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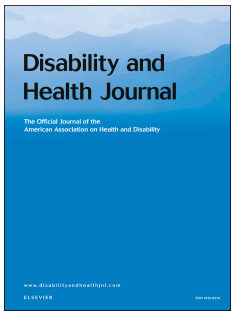

Exercise facilities for neurologically disabled populations – Perceptions from the fitness industry

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Exercise facilities for neurologically disabled populations – Perceptions from the fitness industry

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The submitted brief report is an original research project completed to fulfil the requirements of the MSc in Applied Exercise for Health completed at St George's University of London. No part of this work has been published. A poster of this

research has been presented at the Association of Chartered Physiotherapists in Neurology (ACPIN) national conference 2015 and PhysiotherapyUK, the national conference of the Chartered Society of Physiotherapy, 2015.

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Exercise facilities for neurologically disabled populations – Perceptions from the fitness industry

Abstract:

Background: People with neurological disabilities (pwND) face many barriers to undertaking physical activity. One option for exercise alongside formal physiotherapy is local fitness facilities but accessibility is often found wanting and gyms are seen as unwelcoming to pwND.

Objective: The objective of this exploratory study was to investigate the perceptions of fitness facility managers with respect to exercise for pwND in a gym environment. The aim was to identify potential barriers to provision by the fitness industry for pwND.

Methods: The participants included those who were in a position to influence provision at a policy level and those working at management level within fitness providers. A mixed methods approach was used: a quantitative questionnaire and 4 qualitative interviews. Descriptive and correlational analysis, thematic content analysis and concurrent triangulation analysis was undertaken.

Results: Specially trained staff is perceived to be necessary to make fitness facilities accessible for pwND.

Conclusions: Ensuring the provision of specially trained staff to support pwND to exercise in gyms may be the main barrier to provision for this population. Investigation into the standard training of fitness professionals combining the expertise of neurological physiotherapists with that of fitness professionals to meet the needs of pwND would be advantageous.

Background:

Approximately 12.5 million people in England are living with a neurological condition such as stroke, multiple sclerosis or Parkinson's disease.[1] People living with the disabling effects of neurological conditions are significantly less active than the general population[2,3,4] and therefore are at greater risk of secondary complications of inactivity.[4,5,6,7] With a growing population of people living with neurological disabilities (pwND), opportunities for maintenance of mobility and fitness alongside formal physiotherapy are required.[7,8,9] One option for this provision is local fitness facilities just as it is for the general population.

Exercise in a gym environment is safe and provides many benefits for pwND.[10,11,12] In addition the barriers for pwND to undertake exercise in a gym have been extensively explored over the past decade.[13,14,15,16,17] Despite this knowledge and efforts to make fitness facilities universally accessible,[18] fitness facilities continue to be found lacking in providing for pwND.[19,20,21]

To date research has focussed on the barriers experienced by pwND in accessing fitness facilities. In comparison, little research has focussed on the fitness industry. One study suggests that the willingness of fitness trainers to work with pwND is related to their previous experience and perceived competence in working with this population.[22] Within fitness facilities it is facility managers that program provision for particular client groups and ensure this provision is appropriately staffed and promoted within their gyms. There is a paucity of research into their perceptions of the role of the fitness industry in providing exercise opportunities for pwND.

The aim of this exploratory study was, therefore, to identify potential barriers to provision of accessible facilities and opportunities for exercise, by fitness facility managers and fitness promoting bodies, for pwND. The objectives were to explore

the participants' knowledge, beliefs and perceptions of fitness exercise for pwND and provision of this exercise within a fitness facility.

Methods:

Participants:

Participants for this mixed methods study were recruited from the management level of a variety of fitness providers in the voluntary (charitable), public (local council commissioned) and commercial sector. Head office managers of fitness companies who make provision decisions for the company as a whole as well as managers from individual facilities who make decisions regarding provision for their local populations were recruited. Participants were also sought from two Health and Wellbeing Boards, policy making bodies that may influence the provision of facilities for their local population, and from the Inclusive Fitness Initiative (IFI) that accredits accessible fitness facilities.

Methodology:

No previously validated survey was available that was applicable to the population or exploration being undertaken therefore the background evidence was used to devise a quantitative questionnaire (available online). In addition to general enquiries about the beliefs, knowledge and perceptions of the respondents with respect to exercise for pwND, the survey explored received knowledge and extrapolation from the evidence of exercise barriers for pwND[13,14,15,16,17] including the perception of financial targets of commercial gym providers which may impose barriers to provision.[13]

Questionnaires were distributed en masse via email. Return of the completed questionnaire was taken as implicit consent to participate. Returned questionnaires were anonymised.

The qualitative study involved 4 semi-structured interviews. These were recorded, transcribed verbatim by the primary researcher, anonymised and analysed using a thematic content analysis methodology.[23] Signed consent was obtained at interview. For the interviews, participants were invited purposively from the head office management of the fitness facilities, Health and Wellbeing Boards and the IFI. The interview participants were distinct from the questionnaire participants.

Ethical approval was sought and obtained from the Faculty Research Ethics Committee (FREC), St George's University of London.

Data analysis:

Data entry from the questionnaires was completed by the primary researcher. Data analysis was undertaken using SPSS version 21. Descriptive analysis for frequencies of responses was completed. Responses on all questions were compared between public sector and voluntary sector participants using cross-tabulations and chi-squared tests for trend. Spearman's correlations were also explored for all participants with significance set at $p<.05$ for each pair of questions. Analysis of the interview data was undertaken utilising a thematic content analysis methodology as described by Green and Thorogood.[23] The quantitative and qualitative data were collected and analysed concurrently. A concurrent triangulation strategy[24] was utilised to integrate the quantitative and qualitative results.

Results:

Questionnaires were successfully distributed to members of two Health and Wellbeing Boards comprising 16-20 members each and to national databases of head office and facility managers of one voluntary and one public sector fitness provider via industry contacts. One contact was able to distribute to a database comprising a variety of facility managers including some in the commercial sector. Several requests to commercial provider head offices to distribute the questionnaire to their management staff were unsuccessful. Due to the en masse email method and reliance on industry contacts for distribution it was not possible to determine how many questionnaires in total were distributed. Forty-one (n=41) completed questionnaires were returned: one from a Health and Wellbeing Board member (2.4%), one from the commercial sector (2.4%), 13 from the voluntary sector (31.7%) and 26 from the public sector providers (63.5%).

Seven potential participants were invited to participate in the interviews. Four interviews were completed: one with a member of a Health and Wellbeing Board, one with a head office manager from a commercial provider, and two with managers from head office level of voluntary sector providers.

Quantitative results:

Table 1 summarises the descriptive results from the questionnaire in terms of frequency of response in percentages. A large majority of participants would expect pwND to exercise in a gym environment and believed they could do so safely and would benefit from such exercise. The majority of respondents reported knowledge of the evidence of benefits of exercise for pwND. The vast majority perceived that specialist staff knowledge and training is required to make a gym accessible to pwND. Moderate majorities of respondents did not however perceive a need for

extra staff, extra space, special equipment or specific classes for pwND. A small majority perceived that pwND require assistance to use equipment in a gym environment. This differed significantly between public sector and voluntary sector participants (61.5% and 30.8% strongly agreed or agreed respectively, Chi squared for trend p=.016). No other comparisons were statistically different.

Correlational analysis showed significant positive correlations relating to costs and management. The perception that making facilities accessible for pwND is expensive showed positive correlations with the perceptions that accessibility requires extra staff (.392, p=.014), special equipment (.327, p=.048) and classes for specific groups (.399, p=.021) and a negative correlation with the perception that pwND can exercise safely in a gym (-.367, p=.018). Perceptions of the need for extra staff, extra space, specialist knowledge and special equipment correlated positively with the perception that cost would deter a gym owner (.437, p=.005; .496, p=.002; .332, p=.039; .368, p=.025 resp).

The perception that health and safety concerns would deter a gym owner showed positive correlations with the perceptions that making a gym accessible requires extra space and specialist knowledge (.398, p=.016; .321,p=.046 resp). Finally the perception that making a gym accessible is expensive correlated significantly with the perceptions that the cost of making a gym accessible and health and safety concerns would deter a gym owner (.723, p=.000; .505, p=.001 resp) while these latter two perceptions also correlated significantly (.548, p=.000).

Other significant correlations relating to benefit and safety are shown in Table 2. All other correlations were non-significant.

Qualitative results:

Twelve themes emerged from the 4 interviews. See Table 3 for a full list of themes and definitions. Example participant statements from the themes are included in the concurrent triangulation analysis. These are labelled by participant number e.g. P1.

Concurrent triangulation analysis:

The qualitative results agree with the quantitative results suggesting all four participants were aware of evidence of gym based exercise for pwND including the safety and benefits of gym exercise and the barriers to exercise for this population. All four participants expressed beliefs that there was no reason why pwND should not undertake gym exercise:

> *P2: "Under control and with somebody they can practically do anything that they want to as long as it's safe, it's controlled"*

They did, however, recognise that pwND may have specific needs compared to the general population such as tailoring to individual physical limitations, focus on function, adequate space to use equipment and time to communicate. Similar to the quantitative results there was a perception of the need for specially trained staff to support pwND to exercise safely and effectively in a gym environment.

> *P1: "gym staff with that extra level of expertise that they would be able to provide the advice and support"*

> *P2: "having the right instructors that […] understand that this isn't easy"*

On the other hand, as with the quantitative findings, there were differing opinions about the need for extra staff, extra space, special equipment, assistance to use equipment, or special classes. In fact, participants expressed the belief that the

challenges faced by pwND to exercise were similar to those faced by the general population, such as the risk and fear of injury:

> *P3: "it's quite easy to get carried away […] to have an injury. But more importantly than that to actually be disenchanted when you can't do it […] but that's something shared by most of the population to be fair"*

and lack of confidence:

> *P4: "walking into a large gym environment can be a daunting place [for anyone]".*

The participants believed that fitness facilities should be accessible to everyone:

> *P1: "this is around widening participation so that people with physical disabilities are able to also access the same facilities other people take for granted."*

> *P4: "I believe it should be inclusive for everyone"*

These discussions revealed other themes including the role of the health sector:

> *P4: "I think there needs to be this kind of whole linking between the actual gyms and then the [health professionals] that are looking after them outside of the gyms. There needs to be that communication."*

and perceptions of what might encourage pwND to exercise in a gym:

> *P2: "it's having the right instructors that will engage with people"*

> *P1: "you can try […] normalising people with physical disabilities accessing physical activity environments.[…] It would be nice to have a focus on people*

with physical disabilities who are taking exercise and taking physical activity not necessarily at an elite level."

The presence of staff with specialist knowledge and advertising this presence within their gyms were seen as important facilitators. However the challenge of achieving this presence also became evident in the participants' perceptions. Deterrents to provision for pwND reflected the challenges of training staff to ensure adequate support for pwND, funding this training and overcoming issues with lack of awareness and lack of confidence amongst staff. One participant summarised these challenges:

P4: "if you were going to do an initiative where you were going to look to train up your staff to potentially feel more comfortable, confident to be able to support this population better, there's an ultimate cost consideration […] due to staff churn. You could lose 50 percent of your staff, you know, potentially within 3 months, 6 months […] so you could spend the money on training these people up to a great standard [to support this population] then they leave."

Participants expressed potential concerns of facility managers about cost and health and safety with respect to staffing levels and training as evident in the quantitative results.

The final two themes emerged directly from the participants own words, so-called in vivo themes.[23] Conscious versus unconscious discrimination was introduced by participant 1:

P1: "one would hope that there wouldn't be conscious discrimination but there might be unconscious in the way that services are put together, the way that services are advertised."

This perception was reflected in the perceptions of other participants:

> *P3: "'nobody's asking if we do anything for people who suffer from stroke. So we're not going to offer anything […].' We need to be offering something not waiting for people to come forwards."*

> *P2: "when gym instructors do their qualifications, it's very much an able-bodied person that comes in. […] So then when we say to an instructor […] now you're going to start dealing with people that have x, y and z, yeah, it can be a bit like, 'don't think so'."*

The theme of not being actively inclusive versus being exclusive was introduced by participant 3:

> *P3: "Obviously you can't discriminate against somebody but you can carefully make efforts not to be inclusive […] 'if we're not really proactive about being inclusive nobody will come and therefore we don't have to worry about it.'"*

Again this theme was evident in the perceptions of other participants:

> *P1: "they may make a conscious decision 'well we're short staffed. We really can't encourage people to come in because we know that it's going to take the staff's time away from …'."*

These two themes while controversial provide further insight into the challenges of ensuring the presence of staff that are able and willing to support pwND to exercise in a gym environment.

Discussion:

The results of this exploratory study suggest that fitness facilities may only be truly universally accessible for pwND, once fitness providers are able to ensure the presence of staff with the necessary knowledge to support pwND and can promote such provision confidently. Standard training and experience may not be sufficient to ensure a trainer is qualified or happy to assist pwND. This perception is supported by previous research[22] and may also explain the perceived challenge of finding welcoming gyms.[16]

The differing opinions on the need for extra staff, extra space, special classes, special equipment and the need for assistance to use equipment to make gyms accessible for pwND may reflect the level of disability of clients attending different types of fitness facilities as well as the range of physical disability experienced by this population. Once again this points to the need for staff who are able to recommend and adapt exercise for the particular needs of the individual. The qualitative data however suggests that achieving this staff provision is not straightforward with cost and health and safety concerns and staff attitudes potentially having an impact.

Contrary to previously held perceptions,[13] the results suggest that lack of awareness is not a barrier to providing accessible facilities for pwND. However this is a small scale, exploratory study and the results should not be regarded as definitive.

Conclusions:

Investigation into the standard training of fitness professionals in order to meet the needs of pwND would be advantageous. Such investigation may benefit from a multidisciplinary approach combining the expertise of neurological physiotherapists

with that of fitness professionals. Such training may be transferrable to other population groups who share similar challenges to pwND such as physical limitations, the need for more space to mobilise and time to communicate. Making this training part of the standard training requirements for fitness professionals could reduce cost and health and safety concerns of fitness facility managers and improve access to fitness facilities for all exercisers.

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Table 1: Perceptions of exercise for pwND in a gym environment.

Expect pwND to exercise in a gym	Yes = 97.6%
Think pwND would want to exercise in a gym	Yes = 95.1%
Best for pwND to exercise in a healthcare setting	Neither agree / disagree = 26.8% Strongly disagree / disagree =58.6%
pwND can benefit from exercise in a gym	Strongly agree or agree = 90.2%
pwND can exercise safely in a gym	Strongly agree or agree = 87.8%
Aware of evidence of benefit for pwND from gym exercise for CV fitness	Yes = 94.9%
Aware of evidence of benefit for pwND from gym exercise for strength	Yes = 97.5%
Aware of evidence of benefit for pwND from gym exercise for stronger bones	Yes = 89.2%
Aware of evidence of benefit for pwND from gym exercise for function	Yes = 95.0%
Aware of evidence of benefit for pwND from gym exercise for wellbeing	Yes = 97.5%
pwND require assistance to use equipment in a gym	Strongly agree or agree = 51.2% Neither agree / disagree = 43.9%
pwND require special equipment to exercise in a gym	Neither agree / disagree = 31.7% Strongly disagree or disagree = 46.3%
Making a gym accessible for pwND requires extra staff	No = 79.5%[a]
Making a gym accessible for pwND requires extra space	No = 77.8%[b]
Making a gym accessible for pwND requires specialist knowledge / training	Yes = 92.3%[c]
Making a gym accessible for pwND requires special equipment	No = 64.9%[d]
Making a gym accessible for pwND requires classes for specific groups	No = 60.6%[e]
Making a gym accessible for pwND is expensive	Neither agree / disagree = 34.1% Strongly disagree or disagree = 60.9%
Cost of making a gym accessible for pwND would deter a gym owner	Strongly agree or agree = 22.0% Neither agree / disagree = 34.1% Strongly disagree or disagree = 43.9%
Health and safety concerns would deter a gym owner from providing for pwND	Neither agree / disagree = 31.7% Strongly disagree or disagree = 53.6%

a: 2 respondents did not answer; b: 5 respondents did not answer; c: 2 respondents did not answer; d: 4 respondents did not answer; e: 8 respondents did not answer

Table 2: Correlations of perceptions of benefit and safety of gym exercise for pwND with awareness of benefits of exercise and perceptions of accessibility requirements for pwND.

	pwND can benefit from exercise in a gym	pwND can exercise safely in a gym	Aware of evidence of benefit for strength
Positive correlations:			
Aware of evidence of benefit for CV fitness	.365, p=.022		.698, p=.000
Aware of evidence of benefit for strength			
Aware of evidence of benefit for stronger bones			.479, p=.003
Aware of evidence of benefit for function	.341, p=.031		.698, p=000
Aware of evidence of benefit for wellbeing	.330, p=.038		
Negative correlations:			
pwND require assistance to use equipment in gym	-.397, p=.010		
Making a gym accessible for pwND requires classes for specific groups		-.491, p=.004	
Making a gym accessible for pwND requires extra staff			-.319, p=.048

Table 3: Themes and definitions

Theme	Definition
Exercise for pwND	Perceptions of what exercise looks like for pwND in a gym setting
Disabled vs able-bodied / similarities	Statements of perception that pwND are not unlike the general population with respect to exercise in a gym
Disabled vs able-bodied / differences	Statements of perception of specific differences for pwND with respect to exercise in a gym
Equality	Statements of perception that provision of exercise facilities should be equal for whole population
Benefits of exercise for pwND	Perceptions of how pwND benefit from exercise in a gym
Gym accessibility for pwND	Perceptions of what makes a gym accessible for pwND
Barriers to exercise for pwND	Perceptions of barriers for pwND specific to exercise in a gym facility
Encouraging pwND to exercise in a gym	Perceptions of what might encourage pwND to enter a gym to exercise
Role of health sector	Perceptions of value of partnership/cooperation between health sector and fitness providers in providing for pwND in gym environment
Deterrents to providing for pwND	Perceptions of what factors might deter a fitness provider from providing for pwND
Conscious vs unconscious discrimination	Statements suggesting fitness provider, by their actions and how they function, discriminate against pwND
Not being actively inclusive vs being exclusive	Perceived actions of fitness providers which exclude pwND

Devised quantitative questionnaire

QUESTIONNAIRE

1. Demographics:
Please state your role with respect to provision/regulation/funding of fitness facilities. Please document only your area of work (eg general manager of fitness facility, member of Health and Wellbeing Board) and refrain from specific job titles.

2. I would / would not expect people with neurological disabilities (pwND), that is people with physical disabilities resulting from conditions such as stroke, Parkinson's Disease or MS, to exercise in a gym/fitness facility environment. Delete as appropriate.

3. I do / do not think pwND would want to exercise in a gym/fitness facility environment. Delete as appropriate.

4. Fitness exercise for pwND is best provided for in a health care setting. (for safety reasons?)
Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree

5. PwND can benefit from exercise provided in a gym/fitness facility environment.
Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree

6. PwND can exercise safely in a gym/fitness facility environment.
Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree

7. I am aware of evidence showing that pwND can benefit from exercise in a gym/fitness facility environment in the following ways:

Improved cardiovascular fitness	yes / no
Improved strength	yes / no
Stronger bones	yes / no
Improved function	yes / no
Greater feeling of well-being	yes / no

8. PwND require assistance to use equipment in a gym/fitness facility.
Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree

9. PwND require special equipment to exercise in a gym/fitness facility.
Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree

10. Making a gym/fitness facility accessible for pwND requires:

Extra staff	yes / no
Extra space	yes / no
Specialist knowledge/specially trained staff	yes / no
Special equipment	yes / no
Classes for specific groups	yes / no
None of the above, normal accessibility requirements suffice	yes / no

11. Making a gym/fitness facility accessible for pwND is expensive.
Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree

12. The cost of making a gym/fitness facility accessible for pwND would deter a gym owner from doing so.
Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree

13. Health and safety and liability concerns would deter a gym owner from providing fitness facilities for pwND.
Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree

14. Any other comments or observations you would like to add would be welcome: