



Background

- Parents who are expecting a child seek reliable information outside of OB office visits, resulting in increased reliance on perinatal health apps. Research shows that apps related to pregnancy and newborn care have become an important resource for parents.
- There are more perinatal health apps aimed at providing information related to pregnancy and the postpartum period available online than any other health and fitness app (1,4).
- While perinatal apps have the potential to provide education between OB office visits, research shows that some perinatal apps lack evidence-based information and resources that expecting parents can trust, potentially passing on harmful information and may lead to poor health outcomes for pregnant women (2,4).

Objectives

- The purpose of the study was to assess undergraduate nursing students' ability to evaluate perinatal health apps and their ability to provide sound recommendations for these apps to patients.

Methods

- The study utilized a quasi-experimental pre and post test design. Demographic information, an adapted Systems Usability Scale (SUS), and researcher developed questions were used to measure the study outcomes.
- Data was collected via an anonymous survey link using Qualtrics. No identifying information was collected in the survey. This study was reviewed and approved by Oakland University IRB and determined to be exempt.
- The survey and directions were posted to the learning management system of two undergraduate sections of nursing care of the childbearing family. Participants were asked to download three specific perinatal health apps and complete a pre-survey to evaluate each app.
- Next, participants completed an online learning module, *MedlinePlus Evaluating Internet Health Information: A Tutorial From the National Library of Medicine* (3). This tutorial was developed to teach how to evaluate health information found on the internet. The tutorial explored three main categories; provider and purpose, information quality, and privacy. The final step for participants was to complete a post-survey that included evaluating each app post intervention.

Results

- The sample consisted of $N = 76$ students in the undergraduate nursing care of the childbearing family course. The majority of the students were in the accelerated second-degree program 68.4% (52), with 31.6% (24) in the traditional BSN program. The majority 72.4% (55) of the students were currently enrolled in the undergraduate informatics course, with 27.6% (21) having previously completed the informatics course.
- The System Usability Scale was adapted to rate each of the apps for usability. Total scores can range from 0 to 100. The scores ranked from a high of 74.28 to a low of 58.19. A score of 70 or above is considered acceptable usability, whereas a score less than 70 is considered to have marginal usability. The total scores for apps 1 & 2 were significantly different post intervention, but the app 3 scores were significantly lower on the post-test after the student's completed the intervention.

App	Pre-Mean	Post-Mean	Acceptability	p-value
One	72.96	74.28	Acceptable	.369
Two	74.21	74.24	Acceptable	.979
Three	62.30	58.19	Marginal	.006*

- The four questions evaluating the quality of each app pre and post intervention were also examined. There were significant differences in evaluation scores for apps 1 & 2 post intervention. The scores for apps somewhat followed the expert, rating of app 3 being the lowest and apps 1 & 2 being higher. A notable finding is that the student's evaluated app 2 more favorably than 1. This was opposite of the expert rating.

App	Pre-Mean	Post-Mean	Expert Rating	p-value
One	2.58	2.99	4	.003*
Two	2.65	3.34	3	< .001*
Three	2.12	2.04	1	.584

- Regarding recommending the apps, most of the students recommended apps 1 & 2 pre and post intervention. There were no significant differences post intervention in regard to the recommendation of apps 1 & 2. There was however a significant difference in recommending app 2 post intervention with participants less likely to recommend app 3.

App	Pre-Mean	Post-Mean	Expert Recom	p-value
One	3.54	3.67	Yes	.278
Two	3.53	3.36	Yes	.224
Three	2.28	1.80	No	<.001*

Conclusions

- The results from this study indicate that students are able to appropriately evaluate app usability, quality, and to recommend apps after completing a health app evaluation learning assignment. The increase of healthcare consumers' reliance on health apps has many benefits including consumer empowerment about overall health, improved adherence to plan of care, patient outcomes, among others.
- However, this must be tempered knowing that not all available health apps are developed or evaluated by healthcare providers and therefore may not be providing evidence-based or quality information. Healthcare providers must be able to adequately evaluate sources of health information, such as apps, to be able to effectively direct consumers to credible and evidence-based information.
- Increasing healthcare professionals' comfort in evaluating health apps and connecting patients with reliable evidence-based information is crucial for perinatal healthcare professionals to support women during the perinatal period.

References



Evaluation of Nursing Students' ability and comfort to recommend Perinatal Health Apps

Erin Kennedy, DNP, RN; Ronald Piscotty

Parents who are expecting a child seek reliable information outside of obstetrics (OB) office visits, increasing the use of perinatal health apps. Research shows that apps related to pregnancy and newborn care have become an important resource for parents. There are dozens of pregnancy apps aimed at providing information related to pregnancy and the postpartum period. While perinatal apps have the potential to provide education between OB office visits, research shows that some perinatal apps lack evidence-based information and resources that expecting parents can trust. The purpose of this research study is to assess current nursing students' ability to review perinatal health apps and their ability to provide accurate health app recommendations to potential patients. Participants in the study included BSN students who had previously completed or who were currently enrolled in undergraduate Informatics for Nursing Practice. Participants were also actively enrolled in the Nursing Care of the Childbearing Family undergraduate BSN course. Participants were required to have a smart phone and be willing and able to download apps onto their smart phone. Participants were asked to download and review three specific perinatal health apps. Application and download instructions were provided. Next, participants completed an online pre-survey that included answering questions regarding the three perinatal health apps. Participants then completed an online Learning Module, Evaluating Internet Health Information tutorial. The final step for participants was completion of an online post-survey that answered questions regarding the three perinatal health apps and their confidence and comfort level in being able to recommend health applications to future patients.