The Ottawa Model of Research Use: Lessons Learned From a Nurse-Led Hypertension Pilot Study

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The learner will be able to:

- discuss the phases of the Ottawa Model of Research Use in the context of the hypertension (HTN) pilot study in Uganda.

- demonstrate the utilization of the Ottawa Model of Research use as a knowledge translation model into practice in the HTN pilot study

- discuss the lessons learned from HTN pilot study in cognizance of improved nurses’ knowledge, skills and attitudes in HTN management.

I DO NOT have a financial interest/arrangement or affiliation with one or more organizations that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation.
Background

- Cardiovascular disease accounts for 27% of all deaths from non-communicable diseases (NCDs) in Uganda. ¹, ²

- Moreover, the probability of dying between the ages of 30 and 70 from the four main non-communicable diseases is 21%. ²

- HTN is a major risk factor for CVD ranking 14 among the top 50 causes of death in Uganda. ³

- A recent epidemiological study found that the HTN prevalence rates in Uganda range from 23.3% to 28.5% ¹

- Of concern, only 7.7% of the participants in the above survey with HTN were aware of their hypertension. ¹

- Addressing the HTN disease burden by the nurses in Uganda through evidence based knowledge translation models is lacking.

Methods

- A descriptive and feasibility pilot study involving a convenient sample of seven nurses in a one group pre-post intervention study design.

- The study was completed in January 2013.

- All the participating nurses worked in the Mulago medical outpatient clinic, and serves as a triage area for all patients before admission.

- The study was approved by the Mulago Hospital Research and Ethics Committee (MREC: 248).

- We used the Ottawa Model of Research (OMRU)\(^4\) as a knowledge translation model.

- Pre-post intervention data were collected using standardized tools, data analyzed and results presented.

- The WHO-ISH training manual \(^5\) was used as a resource.

- The intervention was implemented for 3 months.

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The OTAWA MODEL OF RESEARCH USE (OMRU): contextualization and results

- Phases of the OMRU
  - **Phase 1. Assess barriers and supports**
    - Professional, political, and economic barriers identified
    - Resources availability and analysis was conducted
    - Hospital management supported the project as a pilot
    - Hospital management provided ethics clearance
  
  - **Phase 2. Monitor interventions and degree of use.**
    - Implemented a multimodal and multifaceted educational program (CNE)
    - Used the WHO-ISH guideline for management of hypertension and its training Manual as a resource
    - Utilized provider education; follow up; feedback, use of reminder system; and one-on-one supervision as evidenced based strategies.
    - Monitored the degree of adoption of the WHO –ISH clinical guidelines and their use in clinical practice by the nurses
    - Lectures. handouts, lectures recorded on CDs, algorithms and practical sessions in skills lab were used.

Phase 3. Outcomes

- Primary outcomes of the pilot study were set and measured
  - changes in knowledge, skills and attitudes about hypertension detection, risk assessment, blood pressure monitoring skills.

- System organization changes were anticipated

- Patient outcomes as long term outcomes
Figure 1: The Ottawa Model of Research Use adapted from (Graham & Logan, 2004)

**PHASE 1**
- Assess
  - Barriers & Supports
  - **Evidence-based innovation**
    - Development process, Innovation attributes adopters’ perception.
  - **N-HPDT Project**
    - Literature search, Innovation attributes-evidence based, available CNE

**PHASE 2**
- Monitor
  - Intervention
  - **Implementation/Intervention strategies**
    - **N-HPDT Project**
      - CNE transfer strategies
      - Print materials, CD-ROMs
      - One-on-one supervision
      - Feedback
      - Follow-up & feedback
      - Key stakeholder schedule
    - Project approval system

**PHASE 3**
- Evaluate
  - Outcomes
  - **Adoption**
    - N-HPDT Project
    - WHO-ISH clinical practice guidelines
  - **Outcomes**
    - N-HPDT Project
    - Patient outcomes
    - Staff nurse increased knowledge & skills
    - System organization

**Practice Environment**
- **N-HPDT Project**
  - Patients, staff nurses, culture/social/belief systems, space, economic resources, uncontrolled events, available policies and practice guidelines, staff.
Results 1

- All the participants in the pilot study were females nurses.
- Had attained a diploma in nursing (71.4%).
- Less than half (42.9%) were at the level of a nursing officer (Nursing profession and administration position).
Results 2

Figure 2: Changes in nurses’ attitudes, knowledge, and blood pressure skills measured by pre- and post-intervention questionnaires and checklist

Legend: BP= Blood pressure
It should be noted that the majority of the nurses in Uganda are trained at diploma level of nursing education. Currently, few nurses have obtained a BSN.

Moreover, curricula at diploma level have no content on evidence based nursing.

Also, the scope of practice at the diploma level for nursing does not permit nurses to practice independently except for the midwives.
Data analysis demonstrated improved knowledge, skills and attitude among participating nurses from baseline after a Three (3) months education intervention.

- Facilitating factors of the outcome changes:
  - Use of WHO ISH resource - which is written in simple language
  - Lectures and demonstration were arranged outside the usual routine work
  - Participating nurses had the opportunity to practice and re-practice
  - The facilitator was present all the time to support the knowledge translation process
  - Resources were made accessible and available to the nurses
Lessons learned

- Knowledge translation (KT) is a relatively new concept for nurse researchers, practitioners and educators in Uganda.

- The feasibility of the OMRU use as one of the KT model in the nurse-led hypertension pilot study unpacked possibilities of using other KT models in NCD management.

- Effective use of evidence based education interventions can significantly improve nurses’ knowledge, skills and attitudes in hypertension management.

- Knowledge translation models when used effectively and appropriately could improve health care delivery system and outcomes.
Nursing curricula in Uganda need to integrate evidence based practice and application of KT models.

Introducing evidence based practice (EBP) to nurse educators, researchers and administrators is imperative to enhance wide EBP use for improved nursing profession and patient outcomes.

Further studies using KT models are needed to develop an adequate knowledge base especially in the neglected non communicable disease programs.
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Questions are most welcome!