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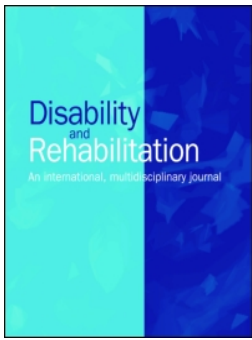
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RESEARCH PAPER

## Understanding physical activity in the group home setting: a qualitative inquiry

Alicia Dixon-Ibarra<sup>a</sup>, Simon Driver<sup>b</sup>, Kerri Vanderbom<sup>c</sup> and Kathleen Humphries<sup>d</sup>

<sup>a</sup>College of Public Health and Human Sciences, Oregon State University, Corvallis, OR, USA; <sup>b</sup>Baylor Institute for Rehabilitation, Baylor University Medical Center at Dallas, Dallas, TX, USA; <sup>c</sup>School of Health Professions, University of Alabama Lakeshore Research collaborative, Birmingham, AL, USA; <sup>d</sup>Institute on Development and Disability, Oregon Health and Sciences University, Portland, OR, USA

### ABSTRACT

**Purpose:** Persons with intellectual disabilities have low physical activity levels and high rates of chronic disease. One predictor limitedly explored is the home environment, which could influence the type and amount of physical activity in this population. The purpose of this study is to qualitatively explore physical activity in the group home setting and determine what key stakeholders want from a physical activity programme. **Method:** This study adopted a qualitative descriptive design, using semistructured focus groups. Twenty stakeholders (i.e., residents with intellectual disability, support staff and programme coordinators) participated in one of three focus groups, separated by stakeholder status. **Results:** A number of factors emerged that would assist rehabilitation professionals in understanding physical activity within the group home setting. The following six meta-themes were identified: nature of residents' physical activity, facilitators to physical activity, barriers to physical activity, personal factors, organizational factors and solutions to increase physical activity. **Conclusions:** Findings suggest that residents with intellectual disabilities have low physical activity and opportunities for participation. Key attributes of the group home setting were identified between barriers and facilitators to activity. Consideration for the development of physical activity programmes should focus on the unique needs of the group home setting as expressed by stakeholders.

### ARTICLE HISTORY

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### ► IMPLICATIONS FOR REHABILITATION

- Physical activity can improve physical fitness, function, and community participation yet physical activity remains low among adults with intellectual disabilities.
- Understanding physical activity within the group home setting is essential to develop targeted interventions to increase activity within that environment.
- Key barriers for physical activity within the group home setting include; operational priorities, limited staff, staff turnover, busy schedules, and staff attitudes towards physical activity.

## Introduction

According to the administration on developmental disabilities, there are ~4.5 million people with developmental disabilities in the United States, with intellectual disability being the most common (2.5 million).[1] Adults with intellectual disabilities are at an increased risk of certain health conditions and injuries, including cardiovascular disease, obesity, osteoporosis, falls and fractures, mental health disorders, and musculoskeletal conditions.[2–4] Physical activity has vast benefits for persons with intellectual disabilities, including the reduction of chronic disease and risk factors mentioned earlier. Specifically, physical activity reduces risks of cardiovascular disease, cancer, controls body weight, improves/maintains bone density and improves functional and mental health status.[5,6] Persons with intellectual disabilities' may receive additional benefits from physical activity, including gains in longevity, older age quality of life, increased functional capacity, increases in muscular strength and improved balance.[7] An emphasis on addressing obesity and related chronic and secondary conditions through physical activity is a focal point in multiple national initiatives including the Centers for Disease Control report on obesity for those with disabilities,[5] Healthy People 2020,[8] and two

Surgeon General's Reports to improve the health of persons with disabilities.[9,10]

Despite the documented benefits of being active, a recent study showed that adults with intellectual disabilities spent 6–8 h in sedentary activity across the day with only 6% of older adults with intellectual disability (50 years and older) and 13% of younger adults (18–49 years) with intellectual disability meeting activity recommendations.[11] This is particularly low when compared to a national estimate of 52% of the general population meeting recommended activity guidelines of 150 min per week of moderate intensity activity.[5] To further understand the physical activity patterns of adults with intellectual disability, the following eight studies examined activity according to current published recommendations of 30 min of moderate activity on most days of the week or 10,000 steps per day guideline.[12–19] According to Stanish, et al. (2006) review article, there are large variability in the following eight studies. Based on these findings, they concluded that less than one-third of the population engages in sufficient enough physical activity to receive health benefits.[20] Not only are those with intellectual disabilities not meeting national recommendations for physical activity, they are also demonstrating preferences for sedentary

behaviours.[11,21] This is a concern because large amounts of sedentary behaviour can be detrimental to health. Sedentary behaviours have independent side effects on health.[22] Research demonstrates that sedentary behaviour is a predictor of chronic disease, especially for type-II diabetes and cardiovascular disease.[23]

Physical activity participation for those with intellectual disability is influenced by an interplay of factors. One essential determinant of health for those with intellectual disability is the home environment. The home environment plays a role in physical activity behaviour for many with intellectual disability, because these individuals depend on their supports for routine activities of daily living.[24] Rimmer and Rowland (2008) further emphasized that the environment can exacerbate secondary conditions through discouraging or preventing participation in health promoting activities.[25] This is true of those with intellectual disability whose environments are often structured by their supports.[25] Krahn et al., (2006) also describes that residential settings supporting inactivity and poor nutrition is a factor that contributes to the observed poor health of those with intellectual disability.[24]

One environment that has been limitedly explored in relation to physical activity behaviour is the group home setting. The group home setting is a dominant form of residential accommodation for persons with intellectual disabilities.[26] Group homes are a licensed community residence facility that provides a home-like environment for four to eight related or unrelated persons with an intellectual disability, where extensive or pervasive paid staff are provided within the home and community-based settings.[26] The main group home stakeholders, although names may differ for a given agency, include group home managers, programme coordinators, support staff and residents. For the nature of this research, we define programme coordinators as persons who manage the individual group home houses. They provide training and on-going supervision to support staff who work one-on-one with the residents. A support staff is an individual who is paid to provide care and personal assistance to a person with an intellectual disability in the group home and community setting. Residents have diagnoses of various forms of intellectual and developmental disability who need supports that are provided in the group home setting.

There are currently no physical activity programmes tailored for the group home environment. One particular reason for insufficient programming may be due to our lack of understanding of what physical activity looks like and what specific barriers are faced by group home residents and staff. Gaining additional information about this health behaviour and its barriers/facilitators is a necessary step to finding effective ways for rehabilitation professionals to intervene within this environment.

Focus group methods provide a way to hear the voices of the group home stakeholders to obtain multiple perspectives on physical activity in this setting. Therefore, this study aims to qualitatively examine physical activity within the group home setting by conducting three focus groups to hear perspectives of residents with intellectual disability, support staff, and programme coordinators. Results of this study will provide critical information on how to implement activity programmes to fit the needs of the group home environment.

## Methods

### Recruitment

Participants were recruited from three group home agencies in the western United States that provide 24-h support for residents with intellectual and developmental disabilities. Inclusion criteria for residents were 18 years and older with mild-to-moderate intellectual

disability, verbal communication skills to actively participate in a group discussion and reside in a group home. Secondly, criteria for the support staff were 18 years and older and paid to provide 10 h per week or more of care and personal assistance to a person with an intellectual disability within the group home setting. Finally, inclusion criteria for programme coordinators were 18 years or older and manager of group home houses. Various group home environments were represented in the focus groups as the residents, staff and programme coordinators were not recruited from the same group home sites. Prior to participating in the focus group discussions all participants signed an informed consent approved by a university institutional review board.

### Data collection

Semistructured focus groups with the three stakeholder groups were conducted. The stakeholders were separated into three groups being sensitive to their positions within the group home setting: (group 1) residents with intellectual disability, (group 2) support staff and (group 3) programme coordinators. The smaller groupings provided opportunity for elaborating on ideas generated by others.[27] Moreover, the participants were able to freely express their ideas without undue pressure from their superiors, because each of the focus groups were held at different times and superiors/direct care staff were not present during the discussion. The lead author outlined that the focus group discussions would be private, no debriefing to group home directors or supervisors would occur and no reference to them personally or their group home would be made in publications or reports. Residents were informed that what they said during the discussion would not be repeated to their staff or caregivers.

Each group met with the focus group moderator, lead author, for 60–90 min. A note-taker was present to assist the moderator and take note of the discussion documenting each speaker's name with a note on their comment for later identification of speaker identity on the recording.[28] This person did not actively participate in the discussion.

The focus groups involved the moderator facilitating discussion through a series of guided, open-ended questions created to simulate discussion. The order of the questions began with basic questions about physical activity (e.g., what physical activities do you participate in? residents). Following basic questions, the residents answered additional questions about what they liked/disliked about physical activity, who they did activity with, how does physical activity make you feel, etc. Additional questions about the operations of the group home system were asked to staff and programme coordinators. Questions were created based on the following constructs: (1) values, (2) operations and (3) content. Value-driven questions explored participants' attitudes, intention and expectations of physical activity within the group home setting. Example questions include: How much (what kinds) of physical activity do you expect residents to do? (staff and programme coordinators); what types of physical activities do you enjoy (dislike)? why do you like (dislike) them? what activities would you like to do in the future? (residents). Operation-driven questions served the following two functions: (1) examine the overall operations of the group home system and (2) explore resources and opportunities for physical activity in the community and within the group home. Example questions include the following: How is physical activity planned within the group home schedule? (staff and programme coordinators); What kinds of training or support is available to you to promote the physical activity of the residents (staff and programme coordinators); What types of physical activity do the residents perform? In the community? (staff and

Table 1. Focus group participant characteristics.

	Residents <i>n</i> = 6	Support staff <i>n</i> = 8	Programme coordinators <i>n</i> = 6
Age, range	26–65	20–28	20–54
Sex, <i>n</i>			
Male	5	2	2
Female	1	6	4
Years worked in group home, mean (range)	N/A	4.16 (0.75–8)	6.75 (1–20)

programme coordinators); Do you ask your staff if you can join a gym, attend a fitness class, go on a walk? If no, why do not you ask to do these things? (residents). Content-driven questions examined current physical activity knowledge and explored barriers and facilitators for physical activity. Example questions include: Tell me about your physical activity? (residents); Why do you do physical activity? (residents); Who performs physical activity with you? (residents); What kinds of physical activity do the residents perform? (staff and programme coordinators); What things are limiting physical activity for the residents? (staff and programme coordinators). All the questions were approved by the IRB and were created at an education level to meet the needs of the residents and stakeholders. This required a separate moderator guide for residents.

Prompts were used to elicit further information from stakeholders. Each participant was prompted to answer the questions to gain participation from all individuals in the focus group. However, as normal with focus groups, the amount of information that came from each person varied.[29] The discussions were held in a private conference room area at a local group home agency, and thus, it was familiar to the stakeholders. The focus groups were audio-taped.

### Transcription and management of data

Following the discussions, the first and second author transcribed the recordings verbatim. All identifying information was removed and replaced with participants' first name initial. The transcripts were checked with the note-taker's records to ensure the participants' identity on the recording.

### Data analysis

Three coders read the transcripts numerous times creating notes.[30] After reading the transcripts multiple times, the research team began highlighting phrases and coding them with meaningful labels (i.e., nature of physical activity, physical activity barriers, etc.). We generated codes inductively from the data, which involved going through the data minutely (i.e., line by line), providing many categories to the responses.[31] For developing codes, we used individual themes as the unit of analysis, rather than the physical dialectal units (e.g., word, sentence or paragraph). This involved assigning codes to sentences or larger portions of text that represent the individual's thought. Notes were taken throughout the process as memos for theme development.

After independently coding the transcripts, the team reviewed the transcripts minutely comparing labels/codes to determine if they should belong to an existing label or be included as a separate code entirely.[32] Any discrepancies in codes were reviewed until an agreement was made.

### Trustworthiness

To gain multiple perspectives of the group home setting, three separate focus groups were held to obtain site triangulation. By having the three stakeholder groups participate, we were able to

see multiple perspectives of the group home environment and how physical activity was perceived by the different groups.

The plausibility of the findings was enhanced through investigator triangulation.[31] The first three authors comprised the research team that coded the transcripts. Each person in the team had either an advanced degree in adapted physical activity, experience working with rehabilitation populations, familiarity with the group home setting, and/or worked with adults with intellectual disabilities to promote physical activity.

Following the final draft of the themes, a critical friend was used to examine the developed themes. The critical friend was not part of the study team, had a master's degree in adapted physical activity, and worked as a support staff in a group home agency unaffiliated with the group homes involved in this study. The critical friend reviewed the transcripts in its entirety to verify and check the coding of the research team. Upon review of the themes developed, the critical friend further explained that the experiences expressed by the residents, staff and programme coordinators appropriately reflected her experience within the group home setting. Additionally, verifying the coding was accurate.

A member check was also conducted to increase the trustworthiness of the analysis. The research team met with the study participants, following data analysis and presented the meta-themes and codes for their given group (i.e., programme coordinators, support staff and residents). The participants had an opportunity to demonstrate whether their thoughts and opinions were represented with the coded themes. Each of the groups of stakeholders indicated that their experiences were described in the themes.

## Results

Analysis of the focus group data indicated six meta-themes that were consistent between each subgroup including (i) nature of residents' physical activity, (ii) facilitators to physical activity, (iii) barriers to physical activity, (iv) personal factors, (v) operational factors and (vi) solutions to increase physical activity. Table 1 summarizes participant characteristics and Table 2 displays meta-themes and codes of focus group analyses.

### Nature of residents' physical activity

Nature of residents' physical activity meta-theme captured the type and amount of physical activity performed and opportunities available for residents. Residents in the current study reported walking as popular form of physical activity. Other types of physical activity mentioned were Special Olympics, biking, playing Wii Nintendo, dancing, using a row machine, stretching, hiking, swimming, trampolining, participating in a recreational programme provided at the local university, and participating in an adapted exercise class. The frequency of these activities varied from being part of a scheduled weekly routine to only occurring periodically. For instance, residents mostly participated in Special Olympics events when they were in season. One programme coordinator described, "Special O (Olympics) you've got it for chunks of time and then there's this hiatus. What happens to clients who can't do

Table 2. Focus group results from group home stakeholders.

Meta themes	Codes	Frequency of codes <sup>a</sup>	Example of quote
Nature of Residents' PA	Types of PA	22 staff 13 PC 35 residents	<i>"I play Special Olympics basketball"-Resident</i>
	Active occupation	3 PC 5 residents	<i>"He has lots of PA at work he works out at the gardens were he does heavy manual labor out there."-PC</i>
	Sedentary occupation	4 PC 1 resident	<i>"They don't do a lot of physical activity at work. It's not mentally stimulating. It's not very challenging"-PC</i>
	Community options	13 staff 9 PC	<i>"Special Olympics is a big one but outside of that there's not a whole lot tailored to this community"-Staff</i>
	Frequency of PA	4 residents	<i>"How often do you play volleyball?" "I played it last year."-Resident</i>
	Sedentary behaviour	6PC	<i>"She's sedentary all the time."-PC</i>
Barriers to PA	Resident Motivation	20 staff 10PC	<i>"if you give them an option of yes or no they're generally going to choose to be stagnant"-PC</i>
	Resident level of intellectual functioning	12 staff 11PC	<i>"He has a really hard time with social interactions, he has intense autism which prevents him from engaging"-Staff</i>
	Busy schedules	13 staff 4 PC	<i>"the schedules for our clients are pretty full you know it's nonstop all day"-Staff</i>
	Limited staff	12 staff 2 PC	<i>"if there's one staff on the' can't leave three clients alone to go on walks with one person"-Staff</i>
	Negative support	11 staff 3 PC	<i>"if the staff aren't healthy the staff aren't physically active they're not going to encourage the client to do that"-PC</i>
	Resident physical limitations	7 staff 2 resident	<i>"It hurts my legs"-Resident</i>
	Resident age	5 staff 3 PC	<i>"the older residents its harder for them to do those kinds of things now"-PC</i>
	Cost	3 staff 3 PC	<i>". . .hiking is a big thing cause it's inexpensive and our clients don't have a lot of money"-Staff</i>
	Weather	2 staff 3 PC	<i>"Our guy walks just about everywhere unless it's bad weather"-PC</i>
	Staff & residents' resistance to change	3 staff	<i>"She's not welcome to any sort of change, she doesn't even like to staff when they first come in"-Staff</i>
Facilitators to PA	Role modelling/positive encouragement	17 staff 4 PC 11 residents	<i>"they see us get excited about it and then they get excited about it"-Staff</i>
	Social engagement	4 staff 4 PC	<i>". . .likes to attend a step aerobics class that he can't participate much in but likes to go for the social engagement. . ."-Staff</i>
	Self-determined PA	8 staff	<i>"we'll give him the list and he'll point to which ones, or sometimes we'll just give him those three options"-Staff</i>
	Reducing negative behaviours	1 staff 3 PC	<i>"If he's able to get out and move around then that takes care those big motors things that need to get that energy out in order to feel less anxious and happy"-PC</i>
	Winning	3 resident	<i>"It's fun, win medals"-Resident</i>
	Enjoyment	3 residents	<i>"You've gone canoeing?" "Yeah, it was fun"-Resident</i>
	Having a house pet	2 staff	<i>". . .it's my dog, no it's my dog. It's like well we can all just go on walk"-Staff</i>
	Health	1 resident	<i>"Why do you like biking?" "To stay fit"-Resident</i>
Practice sport	1 resident	<i>"Why do you like biking?" "It's good for practicing"-Resident</i>	
Operational factors	Daily operations	13 PC	<i>"it's like a machine. You have to keep everything running and moving throughout the day"-PC</i>
	Busy schedules	9 PC	<i>"they have ISP, we have parents, and their days is chalk fool. People are just spinning around"-PC</i>
	Routine schedules	11 PC	<i>"Consistency is key and the perpetuation of schedules"-PC</i>
	Organizational priorities	18 staff 17 PC	<i>"I feel like it takes a doctor saying to be healthy. . . then it becomes part of our contract like we have to implement it as part of our job"-Staff</i>
	Self-advocating	17 PC	<i>". . .we're trying to get people to advocate for themselves. And excite their motivation to go and do things rather than cuing them. . ."-Staff</i>
	Staff training	8 staff 13 PC	<i>"We have 1, 2, 3, 4, 5, 6 notebooks when they first come in to start working. So you're like shadow this person and then read this notebook, and then read this one and go shadow this person and that's really overwhelming"-PC</i>
	Staff turnover	8 staff 11 PC	<i>"It's pretty hard for the clients to make any connections with staff because most people only stay there like three months"-Staff</i>
	Limited staff	8 staff 5 PC	<i>"We try to have about one staff for two clients and one staff for the other."-PC</i>
Job experience	11 PC	<i>"newer staff are more focused on the here and now . . . Whereas the more experienced staff are more comfortable in various situations so they're more able to focus on those things that aren't necessarily part of the training."-PC</i>	
Personal factors	Attitudes	22 staff 25 PC	<i>"I'm like let's go for a hike, but then there are staffs that are not like that."-PC</i>
	Knowledge	9 staff 12 PC 35 resident	<i>"I know a walk is very important every day, but I don't know much about the human body"-Staff</i>
	Expectations	7 staff 6 PC	<i>"yeah but that's what he's capable of doing mentally and physically so it's all individually dependent"-Staff</i>

(continued)

Table 2. Continued

Meta themes	Codes	Frequency of codes <sup>a</sup>	Example of quote
	Intention	3 staff 3 PC 2 resident	"Do you lift weights?" "No, but I want to do that"-Resident
	Self-efficacy	6 residents	"I sink to the bottom of the pool" "If you learned how to, would you do it?" "No" -Resident
Solutions to increase PA	Resident & staff buy in	2 staff 9 PC	"it's us being excited about it, getting the staff to buy into it and agree with it ...that's why things haven't been accepted in the past and don't work."-PC
	Make it fun	6 staff	"we bought him a trampoline like one of those mini ones as a form of PA that was cloaked in fun" -Staff
	Address diverse needs	3 staff 3 PC	"...to create a programme make sure you can format to individual needs otherwise if you keep it in the same format it doesn't really speak to my clients."-PC
	Self-determination	6 staff	"we explain okay these are the activity menu and residents can pick whichever one they want" -Staff
	Simplicity	4 PC	"make it so that anyone who reads it is going to be able to understand what's going on. I think you should put priority on starting small"-Staff
	Engrained into the system	3 PC	"It would just have to be really engrained into the system it's kind of like a machine."-PC
	Incentive programme	3 staff	"We have workouts, it's like an incentive programme were if they get so many punches on their punch card, they'll get like a five dollar gift card" -Staff
	PA volunteers	2 staff	"More volunteers would be phenomenal" -Staff

<sup>a</sup>The frequency indicates the amount of times the code was mentioned in the transcripts, not the number of participants.

Special Olympics for that chunk of time they don't have any physical activity besides for walking and things like that for months."

Some of the residents' reported being active through their occupations. As one resident stated, "I work to clean bathrooms, five of them". However, being active at work was not consistent across all of the residents. Some of the jobs the residents had were not active and did not contribute to their physical activity, with one resident describing that at his job "I hang around at the TV room watching TV". A programme coordinator talked about a few residents who had active occupation and stated that "every-one else has just office work and is sitting down".

Stakeholders discussed the lack of community options and physical activity support for residents beyond Special Olympics, an adapted fitness class, and a university programme. One staff described, "Special O(Olympics) is a big one, but outside of that there's not a whole lot tailored to this community with a level of support that some of our clients need..."

### Barriers to physical activity

Barriers to physical activity meta-theme is defined as factors that hinder, limit or restrict physical activity participation for residents in the group home setting. The most described barrier to physical activity, from the staff and programme coordinators, was the residents' lack of motivation. These groups believed that residents would rather be inactive. As one programme coordinator described, "if you give them an option of yes or no (to be active) they're generally going to choose to be stagnant." A staff participant further stated, "I think that the hardest part is to get them interested in it, in physical activity. Cause you could provide a soccer ball, but if they don't want to do the running or something you can't make them do it."

In addition to the residents' motivation, the staff and coordinators stated that having lower intellectual functioning, physical disabilities and being older were limiting factors. They discussed that behavioural issues, limited attention span, sensitivity to sounds, inability to describe pain, lack of independence and their inability to express interest in physical activity all limit activity. For example, one programme coordinator stated, "There's a lot of noise, a lot of people lots of distractions. My client may not be able to function well in places like that." One staff had difficulty thinking of

activities that a resident in a wheelchair could pursue. "One client she just doesn't like doing physical activity. Being in a wheelchair, it's hard to think of things for her to do..." Residents also felt that their physical limitations were too difficult to overcome in order to be active. When asked "what don't you like about physical activity?" one resident stated, "It hurts my legs." Residents' age was a barrier described by staff and programme coordinators, with older residents being more sedentary and generally having difficulty doing activity. One programme coordinator explained, "for the older residents its harder for them to do those kinds of things now."

One unfortunate barrier to physical activity for residents was negative physical activity support. The programme coordinators and staff described negative influences within the group home setting and from family members. The programme coordinators described that, "The staff are integral for any part of their life especially health and wellness because if the staff aren't healthy aren't physically active they're not going to encourage the client to do that."

Barriers, specific to the group home setting, include busyness of the group home schedule, limited staff, and staff/residents' resistance to change established routines. When discussing when physical activity could be done with the residents, one programme coordinator clearly stated that "all the time is occupied". A staff stated that "the schedules for our clients are pretty full". Staff and programme coordinators indicated that limited staff to help residents pursue activity is a significant barrier. One staff states, "...riding bikes is good, walking around the block is good, but you know we are fairly limited in our resources sometimes". Another staff said, "we can't leave three clients alone to go on walks with one person". Staff and/or residents' caregivers are often resistant to change their established routines to include more physical activity. As one staff describes, "She's (resident's mother) not welcoming to any sort of change, so she doesn't even like to staff when they first come in. It takes her awhile to warm up..."

Staff and programme coordinators described cost and weather as challenges to being active. Due to the cost of certain activities, residents will walk (i.e., walk in the neighbourhood, around grocery stores or hike) for physical activity. One staff explains, "One of my clients loves swimming but she can't afford to go swimming all the time, so she goes maybe once every two or three months".

Weather, especially rain, limited the amount of activity the residents performed. One programme coordinator simply stated, “a lot of our guys are weather dependent”.

### **Facilitators to physical activity**

The facilitators to physical activity meta-theme is defined as factors that support, encourage or enable physical activity for residents living in group homes. Residents discussed how they enjoyed physical activity because it was fun. They liked to receive medals, win, travel, practice their sport and be healthy. One resident said he rode his bicycle because it helped him “stay fit”. In addition, the staff and programme coordinators mentioned that residents pursued activity for social engagement, because they enjoyed being around others. Moreover, choosing activities is also a motivating factor. One staff said, “we’ll give him the list and he’ll point to which ones, or sometimes we’ll just give him those three options”.

All stakeholders discussed the importance of having role models or positive encouragement from supports. One staff said, “they see us get excited about it (physical activity) and then they get excited about it”. Another staff said, “staff make or break it. . . if you have someone (resident) who isn’t motivated to go out, but you’re like ‘I’d really like to go on a walk with you’, that can really change things around”. Residents explained that they received positive physical activity support from primarily three groups of individuals (i.e., staff, family and peers). One resident also mentioned being encouraged by his sport coach.

Some of the staff and programme coordinators found that physical activity also helps to reduce negative behaviours. As one programme coordinator states, “If he’s (resident) able to get out and move around then that takes care of those big motors things. He needs to get that energy out in order to feel less anxious and happy.” Moreover, having a house pet was also described as a motivating factor to being active, as the residents shared the responsibility of walking their dog.

### **Personal factors**

Personal factors was labelled as a higher ordered theme and was defined by characteristics of the stakeholders that influence physical activity participation. These factors are psychosocial in nature [33] and capture the complexity of personal factors that influence physical activity across the stakeholders in the group home setting.

The staff and programme coordinators in the focus groups had favourable attitudes towards physical activity. Most of the staff described physical activity or physical activity programming in the following ways, “cool”, “very important”, “love”, “excited about”, “highly in favour of”, “in need of” and wished it was “promoted more”. One staff said, “I get excited about it (physical activity), our shifts are long and just like being in the house all day I get excited about it, but I also care that they’re getting out and doing something not just sitting and staring or whatever.” On the other hand, the programme coordinators described that some staff would rather not include physical activity for the residents, because they dislike it and are unwilling to do it.

*“...now if they’re (staff) expected to go to the exercise class; you’re going to get oh gee this stupid exercise class. There isn’t any buy in. They (residents) won’t want to be around them.”*

Knowledge is a personal factor that ultimately influences activity participation. The residents knew sports were physical activity (e.g., running, weight lifting, etc.); however, they were unable to

identify leisure activities. Three residents knew how physical activity was beneficial. One resident said “it makes you have a strong heart. Blood circulates around your body...” The staff and programme coordinators knew that physical activity had positive effects on health. One programme coordinator commented, “A huge component of health and wellness is your physical being and nutrition and physical activity definitely goes into that a lot”. However, the staff were unable to describe types of activities that certain residents (i.e., those with a physical disability or who were aging) could be doing and did not know how much the residents should be pursuing. As one staff said, “I know a walk is very important every day, but I don’t know much about the human body I’m learning right now... I don’t know how much they should be doing”.

The staff and programme coordinators expectations for residents’ physical activity varied. If their programme coordinator expected physical activity in their house, then staff encouraged the residents to be active. Programme coordinators created this environment by making physical activity apart of their staff training. For instance, “we (programme coordinator) ask that the staff have him engaged in physical activity at some point during each shift”. If higher management did not expect physical activity, then it was up to the staff to promote it. Programme coordinators and staffs’ expectations for physical activity were low for specific groups of residents (i.e., those with physical limitations and older adults). In particular, the staff and programme coordinators did not expect older residents to do much activity. A programme coordinator commented, “Older residents, its harder for them to do those kinds of things now”.

Furthermore, activity intentions and efficacy for physical activity influences participation. When a resident was asked if he lifted weights, he said, “No, but I want to do that”. Another resident said she intended to pursue activity after she did her shopping. Several staff and programme coordinators had positive intentions for residents’ activity. Staff stated they would like to see their residents walking more and simply doing more than they are currently doing. Findings revealed that the residents involved in this study had activities that they felt confident in, but other activities that they had little self-efficacy to pursue. One resident described swimming as too hard and he did not want to learn how to do it because he would “sink to the bottom of the pool”. Another resident confidently responded by saying “I’m a good swimmer”.

### **Operational factors**

Operational factors were labelled by the coders to describe unique aspects of the group home setting that influence physical activity participation for residents. The daily operations are critical to understanding whether and how physical activity is included within the group home setting. Programme coordinators explained a typical day for the residents. Most of the residents had some kind of work in the mornings, an outing in the afternoon (i.e., doctor appointments, shopping, movies, etc.), then they come home for dinners and “just kind of hang out in their own apartments” for the evening. One programme coordinator describes the evenings after dinner as,

*“Everybody kind of shifts gears and relaxes, there is a pool table, so everybody is kind of doing their own thing.”*

The overall consensus among staff and programme coordinators was that the group home schedules are busy and structured. A coordinator described “With instructions provided by caregivers and goals on their ISP (individual service plan), their days are chalked full. People are just spinning around - I couldn’t live their



lives". The programme coordinators felt as if they were "always dropping folks off at different places". Because of the busy schedules, if physical activity is not already a priority of the resident, caregiver or part of their ISP then it is difficult to fit it in. Daily routines are often structured and consistent. "Everyone is set in their habits" a coordinator explains. Other coordinators explained, "a lot of the clients work best with structure. So when you deviate from that it doesn't work with them" and "for each staff they basically do the same thing gives them (residents) calmness and structure". Additionally, if physical activity changes the routine they may get resistance not only from residents but also the staff. A coordinator explained, "There are also habits with staff when staff learn to do things one way they typically will keep doing it that way. It is harder for them to see the full picture if they're only there a couple of days per week. They're kind of like let's do what we always do".

Organizational priorities were factors that participants explained as important from the agency that influence activity participation. One programme coordinator explained, "it's (physical activity) not coming down from the agency to incorporate the health and wellness it's on us, on our people (staff) to discern. I have to learn about health and wellness for this person who has complex needs, organize their medicine, sort through all of their medical issues, and decide what they need to do".

The most discussed priorities of the group home agencies were allowing residents to be self-advocates and meeting ISP goals. One programme coordinator explains, "...we're trying to get people to advocate for themselves. And excite their motivation to go and do things rather than cuing them..." If the resident decides they do not want to participate in physical activity they are not required to. A staff describes, "We are all about self-advocating, so they are very happy because they know that they can say no to things they don't want to do. Anything from doing chores to medication to physical activity..." Moreover, ISP goals need to be assessed and pursued regularly. One programme coordinator described, "you try to get all of the ISP stuff done, you have to get all of their meds given, and you're going all day so the food and nutrition and the physical activity that's on top of their PT or whatever else they have to do that day so it gets put on the back burner Unless you have an extra staff there to help you do it. It's one more thing on a checklist that you have to get done". Other priorities at a group home agency level included getting the residents involved in the community, providing social opportunities, having relaxation time, and addressing doctor orders.

Other key aspects of the group home setting that influence physical activity for the residents is staff training, insufficient staffing, staff turnover and job experience. Staff training for physical activity varied across group home houses. Training for new staff was described as overwhelming. As described by one programme coordinator, "We have 1, 2, 3,4,5,6 notebooks when they first come in to start working. So you're like shadow this person and then read this notebook, and then read this one and go shadow this person and that's really overwhelming". There was not a standardized training on physical activity from the agency level. If physical activity was included in staff training, it was house-based. One programme coordinator stated, "I think it's important to have solid plans and training materials... That's on us to develop that and most of us are still young in the field or whatever. And if it's not coming down from the agency to incorporate health and wellness it's on us..."

Staff turnover and overall lack of staffing was an evident concern for the group home setting. Staff and programme coordinators described that jobs are often filled by temporary workers. As one programme coordinator describes, "Some of the clients in

their 40s/50s have been through multiple or hundreds of staff". In general, the staff and programme coordinators felt that there was insufficient staffing to pursue residents' activity interests. One staff explained, "... ideally if we were all one on one with every client they would be very physically active". As a programme coordinator put it "this non-profit situation is notorious for being under staffed".

The amount of job experience of the staff also determines whether they encouraged physical activity. A programme coordinator described this factor, "newer staff are more focused on the here and now... Whereas the more experienced staff are more comfortable in various situations so they're more able to focus on those things that aren't necessarily part of the training".

### **Solutions to increase activity**

Solutions to increase activity were characterized by examples and/or suggestions by staff and programme coordinators to increase activity in the group home setting. The largest discussed way to increase activity described by the stakeholders was to create a programme that would get resident and staff buy-in. Both the residents and the staff need to "want" to increase physical activity in order for it to happen. As one staff stated, "selling it (physical activity) to them (residents) finding that way to get them personally motivated is really helpful". Other programme coordinators mentioned, "getting the staff to buy into it (physical activity programme) and agree with it not just okay we have to go to exercise class cause we have to. That's why things haven't been accepted in the past and don't work".

Stakeholders also explained the importance of making physical activity fun and allowing for self-determined activity. If the residents find the activity fun, then they will continue to be active. Staff mentioned trying to get residents to think they are not performing physical activity. One staff said, "We don't even know or realize that its physical activity". Another staff suggested not talking about "exercise" or "physical activity" because these terminologies are not fun for the residents to hear. "Getting moving" or "activity time" was suggestions that one staff used to get residents to do physical activity. One staff described an incentive programme her house uses, "they have a choice between working out on the Wii for like 45 min or doing the exercise bike for 30 min, or going for walks for 30 minutes; and then they get a punch on their punch card. After 15 punches, they get a gift card".

Other suggestions for a successful physical activity programme were to have activities that could address the diverse needs of the residents in the group home (i.e., aging, physical disability, lower functioning, etc.). A staff explained, "...for him (resident with Autism) it would be nice if there was something we could do at home. But, there's other ones... I would highly recommend them getting out of the house". A programme coordinator described, "I think a lot of it is a variety of activities that would fit specific clients' needs depending on age, physical ability, and they are busy".

Moreover, having a physical activity programme that is simple and well engrained into the group home system would prove successful in increasing activity. One programme coordinator explained, "Start small and make it really simple... If it's hard the staff are going to resist it... If it's small they would probably be more likely to catch on". Programme coordinators said the following, "It (physical activity programme) would just have to be really engrained into the system it's kind of like a machine," and "I want some interactive thing where they (staff) have to refer to it all the time. As opposed to 'Oh here's a training thing..."

Also since staffing is often limited, volunteers could provide additional support to encourage activity. One staff said, "more

volunteers would be phenomenal.” Another staff stated that a “physical activity volunteer group” would be helpful to increase residents’ activity.

## Discussion

All three stakeholder groups provided valuable insider knowledge that can be used to inform rehabilitation professionals on how to incorporate physical activity programming within the group home setting. Residents provided information about the nature of physical activity (e.g., recreational, occupational, and frequency of physical activity), facilitators (e.g., winning, health and enjoyment) and barriers to being active (e.g., physical limitations). Staff provided insight about insufficient staffing to provide individualized physical activity for residents, lack of health promotion training at an agency level, lack of community programmes/activity options for complex needs. They emphasized the importance of role modelling, making physical activity fun (e.g., changing terminology to “activity time” to reduce negative connotations, having incentive programmes, etc.), and including self-determined activity. Programme coordinators discussed the overall operations of the group home setting and how physical activity is or in some cases is not part of the system. This group emphasized the struggle of training new staff due to high staff turnover and expressed that including health promotion to an already overwhelming training would be a challenge unless it is simple, engrained into established routines and something staff would refer to daily/weekly.

Making health and wellness a priority of the group home agency is critical. The lack of clear physical activity policies in these settings has been identified in the literature as an issue in providing a health-promoting environment for persons with intellectual disabilities.[34–36] When it is not implemented from a top-down approach, it lends programme coordinators the ability to choose if physical activity is a priority for staff training. To avoid variability in expectations for activity within the agency, physical activity should be adopted at an organizational level and included in staff training. Moreover, training in physical activity health promotion would also increase knowledge and encourage positive attitudes towards activity, which were limiting factors identified in the current study and supporting literature.[37]

There are multiple organizational aspects of the group home setting that limit resident physical activity. The group home setting is notorious for limited staff- and time-intensive schedules.[34–36,38] High client to staff ratios and time constraints is documented across the literature for persons living in settings that require 24-h supervision.[34–36,39] Robertson et al. (2000) determined that persons with intellectual disabilities are 1.78 times more likely to be inactive if they have higher care staff ratios.[38] These ratios and lack of time influences whether physically active choices are available and possible. Incorporating physical activity within this setting will surely fail if these unique aspects are not considered in the implementation of a rehabilitation programme. A programme should be simple enough to meet the demands of this setting. For example, by providing a clear step-by-step instruction for use and easy to follow training guide, coordinators and staff will more likely buy into it. As described by staff and programme coordinators, “buy in” is important for increasing physical activity of the residents. In a study evaluating community-based programmes for Special Olympic athletes, a similar theme emerged, the importance of obtaining “buy-in” from athletes, coaches, family members and carers to ensure ongoing support for programme implementation.[40] Overall, we suggest that a physical activity programme should be flexible, with activities that can be incorporated within gaps of scheduling. This could include

activities for short time intervals (i.e., 10–15 minutes). Three bouts of 10–15 activity intervals would meet recommended guidelines for aerobic activity [41] and could include common types of physical activity described by those with intellectual disability (e.g., short walks throughout the day, exercise videos, dancing, and aerobic equipment).[42]

The lack of accessible and available community options for physical activity is not a new area of concern for this population.[20,34] Due to the lack of activity outside of Special Olympics, an activity programme should also provide specific examples of activity that can be pursued within the home and community. Examples include strength and flexibility exercises without equipment, balance activities with a partner, aerobic videos that incorporate chair exercises for older adults and those with physical limitations, dancing to music, leg lifts, arm lifts and a series of “follow me” activities where the resident can follow the movements of staff or other residents for a timed period. These activities and other home exercises, specific to the needs of the resident, could be performed within shorter 10–15 intervals.

Physical activity programming should meet the diverse needs of the residents and overcome common barriers to activity. It has been documented that staff lack confidence to assist older residents and/or persons with physical limitations in physical activity.[35] Rehabilitation professionals can emphasize the benefits of physical activity for all and provide exercise suggestions for older residents and/or persons with physical disabilities. Knowledge and practical suggestions could help staff increase their physical activity expectations for persons who are aging and have more severe limitations.[39] Similar to barriers reported by the general population,[43,44] cost and weather are also challenges to being active for persons with intellectual disabilities.[39,45] Having low cost and indoor activity options is important, as indicated by active adults with intellectual disabilities.[45]

Beyond activity examples and suggestions, rehabilitation professionals should provide ways to make physical activity fun, allow for choices and encourage group participation. Consistent with the current study, Shapiro (2003) and van Schijndel-Speet et al. (2014) found similar motivates for physical activity, including enjoyment, rewards, winning ribbons and medals, activity with others, getting exercise, doing something they are good at, and having fun.[39,46] Providing opportunity to make physical activity choices in a population often dependent on staff,[24,39] would increase confidence and motivation for physical activity. In fact, studies have shown that adults with intellectual disability who have active participation in their own health have overall improved health outcomes.[47] Based on the current study and supporting literature, incorporating friends and making physical activity social is key for activity participation and enjoyment.[45] A tangible example to implement in the group home setting is a schedule “reward” board. Provide residents with choices (that are feasible given time and schedules), including group activities, to post on a visual board throughout the week. This documentation keeps staff and residents accountable, makes activity fun to achieve and promotes the inclusion of activity within the group home schedule. This type of goal setting would fit the group home environment, since it often functions through check lists of tasks (e.g., training needs, daily operational tasks, etc.). Likewise, staff are familiar with documenting goals and helping residents achieve these goals through Individual Service Plans.

Positive support and role modelling is important for successful participation in activity for this population. Negative influences for physical activity and lack of guidance from support systems are apparently unique to this group according to our study findings and others.[21,39] Lennox (2002) suggests that staff need to be

active role models to demonstrate to the individuals they care for that physical activity is important.[48] Heller et al., (2002) also suggest that if caregivers believe that physical activity will benefit the persons they care for, then the individual is more likely to be active.[49] Temple (2009)'s study demonstrated that active adults with intellectual disability depend on social and environmental supports to "show them how" to be active and give them confidence.[45] Moreover, social support can be a facilitator for persons with intellectual disabilities when others support their decision to be physically active and are enthusiastic about physical activity themselves.[50] Thus, staff involvement in a physical activity programme will likely increase residents' motivation to be active.

## Limitations

Participation in the study was voluntary, and so, recruited group homes may have joined the study because they were interested in physical activity or residents pursued activity in their homes. Therefore, it is likely that we did not hear the opinions of residents, staff or programme coordinators that had negative attitudes towards physical activity. In addition, residents in the focus group had mild to moderate intellectual disability and could actively participate in the discussion. Therefore, we did not hear the opinions and experiences of those with more severe intellectual disabilities. Finally, due to the nature of focus group methodology, there was a small sample size of stakeholders. Thus, the generalizability of the findings should be acknowledged as a limitation. The findings in this study highlight several issues that warrant additional research.

## Conclusions

There are numerous clinical implications from this study. Adults that reside in the group home setting often have more complex needs, since this is a 24-h supported environment. Included in these needs are related conditions from their primary disability and additional risk of chronic disease.[24] As life expectancy increases, this population is also at increased risk for falls and fractures.[4] Resulting, this population will go through the rehabilitation process at some point in their lives, if not multiple times. Rehabilitation professionals should be cognizant of the barriers and facilitators of incorporating activity within the group home setting. It is important to highlight that there are many complexities within the decision to be physically active for adults with intellectual disabilities. Working with staff and programme coordinators in this setting is critical, due to residents' reliance on supports for everyday activities.[25] Luckily for rehabilitation specialists, staff describe incorporating activity into the schedule if it was prescribed by a clinician. Make note of this finding and "prescribe" physical activity as medicine for this population beyond treatment time. An optimal way to get this population to be active is to include it in their ISP plans, so push to include activity in these documents. Ensuring "buy in" to not only the rehabilitation protocol but also lifelong physical activity for the residents will prove to be beneficial in the prevention of future health conditions. Ultimately, persons with intellectual disabilities residing in these settings are more likely to engage with rehabilitation professionals than exercise specialists or health promotion researchers, thus professionals in the area of rehabilitation have a big opportunity to influence physical activity in this population.

In summary, there is a need to increase physical activity of adults with intellectual disability. Exploring the home environment is one way to discover valuable information to create effective physical activity programmes. Since the group home setting is where a large proportion of adults with intellectual disability

reside,[26] this is an optimal place to intervene. The focus group discussions described in this study have provided insight for rehabilitation professionals working with adults with intellectual disabilities within the group home setting. For the residents, being creative and providing fun alternatives to performing rehabilitation following an injury or health issue will help support continued participation and motivation. Rehabilitation professionals should also illicit additional support from their caregivers to help motivate residents to be active. Wherever possible, clinicians should encourage group home agencies to emphasize the importance of an active lifestyle for their residents.

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