

# Impact of Advanced Practice Nurses and Midwives on Patients' Outcomes: A Systematic Review

Consolata Kirigia

Lecturer, School of Nursing: Department of Midwifery, University of Embu, Embu, Kenya.

## ABSTRACT

**Background:** Advanced practice nursing and midwifery education was introduced globally and in Kenya with an objective of introducing high quality nursing and midwifery care services that would result to improved patients outcomes. Currently there are hundreds of advanced practice nurses and midwives who are underutilized and more precisely in Kenya due to little available evidence of the impact of advanced practice nurses and midwives on patients' outcomes.

**Objective:** To review available evidence on the impact of advanced practice nurses and midwives on patients' outcomes.

**Methods:** A wide search method was used to site literature from variety of databases. Review process involved inclusion of qualitative, quantitative and mixed method research studies that were recent and relevant to this study's objective. Data were abstracted, organized into themes and sub-themes, summarized and results were reported by means of narrative synthesis. Quality of the research study was evaluated by using Mixed Method Appraisal Tool (MMAT) version 2018. Measures of advanced practice nurses' and midwives' impact were matched against a set framework including clinical significance for evaluating patient's outcomes.

**Results:** Out of the 10 studies that were included, the results suggested that there was a great impact of advanced practice nurses and midwives on positive patients' outcomes. The outcomes were; early detection of disease complications, efficient and effective continuity of care, diagnostic accuracy and reduced polypharmacy, reduced length of hospital stay, reduced mortality rates, innovative service delivery, patient safety and satisfaction.

**Conclusion:** There is need for more involvement of advanced practice nurses and midwives in healthcare delivery systems and specifically in Kenya in order to achieve positive patients' outcomes.

**Key words:** Impact, Advanced, Practice, Nurses, Midwives, patients, outcomes, healthcare.

## BACKGROUND OF THE STUDY

Many countries have witnessed an increasing number of advanced practice nurses and midwives in the past years but studies indicate that they are underutilised.

<sup>[1]</sup> International Council of Nurses (ICN) defines an advanced practice nurse as a registered nurse who has acquired the expert knowledge base, complex decision-making skills and clinical competencies for expanded practice, the characteristics of which are shaped by the context and/or country in which s/he is credentialed to practice. A master's degree is recommended for entry level. There is no clear definition

of an advanced practice midwife. However a specialist or advanced midwife plays a very strategic part in healthcare service delivery. Specialist midwives are expected to review and receive referrals coming from fellow midwives where care was deemed complex. Advanced midwives assume such roles as consultants, clinicians, educators, managers and researchers. <sup>[2]</sup> Midwives in Liberia perform advanced maternity care services independently and competently. <sup>[3]</sup>

The increasing number of advanced practice nurses and midwives has been a rejoinder to challenges that have been facing healthcare settings in most countries such as

the changing people's needs for good health. While there is this increased demand for specialized nurses and midwives, their roles and scope are not well defined. A well defined role would be a catalyst to organized outputs and better patients' outcomes that would encourage specialized nurses and midwives to remain in clinical areas rather than shifting into management roles. The roles can be categorized as expertise and consultancy, leadership and management, education and research in all specialties from the lowest to highest levels of healthcare settings. Literature indicates that investing in advanced practice nursing and midwifery not only improves patients' outcomes but also results to reduced cost of healthcare and reduced national economic burden. [4, 5] Clinical significance can be a measure of impact of advanced practice nurses and midwives on patients' outcomes. This involves assessing reduction of severity of signs and symptoms of the underlying sickness, patients' satisfaction and improved quality of life in relation to the nursing and midwifery interventions employed. Advanced practice nursing and midwifery was introduced globally and in Kenya with an objective of introducing high quality nursing and midwifery care services that would result to improved patients outcomes. However the advanced nurses and midwives are underutilised specifically in Kenya due to little available evidence of their impact on patients' outcomes.

### **Objective of the study**

To review available evidence on the impact of advanced practice nurses and midwives on patients' outcomes.

Study question: What evidence is available on the impact of advanced practice nurses and midwives on patients' outcomes?

## **METHODOLOGY**

### **Study Design**

A systematic review of literature from qualitative, quantitative and mixed method research studies was conducted.

### **Search Strategy**

A wide search strategy was employed using key word like advanced, practice, nurses, midwives, impact, patients, outcomes and healthcare. Data search and retrieval was done from databases like PubMed Central, Google Scholar, BioMed Central, ScienceDirect and HINARI. Only recent data from 2016-2020 was considered in the search strategy. Free text words combined with Boolean operators, that is OR, AND in study titles and abstracts, reference list search from articles that were included formed part of the search strategy.

### **Inclusion Criteria**

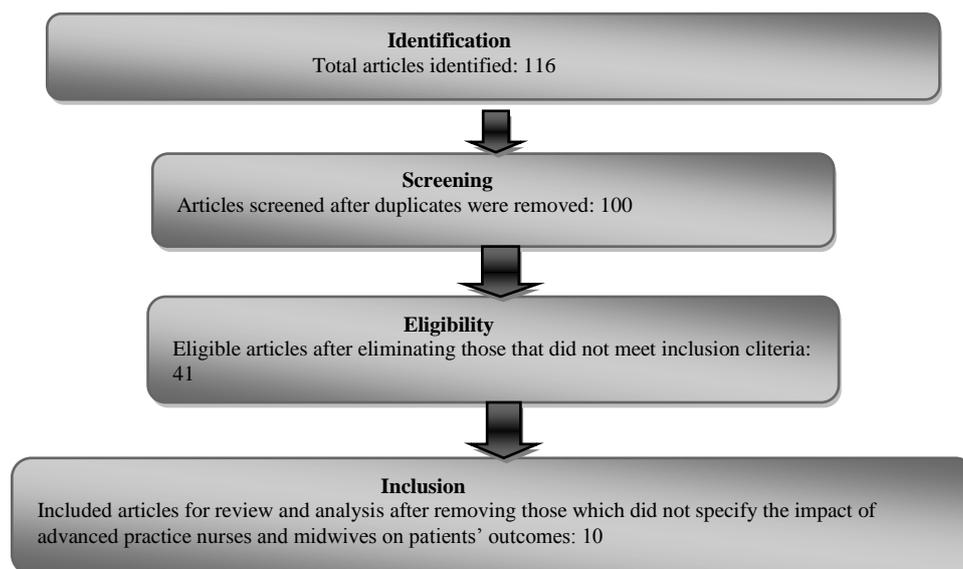
General criteria for inclusion were adopted for all the articles. The criteria were; relevant qualitative, quantitative and mixed method studies that were related or focused on the impact of advanced practice nurses and midwives on patients' outcomes, peer reviewed recent articles not older than 5 years since publication, written in English language.

### **Exclusion Criteria**

General criteria for exclusion were adopted for all the articles. The criteria were; irrelevant studies those were not related or did not focus on the impact of advanced practice nurses and midwives on patients' outcomes, articles older than 5 years since publication, written in other languages apart from English language.

## **SEARCH RESULTS**

The number of total identified articles was 116 and the Preferred Reporting Items for Systematic reviews and Meta-Analysis (PRISMA) selection process was followed. From these identified articles, duplicates were removed. After removal of duplicates, 100 articles were screened for eligibility. These were further reviewed critically in consideration of inclusion and exclusion criteria and 41 articles were found potentially eligible. Finally only 10 articles were included for this review and analysis after removing those which did not specify the impact of advanced practice nurses and midwives on patients' outcomes: [Figure 1].



**Figure 1: Review Selection Process**

### Quality Appraisal

Quality of the research study was evaluated by using Mixed Method Appraisal Tool (MMAT) version 2018 [Table 1].

**Table 1: Characteristics of Included Articles**

First Author	Publication Year	Title/Key Words	Inclusion Criteria	Study Results
Eaton et al.	2019	The impact of advanced practice providers on the surgical resident experience: Agree to disagree?	Relevant to this review objective, credible, recent, written in English	Positively impacted care through continuity of care and efficient services
Sánchez-Gómez et al.	2019	Benefits of Advanced Practice Nursing for Its Expansion in the Spanish Context.	Relevant to this review objective, credible, recent, written in English	More effective follow up of chronic patients with early detection of disease complications
Kilpatrick et al.	2020	A mixed methods quality improvement study to implement nurse practitioner roles and improve care for residents in long-term care facilities.	Relevant to this review objective, credible, recent, written in English	Decreased polypharmacy and transfers to acute care were reduced
O'Toole et al.	2019	Patient Satisfaction With Innovative Nurse Practitioner Cardiology Services.	Relevant to this review objective, credible, recent, written in English	Safe patients' outcomes, early detection of coronary artery disease, patient satisfaction, innovative ways of service delivery.
Unruh et al.	2018	Benefits of Less Restrictive Regulation of Advance Practice Registered Nurses in Florida	Relevant to this review objective, credible, recent, written in English	Reduced healthcare cost in Florida
Coster et al.	2018	What is the impact of professional nursing on patients' outcomes globally?	Relevant to this review objective, credible, recent, written in English	Reduced mortality risk in acute departments
Lamb et al.	2018	Describing the leadership capabilities of advanced practice nurses using a qualitative descriptive study	Relevant to this review objective, credible, recent, written in English	Contributes to conducive nursing care environment for patients and staffs.
Anderson C	2018	Exploring the role of advanced nurse practitioners in leadership	Relevant to this review objective, credible, recent, written in English	Positive clinical outcomes, cost efficiency.
Roche et al.	2017	The effectiveness of emergency nurse practitioner service in the management of patients presenting to rural hospitals with chest pain	Relevant to this review objective, credible, recent, written in English	Diagnostic accuracy, patients satisfaction, reduced length of stay and waiting time
Woo et al.	2017	The impact of the advanced practice nursing role on quality of care, clinical outcomes, patient satisfaction, and cost in the emergency and critical care settings	Relevant to this review objective, credible, recent, written in English	Improved length of stay to consultation and treatment, reduced mortality rate, cost saving.

### **Data abstraction and synthesis**

There was a data abstraction form for every design focusing on qualitative, quantitative and mixed methods results. Quantitative data were synthesized through collating the design, interventions, results as well as outcome measures. Moreover qualitative data were synthesized by thematic analysis and regular revisions were done to clarify possible uncertainties.

### **Report on Results**

Out of the 10 studies that were included, the results suggested that there was a great impact of advanced practice nurses and midwives on positive patients' outcomes. Impact on clinical significance of implemented interventions was an outcome indicator. Positive symptomatic patient outcomes were clinically significant in most studies. The studies indicated that the advanced practice nurses and midwives had positive impact on physical and psychological outcomes. The interventions of advanced practice nursing result to patient satisfaction or satisfying improved care and explanation of their concerns. There was evident reduction in mortality rate, reduced length of hospital stay and reduced waiting time with cost effective care services. There was great evidence of acceptable and valuable advanced interventions. Competency among the staffs was evident, prompt decision making, accuracy of diagnosis and quality services was also very evident. Early detection of disease complications, continuity of care, reduced polypharmacy, innovative service delivery, patient safety and satisfaction [Table 1].

### **DISCUSSION**

The search strategy of this literature review was thorough. It comprised of rigorous criteria of article inclusion and exclusion, systematic extraction of data as well as the process of quality assessment. There was a limitation to this review whereby during quality assessment, one of the studies met minimum threshold but it was considered valuable in order to

comprehensively demonstrate the impact of advanced practice nurses and midwives towards positive patients' outcomes. [7] This inclusion criterion has some degree of implications to the research results. One study had a small sample size hence hindering conclusive synthesis of evidence. [9] From the start, there was evidence of advanced practice impact on various aspects of patients' outcomes. There was evidence of perceived patients' satisfaction from patients who were interviewed. [6-8] Advanced practice nursing positively influenced patients' care by continuity and efficiency of services. [9] There was a report of effective follow ups of patients with chronic diseases and early detection of disease complication. [10] Decreased polypharmacy and reduced transfers of patients to intensive care departments. [11] In a study on patient satisfaction with innovative nurse practitioner cardiology services, more innovative mechanisms of service provision were reported and early detection of coronary artery disease. In another study to evaluate the impact of professional nursing on patients' outcomes globally, reduced mortality rate was reported in acute departments having advanced practice nurses. [12, 7] Literature indicates that advanced nursing and midwifery leadership contributes to promotion of a conducive nursing and midwifery care for patients. [13] Diagnostic accuracy, reduced length of hospital stay, and reduced waiting time for healthcare services was reported in areas where advanced nursing and midwifery practitioners were deployed. [6,7] There were other reports on cost effectiveness of overall services by advanced nurses and positive clinical outcomes such like reducing severity of symptomatology as a measure of impact of interventions. [5, 7] Therefore the respective articles availed more information thus strengthening clinical significance. This review proposes greatly positive impact of advanced practice nurse and midwife on patients' health outcomes.

### **What is known about impact of advanced practice nurses and midwives on patients' outcomes?**

Advanced practice nursing and midwifery was introduced globally and in Kenya with an objective of introducing high quality nursing and midwifery care services that would result to improved patients outcomes, but the advanced nurses and midwives are underutilised specifically in Kenya due to little available evidence of their impact on patients' outcomes.

### **What does this study add?**

This study has provided evidence that advanced practice nurses and midwives influence various positive patients' outcomes

### **Implications of this study to healthcare systems**

This study recommends further and robust studies to evaluate individual patients' perspectives regarding the care given to them by these advanced practice nurses and midwives compared by others registered nurses and midwives.

### **CONCLUSION**

A clearly demonstrated impact of advanced practice nurses and midwives on positive patient health outcomes is very crucial for professional development, successful workforce organization and to provide a guideline on support needed for nurses and midwives to advance their professional practices. This review has determined the clinical significant evidence of positive impact of advanced practice nursing and midwifery on patients' health outcomes. The study recommends further and robust studies to evaluate individual patients' perspectives regarding the care given to them by these advanced practice nurses and midwives compared by others registered nurses and midwives.

### **Funding**

This review was not funded

### **Conflicts of interest**

The author declares no conflicts of interest

### **REFERENCES**

1. Casey, M., O'Connor, L., Cashin, A., Smith, R., O'Brien, D., Nicholson, E., O'Leary, D., Fealy, G., McNamara, M., Glasgow, M. E., Stokes, D., & Egan, C. An overview of the outcomes and impact of specialist and advanced nursing and midwifery practice, on quality of care, cost and access to services: A narrative review. *Nurse education today*. 2017; 56, 35–40.
2. Goemaes, R., Beeckman, D., Goossens, J., Shawe, J., Verhaeghe, S., & Van Hecke, A. Advanced midwifery practice: An evolutionary concept analysis. *Midwifery*. 2016; 42, 29–37.
3. Dolo, O., Clack, A., Gibson, H., Lewis, N., & Southall, D. P. Training of midwives in advanced obstetrics in Liberia. *Bulletin of the World Health Organization*. 2016; 94(5), 383–387.
4. Unruh, L., Rutherford, A., Schirle, L., & Brunell, M. L. Benefits of Less Restrictive Regulation of Advance Practice Registered Nurses in Florida. *Nursing outlook*. 2018; 66(6), 539–550.
5. Anderson C. Exploring the role of advanced nurse practitioners in leadership. *Nursing Standard*. 2018; 11, 044.
6. Roche, T.E., Gardner, G. & Jack, L. The effectiveness of emergency nurse practitioner service in the management of patients presenting to rural hospitals with chest pain: a multisite prospective longitudinal nested cohort study. *BMC Health Serv Res*. 2017; 17, 445.
7. Woo, B.F.Y., Lee, J.X.Y. & Tam, W.W (2017). The impact of the advanced practice nursing role on quality of care, clinical outcomes, patient satisfaction, and cost in the emergency and critical care settings: a systematic review. *Hum Resour Health*. 2017; 15, 63.
8. O'Toole, Jacqueline & Ingram, Shirley & Kelly, Niamh & Quirke, Mary & Roberts, Amanda & O'Brien, Frances. Patient Satisfaction With Innovative Nurse Practitioner Cardiology Services. *The Journal for Nurse Practitioners*. 2019; 15,12-13.
9. Eaton, B., Hessler, L., O'Meara, L., Herrera, A., Tesoriero, R., Diaz, J., & Bruns, B. The impact of advanced practice providers on the surgical resident experience: Agree to disagree? *American journal of surgery*. 2019; 217(6), 1107–1111.

10. Sánchez-Gómez, M. B., Ramos-Santana, S., Gómez-Salgado, J., Sánchez-Nicolás, F., Moreno-Garriga, C., & Duarte-Clímets, G. Benefits of Advanced Practice Nursing for Its Expansion in the Spanish Context. *International journal of environmental research and public health*. 2019; 16(5), 680.
11. Kilpatrick, K., Tchouaket, É., Jabbour, M., & Hains, S. A mixed methods quality improvement study to implement nurse practitioner roles and improve care for residents in long-term care facilities. *BMC nursing*. 2020; 19, 6.
12. Coster, S., Watkins, M., & Norman, I. J. What is the impact of professional nursing on patients' outcomes globally? An overview of research evidence. *International journal of nursing studies*. 2018; 78, 76–83.
13. Lamb A, Martin-Misener R, Bryant Lukosius D, Latimer M. Describing the leadership capabilities of advanced practice nurses using a qualitative descriptive study. *Nursing Open*. 2018; 5:400–413

How to cite this article: Kirigia C. Impact of advanced practice nurses and midwives on patients' outcomes: a systematic review. *Int J Health Sci Res*. 2020; 10(6):218-223.

\*\*\*\*\*