



Research Article

# Patient Experiences in Ambulatory Care and Physiologic and Functional Health Care Outcomes as they relate to Physician and Non-Physician Providers

Nadine Aktan\*

Department of Nursing, William Paterson University, Wayne, NJ, USA

## Abstract

Nurse practitioners and our physician colleagues contribute to the promotion of positive physiologic and functional health care outcomes in a variety of ambulatory care settings. Patient experiences play an integral role in these outcomes and positive relationships between these variables were hypothesized. It was further predicted that there were no significant differences in patient experiences and health care outcomes between patients seen by physicians and those seen by other providers. Patient experiences were operationalized using the Ambulatory Care Experiences Survey. Functional health care outcomes were measured using the Short Form-36 and data on the physiologic measures of blood pressure, body mass index, and glycohemoglobin were collected directly from the patient's electronic health record. One hundred and twenty adult patients comprised this sample of convenience. Differences in health care outcomes for patients seen by a physician versus those by a non-physician provider was assessed and no significant differences between groups were found ( $p=0.182$ ). Although significant relationships did not exist between patient satisfaction and BP or HgBA1C, a statistically significant relationship was found between patient satisfaction and BMI ( $p=0.19$ ,  $r=0.224$ ). The mean BMI was 29.69 so that the sample population has been found to be overweight or obese and significant relationships exist between BMI and systolic and diastolic BP ( $p=0.000$ ,  $p=0.001$ ). The results of this study have contributed to the growing body of work demonstrating the effectiveness of non-physician providers in fostering improved health care outcomes and that positive patient experiences lead to improved health. Health care professionals must continue to play

\*Corresponding author: Nadine Aktan, Department of Nursing, William Paterson University, Wayne, NJ 07470, USA, Tel: 9737202527; E-mail: Aktann@wpunj.edu

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a key role in educating and supporting patients in making lifestyle changes to promote health.

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## Introduction

Patients make over 1.3 billion ambulatory care visits annually. Nurse Practitioners (NPs) and our physician colleagues contribute to positive physiologic and functional health care outcomes in a variety of settings. There is now substantial interest in measuring patient experiences as patient experiences may play an integral role in these outcomes [1]. Therefore, there is significant interest in the exploration of the relationship patient experiences play in improving patient outcomes. Several studies have explored the quality of care delivered by nurse practitioners as compared to their physician colleagues and these have resulted in no significant differences [2]. No study to date has explored these differences as they relate to patient experiences and functional and physiologic health care outcomes.

This project explores patient experiences in ambulatory care as they relate to physiologic and functional health care outcomes in a multisite, multi-provider practice located in Northern, New Jersey (NJ). It contributes effectively to the relevant growing body of literature in nursing and related disciplines. Nurse practitioners play a major role in the provision of care in ambulatory settings and a major gap in this literature has been identified. Additionally, research involving health care outcomes is critical to nursing and related disciplines. The "2020 vision" for American health care includes patient-centered care, information-driven care that is based on scientific evidence and supported by clinical information systems, and commitment to improved health outcomes [3] and nursing is a discipline where current evidence must be incorporated into practice. Nursing professionals must strive to play a role in these integral processes.

The current study was framed using Pender's Health Promotion Model. Pender's Model suggests that good health is not just the absence of disease but implies that every patient can pursue better or ideal health [4]. According to Pender's Model, individual characteristics and experiences have unique behavior-specific cognitions and affect and resultant behavioral outcomes. It is therefore; quite clear why this model was selected to frame the present study which aims to address how a positive patient experience with a health care provider may, in fact, lead to improved health care outcomes. In turn, a negative patient experience could inversely affect their individual health care outcomes as well.

## Review of Literature

There is strong previous literature support of patient experiences and health care outcomes. Kontopantelis et al., [5] measured the patient experience regarding access to care and concluded that the highest patient satisfaction were found in smaller practices which provide patients with the easiest access to care. Rademakers et al., [6] studied patient-centered care experiences and found that

patient-centered care is important resulting in positive outcomes overall. Laferriere et al., [7] explored outreach and engagement as effective methods to help improve the delivery of patient care resulting in enhanced patient outcomes. Sequist et al., [8] examined relationships between patient's experiences of care and clinical outcomes and discovered that improved integration between healthcare providers resulted in better clinical outcomes. Boyce et al., [9] researched experiences of health care professionals with using information from patient-reported outcome measures to improve the quality of health care and concluded that there is value to patient-reported outcomes for clinical decision-making. Mirzaei et al., [10] conducted a study using a patient-centered approach to health service delivery to improve health care outcomes which found that patients have a range of concerns about their health encounters with their providers and would like to see an improvement in communication, help with self-care and being included in decision making. This growing body of work demonstrates need to consider patient experiences and their effect on health care outcomes.

## Methods

This project aim was to use a descriptive design to answer the research question: What is the relationship between patient experiences in ambulatory care and physiologic and functional health care outcomes? Specifically, the proposed study involved measuring patient experiences in an ambulatory care setting and functional health care outcomes using self-report. The physiologic health care outcomes selected to measure included blood pressure, body mass index, and glycohemoglobin. These were gathered directly from the patient's electronic health care records. It was predicted that there will be a positive relationship between patient experiences in ambulatory care and improved physiologic and functional health care outcomes and there will be no significant differences in patient experiences and health care outcomes between patients seen by physicians and those seen by other providers. Patient experiences were operationalized using the Ambulatory Care Experiences Survey-Short Form (ACES).

Institutional Review Board approval was obtained. Confidentiality and anonymity of participants was maintained. The sample population was any adult patient presenting for services. All who presented during the specified time frame were invited to participate. A multi-site primary care/ambulatory care practice located in Northern, NJ who currently utilizes an electronic health record, was selected as the research setting due to the diversity of the patient population in terms of race and gender as well as the variety of provider type-physician, nurse practitioner, and physician assistant. The ratio of physicians to non-physician providers of the data collection site was 2:1.

The research packets were comprised of informed consent, a demographic data sheet, the ACES, a 34-item questionnaire developed to measure patient experiences in primary care and the Short Form-36 (SF-36), a 36-item survey developed to measure outcomes. The Ambulatory Care Experience Survey was selected as it focuses on patient report of their personal and psychological well-being, patient experiences in the office with their provider and the care they have received, patient's compliance to treatment plans as well as analysis of their current health status. According to Safron et al., [1] this survey's model corresponds to the IOM definition of primary care, produces measures covering two broad dimensions of patient's experiences: quality of physician-patient interactions (communication quality, interpersonal treatment, whole-person

orientation, health promotion, patient trust, relationship duration) and organizational features of care (organizational access, visit-based continuity, integration of care, clinical team, and office staff). Scores range from 0 to 100 points, with higher scores indicating more favorable performance [1]. The SF-36 is multi-purpose, yields an 8-scale profile of functional health and well-being scores and has proven useful in surveys of general and specific populations [11]. Data were collected over a one-year period until an adequate sample size was obtained. Correlational analysis of data and t-tests were performed using SPSS version 21 in search of significant relationships between the patient's experience and positive health care outcomes and to compare outcomes between physician and non-physician colleagues.

## Results

One hundred and twenty adult patients comprised the sample of convenience. To address the first hypothesis, specific health care outcomes were assessed included Blood Pressure (BP), glycohemoglobin (HgBA1C) and Body Mass Index (BMI). Although significant relationships did not exist between patient satisfaction and BP or HgBA1C, a statistically significant relationship was found between patient experiences and BMI ( $p=0.19$ ,  $r=0.224$ ). In addition, the mean BMI for the population was 29.69. Therefore, the target population has been found to be overweight or obese. Further, significant relationships exist between BMI and systolic and diastolic BP ( $p=0.000$ ,  $p=0.001$ ) so that the reduction of cardiovascular risk was an important targeted outcome. When evaluating the second hypothesis, it was found that no significant differences in health care outcomes for patients seen by a physician versus those by a non-physician provider were found ( $p=0.182$ ).

## Discussion

The first hypothesis that there will be a positive relationship between patient experiences and health care outcomes was supported. Although significant relationships did not exist between patient satisfaction and BP or HgBA1C, a statistically significant relationship was found between patient satisfaction and BMI. This finding supports previous work demonstrating that positive patient experiences will result in overall improved patient outcomes [6].

Further, differences in health care outcomes for patients seen by a physician versus those by a non-physician provider were assessed and no significant differences between groups were found. This finding adds to the growing body of research validating the effectiveness of non-physician providers in improving health care outcomes in that this hypothesis was supported. Several studies have explored the quality of care delivered by nurse practitioners as compared to their physician colleagues. Previous studies have resulted in no significant differences [2].

Additional findings included that the population was found to be overweight or obese and that significant relationships exist between BMI and systolic and diastolic BP. The problem of obesity is a national epidemic. In 2012, it was reported that 34.9% of adults aged 20 and older are obese in the United States [12]. Therefore, this work is important. Significant reductions in cardiovascular risk exist in clients who decrease their BMI by just ten percent.

## Conclusions and Implications for Nursing Research & Practice

A number of methodological limitations exist for the present study. Future inquiry into concepts of interest is recommended. Future work expanding on this preliminary study should include the evaluation larger, random samples. Descriptive statistics of the target population should be evaluated. It is further suggested that future practice incorporate strategies to promote positive patient experiences such as communication quality, interpersonal treatment, whole-person orientation, health promotion, patient trust, and relationship duration.

This study has led to a variety of conclusions and implications for practice. First and foremost, BMI was positively related to patient experiences. Obesity leads to a myriad of chronic health problems including heart disease, Type II diabetes, stroke and some types of cancers and the estimated annual medical cost of obesity in the U.S. was \$147 billion in 2008 [13]. Obesity can also result in a reduction in quality of life as well as psycho-emotional distress. Nursing professionals, and other members of the multidisciplinary health care team, play a key role in educating and supporting patients in making healthy lifestyle changes. Through the collection and dissemination of this evidence nurses can continue to apply significant research findings into practice.

The results of this study have also contributed to the growing body of work demonstrating the effectiveness of non-physician providers in fostering improved health care outcomes. The Affordable Care Act (ACA), or Obama Care, is increasing the numbers of insured patients and, therefore, threatening to worsen existing shortages of physicians [14]. Therefore it is imperative that consumers of health care continue to seek out services provided by non-physician providers as health care reform continues to be implemented in the United States.

Finally, this project adds to the body of knowledge that positive patient experiences lead to improved health care outcomes. Healthcare professionals including NPs and other non-physician providers possess the unique ability to play a key role in leading the multidisciplinary team in the provision of quality, patient-driven care whereas clients and providers are partners in achieving optimal care. Through these mutually beneficial relationships, providers can continue to guide patients in playing an active role in their own health and achieve wellness all while feeling satisfied with their personal experiences in care.

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