Health Research Board

# Research Brief

SPHeRE Structured Population and Health-services Research Education

## Cognitive impairment and medication adherence after stroke:

A review of the evidence

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### Executive summary

Taking, or adhering to, prescribed medications is important after a stroke. Medications are used to control cardiovascular risk factors, such as high blood pressure and high cholesterol. Controlling these risk factors can reduce the risk of having a second stroke, and could also reduce the risk of developing cognitive impairment. Cognitive impairment is common after stroke and can affect ability to take medications as prescribed. Little research to date has explored the link between cognitive impairment and medication adherence after stroke. This review found nine studies that reported on the relationship between cognitive impairment and medication adherence, with contradictory results. When all nine studies were combined, there was no overall association between cognitive impairment and adherence. However, the nine studies differed greatly in how they defined and measured cognitive impairment and medication adherence. The overall quality of the evidence was low, with more research needed to fully understand the potential link between cognitive impairment and medication adherence after stroke.


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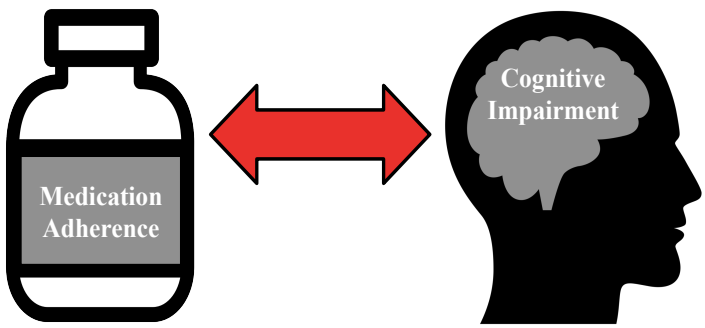
| **Medication adherence** | The extent to which medications are taken as recommended |
| **Cognitive impairment** | Difficulties with memory, concentration, attention, and learning |
| **Cardiovascular** | The heart and blood vessels, including blood vessels in the brain |

### Introduction



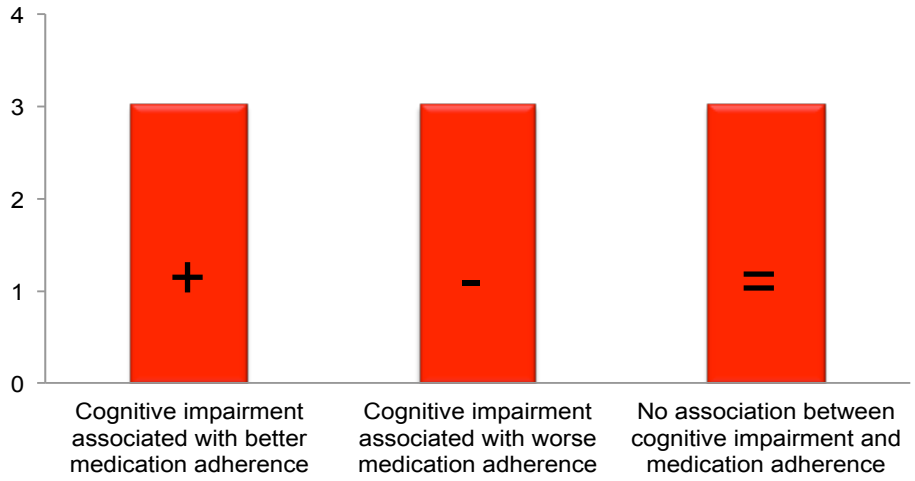

Cognitive impairment is common following stroke. Cardiovascular risk factors such as high blood pressure, high cholesterol and atrial fibrillation (an irregular heartbeat) increase the risk of having another stroke. These risk factors can also increase the likelihood of developing cognitive impairment. Taking medications to control these risk factors could therefore reduce the risk of having another stroke, as well as the risk of experiencing cognitive impairment. However, many patients do not take or adhere to their medications as prescribed. Taking medications may be challenging for people with cognitive impairment. This study reviewed the evidence on the link between cognitive impairment and adherence to medications in people with stroke.

### Methods

We carried out a systematic review of published research studies that looked at the association between cognitive impairment and medication adherence in people who have had a stroke.

## Results

We found nine studies that reported on cognitive impairment and non-adherence in stroke. All studies measured cognitive impairment and medication adherence in different ways, which makes it difficult to compare the results of each study. When taken together, there was no overall association between cognitive impairment and adherence.




**Number of studies reporting positive, negative, and no association between cognitive impairment and adherence**

However, the overall quality of the evidence was low, and more research is needed to understand the potential links between cognitive impairment and medication adherence after stroke.

## Conclusions

There is little research on the association between cognitive impairment and medication adherence in stroke patients. Findings of studies carried out to date are contradictory, and more research is needed.

## Implications

- The way people take their medications is affected by many different things. Understanding these could allow us to improve medication adherence. This could lead to better outcomes after stroke, and reduce the burden on families, carers, and the healthcare system.

- More research is required to
  1. Understand the link between cognitive impairment and medication taking
  2. Identify stroke patients at greatest risk of not adhering to medications


**To read more, please visit:** https://doi.org/10.1371/journal.pone.0189339

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