

The Reforming of an Assistive Technology Resource for the Use of Pharmacists' to Provide Better Pharmaceutical Care for Patients With Sensory Impairment

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INTRODUCTION

Background Research:

- Interviews with 23 sensory impaired (hearing and/or visual impaired) patients found that there was a lack of pharmaceutical care for these patients. [1] Interviews with Pharmacists' confirmed that community based care for sensory impaired patients was heavily overlooked. [2]

Next Steps:

- SIPA 2 researchers created an excel spreadsheet of information containing Assistive Technology products to aid sensory impaired patients with their pharmaceutical needs. (Figure 1)

Aim of Study:

- To create a suitable resource for Pharmacists' to use in order to recommended products to patients with sensory impairment, by using the information from the SIPA 2 excel spreadsheet. The final resource designed was validated in usability tests with pharmacists' to ensure it was fit for the intended purpose. Thus improving the pharmaceutical care for sensory impaired patients.

METHOD


Improving the resource

- Reform the original SIPA 2 excel spreadsheet into a suitable 'user friendly' resource a pharmacist could use to help in a consultation with a sensory impaired patient. This was designed using **Excel**.
- PDSA (PLAN, DO, STUDY, ACT) cycles were used to record changes and for quality improvement. [3]
- Changes to produce the final resource included:


- Organisation of columns
- Addition of filter functions
- Visually aesthetic changes

- Once the final resource was completed, in order for the changes to be validated a Usability test was designed and conducted. (Figure 2)


Usability Test



Designed into Two Parts



Conducted over ZOOM



Participants included 9 Pharmacists

Part 1:

- Participant gave thoughts and opinions upon first look of resource
- Three patient-based scenarios provided with the task to find a product for the patient with sensory impairment. (Mimicking a real life consolation).
- 'Think Aloud' method applied as participants used resource, unfiltered and concurrent opinions regarding the resource were recorded

Part 2:

- Participants completed a questionnaire based on the Technology Acceptance model framework.[5]
- This measure the 'perceived usefulness' and the perceived ease of use' of the resource
- 12 statements answered on a 5 point 'Likert' scale.
- Strongly disagree to Strongly Agree

RESULTS

Improving the resource (PDSA cycle) results

- The Final resource produced (Figure 2)

Usability test results:

Part 1:

- Qualitative data analysed using Braun and Clarke's (2006) framework [6]
- Inductive bottom up approach applied using Ryan & Bernard (2003) line by line approach to code data from the usability tests.. [7]
- Three major themes identified from usability test results:

- The content in the resource,
- Searching for products using the resource
- End user (The Pharmacist) using the resource.

Content theme:
"quite straightforward and easy to understand" (P4)

"categories look fine, and they make sense" (P2)

Searching theme:
Filter functions added on excel:
"in terms of resetting the filters... probably excel isn't the best program for this" (P8)

End User theme:
Pharmacists using the resource in practice:
"In practice, like it would actually save you so much time and make you more helpful for people" (P2)

Part 2:

Likert scale results:

'Perceived Usefulness' was measured on a Likert scale, by compiling the results of the 6 statements answered by participants regarding the 'Perceived Usefulness' of the resource. The percentage responses from all the participants to each statement were calculated, to provide an overall analysis of the 'Perceived Usefulness'. The same was done with the 'Perceived Ease of Use'. (Figure 3 and 4).

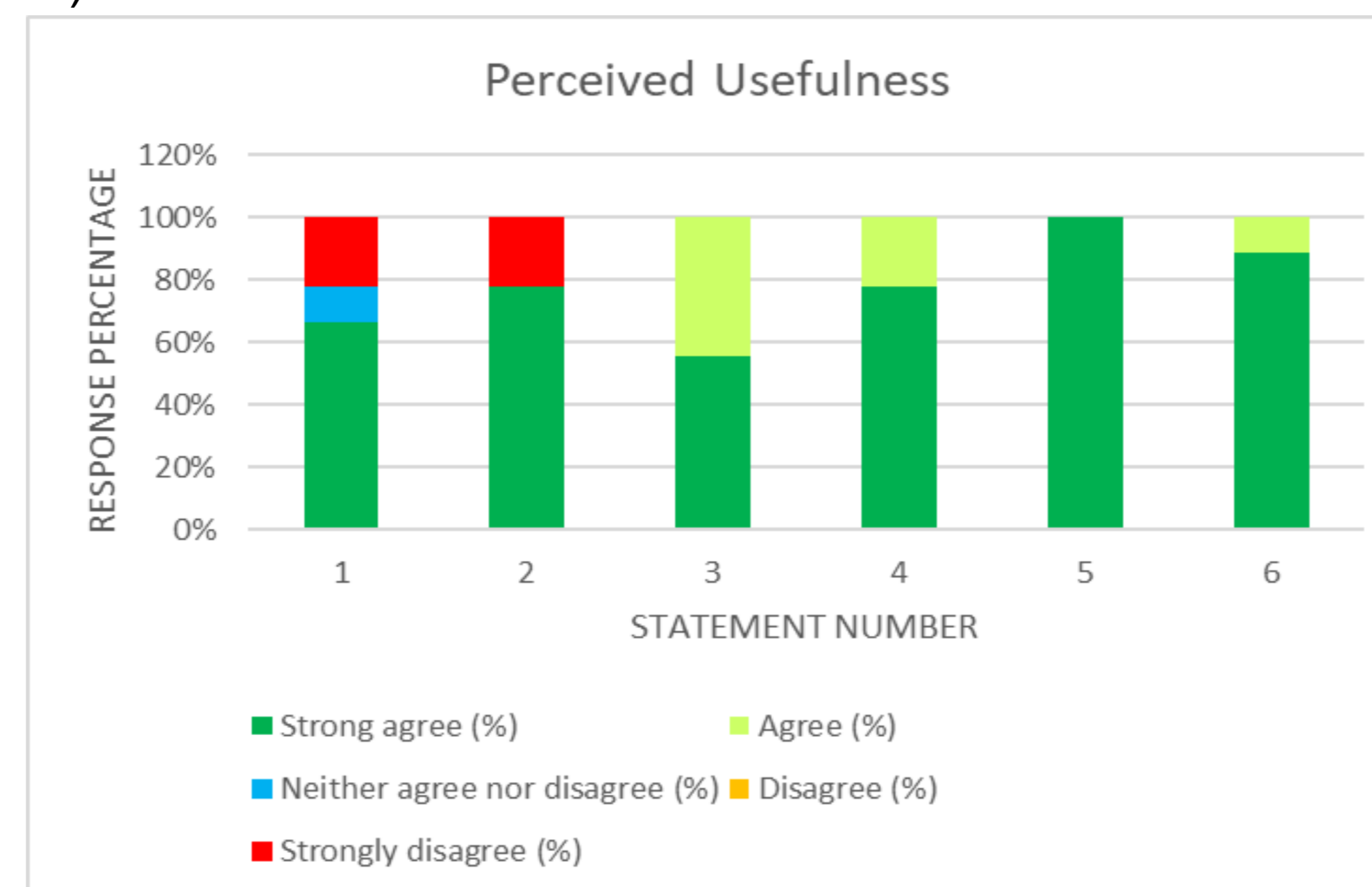


Figure 3: Bar graph of the results from the Likert scale for 'Perceived Usefulness'

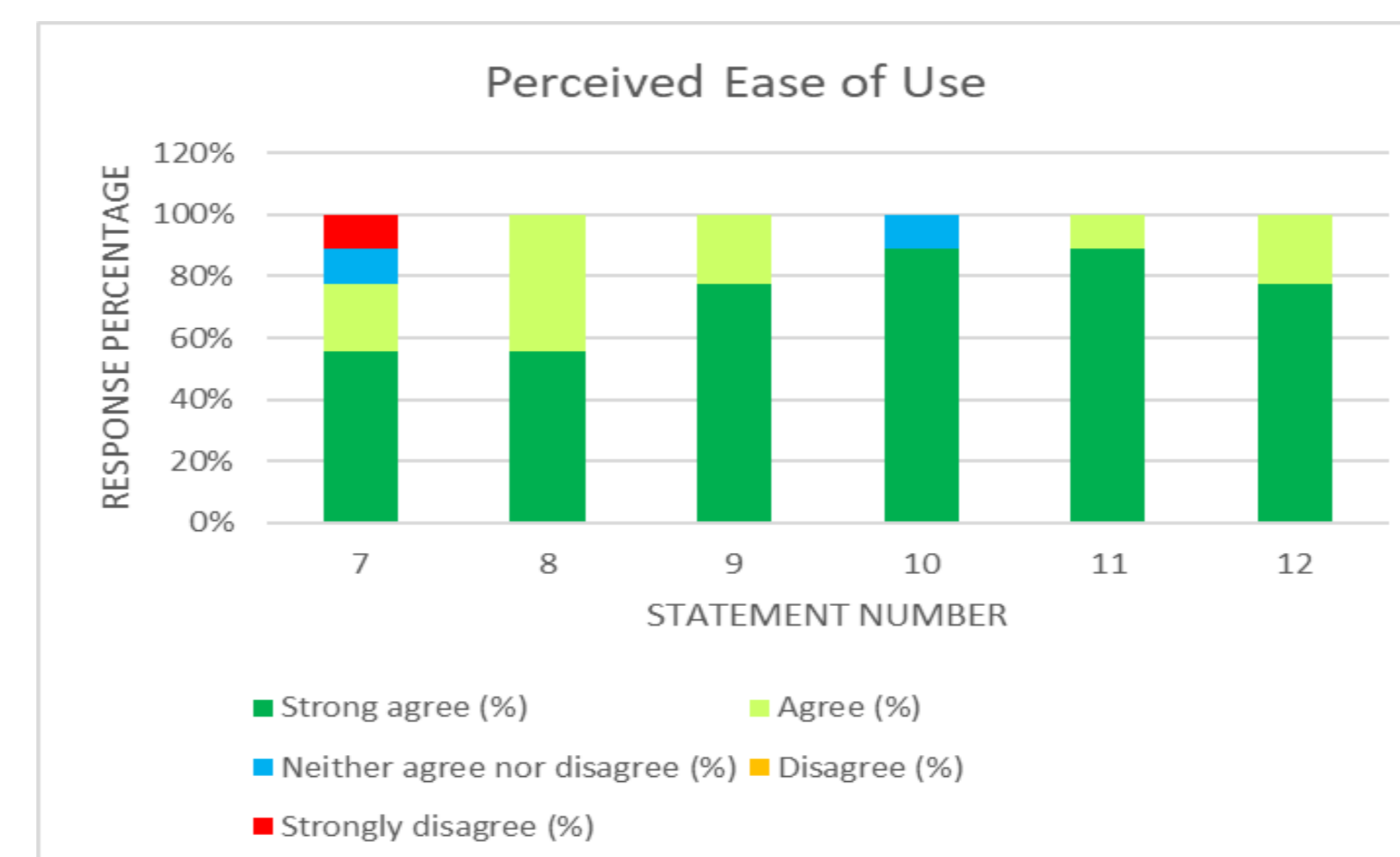


Figure 4: Bar graph of the results from the Likert scale for 'Perceived Ease of Use'

SIPA 2 ORIGINAL EXCEL SHEET

Figure 1: Screenshot of SIPA 2 Original Excel Spreadsheet

FINAL RESOURCE PRODUCED

Figure 2: Screenshot of Final Resource Produced During Project

KEY FINDINGS AND CONCLUSIONS

- Results confirmed the resource was successful for the aim of pharmacist to recommend a product to a patient with sensory impairment. Positive responses within the Usability test (from the identified themes) confirmed the resource worked well for the intended purpose. Likert scale responses showed a positive response to 'perceived usefulness' and 'perceived ease of use', with majority answers being "Strongly Agree" and "Agree" to the statements.
- The form in which information has been structured can be used for further development into an app or website for better accessibility as excel may not be the best format for final product.
- Further development into the resource being made accessible to all areas within health and social care.

REFERENCES

- Killick K, et al. A scoping review of the pharmaceutical care needs of people with sensory impairment. Int J Pharm Pract 2018
- Alhusein N, et al. "We're really not ready for this". Community pharmacy personnel perspective on the needs of older people with sensory impairment: qualitative study. (accepted 24/10/18) in press Disability and Health Journal
- Taylor MJ, McNicholas C, Nicolay C, et al Systematic review of the application of the plan-do-study-act method to improve quality in healthcare BMJ Quality & Safety 2014;23:290-298.
- Wu J, Tombor I, Shahab L, West R. Usability testing of a smoking cessation smartphone application ('SmokeFree Baby'): A think-aloud study with pregnant smokers. DIGITAL HEALTH. 2017;3:205520761770427
- Joanna C, Moulin, Daniel Sabater-Hernández, et al, Defining professional pharmacy services in community pharmacy, Research in Social and Administrative Pharmacy, Volume 9, Issue 6, 2013
- Virginia Braun & Victoria Clarke (2014) What can "thematic analysis" offer health and wellbeing researchers?, International Journal of Qualitative Studies on Health and Well-being, 9:1, DOI: 10.3402/ijqhw.v9.26152
- Ryan GW, Bernard HR. Techniques to Identify Themes. Field Methods. 2003;15(1):85-109. doi:10.1177/1525822X02239569