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Mainstreaming Kenya-Nursing Process in clinical settings: The case of Kenya

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ABSTRACT

Background: Utilization of the nursing process in many low and middle income countries has been a challenge. In Kenya, nursing process was modified to operationalize its implementation and hence the name "Kenya-Nursing Process (Kenya-NP)".
Purpose: The authors aim to publicize their experiences in mainstreaming nursing process in clinical settings in Kenya.
Methodology: The Harris et al. (2012), Health Promotion Research Center dissemination framework has been used in mainstreaming Kenya-NP since the year 2010. Mainstreaming Kenya-NP involves two-weeks of training in theory followed by two months of supervised practice and a practical assessment. A certificate of competence is awarded to those who pass according to the set criteria.
Results: Preliminary results indicate a positive change of attitude towards the nursing process among nurses and students. Mainstreaming nursing process has been strengthened by its adoption as the official framework for nursing practice in Kenya. Reports from the health sector reforms supervisory visits indicate some improvement in the quality of nursing care in hospitals that implement Kenya-NP especially in documentation.
Significance: The authors anticipate that this article will be significant to nurse clinicians, educators and administrators who experience challenges in implementing nursing process in their countries. Additionally, nurse scholars could be interested in trying the modifications made in the structure and phases of the nursing process as well as administrative and policy integration used in mainstreaming the Kenya-NP to provoke further research.
Conclusion: It is possible to mainstream a contextualized nursing process in clinical settings using a relevant knowledge dissemination framework.

1. Background information

Many nurse researchers and theorists (Alfaro-LeFevre, 2010; Berman & Snyder, 2012; Mahmoud & Bayoumy, 2014; Rivas, García, Arenas, Lagos, & López, 2012), are in agreement that nursing process is a scientific method for delivering holistic and quality nursing care. Therefore, its effective implementation is critical for improved quality of nursing care. When quality of nursing care is improved, visibility of nurses' contribution to patient's health outcomes becomes distinct. In this way, nurses can justify the claim that nursing is a science and an independent profession. Introduction of the nursing process as a systematic and scientific approach to patient care started in the early 60s in the developed countries (Mahmoud & Bayoumy, 2014) after the term was originated by Hall in 1955. However, its utilization in most hospitals especially in low and middle income countries reportedly remains a challenge despite efforts being made (Alfaro-LeFevre, 2010; Mahmoud & Bayoumy, 2014; Momoh & Chukwu, 2010). Kenya is in the category of low and middle income countries and is not exempt from these challenges.

Based on reviewed literature, factors associated with failure to utilize the nursing process in clinical settings in low and middle income countries such as Kenya can be categorized into negative attitudes, incompetence and lack of resources. Negative attitudes have been reported by Bowman, Thompson, and Suttom (1983), Laryea (1994), Welsh (2002), Mahmoud and Bayoumy (2014). These researchers, reported that nursing process faced criticism

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among several nurses who perceived it as time consuming and foreign. These reports are critical because perception that nursing process is foreign may cause resistance to its adoption unless it is customized to the African context.

Even in clinical settings where nursing process is viewed as desirable, inadequate knowledge and incompetence are cited as barriers to its utilization. For instance, Bowman et al. (1983), Alfaro-LeFevre (2010), Akbari and Shamsi (2011), Keshiajimenez (2012), observed that nurses lacked relevant cognitive and psychomotor skills to implement care plans. In addition, some nurse practitioners claimed that both the structure and language that underpin nursing process are complicated, cumbersome and unreflective of the way nursing care is planned and delivered.

Moreover, lack of resources has been a major hindrance to nursing process implementation. Amparo (2004), Potter and Perry (2007), cited lack of time, limited number of nurses, high patient turn over and lack of equipment and supplies as hindrances to implementation of the nursing process. Lack of resources is supported by Dominguez-Bellido et al. (2012), Mamseri (2012), Mahmoud and Bayoumy (2014) who observed that many nurses complained of lack of sufficient time as the most important barrier to implementation of the nursing process.

Despite the challenges facing its implementation, nursing process provides several benefits to patients and the nursing profession in countries where it has been utilized successfully. The nursing process is a goal oriented method of problem-solving and caring (Ackermann, 2001; Department of Nursing, 2009). When applied in clinical practice, nursing process offers a basic framework that guides the nurse in provision of systematic and organized quality nursing care (Habermann & Uys, 2005; Wiscombe, 2001). Nurse scholars and theorists (Gebbie & Lavin, 1974; Gordon, 1987; Yura & Walsh, 1988) reported that implementation of the nursing process improved communication amongst nurses, provided a system for evaluating nursing interventions and improved clients' satisfaction with care. Evaluating nursing interventions and their outcomes is necessary in identifying nurse's unique contribution to patient health outcomes. Furthermore, Nwonu (2002), Afolayan, Donald, Baldwin, Olayinka, and Babafemi (2013) defended the contribution of nursing process to professionalization, promotion of client's satisfaction and documentation which form global standards upon which nursing care is audited.

Given the benefits of nursing process both to the patient and nursing profession, it is important that strategies are developed to mitigate barriers to its implementation, and consequently establish its utilization in clinical settings. In Kenya, modification of the steps and identification of policies for operationalizing nursing process in public health facilities was done. This modification resulted in the Kenya-Nursing Process (Kenya-NP) currently being mainstreamed in public health facilities in the country.

1.1. Rationale for mainstreaming Kenya-Nursing Process (Kenya-NP) in clinical settings in Kenya

The use of nursing process in clinical settings facilitates high quality nursing care, improves client health outcomes and promotes nursing as a professional scientific discipline (Habermann & Uys, 2005; Hagos, Alemseged, Balcha, Berhe, & Aregay, 2014; Wiscombe, 2001; World Health Organization, 1981). Yet, establishing nursing process within clinical settings in Kenya remains a challenge (Department of Nursing, 2009) despite reports that quality of health care services is low. For example, reports by Kenya Institute of Public Policy Research and Analysis (Kenya Institute of Public Policy Research & Analysis, 1994), Ojwang, Ogutu, and Matu (2010), health sector reforms supervisory teams (Ministry of Health (MoH), 2010) and Kenya National Commission on Human Rights (Kenya National Commission on Human Rights, 2011), have been consistent on the deplorable state of health services and patients dissatisfaction with nursing care.

Additionally, Kenya Demographic and Health Survey of 2008–2009 (Kenya National Bureau of Statistics, 2010) reported maternal and infant mortality rates at 488 per 100,000 and 52 per 1000 live births respectively. This implied that Kenya would not achieve Millennium Development Goals Number 4 (Reduce child mortality) and 5 (Improve maternal health) by 2015 unless accessibility to high quality of health care services was ensured (Government of Kenya, 2010). Moreover, the Government of Kenya is committed to providing high quality of health care to her citizens (Ministry of Health (MoH), 2010). Global reports (Hughes, 2006; Wilson, Whitaker, & Whitford, 2012) indicate that nurses constitute the largest proportion of health care workforce and provide up to 80% of all health care services. Therefore, quality of nursing care is critical to the overall quality of health care services in a country such as Kenya.

In an effort to improve quality of nursing care in Kenya, the Department of Nursing at the Ministry of Health headquarters included nursing process as a framework of care in its 2008–2013 strategic plan (Department of Nursing, 2009). Even prior to the inclusion of nursing process in the strategic plan, Nursing Council of Kenya, the national regulatory body for nursing education and practice made nursing process one of the mandatory contents in all nursing schools curricula. Yet upon qualifying, nurses were not utilizing nursing process in clinical settings (Ministry of Health (MoH), 2010). Mainstreaming nursing process in clinical setting, therefore, became imperative for three reasons. Firstly, to bridge nursing process theory-to-practice gap and secondly to operationalize and meet the goals of the Department of nursing strategic plan. The third and most important reason was to ultimately improve quality of health services thereby contributing to reversal of trends in maternal and infant mortality rates.

2. Methodology for mainstreaming nursing process in clinical settings in Kenya

2.1. Development of the training curriculum

The curriculum was developed following a series of meetings by a steering team. The team comprised six members who included two nurses from the office of the chief nursing officer and two nurse educators from the School of Nursing sciences. The Director of the school of nursing sciences and the chief nursing officers were ex-officio members. The steering team became the national training team and developed the curriculum. The author was appointed the national lead trainer and technical advisor to the team because of her wide experience in teaching nursing process. The team reviewed supervisory reports from nurse administrators on challenges faced by clinical nurse practitioners. Policy issues that would influence utilization of the nursing process were discussed. Steps of the nursing process in the global literature as well as research reports on facilitators of and barriers to its utilization were reviewed to guide development of a customized curriculum. Documentation which was recognized as a major challenge for nurses in Kenya was included as the last step in nursing process contrary to the global literature. Risk nursing diagnoses were also modified to include a third part instead of the two parts in global literature.

A curriculum for five days' theoretical training followed by 8 weeks of practice under mentorship and supervision was developed. Pre-training ward checklist, participant questionnaire and supervisory tools were developed as part of the curriculum. The tools were necessary for identifying participants' knowledge on

the nursing process, pre and post training nursing care situation and impact analysis. The curriculum was subsequently pre-tested during the initial trainings in two regional (county) hospitals with 35 participants each. Based on the evaluation by participants, the curriculum was revised and five days' theory training was adjusted to 11 days. The number of participants was also reduced to 30 so that the trainers could guide participants more effectively during practical sessions in the clinical areas and discussions in plenary. A review of the curriculum was done through a workshop after training in 25 hospitals. Curriculum review was done by the national training team, all nursing process coordinators from the 25 trained hospitals, nurse lecturers from the main schools of nursing and regional (county) nurse managers whose hospitals had undergone training on mainstreaming Kenya-NP.

2.2. Selection of hospitals

A meeting was held with the regional (county) nurse managers to create awareness about the curriculum and the training program. The regional nurse managers in turn discussed with members of their respective regional health teams including, regional medical officers in charge and all hospitals within their regions. The department of nursing did not have funds to support the training, but provided coordination and mentorship. Moreover, this was a hospital driven training that was dependent on the ability of the hospital to raise funds and support their own training without being coerced by the department of nursing. This implies that no selection criteria were applied as long as the hospital secured own funds, was ready for training and invited the trainers. The hospital nursing manager, worked in consultation with the national nursing process coordinator to organize and schedule the training dates.

2.3. Conducting training

Subsequent to curriculum development, the national nursing process coordinator was appointed from the chief nursing officer's office to be responsible for organizing trainings in consultation with the hospital nurse managers as required. Training was initially conducted by the lead trainer and national nursing process coordinator who was also a co-trainer. The lead trainer facilitated the topics on steps of nursing process while the co-trainer facilitated topics on policies that influence nursing process utilization. During training, the local nursing process coordinators were selected and trained on the job during nursing process mentorship and supervision. These nursing process coordinators were subsequently recruited as part of the national training team.

2.4. Selection of Harris et al. (2012), Health Promotion Research Center (HPRC) knowledge dissemination framework

Knowledge dissemination is a key element in knowledge translation continuum and evidence-based practice in health care including nursing. Harris et al. (2012) HPRC knowledge dissemination framework was selected to mainstream Kenya-NP because of its principles that favors nursing process utilization. The framework has two main principles. The first one is a close partnership between researchers and a disseminating organization that takes ownership of the dissemination process. The second principle is the use of social marketing while working closely with potential user organizations. Thus, Harris et al. (2012), HPRC knowledge dissemination framework involves consideration of knowledge users as well as contexts in which research findings are received and used.

Additionally, Harris et al. (2012) framework encourages communication and interaction with policy decision makers in ways that facilitate research uptake in decision-making processes and practice. Furthermore, the framework has been used by other researchers to facilitate up take of policies, programs and systems (Tennstedt et al., 1998; Wilcox et al., 2006). Fig. 1 illustrates Harris et al. (2012) HPRC dissemination framework and elements for mainstreaming Kenya-NP in clinical settings in Kenya.

In the subsequent sub-sections, the components of Harris et al. (2012) HPRC knowledge framework, in relation to mainstreaming Kenya-NP are described.

2.4.1. Kenya-NP as evidence-based practice

Kenya-NP is considered as an evidence-based practice for improved quality nursing care and improved patient health outcomes. In international literature (Alfaro-LeFevre, 2010; Berman, Snyder, Kozier, & Erb, 2012), nursing process is described as composed of seven steps namely assessment, diagnosis, outcome identification, planning, interventions, implementation and evaluation. In the Kenya-NP, the steps are revised to six including documentation as the last step. This was in response to observations by nurse administrators during supervisory visits that documentation is a challenge in Kenya. It was observed that some nursing notes were hardly legible while others were a duplication of treatment sheets or temperature charts. In addition, some notes did not reflect any nursing interventions even for patients whose vital signs observations indicated physiologic instability.

Although documentation is an activity in every step, its inclusion as an independent step allows for comprehensive discussion of its definition, principles and techniques which cannot be discussed comprehensively within other steps of the nursing process. Effective documentation is critical if nurses have to demonstrate implementation of nursing process. Figs. 2 and 3 illustrate poor documentation observed on nursing notes.

Risk nursing diagnosis as described by NANDA-I (Carpenito-Moyet, 2014), consists of a diagnostic label and aetiology only. In the Kenya-NP risk nursing diagnosis, was revised and defining characteristics for the risk factor became its third part. Revision is based on the argument that there must be evidence that risk factor exists. The example below illustrates how the two-part NANDA-I risk nursing diagnosis is converted to three-parts in the Kenya-NP; "*Risk for injury related to decreased vision after cataract surgery*". Evidence or defining characteristic for "*decreased vision*" are identified as client's complaints of inability to see clearly or decreased visual acuity on examination by Snellen's Chart. Thus in The Kenya-NP, the nursing diagnosis is written as, "*Risk for injury related to decreased vision after cataract surgery as evidenced by client's complaints of inability to see clearly and decreased visual acuity on Snellen's scale*". Thus, in the Kenya-NP, the third component in risk diagnosis is the evidence that risk factors exist contrary to actual nursing diagnosis where the existing evidence is for the diagnostic label.

Kenya-NP, thus has unique characteristics summarized as;

- Risk nursing diagnosis revised to three parts instead of the two parts in the global concepts.
- Outcome identification is included as an activity within the planning phase.
- Documentation is adopted as the last step instead of evaluation in global concepts.
- Implementation is within the context of patient categorization and team nursing.

2.4.2. Diffusion of Kenya-NP

The Harris et al. (2012) HPRC framework acknowledges that passive diffusion of evidence-based practices alone is not an effective way of spread. The framework, therefore, emphasizes active dissemination process that requires additional support that is

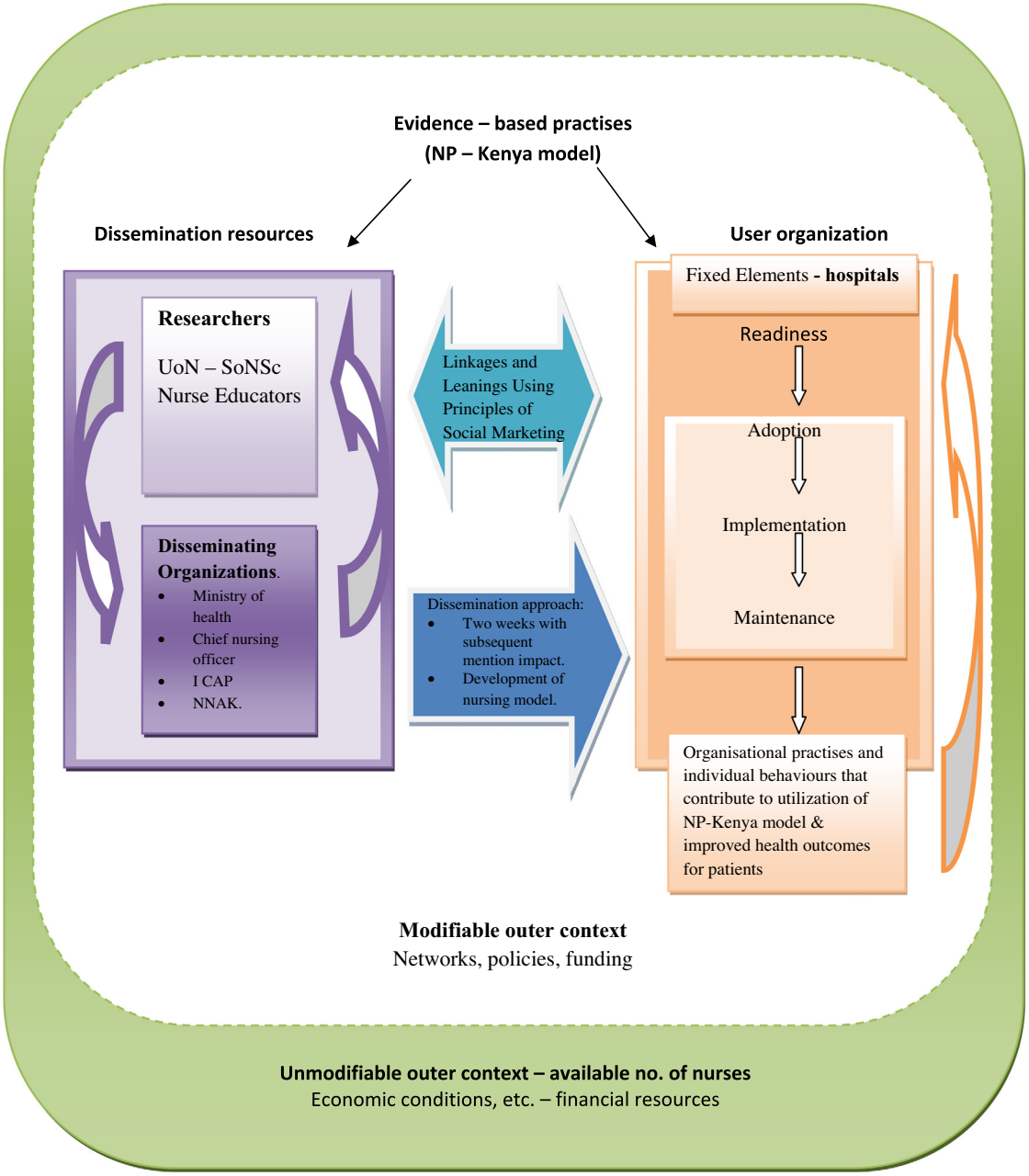

Fig. 1. Harris et al. (2012) HPRC dissemination framework adopted from Harris et al.

external to the user organization. Passive adoption of nursing process in Kenya had failed since its utilization was lacking despite being taught to all nursing students. In this regard, effective adoption of Kenya-NP in health facilities required active dissemination approaches with support from nurse educators, chief nursing officer's office and non-governmental organizations.

2.4.3. Dissemination resources

According to Harris et al. (2012) HPRC framework, dissemination resources comprise researchers and disseminating organizations. Researchers seek to create new knowledge to aid dissemination of best practices. Disseminating organizations (disseminators) lead dissemination efforts. Both the researchers and disseminators are better equipped to design and test dissemination approaches that fit the disseminator's goals and capacity. Researchers work closely with disseminators in refining and testing the dissemination approaches to make it more suitable for user organizations.

Nurse educators played the roles of researchers in mainstreaming the Kenya-NP. In addition, nurse educators were part of the team that developed the initial curriculum used to disseminate Kenya-NP. A non-governmental organization (International Center for AIDS Care and Treatment Programs-ICAP) also acted as a disseminator by co-sponsoring some mentorship and supervisory visits as well as the national nursing process symposium. Other local organizations that have played disseminators' role include the National Nurses' Association of Kenya that co-sponsored the national nursing process symposium.

2.4.4. Dissemination approaches

Harris et al. (2012) in their HPRC framework recommended that a dissemination approach should effectively communicate the

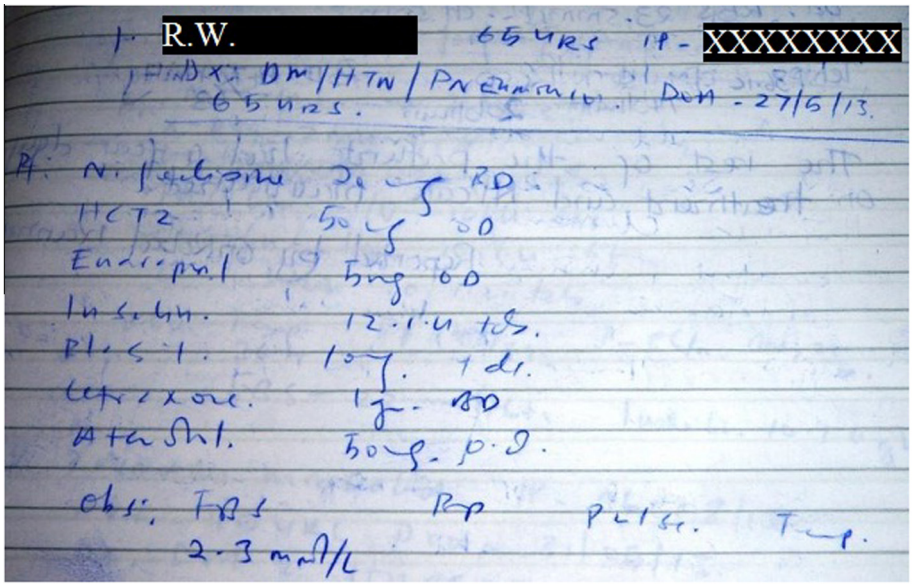

Fig. 2. An example of nursing notes reflecting poor legibility and duplication of a treatment sheet.

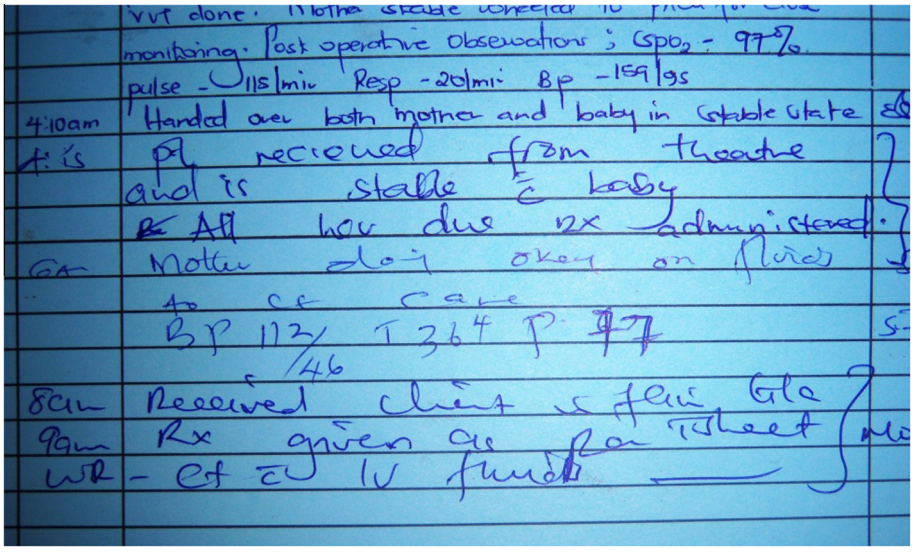

Fig. 3. An example of nursing notes reflecting vital signs that needed intervention yet there was no documentation on action taken.

benefits of the promoted practices clearly and concisely. Mainstreaming Kenya-NP workshops are conducted using the developed curriculum. The national nursing process coordinator from the office of chief nursing officer organizes the trainings with the respective hospital nursing services manager and facilitators in the national training team. The workshops are hospital-based and consist of 30 participants per training. Participants are ward managers and clinical practitioners of all levels. The majority of participants are drawn from maternity and pediatric units. Maternity and pediatric units are given top priority because the main focus of mainstreaming Kenya-NP is to reverse the trends in maternal and infant mortality rates besides improving quality of nursing care in general.

The duration for each workshop is two weeks of intensive theory and practical sessions in the wards with subsequent eight weeks of mentorship, supervision and guided practice. Only participants who demonstrate competence according to the set criteria are certified and awarded certificate of competence. During the two weeks training, participants are allocated to the wards in groups of five. Completion of each step (phase) is followed by a practical session in the wards with respective patients to facilitate learning. Each group reports their experience and patient's progress in plenary for discussion and guidance. Additionally, each group presents a report on the impact of their care on the patient and in the ward from which they selected patients at the end of the two weeks training. In this way, each group is able to identify and appreciate the benefit of nursing process in improving patient health outcomes.

At the end of the two weeks training, a local nursing process coordinating committee of seven members is formed to oversee and guide its implementation in the hospital. The committee comprises the following members; hospital nursing services manager as an ex officio member, two committed unit managers, a graduate nurse with best understanding of nursing process concepts among participants as coordinator, and three other participants, one of whom is a nurse lecturer from the adjacent nursing school. The

team is selected by the trainers in consultation with the hospital nursing services manager. Participants conduct case presentations for the subsequent eight weeks to gain proficiency. Attendance of, and active participation at case presentations is mandatory for all participants. Invitation to attend case presentations is extended to all interested nurses as part of the on-job-training.

The National training team comprising officers from the CNO's office and nurse educators conduct support supervision and mentorship during the subsequent eight weeks. Certification assessment is conducted after completion of the eight weeks. Participants who demonstrate individual proficiency and have created impact on the ward according to the set criteria in the curriculum are awarded certificate of competence. This dissemination approach ensures that all participants, senior nurse managers, clinical nurse practitioners, office of the chief nursing officer and nurse educators are change agents for mainstreaming Kenya-NP in clinical settings. Furthermore, participation by all nurses in the dissemination process at the hospital level facilitates uptake of Kenya-NP.

2.4.5. Linkages and learning using principles of social marketing

The bi-directional "linkages and learning" arrow in Harris et al. (2012) HPRC framework highlights the need for understanding user organizations and all potential steps in the implementation process, from readiness factors to motivation for adoption, implementation and maintenance. Harris et al. (2012) assert that these linkages and learning should be informed by principles of social marketing, which focus on the needs and capabilities of user organizations. In applying these principles, Harris et al. (2012) concur with Lomas (1993) that disseminator begins with a market analysis to assess the potential benefits of evidence-based practices to both user organizations and consumers targeted for behavior change. In addition, potential barriers to adoption are also assessed.

This assessment and analysis evaluate five key areas which include consumers and competitors for practice, capacity of the company to support dissemination, strength of collaborators and sociopolitical context which is described as the modifiable and non-modifiable "outer context". In this regard, the company refers to both researchers and disseminators of the new practice.

In accordance with Harris et al. (2012) HPRC framework, reports on perception of the public on quality of nursing care, the likely associated factors and the significance of the Kenya-NP were reviewed by the steering team. Subsequently, the team deliberated on the department of nursing and Ministry of Health requirements for adoption, implementation and maintenance of Kenya-NP. Furthermore, the team explored processes involved and readiness of the office of chief nursing officer as well as the wider Ministry of Health for mainstreaming of Kenya-NP.

The team consequently worked with the chief nursing officer to develop strategies for mainstreaming Kenya-NP in clinical settings which included;

- Mainstreaming Kenya-NP course for nurse managers, clinical practitioners and educators according to the developed curriculum.
- Obtaining baseline data on quality of care and impact data on Kenya-NP utilization using the tools in the curriculum.
- A trophy for the best hospital in mainstreaming Kenya-NP initiated by the chief nursing officer and awarded during the annual National nurses association scientific conference.

2.4.6. User organizations

User organizations in this context is the Ministry of Health and all public health hospitals which want to utilize best nursing practices so as to improve quality of nursing services. Private health facilities will eventually become users to compete with public hospitals. Nurse training schools will become users when they adopt Kenya-NP for students. The Nursing Council of Kenya is considered a user organization as it will adopt and integrate Kenya-NP to replace the traditional nursing process in the current training curricular.

Successful mainstreaming and uptake of Kenya-NP in the identified user organizations involves a cascade of steps including adoption, implementation and maintenance. This cascade of steps is determined by fixed elements within each user organization. With regards to mainstreaming Kenya-NP, availability of nursing staff and financial resources comprised fixed elements for its adoption. The output of this cascade is envisaged as improved quality of nursing care, growth of nursing profession and improved health outcomes for patients.

Harris et al. (2012) in their HPRC dissemination framework recommended collaboration with knowledge users for effective uptake and diffusion of scientific knowledge. Yura and Walsh (1988) concurred with Harris et al. (2012) and recommended collaboration with hospital authorities for effective implementation of nursing process as it requires finance, equipment, attractive service conditions and adequate personnel who are motivated and supported. With regards to mainstreaming Kenya-NP in clinical settings, collaboration with all user organizations at individual and institutional levels was fostered. The critical role of some of these user organizations is explained in the subsequent paragraphs.

2.4.6.1. Chief nursing officer in the Ministry of Health (CNO). The CNO is the head of all nursing services in Kenya. The office of the CNO is responsible for nursing policy directions and environment of practice in Kenya. Collaboration with the office of CNO is necessary for the development of Kenya-NP curriculum as well as directing adoption of Kenya-NP as a frame work for nursing care in Kenya. CNO is an ex officio member of the training team and his officer is the national coordinator and co-trainer for mainstreaming Kenya-NP in clinical settings. The CNO also provides a team that conducts mentorship as well as supportive supervision.

2.4.6.2. The Nursing Council of Kenya. This is the national regulatory body for nurses' training and practice in Kenya. It prescribes nursing syllabi and scope of practice. Through the collaboration, the nursing procedure manual has been revised and all procedures described using the Kenya-NP approach. In this way, all nurses are obligated to utilize Kenya-NP in clinical procedures. Moreover, Nursing Council of Kenya is expected to revise nurses' curriculum and replace the traditional nursing process with Kenya-NP.

2.4.6.3. The National Nurses Association of Kenya. This is the professional body that advocates for the welfare of nurses. They are responsible for organizing annual scientific conferences and general meetings. They have been able to organize for a pre-conference nursing process symposium platform to disseminate information on the Kenya-NP with show case slots. It also provides a platform for award of CNO's trophy for the best hospital in mainstreaming Kenya-NP in clinical settings.

2.4.6.4. Schools of nursing. For uniformity in practice it is important that all schools of nursing teach a similar curriculum and course content. Currently, two nurse lecturers from the adjacent school of nursing are trained alongside nurses in the respective hospitals. The lecturers are also included in the nursing process implementation committee.

3. Limitations

Funds to perform formal rigorous evaluation have been a challenge. However, the authors are confident that despite lack of rigorous scientific evaluation, preliminary reports are evident that the strategy is working as discussed in the subsequent section on "results of mainstreaming Kenya-NP in clinical settings to date".

Hospitals fund their own training and certification activities. This is a challenge especially in the current transition to county (regional) governments in accordance with the Kenya constitution of 2010. Consequently, setting targets for the number of hospitals to be trained and certified per year is a challenge. This may help explain the low coverage of number of hospitals from 2010 to date.

Additionally, the National training team and CNO's office are in discussion with partners to help fund a major formal rigorous evaluation on mainstreaming Kenya-NP with regards to benefits on patient health outcomes and factors that influence its utilization in clinical settings.

4. Results of mainstreaming Kenya-NP in clinical settings to date

From 2010 when the training was commenced to date, 28 hospitals have been trained, out of which five have been certified. The other hospitals are yet to secure funds for training and certification. Mainstreaming Kenya-NP trainings and certification activities are funded by the hospitals. Lack of funds and current transition to county (regional) governments has slowed down the organization of Mainstreaming Kenya-NP trainings and certification. However, preliminary reports by health sector reforms supervisory visits indicate tremendous increase of knowledge base and documentation skills among nurse managers, clinical nurse practitioners and students in hospitals implementing the Kenya-NP. Fig. 4, compared to Figs. 2 and 3, is an example of improvement in documentation.

Awareness of nursing process among other health care workers has been created. In some hospitals, nurses make presentations on Kenya-NP during multidisciplinary continuing professional development sessions at the request of other healthcare workers. Implementation of nursing process has been strengthened by adoption of Kenya-NP as the official framework for nursing practice in Kenya by the Department of Nursing. Furthermore, demonstrating ability to effectively apply Kenya-NP is also adopted in the Nurses' scheme of service as one of the criteria for promotion.

Nurses are also motivated by introduction of the CNO's annual trophy award to the best hospital in mainstreaming Kenya-NP. Students and qualified nurses have appreciated the increased correlation between classroom content and clinical area experience in utilization of nursing process in nursing practice. Additionally, high motivation is attributed to the fact that nurses, through comprehensive assessment, have been able to make medical diagnosis where there was a misdiagnosis by the physician. When they discuss the diagnosis and the physician revises the previous one, nurses feel appreciated and motivated to continue with application of Kenya-NP.

A non-governmental organization, ICAP, working in a regional hospital observed improvement in quality nursing care after Mainstreaming Kenya-NP training in the hospital and voluntarily requested to sponsor mentorship and supervisory visits for some hospitals. They, in addition, sent a nurse from their organization to be trained on Kenya-NP.

Many managers of the 28 hospitals where Kenya-NP course has been conducted requested for training based on the reports on benefits of Kenya-NP by their counterparts.

5. Barriers in mainstreaming Kenya-NP

In this section, some of the barriers so far experienced are discussed. Since the program is still ongoing, barriers are inferred from experiences observed during assessments for the CNO's trophy on the best hospital in mainstreaming Kenya-NP. Additionally barriers are inferred from reports of hospitals where training has not been conducted.

Hospitals in which training has not been conducted have consistently cited lack of funds. However, hospitals that score poorly during assessments have the following characteristics:

- Hospital nursing services manager neither attends case presentations nor supports nursing process coordinators.
- Continuing professional development coordinator does not work closely with the nursing process coordinators.
- The nurses' have an attitude that they are very few and cannot cope with the required patient assessment and massive documentation required in mainstreaming Kenya-NP.

6. Implications for nursing practice and next steps

Mainstreaming Kenya-NP in clinical settings is at its embryonic stage and formal research is necessary to confirm its benefits. Given the uniqueness of Kenya-NP it is necessary that the Kenyan experience is shared with other nurses to allow for large scale trials. Sharing challenges in the Kenyan experience could serve to encourage other nurses who want to implement nursing process in their countries. The challenges are both structural and processes in nature. Structural factors include inadequate number of nurses and limited funds, policies on nursing care delivery systems and task shifting. The process factors include the method of performing procedures, developing interpersonal relationships with patients to allow for trust and disclosure during assessment. For the University of Nairobi, challenges include the ever-growing numbers of students verses the few lecturers, policy on freezing employment of clinical instructors and underdeveloped skills laboratory. These challenges have been addressed in the following ways;

6.1. Categorization of patients

Patient categorization is one of the foundational topics in mainstreaming Kenya-NP curriculum. Patients are categorized into A, B and C with nurses' roles that correspond to Henderson's (1987) substitutive, supplementary and complementary respectively. With insufficient number of nursing staff, more nurses can be allocated to patients in category A and fewer ones to patients in category B and C.

6.2. Team nursing

Because of the limited number of professional nurses for primary nursing, Kenya-NP is implemented within the context of team nursing.

6.3. Knowledge, attitude and skills

Nursing process coordinators in collaboration and consultation with continuing professional development unit in their respective hospitals, nurse educators and national trainers hold focused seminars to equip nurses with the required knowledge, skills and attitudes necessary for mainstreaming Kenya-NP.

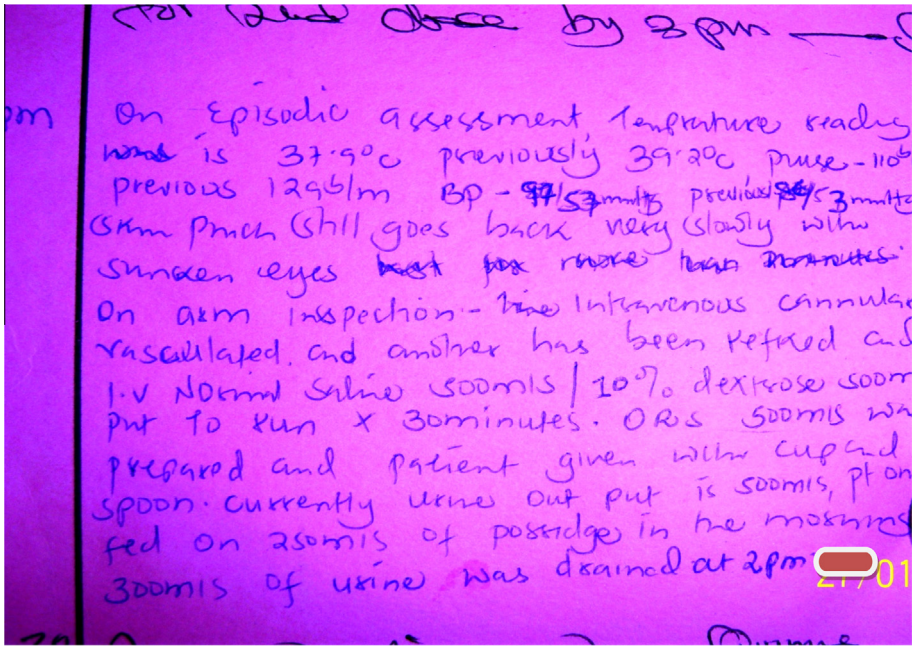

Fig. 4. An example of improved documentation after mainstreaming Kenya-NP training.

6.4. Limited number of trainers

The long term plan for sustainability is to develop a pool of nursing process trainers and implementation teams in every region (county). Currently, only three regions have had some of their nursing process coordinators joining the national training team.

6.5. Documentation

Nurse Educators in collaboration with the office of CNO intend to develop a software with classification of nursing process terminologies that will facilitate documentation. Development of a software will be possible through the Government's e-health programme. In the Kenya National e-health strategy 2011–2017 (Government of Kenya, 2011), the Ministry of Health is in the process of using software applications for document digitization and electronic storage as one strategy to improve health information systems in all hospitals.

6.6. Development of training package and guides

Two workshops have been held with all nursing process coordinators to review the curriculum, develop facilitator's guide and reference manual for use in Kenya. The national team together with the CNO with the support of an identified Non-governmental intend to conduct a formal post intervention research and publish findings. In addition, the team also intends to publish the training package and a reference manual for use in Kenya.

7. Conclusion

From the Kenyan experience, authors conclude that mainstreaming the Kenya-NP in clinical nursing practice improves patients' quality of health care, contributes to job satisfaction among nurses and promotes uniqueness of nursing profession. However, its effective utilization requires contextualization to the country specific needs. It is possible to mainstream nursing process in clinical settings and bridge the nursing process theory-to-practice when Harris et al. (2012) knowledge dissemination framework is used.

Conflict of interest

We have no conflict of interest to declare.

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