

A Narrative Review of Nursing Health Services Research in a National University Hospital

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Abstract

Background: Nursing health services research conducted in the local setting is not commonly reported in the literature and has not been systematically reviewed in recent years in terms of scope and status.

Objectives: To determine the scope and status of nursing health services research conducted in a national university hospital in terms of research productivity and nature of scientific investigation.

Methods: This is a narrative review of studies.

Results: Forty-nine research reports from 2005-2017 were appraised, extracted and analyzed using the review methodology of Whitemore and Knafl. The Scale for the Assessment of Narrative Review Articles (SANRA) of Baethge, Goldbeck-Wood and Mertens was utilized in the evaluation of research reports. In a span of 13-year period from 2005-2017, an average of three to four research studies were completed every year, mostly descriptive/correlational/predictive in design (63.27%) and the studies focused mostly on healthcare providers like nurses (71%) as population focus. Research topics explored include issues on patient care and nursing interventions (20.41%), positive practice environment (18.37%) and nurse's role competencies (18.37%). The majority of the studies were presented in different conferences, however, limited publication in peer-reviewed journal. The study findings informed policy decisions, staff development programs, innovative patient care modalities and reviewing the nursing service research agenda.

Conclusion: This review systematically described the status and scope of nursing health services research conducted in a national university hospital. Findings of this review provides a fertile ground to advance the development of nursing health services research agenda, calibrate capacity-building research programs for registered nurses working in the hospital in collaboration with the academe, and ensuring visibility of nursing research conducted by the nurses at the bedside.

Impact: Improving the competencies of nurses working in the hospital setting on diverse research methodologies and preparing manuscripts for funding and publication as well as collaborative activities with the academe are critical factors to further strengthen nursing research outputs in the clinical setting. To advance nursing health services research, agenda should be articulated and prioritized at the institutional and national levels.

Keywords: nursing research, nursing service health research, nursing research agenda, narrative review

Introduction

Nursing health services research is the study of systems of healthcare delivery; structures, processes and outcomes of nursing care; nursing practice innovations; and new models of care delivery (Jones, 2005). One of the program thrusts of the nursing and patient care service in a hospital setting is the promotion of excellence and leadership in the delivery of quality nursing care anchored on research, evidence-based practice and quality assurance initiatives. This mandate on research is reflected in a sequential set of activities such as the conceptualization of studies that have relevance to nursing practice, submission of study protocol to ethics review board, judicious and methodologically sound data collection and analysis, dissemination of findings, and capacity-building for nursing personnel.

In a nursing and patient care service department in a hospital, a nursing research arm is usually tasked to spearhead relevant research endeavors, quality improvement initiatives and evidence-based projects. Research conducted in the clinical setting has a strong background on addressing clinical issues useful in improving patient outcomes, strengthening autonomous and collaborative nursing practice, and safeguarding the welfare of the nursing workforce. Most of the study findings, directly or indirectly, inform certain policies and programs geared towards improvement in patient care, service delivery and strengthening nursing workforce.

In 2011, a nursing service research agenda at the University of the Philippines Manila Philippine General Hospital (UP- PGH) was formed through a multisectoral meeting with representatives from the University of the Philippines College of Nursing, Professional Regulation Commission Board of Nursing (PRC), Association of Nursing Service Administrators of the Philippines, Inc., Philippine Nurses Association, Department of Health, and World Health Organization. The consultative meeting addressed research directions addressing clinical issues and patient care, training and education, human resource management and nursing service administration. This led to the creation of the two-year nursing research agenda

focusing on nursing practice, nurse-led interdisciplinary interventions, patient experiences and patient safety concerns. In 2017, the UP-PGH nursing affirmed a similar research agenda until 2020. An exponential increase in the number of researches focusing on COVID-19 pandemic led to the scoping review of nursing health services research that resulted to a five-point research agenda namely patient responses and tailored interventions; safe work environment for health workers; addressing health inequities and disparities; technology-driven interventions; and advocacy and ethics of care (Garma et al., 2022).

Empirical research significantly contributes to knowledge generation and in mapping the direction of nursing research agenda. However, nursing health service research is not commonly reported in the local literature. Williams (1980) identified the focus of nursing research in the Philippines from the period 1935 to 1979. She noted that 40% focused on nursing service administration, 37% on nursing education, 16% patient care and 7% related research. The majority of the research was done by practicing nurses as an academic requirement for a postgraduate degree. The primary objective of the research conducted by Filipino nurses then was to find answers or solutions to immediate problems in work setting. The research designs of these studies were descriptive design of quantitative methodology. The author raised concerns on the issues of design, replication, dissemination, utilization of findings, research content analysis, and funding for nursing research. After the publication of the descriptive review of nursing research in the Philippines in 1980s, further attempt to describe the state of the art and scope of nursing research in the Philippines remains elusive in the local literature. To the best of our knowledge, this narrative review is the first attempt in the local literature to systematically review researches in a local institution in the Philippines specifically conducted by the nursing services.

This review was conceptualized to integrate and categorize individual studies conducted in nursing services into a common understanding and knowledge. In this way, crucial discussions can be made to advance nursing

health services research agenda, implement relevant capacity-building strategies to improve research initiatives among nursing personnel, and promote a culture of evidence-based care decision and policy development.

This narrative review aimed to determine the scope and status of nursing health services research in the past decade in terms of productivity and nature of scientific investigation. Research productivity refers to the number of research outputs per year, average time (in months) needed to finish a study, number of research disseminated to conferences and publication and studies that were used to inform policy and program development. The nature of scientific investigation pertains to the category of research problem, population focus and type of research design.

Methods

Design

This is a narrative review of studies. The review provides a summary of a selection of studies in order to support empirical research (Smith & Noble, 2018). It adheres to the review methodology of Whittmore and Knaf (2005) that summarizes past empirical or theoretical literature and diverse methodologies such as experimental and non-experimental research with the goal of providing a comprehensive understanding of a particular phenomenon or topic of interest (Doolen, 2017). The process involves problem identification, literature search, data evaluation, data analysis and presentation.

Inclusion and Exclusion Criteria

Research studies reviewed include those conducted by nursing personnel with a written final report and are accessible in the registry of research from 2005 to 2017. The review only covered research outputs in a prescriptive 13-year period to fully capture the nature of research in this specific decade. Articles which were excluded in the review were as follows: evidence-based practice projects, quality improvement initiatives and innovations; research projects which were not completed, terminated or on-going; research proposals; and research conducted for the purpose of academic requirement.

Data Appraisal and Extraction

Three independent reviewers (PFG, PM, MC) were involved in data appraisal and extraction. Data were tabulated into a matrix indicating the title of the study, year conducted, investigators, research questions and objectives, setting, population, design, key findings, dissemination venues and strategies for utilization of findings. Likewise, pertinent research-related documents were utilized to corroborate the research outputs being reviewed. The nature of scientific investigation was described according to topics identified in previous research agenda. The Scale for the Assessment of Narrative Review Articles (SANRA) (Baethge, Goldbeck-Wood & Mertens, 2019) was utilized in the evaluation of articles. It comprises the following criteria: (1) justification of the article's importance, (2) specific aims, (3) description of literature search, (4) referencing, (5) scientific reasoning and (6) appropriate presentation of data. Disagreement was settled using a consensus approach.

Data Analysis

Descriptive statistics such as frequency and percentage were computed to evaluate the research productivity. The nature of scientific investigation was categorized according to descriptions on research methodology used, and themes based on previous research agenda.

Results

Research Productivity

Completed research pertains to a study which satisfied all the requirements from ethics review, data collection and analysis, presentation, and culminated in the dissemination of findings through a formal written report and presentation to a forum. For a 13-year period, there were 49 completed researches. Annually, an average of three to four completed research outputs was reported. The average time to finish a study was computed from the time it was submitted to ethics review board for ethical clearance until the study finding is disseminated in the nursing forum. Only 25 studies with complete data indicating the data were submitted to ethics review board for review until the findings were disseminated were included

in the analysis. The average time to complete a study is six to seven months.

There were 10 research presented as oral or podium and/or poster presentation during research conferences. These conferences were spearheaded by the Philippine Nurses Association, Association of Nursing Service Administrators of the Philippines, Inc., Manila Tytana College of Nursing, Association of Higher Education Multidisciplinary Researchers, Inc. and Patient Safety congress. The study entitled, Kangaroo Care in the Reduction of Pain in Full Term Neonates Undergoing Newborn Screening (Campo et al., 2014) was published in a peer-reviewed nursing journal, the Journal of Nursing Practice Applications and Reviews of Research, in 2014. Locally, abstracts of research were published in different conference proceedings.

Six studies contributed to informing policy and program development. The baseline competencies of nurses served as a reference guide in the development of nurse's performance indicators and appraisal (Palcone et al., 2009). The exploratory studies on the transition experiences and learning needs of newly hired nurses led to the development of transition and preceptorship programs in the Nursing Services (Bibat et al., 2015; J. Matawaran et al., 2016a). Identifying the communication needs of patients in mechanical ventilator stimulated the use of iPic board as an alternative communication strategy in the delivery of nursing care (Punzalan et al., 2011). Study findings from compassion satisfaction and compassion fatigue and workplace incivility resulted to educational programs addressing these issues (Garma et al., 2017; Legion et al., 2017). Additionally, findings from the incivility study contributed to the inclusion of cultivating a culture of workplace civility in general orientation program and professional image enhancement update.

Nature of Scientific Investigation

The nature of scientific investigation pertains to the category of research problems, research designs and population focus. Category of research problems pertains to the nature of a nursing-related phenomenon that the research questions seek to address. Out of 49

research articles reviewed, the top three most common research problems being investigated fall under the category of patient care and nursing interventions (20.41%), positive practice environment (18.37%) and nurse's competencies (18.37%). Other categories of research problems focus on human resource management and staffing (14.29%), patient safety (10.20%), patient experience (8.16%), cost effectiveness of treatment modalities (6.12%) and nursing documentation (4.08%).

Patient care and nursing interventions include studies which explore the effects of nursing-led care modalities in effecting specific patient outcomes. These studies, which are descriptive exploratory and experimental in nature describe patient care issues as well as test the effects of nursing interventions on certain clinical outcomes. These include assessing learning needs assessment for health education among diabetic patients (Untalasco et al., 2015), using 0.9 normal saline solution as an alternative flushing solution over heparin in ensuring patency of peripheral intravenous heparin lock (J. G. Matawaran et al., 2015), use of iPic board as a communication tool for patients in a mechanical ventilator (Punzalan et al., 2011), effect of kangaroo care in reducing pain among full-term neonates undergoing newborn screening (Mildred Campo et al., 2014) effects of alternate cold application and heat lamp exposure on healing of episiotomy wound (Alcoran et al., 2011) and pain assessment and documentation practices of nurses (Abuzo et al., 2008).

Positive practice environments are workplace settings that support excellence and decent work by ensuring the health, safety and personal well-being of staff, supporting quality patient care and improving the motivation, productivity and performance of individuals and organizations (International Council of Nurses, 2007). Research initiatives on positive practice environment include exploratory study on factors affecting anxiety among newly hired nurses (Zone 1 Research Coordinators, 2006), workplace incivility (Garma et al., 2017) compassion fatigue and compassion satisfaction (Legion et al., 2017), work-related stress and work ability index (Waje et al., 2016), nurse

practice environment in a tertiary hospital (Bernal et al., 2015), work-related quality of life and performance evaluation (Sy et al., 2014), hypertension and work productivity (Mildred B. Campo et al., 2014) and incident reporting (Sy et al., 2013).

Studies which deal with nurse's competencies describe career progression and the corresponding knowledge, skills and attitude of nurses from being newly hired to being part of a core nursing specialty group as a specialist. These include predictors of clinical performance (Veloso, 2017), development of transition program based from identified transition experiences and needs for entry level nurses (Bibat et al., 2015; J. Matawaran et al., 2016b), baseline competencies of nurses (Palcone et al., 2009), concept of caring among nurses (Formoso et al., 2009), status of nursing specialty core groups (Punzalan et al., 2009) and nurse's competencies on surgical site infection (Aceron et al., 2008).

A couple of research addressed human resource management issues particularly on the aspect of job analysis and staffing, organization and utilization of work force. For instance, Enriquez (2005) described the management skills and performance of head nurses while seniority complex and its implications to quality nursing care delivery were investigated (J. H. Formoso Jr. et al., 2008). Recurring

topics include nurse's experiences on 8 and 12-hour shifting schedule (Evangelista et al., 2014) and effect of 12-hour shift on quality of patient care, patient satisfaction and nurse's job satisfaction (Rafael et al., 2013). Various alternative staffing schemes were also tested to determine equitable nurse-patient ratio such as applying W1SN method in determining workload and staffing complement in pay patient service (Barua et al., 2013), implementation of a centralized utility worker dispatch system (Veloso et al., 2013) and nurse-patient ratio as an indicator of quality nursing care (J. Formoso Jr. & Zone III Research Coordinators, 2006).

The publication of the UP-PGH Nursing Patient Safety Manual in 2009 streamlined research on this area. Patient safety issues being studied consist of hand-over communication practices (Umilin et al., 2013), patient safety attitude among healthcare personnel in the operating room complex (Campo, Atienza, Banayat, et al., 2013), nurse's perceptions on medication error and reporting system (Punzalan et al., 2013), application of mechanical and physical restraint on adult patients in critical care units (Tuanquin et al., 2013) and nurse's preparation and administration practices of chemotherapeutic drugs (Torrigue & Zone 2 Research Coordinators Batch 2006, 2006). Patient experience as an outcome of care was also investigated. It is defined as a range of interactions that patients have with the health

Table 1

Category of research problems investigated

| Category of Research Problem | Frequency/ Percentage |
|--|-----------------------|
| Patient care and nursing interventions | 10 (20.41 %) |
| Positive practice environment | 9 (18.37 %) |
| Nurse's competencies | 9 (18.37 %) |
| Human resource management/ staffing | 7 (14.29 %) |
| Patient safety | 5 (10.20 %) |
| Patient experience | 4 (8.16 %) |
| Cost effectiveness of treatment modalities | 3 (6.12 %) |
| Nursing documentation | 2 (4.08 %) |
| Total | 49 (100%) |

care system, including their care from health plans, and from doctors, nurses, and staff in hospitals, physician practices, and other health care facilities (Agency for Healthcare Research & Quality, 2017). The set of studies which attempted to capture patient experience include using critical incident stress debriefing in reducing stress levels among family caregivers of chronically ill patients in service wards (Baniqued et al., 2005), actual visitation practices as a provision of therapeutic environment for critically ill patients (Zone 2 Research Coordinators, 2005), experiences of postpartum mothers being cared by male nurses in a service ward (Almariego et al., 2012) and coping mechanisms and psychosocial needs of admitted Filipino school-age cancer patients (Punzalan et al., 2012).

Notable studies on cost-effectiveness were the comparative economic analysis of single use suction catheter versus recycled suction catheter (Manabat et al., 2007) accuracy of three glucose monitors in reference to fasting plasma glucose (Baluyot et al., 2013) and duration of use of volumetric control set and the growth of microorganisms (Labuni et al., 2008). Two research described the documentation preferences and practices of nurses and the effect of new documentation form on time efficiency in a critical care unit (Gaspar, Kim & Tan, 2011).

Even though the bulk of research focused on patient care and nursing interventions, the population focus focused primarily on healthcare providers, particularly nurses and physicians (71%). The remaining studies (29 %) covered patients, caregivers and other professionals for expert validation.

Research design is the overall mechanism of the researcher in answering the research question or testing the research hypothesis (Polit & Beck, 2008). It serves as a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings (Burns & Grove, 2007). More than half of the research conducted by the division utilized descriptive type (63%), followed by quasi-experimental (20%) and qualitative (6%) and comparative studies (6%). There is a single reported study which used a randomized controlled trial and

a psychometric validation of a tool.

The descriptive/correlational studies looked into description of data, tests of correlation and association among variables of interest respectively. Quasi-experimental designs were employed in 10 studies which tested the effects of specific nursing interventions such as cold application in combination with perineal heat lamp exposure on episiotomy wound healing (Alcoran et al., 2011), impact of 12-hour shifting on patient and nurse outcomes (Rafael et al., 2013), foot massage on psychosocial outcomes of cancer patients (Campo, Atienza, Banayat, et al., 2013)(Ocampo et al., 2013) and nursing new documentation form (Gaspar et al., 2011).

Moreover, nurse researchers were also beginning to utilize qualitative approaches in understanding the meaning and experiences of patients who are sick and admitted in the hospital. Three studies employed a qualitative approach with a specific study on transition experiences (Bibat et al., 2015) which explicitly mentioned phenomenology as its qualitative research tradition. A comparative analysis was the design evident in testing the accuracy of three glucometers on fasting blood sugar (Baluyot et al., 2013) and cost analysis of single use versus recycled suction catheter (Manabat et al., 2007). There was only one study which reported the use of randomized controlled design (J. G. Matawaran et al., 2015) and another single study on psychometric testing of an adapted tool (Dela Cruz et al., 2016).

Discussion

This narrative review sought to define the scope and status of nursing health services research in a national university hospital by reviewing research studies conducted in the past decade. Research productivity of the nursing service department and the nature of scientific investigations were used as basis in describing the status of nursing health services research.

Nursing health services research is an emerging multidisciplinary field of inquiry that studies how socioeconomic, financing, technologies and individual behaviors affect healthcare access, cost, quality and health and well-being (Lohr & Steinwachs, 2022). Specifically, it improves the delivery of healthcare services specific to nursing. In the Philippine setting, research is one of the thrusts of hospital nursing

alongside with service and training (Villaluna, 2019). The discussion on the status of research in hospital nursing remains elusive in local empirical literature despite the implementation of the national nursing core competency standards of Filipino registered nurses in client care, leadership and management and research (Divinagracia, & Lorenzo, 2014). More importantly, nursing research departments have been institutionalized in different hospitals across the country with the mandate of translating research and evidence to improve nursing practice and patient and organizational outcomes.

The conduct of research from conceptualization to dissemination is one of the major tasks of a hospital nursing research department. Our review showed that an average of at least three to four studies was completed annually. Empirical literature showed that lack of understanding of the research process, time and institutional support are barriers in a successful research program (Kress, 2018). To ensure viable research productivity, our organization sets annual research targets, designates dedicated nursing personnel to undertake research, and provides a structured capacity-building program for research and evidence-based practice for nurses.

Research dissemination and knowledge translation has been a growing concern in nursing science because there is a need for the application of evidence to effect

certain outcomes (Rabelo-Silva, Mantovani, & Saffi, 2022). Further, it is frequently reported that it takes an average of 17 years for research evidence to reach clinical practice (Morris, Wooding, & Grant, 2011). This review ascertained limited opportunities to disseminate and translate research findings into practice. In more than a decade, only ten out of 49 completed studies were presented in scientific conferences. On the other hand, only six studies were used in shaping practice change and policy development. This poses a challenge to adopt knowledge translation strategies that make the benefits of research utilization fully optimized.

Creating policies and organizational infrastructures that support the seamless translation of research findings to practice that will ultimately effect better patient and organizational outcomes is the goal of nursing research (Flodgren, Rojas-Reyes, Cole, & Foxcroft, 2012). At present, institutional initiatives are implemented such as holding an annual nursing research forum which serves as platform to discuss research findings among nursing personnel. This activity ensures the visibility of nursing research and encourages more nurses to engage in research endeavors. Financial support is given to defray the registration expenses in conferences where research reports are presented. In addition, research grants and funding are provided to nurses whose research proposals are aligned with the hospital research agenda.

Table 2

Type of research designs employed

| Types of Research Design | Frequency/ Percentage |
|-----------------------------|-----------------------|
| Descriptive/Correlational | 31(63.27) |
| Quasi-experimental | 10 (20.41 %) |
| Qualitative | 3 (6.12%) |
| Comparative studies | 3 (6.12%) |
| Randomized controlled trial | 1 (2.04 %) |
| Psychometric evaluation | 1 (2.04 %) |
| Total | 49 (100) |

The focus of investigations in this review of studies centers on patient care and interventions (20.41%), work environment (18.37%) and nurse's competencies (18.37%), which operate on the metaparadigm concepts of nursing practice. Other critical issues related to the delivery of nursing care such as staffing complement (12.29%), patient safety (10.20%), patient safety (8.16%) and cost-effectiveness of treatment modalities (6.12%). These topics emanate largely on problems and needs that arise in the clinical areas as perceived by nurse managers, staff nurses and patients and their families. Although the identification of research topics based on needs assessment is plausible and relevant, it is incumbent for the nursing services to outline priorities for research program and align this with organizational, national and international research agenda (Berhaus et al., 2019). This in return solidifies the knowledge domains of nursing science and articulates its contributions to health sciences.

The methodologies and approaches that nurses employ to answer research questions are generally quantitative descriptive. More than half of the studies (63.27%) reviewed were correlational or predictive in nature. Surprisingly, the majority of research topics are on patient care and interventions, yet the level of research questions is descriptive in nature. This calls for a more appropriate methodological decision to adopt designs that combine testing of effectiveness of interventions and their impact on patients and their families. It is high time that qualitative research, psychometric studies and emerging research methodologies such as randomized controlled trials and mixed methods research be embedded into the research program. Including these topics in the capacity-building programs is needed for nurses to be abreast of the research designs. These research methodologies are increasingly applied in nursing research because they strengthen the depth of understanding of nursing phenomena such as human responses and outcomes of caring behaviors and interventions (Doorenbos, 2014).

Implications

The nursing services should articulate its agenda priorities for research and development aligned with the priority areas of institution in order to further strengthen its research mandate. Several techniques have been proposed in setting research agenda such as needs assessment, delphi technique and analytic hierarchy process by experts (Oh, Jang, Gong, & Lee, 2015). For instance, the UP-PGH nursing service stipulated its research agenda as early as 2011. This has been regularly revisited to be relevant and integrated with the institutional and national research priorities such as Department of Health and Department of Science and Technology Harmonized National Research and Development Agenda 2022-2028. Moreover, nurse-led studies must be disseminated in a broader audience to inform policy decisions and highlight the contribution of nursing research in health sciences.

To further increase research productivity, it is recommended that the research department of nursing services should be created and will be tasked to continuously update a repository of research conducted as well as mechanisms to trace how these studies have been disseminated, replicated or influenced patient care outcomes and competency development of nurses. This repository shall increase accessibility and availability of research to nurses, consumers of care and other stakeholders. Factors which contribute to the completion of nurse-led research is another area to look into.

Research capacity in nursing is critical in advancing nursing practice and achieving positive nurse, patient and healthcare outcomes. It is the ability of a nurse to conduct research activities in a sustainable manner at a specific context (Chen, Sun, Tang & Castro, 2019). There is a need to adequately train nurses in the clinical area on the rigors of the research process as well as providing incentives and funding for research. Having a core group which will be tasked primarily in implementing research initiatives aimed towards research utilization, publication and presentation to nursing conferences will capacitate nursing staff to engage in research and ensure the visibility of nursing service in knowledge generation. Collaborative activities or functional integration with nursing schools

will further strengthen capacity-building and bridge the theory-practice gap.

Capacity-building activities on research for nurses in the clinical area should focus on exploring diverse and emerging research methodologies such as randomized controlled trials, systematic reviews (i.e. meta-analysis and meta-synthesis) and qualitative traditions (i.e. phenomenology, case studies, grounded theory) other than the predominant descriptive type of research. This can be accomplished through training, formal education and mentorship. Seminar and workshops are strategic activities to harness the nurse's skills on advanced statistical methods, submitting protocol for grant/funding, preparation of manuscript for publication and techniques in research presentation.

Conclusion

The narrative review described the status and scope of nursing health services research in a national university hospital according to productivity, type of research problem and methodology. The culture of nursing health services research is shaped by institutional mandate, organizational support, capability of nursing personnel and dissemination of nurse-led investigations in a multidisciplinary healthcare environment. Creating nursing health services agenda, calibrating capacity-building programs, collaboration with nursing academe and ensuring visibility of nursing research in the scientific community are strategic mechanisms to ensure that research studies conducted by the nurses at the bedside contribute to the advancement of nursing science.

Conflict of Interest

We have no conflict of interest to disclose.

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Authors' Contribution

PFG, PM, MC, MRT conceptualized the study and conducted the data extraction and analysis; PFG and MRT prepared the initial report. All contributed in revising the final report.

Data Availability Statement

The data that support the findings of this report are available on request from the corresponding author.

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