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Saliency versus ranking: Exploring the utility of tasks used in qualitative research to identify concepts that are most important to patients

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Introduction & Background

Understanding the key concerns of patients which significantly affect their well-being and quality of life is essential for designing clinical trials and developing therapies that truly improve patient priorities. Qualitative interviews or surveys used in patient-centered research are a fundamental step in collecting this important data.

Concept saliency and ranking tasks are frequently used in patientcentered research to understand the "bothersomeness" or the "relative importance" of disease symptoms and impacts to how patients feel and function.

The findings of these tasks can provide additional context to patient experience or preference data collected in concept elicitation research (Figure 1). The results can also be used to:

- Inform the definition of the Concept(s) of Interest (COI) to include in a Clinical Outcome Assessment (COA) measurement strategy
- Assess coverage of existing COA measures against the COI
- Inform the development of new COA measure items that reflect concepts that are important to patients.

Figure 1. Overview of saliency versus ranking tasks used in patient-centred research

In saliency tasks:

- Participants rate each symptom or impact concept experienced on a 0-10 scale.
- With scale anchors often representing 0 = 'no bother' and 10 = 'most bothersome'
- Saliency graphs visually illustrate the concepts that are reported the most often by participants and are associated with the most bother (Figure 2).

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In ranking tasks:

- Participants are asked to pick a finite number of concepts which they had previously reported and rank them in order of bother.
- For example, rank 1 = 'most bothersome' symptom,
 rank 2 = 'second-most bothersome' symptom, and so on.
- Ranking task results are usually presented in a table or bar chart (Figure 3).

Figure 2. Example saliency task output

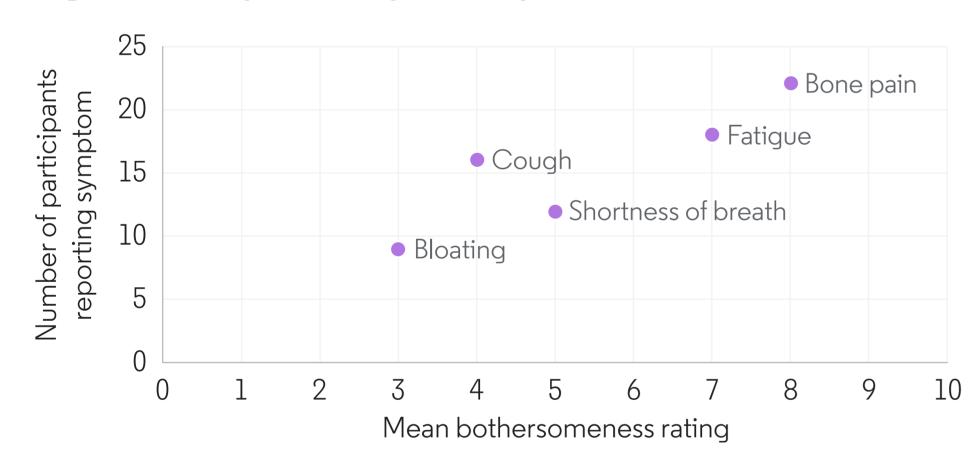
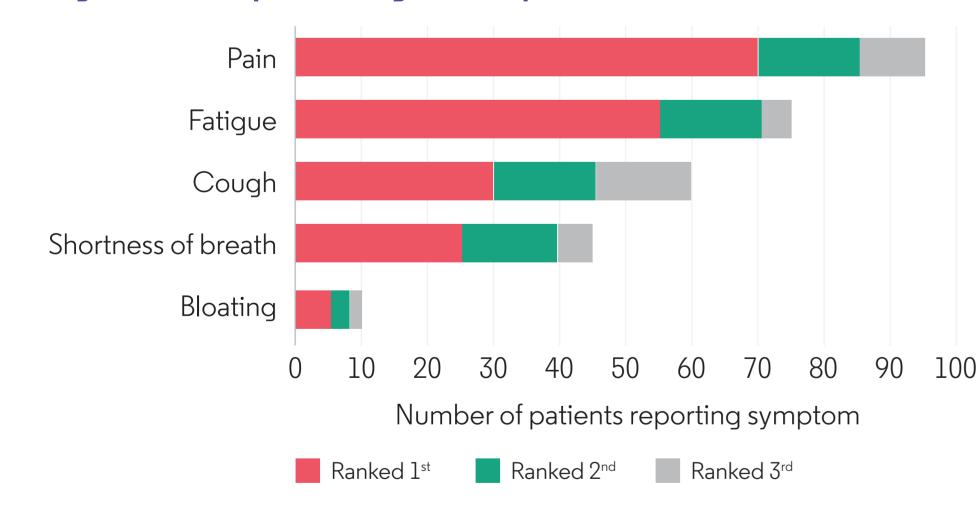


Figure 3. Example ranking task output



Aims & Methods

This review aimed to:

- Provide methodological recommendations for researchers considering the use of saliency or ranking tasks
- 2. Outline practical considerations for researchers to facilitate optimal data collection when using these methods

Publications and recent relevant experience in qualitative research studies were reviewed and drawn upon to inform understanding of how each task type can be used to identify concepts that are important to patients.

The advantages, disadvantages, and practical considerations for both saliency and ranking tasks were summarized to provide an evidence base of recommended practice for utilizing the tasks.

Results

Advantages and disadvantages of using saliency and ranking tasks in patient centered research are presented in Figure 4 and Figure 5.

Task advantages and disadvantages

Figure 4. Advantages and disadvantages of saliency tasks



Advantages



Insights: Saliency results show how 'bothersome' a concept (e.g. symptom or impact) is to the sample, relative to the other concepts experienced.



can be included in the saliency task to explore relative bother.

Interactive: Saliency tasks can be implemented using electronic or screen-sharing methods during qualitative interviews or

Coverage: All concepts that the participant reports experiencing

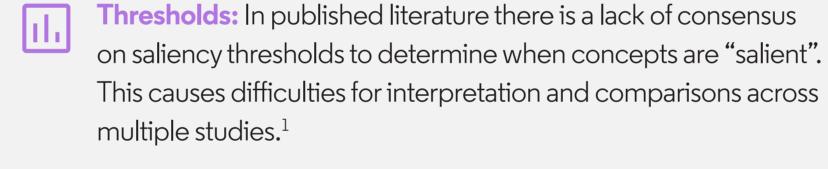


Visual graphic outputs: A range of figures can be created using the data from saliency tasks, facilitating easy interpretation of the salient concepts.

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Disadvantages

Repetitive & time consuming: Saliency tasks can be time consuming and associated with high participant burden. Participants are repeatedly asked to rate each symptom and impact concept experienced on a numerical rating scale e.g. 0-10, potentially leading to participant fatigue during the interview.



Language: Task instruction wording (e.g. 'bother' or



'disturbance') can influence participant interpretation of the task, and variability in language can cause difficulties when comparing across studies.¹



Impact concepts: Impacts to quality of life often depend on individual preferences. This may lead to busy saliency graphs which are difficult to interpret.

Figure 5. Advantages and disadvantages of ranking tasks

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Advantages



Insights: Ranking tasks can be used to refine a list of concepts to those which are most 'bothersome' which can be prioritized in healthcare decision making.



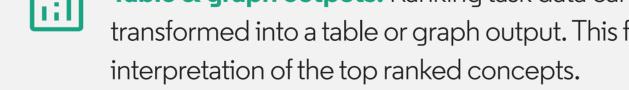
Reduced burden: Due to the finite number of ranks, this task is simpler and less time-consuming task compared to saliency, and may be easier to include in shorter interviews.

Interactive: Ranking tasks can be implemented using electronic

or screen-sharing methods during qualitative interviews or



Table & graph outputs: Ranking task data can be easily transformed into a table or graph output. This facilitates easy



Disadvantages



Coverage: Ranking tasks force participants to pick a specific number (e.g., 3) of bothersome concepts. Concepts that are ranked lower, but still considered important, could be overlooked.



Language: The task instruction wording (e.g. 'bother' or 'disturbance') can influence participant interpretation of the task, and therefore how comparable the findings are across multiple studies.

Practical considerations

Suggestions for researchers intending to use one or both tasks during during patient centered research are summarized below.

Consider the number and type of concepts anticipated:

- Conducting preliminary research into the condition can help researchers anticipate the number of concepts which may arise and decide which task is best suited to the study.
 - For example, some rare diseases can include numerous heterogenous signs/symptoms. A saliency task could therefore be time consuming to implement, and a simpler ranking task may be better suited.
- It can be difficult to gain clear results on the most "salient" or most "bothersome" impact concepts across the sample, as impacts can be varied within the sample and depend on individual experiences and preferences.
- As impacts that patients experience may vary according to their individual activities and interests, ranking tasks may be more effective at narrowing down impacts that are pertinent to patients, rather than saliency tasks.

• Consider the planned data collection methods for your study:

- Saliency tasks may be effectively implemented in electronic survey methods, as there may be more flexibility with the task time limit compared to interview studies. The survey platform can be programmed to display each sign/symptom selected on the screen to simplify the task process.
- During interviews, saliency tasks are often completed multiple times, as participants rate each individual concept they report. In comparison, ranking tasks are generally completed once. Therefore, saliency tasks are better suited to longer interviews (≥60 minutes), whereas ranking tasks are often quicker and can be completed in shorter interviews (≥30 minutes).

Consistently apply language when completing tasks with participants:

- The language used for the instructions of saliency and ranking tasks can influence how participants respond. For example, participants may have different interpretations of 'bothersome' versus 'burdensome' versus 'disturbing'.
- The language that is used should be selected based on the study objectives and applied consistently throughout data collection, such as all participants asked to rate concepts according to 'bothersomeness'.

• Plan for interpretation of task findings:

- Researchers may choose to consider a concept salient if it meets a pre-defined threshold (e.g., reported by >50% of the study population, with a mean bother rating of >5).
- However, there is a lack of consensus in published literature on the use of a-priori saliency thresholds in patient centered studies¹ and whether a threshold is necessary at all.

• Recommendations to support patient engagement²:

- Confirm with the participant that they can see the activity (if using screen-sharing), and check they understand what they need to do during the task.
- Provide wording for the interviewer to explain the terminology which can be used if the participant struggles to understand the task (e.g., "most bothersome' means the thing that bothers you the most").
- Offer interview breaks to the participant as needed.

Conclusion

- The considerations in this poster have been provided to help researchers make an informed selection of saliency and/or ranking tasks in their patient centered research.
- The considerations can also help to improve patient engagement in these tasks, improve data quality, and potentially lead to better understanding of patient priorities for their health.

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