Enhanced Data Visualization for Symptom Management

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Background/Introduction:

According to the American Cancer Society, there will be an estimated 2,001,140 new cancer cases in the United States, 20,930 of them being in Iowa (2024). Web and mobile-based intervention have been found to significantly improve physical symptom burden in cancer patients (Saeidzadeh et al., 2021). Within web and mobile-based intervention, adequate data visualization is helpful in promoting transparency, understanding, and trends. Effective data displays can make lasting improvements in analysis, strategy, and utilization of interventions (Weissgerber et al., 2019). Studies show that health, graph, and digital literacy are crucial to a patient's ability to manage their health effectively. Considering patients have various levels of understanding, data visualizations can improve comprehension more than words and numbers alone (Turchioe & Mangal, 2023). Thus, an analysis is needed to determine which specific data visualizations are best to support patient understanding and symptom management.

Goal:

To develop and present a literature review poster on effective visual data representation at the Fall Undergraduate Research Festival. Collaborate with the OASIS research team on data collection and implementation into the mobile application.

Product:

A poster presentation and implementation of findings into mobile application "OASIS."

Objectives

- Review and synthesize literature on effective visual data representation from annotated bibliography.
- Collaborate with Dr. Gilbertson-White and the development team to incorporate the best visualization methods into the OASIS app.
- Develop a literature review/study poster of the best data visualization methods to communicate symptom data to patients.

Reflection

Throughout my Honors experience, the most valuable skills and knowledge I have gained are related to project management and scientific literature. I developed a deeper understanding of the project management process, especially in setting realistic timelines, defining objectives, and managing resources. I practiced how to search, review, and synthesize scientific literature. This process has strengthened my skills to critically evaluate research studies, assess their relevance, and apply the findings in a meaningful way.

Completing a project from start to finish and conducting a thorough literature review are invaluable skills that have significantly strengthened my critical thinking and understanding of nursing research. I am confident these skills will be highly beneficial in both my academic and professional future.