User experience of a hereditary cancer risk assessment tool: Evaluation of usability, satisfaction, trust, perceived credibility, and barriers

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Background

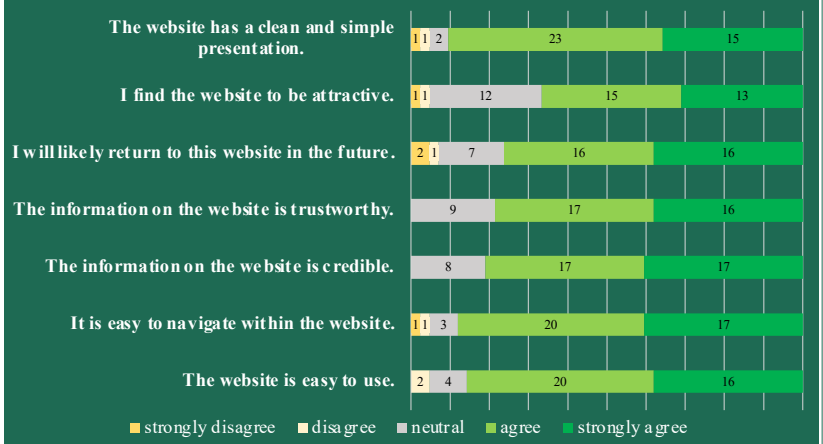
- The demand for hereditary cancer genetic counseling is higher than the available workforce can currently meet.
- Hereditary cancer risk assessment tools have been created and validated to identify individuals at the highest risk of having a hereditary cancer syndrome and have the potential to increase clinic efficiency.
- This study evaluated the RISE Risk Assessment Module: Hereditary Cancer (the tool), created by Genome Medical and available nationally.
- This validated tool collects family history and personal medical history information to evaluate if an individual is eligible for genetic testing for multiple types of hereditary cancer conditions.

Study Purpose & Methods

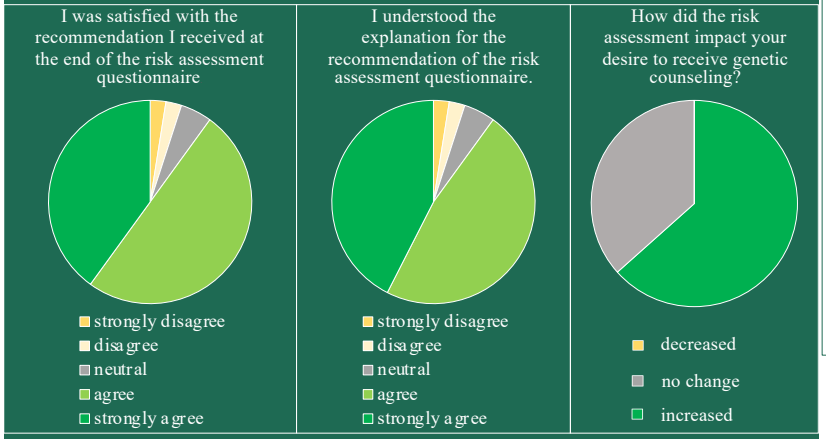
- This study aimed to investigate the patient user experience of a hereditary cancer risk assessment tool.
- Patients of the University of Alabama at Birmingham were sent a user experience survey after completing the tool prior to their genetic counseling appointment.
- The survey included the Standardized User Experience Percentile Rank Questionnaire (SUPR-Q) and additional questions created by the research team to evaluate satisfaction of tool delivery method, barriers experience while using the tool, impact of the risk assessment results, and concerns about a cost associated with the risk assessment, genetic counseling, and genetic testing
- Associations between participant characteristics and survey responses were analyzed using Spearman's correlation and Kruskal Wallis tests.
  - Participant characteristics analyzed included age, education level, cancer history status, personal history of a pathogenic variant, and family history of a pathogenic variant.
  - User experience variables analyzed included total SUPR-Q score, preparedness to complete the tool, satisfaction of the tool delivery method, concerns about cost, usability, trust, loyalty, satisfaction with results and ability to understand the results.

Results

SUPR-Q: User Experience Questionnaire



Risk Assessment Results



Barriers Experienced While Completing the Risk Assessment Tool

Did not know the answer to one or more questions about family history (4/42, 9.5%)

Did not want to enter name, date of birth and/or phone number (1/42, 2.4%)

No internet connection (1/42, 2.4%)

Associations Between Participant Characteristics and User Experience Scores

Older individuals reported lower scores in the following categories:

- **SUPR-Q score** (rho=-0.48, p=0.001)
- **Preparedness to complete the tool** (rho=-0.53, p=0.001)
- **Satisfaction with the delivery method of the tool (via text)** (rho=-0.44, p=0.0048).
- **Usability** (rho=-0.42, p=0.007), **loyalty** (rho=-0.46, p=0.0034), **& trust** (rho=-0.44, p=0.0039)
- **Satisfaction with results** (rho=-0.40, p=0.011) **& ability to understand results** (rho=-0.53, p=0.001)

There were no associations between user experience scores and the following participant characteristics:

- **Education level**
- **Cancer history status**
- **Personal history of a pathogenic variant**
- **Family history of a pathogenic variant**
- **Concerns about cost associated with the tool and/or genetic-related healthcare costs**

Limitations

- This study did not include individuals who did not complete the tool.
- This study had a limited number of participants, which may make results less generalizable.

Conclusions

- Participants found the tool acceptable indicating it could be successfully implemented into clinical settings
- Changes to the tool or its delivery may be needed to support older individuals. However, it is notable that prior studies have found that older individuals are equally as likely to complete the tool.
- Participant education level, cancer history, and personal or family history of a pathogenic variant did not significantly impact user experience, suggesting the tool could be easily used by patients in a variety of clinical settings and locations.