

Experiences of an adapted cardiac rehabilitation programme post-stroke

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Introduction

The Cardiovascular Disease Outcomes Strategy¹ suggests the use of existing cardiac rehabilitation (CR) for people with mild disability stroke and post Transient Ischaemic Attack (TIA), however, limited research has been conducted exploring the attitudes of people with stroke. Only two previous studies have explored participants attitudes to CR^{2,3}. Hillsdon et al² identified that people post mild stroke enjoyed CR but would have preferred a more stroke-specific education programme. Marzolini et al³ focused on barriers post-stroke to CR, these were similar to identified barriers to exercise post-stroke.



Figure 1. Stroke participants taking part in CR warmup

Method

The research aim was to understand the experiences and attitudes of people post-stroke and post-cardiac event to adapted CR and to identify barriers to attending CR for people post-stroke. Using a qualitative interpretive approach with four researchers, thirty semi-structured in-depth interviews were conducted with people post-stroke in the sub-acute phase of recovery after taking part in a six-week adapted CR programme with cardiac patients. Also five interviews with people post-stroke who did not want to participate in CR and five interviews with CR patients. Discussions were audiotaped and transcribed verbatim. Three qualitative researchers analysed the data using an interpretive thematic analysis and themes were identified to explain experiences.

Results

30 people post-stroke (19 men, ranging in age between 35 and 89 years) and 12 of their carers were interviewed. Their ethnicity reflected the local population, with 26 Caucasian, two Asian and two Afro-Caribbean patients. The average length of time post stroke was 89 days (range 26 – 147). Also five people post cardiac event (3 men, ranging in age between 35 and 80 years) and five people post-stroke who had not wanted to take part in CR (3 men, ranging in age between 59 to 79 years) were interviewed.

All participants and their carers enjoyed the programme although those with more disability would prefer a stroke specific service. The main themes identified were: benefits of CR, knowledge, behaviour change, barriers to CR, adaptations to CR and fatigue. For the people post cardiac event, the themes identified were: benefits of CR, knowledge of exercise, barriers to CR and behaviour change. For the stroke patients who did not want to participate in CR the themes identified were: reasons for non-participation, activity levels pre-stroke, stroke knowledge, exercise knowledge, healthy lifestyle knowledge and provision.

Stroke participant themes

- **Barriers** – physical disability, “*well really it’s just the leg and arm...the movement and pain*” (P24) psychological, “*I think it’s embarrassment...how your arm is and all that*” (P16), transport, “*I’d have to get a bus...then another bus...it would have been two and a half hours travelling a day*” (P27). Over half of the patients saying that without the transport they would not have been able to get to the classes in the early stages of their stroke.
- **Fatigue** - All participants had stroke-related fatigue, over half felt that exercise improved their fatigue, “*I could sleep more once I’d been exercising*” (P22), only two felt that exercise made it worse.
- **Benefits** – physical (strength, energy, mobility), psychological (confidence, motivation, coping), social, return to work, “*Without CR I would have been sitting, it would have taken me a while before going back to work, but because of the CR I went back to work quite early*”(P12) and education about exercise and healthy lifestyles.
- **Knowledge** – over half of participants were able to remember exercise guidelines, however, 13 could not remember all the detail. This appeared to be related to cognition. Some still had doubts “*I know we can’t prevent it*” (P22), over half of the participants had no idea what could have caused their stroke.
- **Behaviour change** –: over half stated they had made changes in their lifestyle with diet and exercise being the main changes. “*I’m doing a lot more than I would of...before I didn’t used to enjoy exercise but now...*”(P14)
- **Adaptations** – timing, frequency and duration of classes, inclusion of a specialist stroke physiotherapist, “*they know more about a stroke than a heart person would.*” (P22) and education more stroke focused.

Stroke non-participants

Barriers related to time commitments and fear. They also had very limited knowledge of their stroke, exercise guidelines and healthy lifestyles.

Cardiac patients

Did not identify environmental barriers and only one mentioned a psychological barrier. As with the stroke participants they had improved knowledge of healthy lifestyles and had made some behavior changes.



Figure 2. Participant with greater level of disability

Conclusion

People with a mild severity (NIHSS <3) stroke in the sub-acute phase of recovery enjoy and benefit from *adapted* (including specialist stroke physiotherapists) CR. However, people with more disability (NIHSS>2) had more physical, psychological and environmental barriers to participating. Adapted CR has the potential to improve knowledge and impact on behaviour change although more significant adaptations would be needed for the more disabled stroke population (>2 NIHSS) .