

ABSTRACT

In the medical world, there are very limited resources that support patients with Traumatic Brain Injuries (TBIs) with recovering memory in a cost-efficient, minimally invasive way.

We created a medical professionals’ document and patient pamphlet outlining effective methods of recovering memory through dietary changes, physical exercise, cognitive games, and altered sleep habits. We also included a section that describes ways of minimizing behavioral impairments that often accompany TBIs.

To evaluate how our pamphlet will be perceived by the public, we created a survey that asked about its comprehensibility. The data indicated that the pamphlet can be utilized by patients in a clinical setting.



INTRODUCTION

- Due to the fact that there are currently minimal resources on memory retention and recovery in TBI patients, our grand challenge is to develop new resources.
- It has been proven that even many years after a traumatic brain injury has occurred roughly 53% of patients are still suffering from memory loss (1).
- There are roughly 1.4 million traumatic brain injuries that occur each year with roughly 79% of them ending up in the emergency room (2).
- The majority of those TBI patients cannot retain or perform memory tasks afterward and don't continuously seek treatment as there aren't many resources for them to access.

Guidelines for Improving Memory Retention and Recovery in TBI Patients

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PROJECT DESCRIPTION

This document will discuss and thoroughly outline different methods to assist TBI patients in regaining and recovering their memory. The methods mentioned throughout to help patients recover or further improve their memory include brain exercises and brain games, physical exercise, nutrition, sleep, meditation, and active rest, and minimizing behavioral impairments. Each method is specific to achieving its own goal however, traumatic brain injury carries a different level of severity which then alters the solution under each method as well as the patient's willingness to engage in recovery which is something to keep in mind while the initial assessment occurs.

CONTENTS



Medical Professional Document



SLEEP, MEDITATION, AND ACTIVE REST

- 1. **Sleep**
  - Aim for 8 hours of sleep per night
  - Avoid blue light exposure and stressful situations 1-2 hours before bed
  - Avoid napping during the day
- 2. **Active rest**
  - Resting while engaging in something that is enjoyable and stimulating
  - For example: listening to music, playing video/computer games, and reading
- 3. **Meditation**
  - Find a quiet, calming place to sit
  - Set a time limit
  - Be mindful of your body by sitting in a position you can hold for the duration of your time limit
  - Close your eyes and focus on your breathing
  - Let your worries go and relax. Focus on the environment in that moment
  - When the time is up, slowly open your eyes. Reflect on how the meditation made you feel both physically and mentally.

Patient and Caregiver Pamphlet

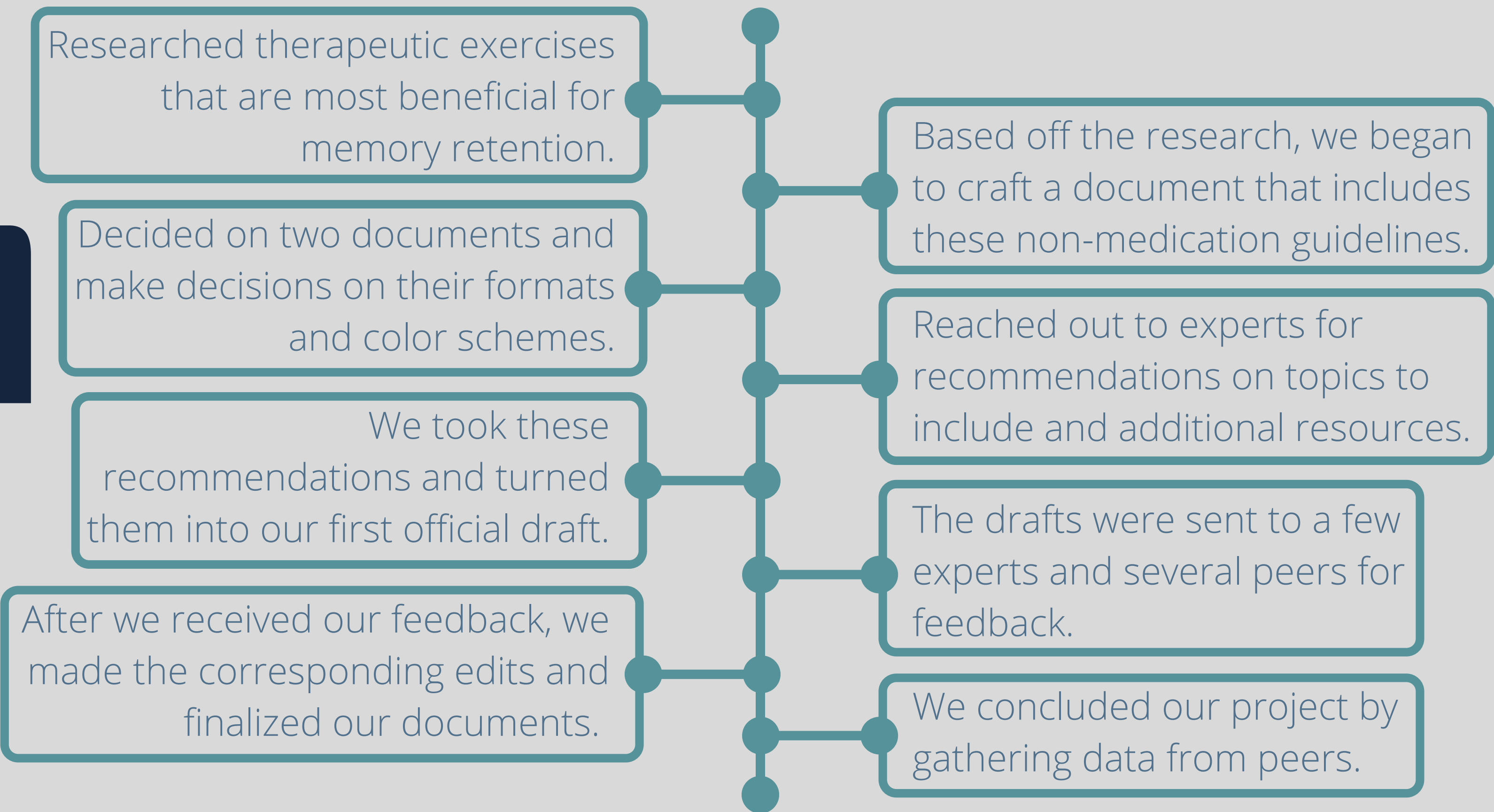
TRAUMATIC BRAIN INJURIES: MEMORY RETENTION AND RECOVERY

ALYSSA AGOADO, JESSIE SOLIZ, LEILA MAHMOODI, SOPHIA HICKEL

AWKNOWLEDGEMENTS

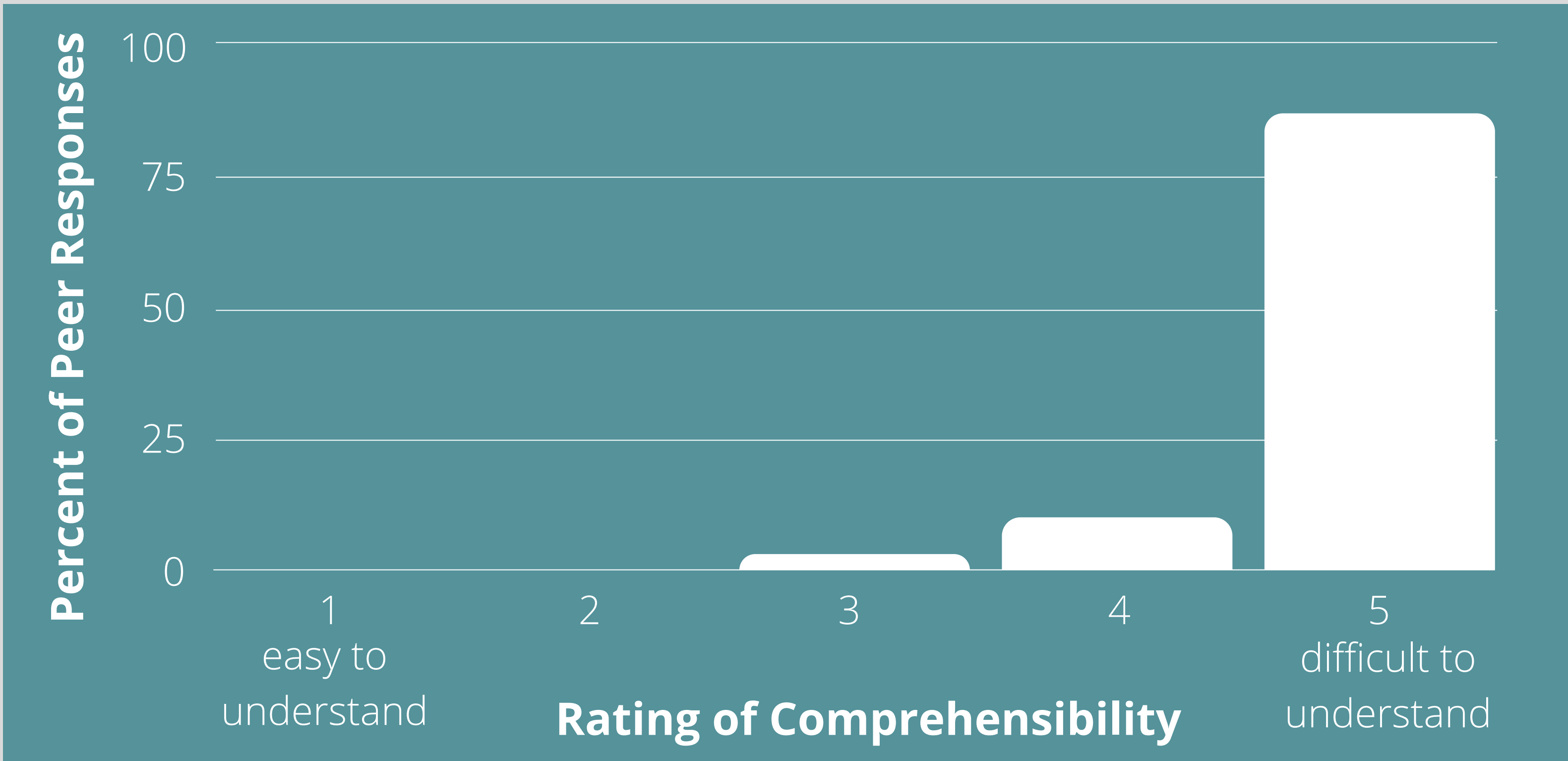
Dr. An H. Do, Dr. Bingjie Zhang, Dr. Dominique Duncan, Dr. Kelsey Gray, Dr. Mario Stipcic, Dr. Rachel Garner, Dr. Richard Davis, Dr. Sharief Taraman, Dr. Ting Z. Young

METHODS



RESULTS

Results of Survey Evaluating the Comprehensibility of the Patient Pamphlet



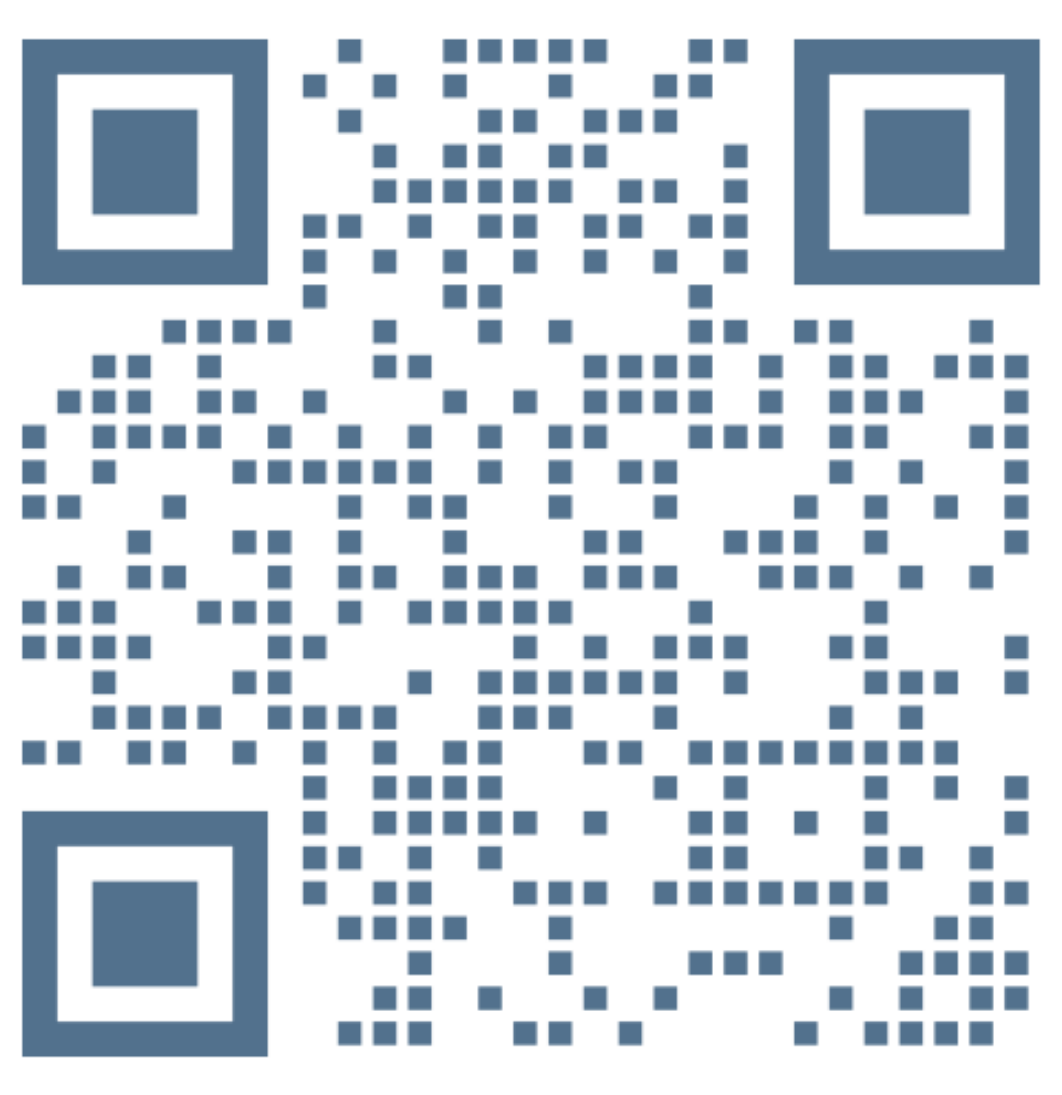
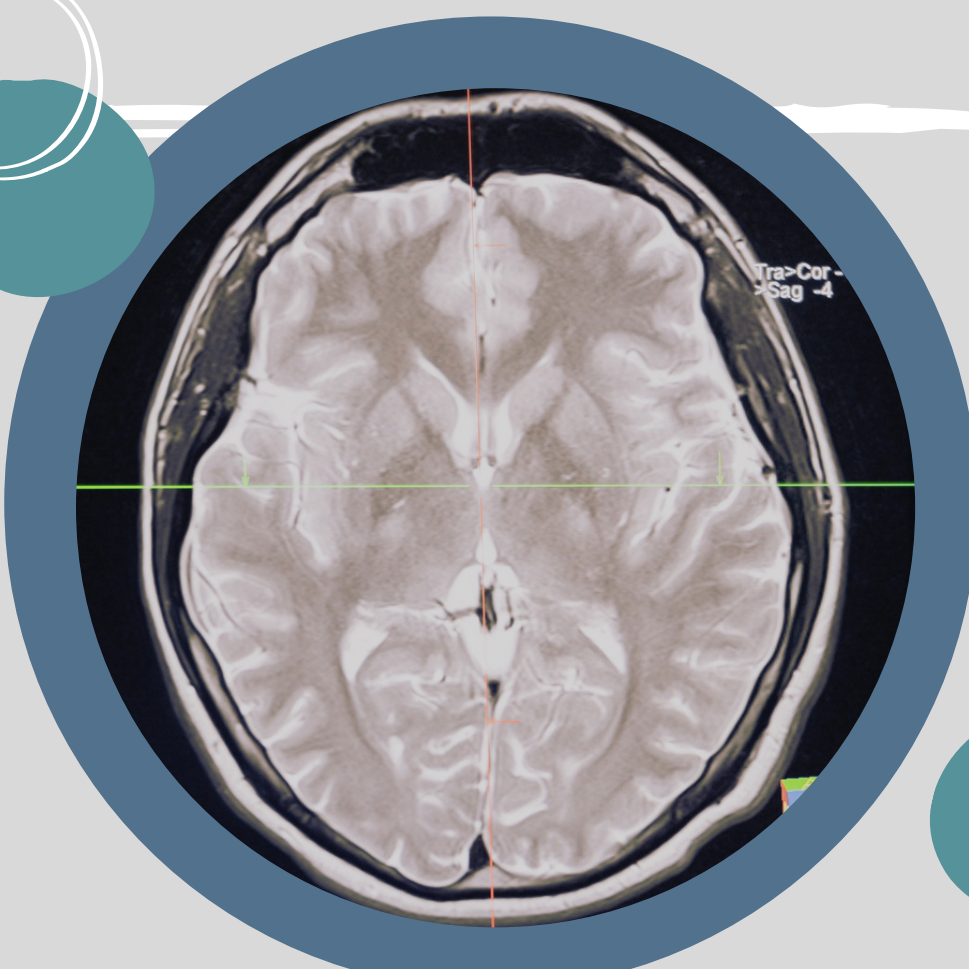
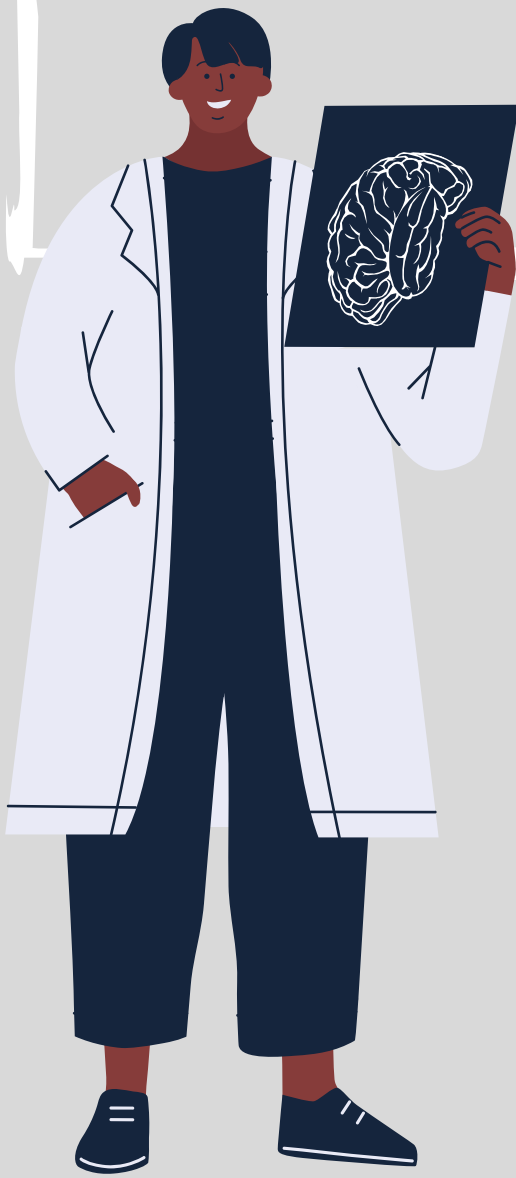
- The results showed that the pamphlet was clear enough to be thoroughly understood by people with minimal knowledge on memory recovery in TBI patients.
- This indicates that the pamphlet will perform well in a clinical setting, especially accompanied by the medical document and a practicing physician.



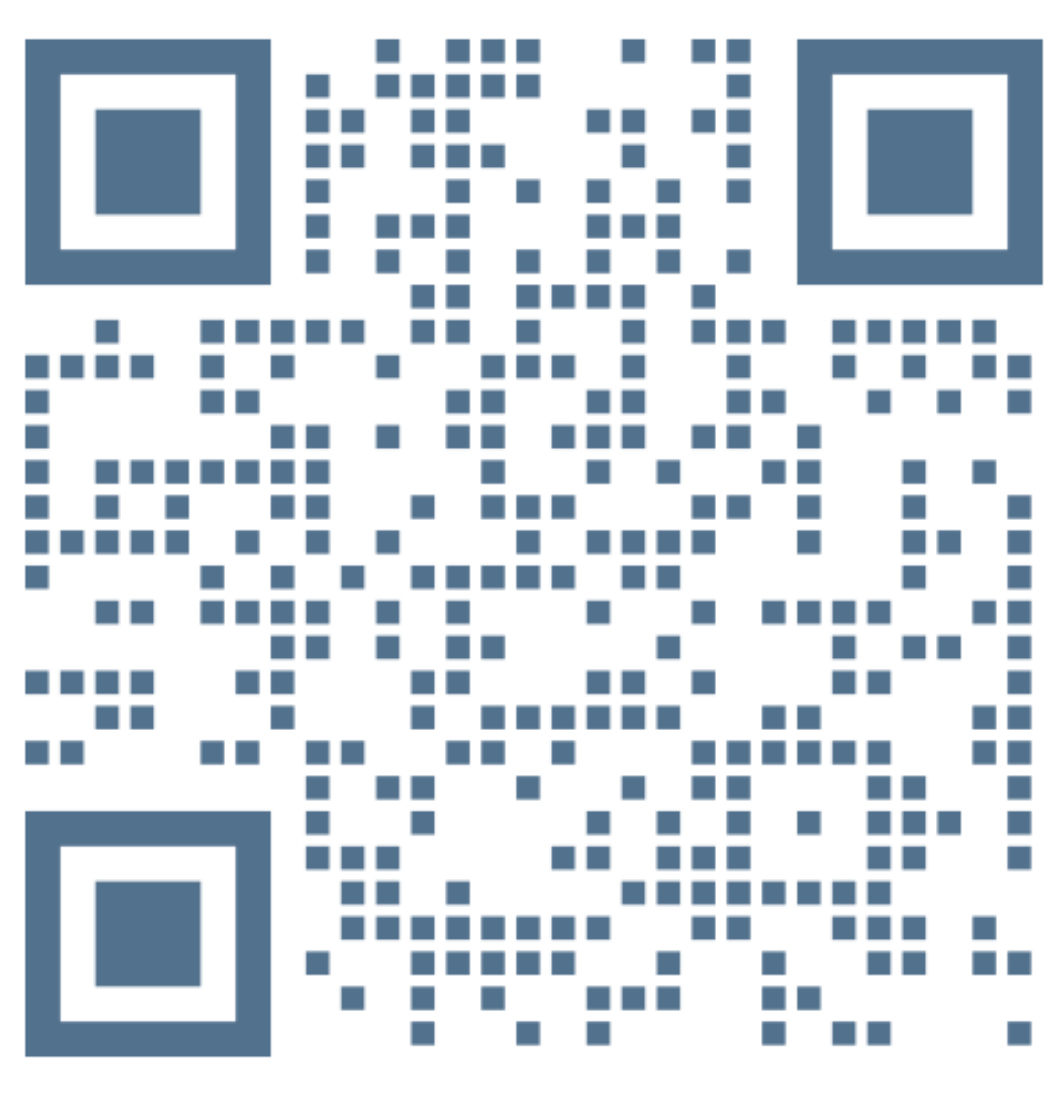
CONCLUSION

We successfully created a well-researched, comprehensive medical professional document and patient/caregiver pamphlet that can act as a guideline to improve memory retention and recovery in TBI patients.

In the future, these documents can be distributed to medical professionals who, after reading the document created for them, can distribute our pamphlet to their TBI patients so the guidelines we created can be put to use.



Medical Professional Document



Patient and Caregiver Pamphlet

LITERATURE CITED

1. Prigatano GP, Schacter DL. 1991. Awareness of Deficit After Brain Injury: Clinical and Theoretical Issues. Oxford University Press.
2. Traumatic brain injury in the United States; emergency department visits, hospitalizations, and deaths. [stacks.cdc.gov.https://stacks.cdc.gov/view/cdc/12294](https://stacks.cdc.gov/view/cdc/12294)

