelines.²² Therefore, should another pandemic arise it is recommended that resources and public health messages focus on (a) assisting older adults to engage in sufficient intensity and a variety of PA or exercise to maintain their health and fitness and (b) introducing additional health promotion campaigns to encourage older adults to be physically active.

The majority of participants stated that their mental well-being and social connectedness were affected (ie missed seeing their family and friends face-to-face). Older adults surveyed in the United Kingdom also reported missing face-to-face contact.²⁰ However, participants appeared to be resourceful and coped well by employing a variety of strategies. Increased Internet use via chat software such as Skype during the pandemic²³ may have helped participants maintain social connectedness. Going for walks may also have helped promote better mental well-being²⁴ among the participants. In addition, performing PA outdoors can improve mood,²⁵ and there are potential benefits associated with sunlight exposure (ie source of vitamin D).²⁶ Engagement in leisure activities improved the mental health of the older adults,²⁷ although not offering the same physical health benefits as PA.

A number of resources helped the participants to continue being physically active during the pandemic. Support from another person was an important motivator for PA before the pandemic²⁸ and appeared to continue motivating the participants (ie the current study) during COVID-19. Exercising at home has been suggested to minimise the health consequences of sedentary behaviour during the pandemic²⁹ and was noted by a few of our participants. In addition, exploring and promoting a diverse range of PA opportunities that are available, even within the constraints of a pandemic, are important in maintaining PA.³⁰ There have been a number of websites and other resources that have been developed during the pandemic to support older adults to take up and continue PA that are COVID-safe. These are primarily within the home environment and also cover issues of safety during PA, motivation, starting levels for exercise and exercise progression (<https://safeexerciseathome.org.au> and <https://facebook.com/SielbleuIreland>). There have also been suggestions of increased PA participation through some of the media messaging to maintain health (eg one of the main reasons for being allowed outdoors was for exercise in some jurisdictions).³¹ These findings offer valuable insights to retirement village managers and local governments about the type of health promotion resources that may support older adults during a pandemic.

An interesting finding of our research was that over a third of the participants valued the time they spent at home during COVID-19, that their pace of life was reduced and that this was perceived as a positive outcome. This result may be due to reduced family expectations (ie picking up grandchildren from school) and more time to pursue their hobbies at home such as reading during the COVID-19 lockdown. This has not previously been described in other research investigating PA in older adults during a pandemic and may need to be explored in future research, from both a physical and mental health perspective.

The findings of this study provide valuable insights about the experiences of a group of older adults who were generally physically active before COVID-19 and managed to continue

being active during the pandemic. Further research is needed to explore the PA experiences of older adults who are frailer or less active and how they responded to lockdown and maintaining PA. It remains an important goal for researchers and practitioners to find approaches that encourage more older adults to meet PA guidelines regardless of their health status. This may include having information and resources readily available to support PA participation during challenging times such as pandemics.

4.1 | Strengths and limitations

The strength of this study is that we interviewed older adults who were actively engaged in different types of PA before and during COVID-19. One of the limitations of this study was the lack of diversity in the sample recruited and that older adults living in a retirement village may encounter different issues to older adults living in the wider community. Data saturation was met; however, findings could differ for those less physically active prior to or during COVID-19. The phrasing of the questions about the effects of COVID-19 on physical and mental health may have influenced the participants' answers during the interview. In addition, not using a standardised questionnaire (such as Physical Activity Scale for the Elderly (PASE)) to measure PA intensity, types and duration limited us from quantifying and comparing our findings with other studies.

4.2 | Future research

Future research should explore the experiences of older adults living in their own homes in the wider community, particularly in those who are living alone, those who are frail and/or those who are sedentary or underactive, because they may have differing needs, and require different supports or resources during a pandemic.

5 | CONCLUSIONS

Although not as intense or of the same variety prior to lockdown, older adults continued engaging in PA during the pandemic while practising physical distancing and following public health recommendations. If pandemic-related lockdowns persist or occur again in the future, our findings indicate the potential value of promoting a variety of sufficiently intense PA that can be undertaken within the home to maintain physical and mental health and fitness. It may be beneficial for retirement villages and/or health-care services to consider developing resources collaboratively with their residents and/or older adults in the community that meet the

needs of the older person (eg incorporating types of PA that can be performed with another person, home-based) and the recommended PA targets (eg variety, intensity and dose). This would facilitate PA to continue through any future pandemics and cater to all stakeholder needs.

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CONFLICTS OF INTEREST

No conflicts of interest declared.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

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