Impact of Educational Mentorship for Managing Postpartum Hemorrhage on Nurses and Midwives' Knowledge and Self-Efficacy
Marie Grace Sandra Musabwasoni, SN
Faculty of Health sciences, School of Nursing, Western Ontario University, London, ON, Canada
Mickey Kerr, PhD
Arthur Labatt Family School of Nursing, Faculty of Health Sciences, Western University of Ontario, London, ON, Canada
David F. Cechetto, PhD, MSc, BEd
Department of Anatomy and Cell Biology, Schulich School of Medicine & Dentistry, Western University, London, ON, Canada
Yolanda B. Babenko-Mould, PhD, MScN, BScN, RN
Arthur Labatt Family School of Nursing, Western University, London, ON, Canada
Manasse Nzayirambaho, PhD
Public health, University of Rwanda, School of Public Health, Kigali, Rwanda
Anaclet Ngabonzima, MD
Mentorship, Training Support Access Model (TSAM) Project for Maternal and Newborn Child Health, Kigali, Rwanda

Introduction
Despite determined efforts that Rwanda employed to address critical development challenges, including those aimed at improving the health and quality of life of its population, Rwandan women are still prone to death while giving life. Up to 70% of these maternal deaths, are attributed to postpartum hemorrhage (PPH) (Ghalandari et al 2017). This is noticeable as the first leading cause of maternal mortality not only in Rwanda but worldwide. It accounts for 34% of maternal deaths in Africa (Mutunga, 2015). Rwanda, a landlocked, hilly country with an area of 26,338 square kilometers located in East Africa, has a workforce that is still not well skilled or educated, and has spent the last twenty-four years rebuilding all sectors after the devastating 1994 Genocide against the Tutsi. Nonetheless, it achieved its Millennium Development Goals (MDGs) for health when many countries in Sub-Saharan Africa were unable to achieve their targets. Despite these gains, PPH is still prevalent in Rwanda. Prata, Bell, and Weidert (2013) define PPH as blood loss of more than 500 ml after a vaginal delivery or more than 1000 ml after a cesarean section. PPH may be classified into two categories, primary (or early) PPH, which occurs in the first 24 hours after delivery of a baby, and secondary (or late) post-partum hemorrhage, which occurs beyond 24 hours after delivery. Sayinzoga et al (2016) report that 61% of all maternal deaths are attributed to the improper management of PPH. To address this challenge, the global commitment to sustainable development goal is to have reduced maternal deaths to less than 70 deaths per 100,000 live births by 2030 (Abbott, Sapsford, & Binagwaho, 2017). As an interim goal, Rwanda has committed to reduce PPH deaths from 210/100,000 live births to 126/100,000 live births by 2024 (Ministry of Health, 2018). However, the management of PPH is fostered by how knowledgeable nurses and midwives are about it and how self-motivated they are to employ this knowledge together with the efficacy beliefs to influence their capability (Bandura, 1977).
A study conducted by Ritchie, Bates, & Deary, (2015) in Scotland about educational mentorship and cognitive ability shows that if educational mentorship about PPH management is associated with improvements in general cognitive development, it reduces PPH-related maternal deaths, suggesting the positive impact of educational mentorship. Similarly, a current study conducted by Powell (2018) in United States emphasizes improving labour and delivery nurse’s knowledge through educational mentorship that helps them with rapid identification and treatment of PPH. Using a pre and post-test study design, the results reveal a statically significant increase in knowledge after the educational mentorship, where 63% of the participants passed the pre-test with an average of 80% compared to 90% of participants who passed the post-test with an average of 80%. Rwandan health facilities have very limited resources available for mentorship related to managing PPH at the level of health centers. It is from this context that, the Training Support Access Model (TSAM) developed a mentorship model to address this gap in selected Rwandan health facilities.

TSAM, is a 5-year international development partnership project sponsored through the Government of Canada with a mission of improving maternal, newborn and child health (MNCH) in Rwanda. It achieves its mission through working with local partners to improve maternal and child health. As part of its mentorship program, TSAM targets maternity nurses and midwives working in health centers within the Gakenke, Rulindo and Gicumbi districts in Northern Province of Rwanda. Evaluation of the TSAM’s mentorship is the focus of this study which was designed to assess the impact it has on nurses and midwives’ knowledge and self-efficacy in managing PPH.

**Purpose:**
The purpose of this study is to investigate whether educational mentorship will improve nurses and midwives’ knowledge and self-efficacy in managing postpartum hemorrhage in selected health centers of Rwanda.

**Methods:**
The TSAM Project has organised and is delivering the educational mentorship to nurses and midwives. The researchers, who are not developing or delivering the mentorship, will assess the impact of that mentorship by comparing pre and post mentorship knowledge and self-efficacy. The sample for this study is 141 nurses and midwives who participated in pre-mentorship assessments that were conducted in July and August of 2018. A pre-mentorship assessment was conducted at the participant’s work place, using a self- administered survey about PPH knowledge adapted from Mutunga (2015) and PPH-related self-efficacy adapted from (Bandura, 2006). In addition, TSAM mentorship occurs monthly for a total of six months. Thus, post-mentorship assessment will not occur until early 2019.

**Results:**
The preliminary assessment from pre-mentorship shows that most nurses and midwives hold the advanced diploma level of education 65.2% (n=92), 5% have bachelor’s degree, while the rest have secondary level training. These results also show that the mean pre-mentorship knowledge score about PPH is 68.9% (SD=11.981). According to the nurses and midwives ‘self-efficacy in managing PPH, the preliminary results reveal the average of 6.90 (SD=1.884). The preliminary results also show the moderate positive correlation between knowledge and self-efficacy (r=.218, p=.009). Post-
mentorship assessment will help to provide a broad picture of the mentorship impact and these comparisons will be presented as they become available.

**Conclusion:**
The published literature suggests there is a positive impact from educational mentorship on nurses and midwives' knowledge and self-efficacy in managing postpartum hemorrhage. While our preliminary results cannot yet assess the impact of mentorship on knowledge and self-efficacy we have now established our baseline for these future comparisons. If the more nurses and midwives are knowledgeable, the more their self-efficacy improves, then our preliminary results that reveal a positive correlation between knowledge and self-efficacy support this contention. In the same way, researchers believe that the findings from educational mentorship will equip nurses and midwives with extra knowledge which will help them to self-motive their capacity in managing PPH. Thus, it is possible that PPH mentorship could help health facility managers, leaders and policy makers plan for better health care services in managing PPH in Rwanda.

---

**Title:**
Impact of Educational Mentorship for Managing Postpartum Hemorrhage on Nurses and Midwives' Knowledge and Self-Efficacy

**Keywords:**
Educational mentorship, Knowledge and self-efficacy and Postpartum hemorrhage

**References:**


Postpartum hemorrhage is still costing women's live worldwide; especially in sub-Saharan Africa where Rwanda is located. The Educational mentorship about emergency obstetrics including postpartum hemorrhage management to the nurses and midwives is of paramount to save women's live.

Content Outline:
Content outline
I. Introduction
A. General information about postpartum hemorrhage (PPH) and Rwanda context about PPH and the way forward.
B. The focus of Rwanda about PPH management among nurses and midwives in the health facilities, educational mentorship among nurses and midwives' knowledge and self-efficacy in managing PPH from literature basing on Bandura's social cognitive change (self efficacy).

II. Body
A. Main point #1: Assessment of nurses and midwives, who will be trained to manage PPH, at pre-mentorship program conducted by the training support access model (TSAM) project.
1. The purpose of the study:
The purpose of this study is to investigate whether, the educational mentorship will improve nurses and midwives' knowledge and self-efficacy in managing PPH.
B. Main point #2: Methodology used
1. a. Mentorship plan: TSAM project has planned a mentorship of 141 nurses and midwives working at the health centers within tree districts (Rulindo, Gakenke and Gicumbi) of Rwanda, using a selected and trained team of midwives from district hospitals at the health centers' catchment area. They will visit health center once a month for a period of six months.
2. b. The period of data collection: Preliminary assessment among nurses and midwives who will be trained took place from August up to October, 2018 at the selected health centers.
C. Results
Preliminary results about knowledge and self-efficacy that maternity nurses and midwives possess in managing PPH prior to mentorship will be presented.
III. Conclusion

a. Review of literature about educational mentorship to the nurses and midwives knowledge and self-efficacy in managing PPH.

b. Preliminary results suggestions regarding the educational mentorship to the nurses and midwives' knowledge and self-efficacy in managing PPH in Rwanda.

First Primary Presenting Author

Primary Presenting Author
Marie Grace Sandra Musabwasoni, SN
Western Ontario University
Faculty of Health sciences, School of Nursing
A master student in Nursing
London ON
Canada

Author Summary: Sandra, Is a Tutorial assistant at the University of Rwanda. She teaches courses related to nursing and midwifery. As a teacher, she was involved in curriculum development and validation in Rwanda. She is currently a master student in nursing at Western Ontario University in track of Leadership in Nursing Education. She is most oriented in nursing and midwifery research.

Second Author
Mickey Kerr, PhD
Western University of Ontario
Arthur Labatt Family School of Nursing, Faculty of Health Sciences
Associate Professor
London ON
Canada

Author Summary: Dr. Mickey Kerr has presented at numerous local, national and international conferences on his research on models of care, nursing intervention studies, work organization, job stress, and epidemiology.

Third Author
David F. Cechetto, PhD, MSc, BEd
Western University
Department of Anatomy and Cell Biology, Schulich School of Medicine & Dentistry
Professor
London ON
Canada

Author Summary: Dr. Cechetto is the director of development projects which involve capacity building and professional development in the nursing and medical schools in Rwanda, assessment of the health care quality in Rwanda and more recently developing the capacity for the training and upgrading of health professionals to deliver
maternal, newborn and child health in Rwanda. His research interests are in the role of inflammation in cerebral ischemia and vascular cognitive impairment and dementia.

Fourth Author
Yolanda B. Babenko-Mould, PhD, MScN, BScN, RN
Western University
Arthur Labatt Family School of Nursing
Assistant Professor
Faculty of Health Sciences
London ON
Canada

Author Summary: Professional expertise in curriculum development in nursing education with experience in Canada and Rwanda. Research focus on empowerment, self-efficacy, and civility in nursing education and practice.

Fifth Author
Manasse Nzayirambaho, PhD
University of Rwanda, School of Public Health
Public health
Associate Professor
Remera campus
Kigali
Rwanda

Author Summary: Nzayirambaho is an associated professor in the school of Public health at the university of Rwanda. He has expertise in higher education in optometry. He is also senior researcher and has published several articles in peer reviewed journals. He has also supervised a number of students at masters level.

Sixth Author
Anaclet Ngabonzima, MD
Training Support Access Model (TSAM) Project for Maternal and Newborn Child Health Mentorship
Mentorship Manager
TSAM Rwanda
Kigali
Rwanda

Author Summary: Anaclet NGABONZIMA is Specialist in Public Health and Maternal child health with clinical background. Currently, he is coordinating the component of Professional Continuous Development focusing on-site mentorship of health care providers in Training Support Access Model (TSAM), project supported by Canadian Government. Most of his activities are carried out at health facility level in the area of maternal, newborn and child health care.