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# CLAHRCBITE

## Master's study:

**An exploration of the barriers and enablers of using electrically assisted bikes (e-bikes) in the development of a stroke rehabilitation intervention.**



Stroke survivors face a number of inequalities with regards to physical activity and independent living and recently there has been an increased interest in the development of innovative approaches within stroke rehabilitation interventions to increase physical activity levels within the stroke population.

### What was the aim of the project?

The aim of the project was to identify the barriers and enablers to using an e-bike by stroke survivors. The COM-B behaviour change model was used to guide the understanding of these barriers and enablers. This research could then be used as the basis for developing a stroke rehabilitation intervention.

### How did we involve people?

Six male stroke survivors were recruited from stroke support groups from Preston and Wigan, and from contacts within the stroke research team at the University of Central Lancashire. Due to various factors only three participants went on to actually loan an e-bike/e-trike.



## What did we do?

The research took place over three phases:

1. Semi-structured interviews were carried out with the participants to identify their perceived barriers and enablers to using an e-bike.
2. Following GP approval, participants had the opportunity to loan an e-bike for up to three months. Depending on the needs and abilities of the participant, they could loan either a standard two-wheeled e-bike or tricycle version (e-trike). During the loan periods participants were contacted every two weeks to discover if any new barriers and enablers had emerged or if they required any additional support.
3. After the loan period, participants took part in a final semi-structured interview to discuss their experiences of using the e-bike/e-trike.



## What next?

The results of this research can be used as a starting point in the development of a stroke rehabilitation intervention and the author is looking to publish the findings of this research in peer-reviewed journals.

Further research is currently being conducted in relation to e-bike usage and stroke survivors but with a focus on the physiological benefits.

## What we found and what does this mean?

The stroke survivors identified several barriers and enablers to using the e-bike. The most common barriers were in relation to the effects of physical impairment, knowledge about the e-bike and a fear of bumping into things. The main enablers were that the e-bike gave the participants the confidence to cycle further for longer, having social support from family members and the belief that using the e-bike was a mode of physical activity that was enjoyable and good for their health.

If e-bikes are going to be used as part of a stroke rehabilitation intervention the barriers need to be addressed and build on the enablers to increase physical activity levels post-stroke.

## Who was involved?

The project was carried out with support from a local bike company that specialised in e-bikes. The role of the company was to fit the stroke survivors with an e-bike, assess for any adaptations required and train participants on how to use the e-bike safely.

## What is NIHR ARC North West?

The Applied Research Collaboration, North West Coast is a partnership between universities, NHS, councils and other stakeholders, and the public. Our mission is to undertake applied research to improve public health, wellbeing, quality of care & reduce health inequalities across the North West Coast region. ARC NWC is funded by the National Institute for Health Research.

## Find out more:

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