

Results

Closely related phenomena were clustered into three like groupings: physiological responses, psychopathological responses, and regimentation responses. Verification was completed through empirical and case study support following a review of the literature. The concept *trauma-obstructed reproduction (TOR)* was then synthesized.

Discussion/Conclusion

Identifying and classifying recurring obstetric medical and psychopathological phenomena that are unique to survivors of sexual assault are vital to developing a standard language that is supportive of compassionate and effective care.

By clearly synthesizing a concept that encompasses regularly occurring outcomes that negatively affect women who are sexual assault survivors and their newborns, nursing research and theory can be generated and directed toward better health care delivery. In addition to standardizing language to increase efficacy of delivery-of-care models, a concise concept such as TOR has the potential to support improved development, dissemination, and delivery of health care to women and birthing people. The development of new concepts supports implementation of innovative, collaborative research that translates to effective application of new knowledge to create stronger clinical and educational programs.

Observational Clinical Outcomes of a Postpartum Hemorrhage Detection Device Development Study

Introduction/Objective

Postpartum hemorrhage (PPH) is a leading cause of maternal morbidity and mortality worldwide. However, current efforts to manage this problem have limited efficacy, accuracy, and accessibility. Although certain risk factors increase the odds of developing PPH, the majority of cases are unexpected. Risk-screening tools are limited in their use for predicting PPH. This research study investigates whether a noninvasive wearable device (a smart watch) can detect certain signals using infrared light (similar to what is used in pulse oximeters to detect blood oxygen levels) that would indicate excessive blood loss found with PPH. If the signal is able to detect certain waveform differences in blood flow that indicate hemorrhage, this device, in addition to other existing methods used by nurses, midwives, and doctors, could help prevent serious illness or even death from late detection of PPH.

Methods

We used an exploratory proof-of-concept design. Five hundred and twenty-five participants were enrolled over 13 weeks at a large urban hospital in summer 2021. A smart watch was placed on participants during birth if they were 37 weeks or greater gestation with a singleton fetus in active labor or prior to a planned cesarean birth. The device remained on participants for 24-hours

postpartum. Both clinical and computer science data were derived from the study.

Results

The data algorithm is still in development. Participant demographics were as follows: 63% White, 25% Black, and 12% unknown. Fifty-six percent of women with vaginal hemorrhages were White, 29% Black, and 15% unknown. For hemorrhages occurring during cesarean birth, 64% of participants were White, 25% Black, and 12% unknown. Using the following criteria, the numbers of participants who had a qualified PPH were: World Health Organization, 184 (35%); former American College of Obstetricians and Gynecologists, 116 (22%); current ACOG criteria, 70 (13%). Other data include 6 Bakri; 34 units of packed red blood cells out of a total of 53 units of blood products given; 68 elective inductions of 263 inductions.

Discussion/Conclusion

Our recorded rates of PPH were significantly higher than the published average rate of 3%. We noted no difference between White and Black participants. The three criteria for a PPH illustrate the large number of patients potentially being undertreated for PPH and the associated morbidities. There is a lot of work as well as costs associated with PPH treatment.

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