

**Final report summary:**

# What are the hidden impacts of transient ischaemic attack?

**FACE TIA: Functional, cognitive and emotional outcomes after Transient Ischemic Attack: A prospective, controlled cohort study to inform future rehabilitative interventions**

**PROJECT CODE:** TSA 2011-09

**PRINCIPAL INVESTIGATOR:** PROFESSOR CATHERINE SACKLEY

**INSTITUTION:** KINGS COLLEGE LONDON

## Why did we fund this research?

A transient ischaemic attack (TIA), is also known as a mini-stroke. It is considered to be the same as a stroke, except that the symptoms last for a short amount of time, and should persist for no longer than 24 hours. Most strokes are caused by a blockage cutting off the blood supply to part of the brain. The only difference when a person has a TIA is that the blockage is temporary – it either dissolves on its own or moves, so that the blood supply returns to normal and symptoms should resolve.

The National Clinical Guideline for Stroke<sup>1</sup> suggests that after a TIA, the risk of having a full stroke is increased over the following seven days, with guidance including urgent assessment within 24 hours by a specialist physician in a neurovascular clinic (TIA clinic) or an acute stroke unit.



However, whilst acknowledged as a medical emergency, little is known about the long term impact of having a TIA itself, including outcomes patients report relating to their mood, quality of life and ability to return to their usual activities, and social life<sup>2,3,4</sup>.

This study aimed to investigate whether or not patients have depressed mood, and/or residual functional (activity related) or memory and thinking (cognitive) problems after being diagnosed with TIA, and if these adversely influence their day to day living.

If successful, the study could improve our understanding of the longer term impacts of TIA upon patients and their families, and lead to the evaluation of interventions intended to improve care, support and outcomes after TIA.

## What did the researchers do?

Participants from five participant groups were monitored over a 12-month period.

- Patients attending TIA clinics, diagnosed:
  1. with first ever TIA
  2. as having a possible TIA
  3. as having a (minor) stroke
  4. as NOT having a TIA, or stroke but having a 'mimic' condition.
- Healthy 'control' participants from general practitioner (GP) registers.

Questionnaires including self-reported assessments of functional ability, and mood were given or mailed out to participants close to when they had their initial symptoms (baseline), then three, six and 12 months after symptom onset.

The Nottingham Extended Activities of Daily Living (NEADL<sup>5</sup>) scale consists of 22 items, measuring different areas of functional ability. Items include asking whether a participant can do their washing up, use the telephone, or drive a car. Items are answered by ticking 'no', 'with help', 'on your own with difficulty', or 'on your own'.

The Hospital Anxiety and Depression Scale (HADS<sup>6</sup>) consists of 14 items, seven of which measure anxiety ('HADS-A' section of the assessment), and seven which measure levels of depression ('HADS-D' section of the assessment). The patients score each item on a scale of 0-3.

The main outcome measures of the study were how participant groups compared on the NEADL assessment, and HADS-D and HADS-S sections of the HADS assessment.

# What did the research find?

## Functional outcomes

Although NEADL scores were consistently lower among TIA clinic attendance groups than healthy control participants at baseline, this was only statistically significant in the group diagnosed with stroke. NEADL scores improved significantly in the group diagnosed with stroke over the 12 month follow-up.

## Anxiety

At baseline assessment, all TIA clinic attendance groups had worse anxiety scores than healthy control participants. There was a statistically significant improvement in anxiety in the diagnosed with TIA, possible TIA and TIA mimic groups, between baseline and 12 months, but not for patients diagnosed with stroke, or in the healthy control participant group.

## Depression

At baseline assessment, HADS-D scores were significantly worse among the groups diagnosed with stroke and possible TIA when compared to healthy control participants. However this was not found for the groups diagnosed with a TIA or TIA mimic.

Depression did appear to increase over the 12-month follow-up in the TIA group, becoming significantly worse than in the healthy control participant group. An increase in depression relative to healthy control participants was also seen among stroke patients over 12 months. However, none of the changes in depression scores within participants groups were statistically significant over the 12 month course of follow up.

## Overall

This study is the first of its kind to group people attending a TIA clinic by diagnosis, and measure how they fare over time when compared to each other and a healthy control participant group.

The results from this study illustrate that the patients who had been diagnosed with stroke at the TIA clinic had functional impairments, increased anxiety, and depression in the early days after stroke when compared to healthy control participants. Whilst their functional impairments improved over 12 month follow-up, their anxiety and depression did not.

Outcomes for the other groups diagnosed at the TIA clinic including TIA remain inconclusive, but may merit further attention and intervention, both in terms of research and clinical rehabilitation.

## What does this mean for stroke survivors?

This study did not show conclusive impacts of TIA on patient functional, memory and thinking (cognitive) or mood problems within the first 12 months after stroke.

## References

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## We are the Stroke Association

The Stroke Association is the leading stroke charity in the UK. We believe in the power of research to save lives, prevent stroke and ensure that people make the best recovery they can after a stroke.

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