

Choice experiments in older people with advanced renal disease: a 'think aloud' study

Dr George Kimpton^{1,2}, Dr Barnaby Hole¹, Dr Fergus Caskey^{1,2}, Professor Joanna Coast¹, Professor Rachael Morton³

¹University Of Bristol, Bristol, United Kingdom, ²North Bristol NHS Trust, Bristol, United Kingdom, ³University of Sydney, Sydney, Australia

Introduction

Deciding between dialysis and comprehensive conservative care is challenging. It is critical that healthcare professionals understand which aspects of these treatments are important to patients.

Choice experiments allow quantification of the importance of treatment components and health outcomes. Individuals either compare several treatment options (Discrete Choice Experiment, DCE), or pick the best and worst attributes of a single treatment (Best Worst Scaling, BWS). The process relies upon individuals making balanced, rational choices which are quantified as the relative importance of attributes and acceptable trade-offs that a group of respondents will consider. A previous choice experiment suggested patients with kidney disease might trade up to 15 months of life expectancy of dialysis or conservative care in order to have the freedom to travel for important commitments.

No choice experiments have studied the preferences of older patients with kidney disease. The high rate of cognitive impairment in this group might make it difficult to undertake a choice experiment. We sought to understand how older people with advanced chronic kidney disease, with and without cognitive impairment, interact with an existing choice experiment.

Methods

We used electronic screening of hospital records at a tertiary renal unit to invite a group of patients aged over 65 years with an eGFR of less than 30mL/min/1.73m² to participate. Participants underwent the Montreal Cognitive Assessment (MoCA).

Recruitment used purposive sampling methods. Participants completed either a BWS or DCE survey and were interviewed using a 'think aloud' process, where they were encouraged to talk through their reasoning and thought processes.

Interviews were transcribed verbatim. We assessed the transcripts for task misunderstandings, misinterpretations and contradictory choices, referred to as errors. Error types were coded and tabulated before development of a coding framework.

Results

Twenty-six participants completed the MoCA, of whom 13 were interviewed whilst completing the choice survey. The median age was 80 (interquartile range 79 to 86). Mean eGFR was 17 mL/min/1.73m² (range 9 to 26). Six participants (46%) had a MoCA score of <26, indicating possible cognitive impairment (Range 20 to 30).

Errors varied with type of choice experiment completed, and level of cognition. Errors predominantly related to participants' comprehension of the purpose and rules of the task, or their understanding of the terms used. Participants often considered the presented survival statistics to be unrealistic when applied to them, or had difficulty conceptualising the presented treatments as they did not fit their expectations, changing the choices they made.

Those completing BWS often failed to understand the task and required extra explanation. Those completing DCEs made errors when trying to assemble a presented treatment into a whole. This inhibited their ability to compare treatments and resulted in potential errors in expressing their preferences.

Participants expressed a preference for the DCE format.

Discussion

We found that older people with advance renal disease completed choice experiments but had high error rates. Choice experiments developed for this group must be well designed and comprehensively tested to aid understanding and reduce potential errors. This may be easier with DCE than BWS format.