

Patient Satisfaction Rates Between Nurse Practitioners and Physicians

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PICO Question

What are self-reported patient satisfaction rates of people below 65 when receiving care from a Medical Doctor versus a Nurse Practitioner?

Background

Currently in the United States, there are 860,917 active physicians and 290,000 active nurse practitioners (NP) (Association of American Medical Colleges, 2021; American Association of Nurse Practitioners, 2020). Although physicians currently outnumber nurse practitioners nearly three to one within the United States, within the next 10 years, many of them will be retiring and leaving the medical field due to age (Association of American Medical Colleges, 2021). The Association of American Medical Colleges estimates there could be a shortage of over 100,000 physicians by 2030, or about 43,000 primary care physicians (2021). This mass exodus of physicians cannot feasibly be filled solely by new physicians due to the extensive length of their education. Physicians spend four years obtaining an undergraduate education, followed by four years in medical school, and then 3-7 years in a residency program (Marysville University, 2021). In contrast, nurse practitioners spend four years obtaining an undergraduate education, often spending a short period of time gathering work experience if not done previously, then 2-4 years of additional schooling according to (Marysville University, 2021). Additionally, the Bureau of Labor Statistics also projects employment for NPs will grow by 31 percent by 2026 (Regis College, 2021). With an increase in practicing NPs and a decrease in practicing physicians in the coming years, it is important for patients to have a high perceived satisfaction with both NPs as well as physicians as there is an increased possibility of care by

NPs during routine visits to a healthcare facility. For the sake of this Evidence-Based Practice Review, “physicians” and “medical doctors” will be used interchangeably as well as “nurse practitioners” and “advanced practice nurses.” Doctor of Osteopathic Medicine (DO) were not included within this review.

This national shortage of physicians will be exacerbated in rural communities due to an already long-standing shortage of physicians in those areas. The patient-to-physician ratio in rural areas is only 39.8 physicians per 100,000 people, compared to 53.3 physicians per 100,000 in urban areas (National Rural Health Association [NRHA], 2021). On average people living in rural areas tend to be poorer than the national average living below the poverty line, making around \$9,000 less a year than their urban counterparts (NRHA, 2021). Rural communities’ lower level of income makes routine health care visits more challenging and not sustainable in some cases. Patients who are covered under Medicaid in these areas also have increased difficulty in finding a physician who will accept their insurance. Barns et al. (2018) states, “Evidence further suggests that NPs are more likely to care for Medicaid beneficiaries than primary care physicians are and can improve willingness to accept new Medicaid patients among physician practices employing NPs” (para. 3). NPs are more cost effective in rural communities due to their lower salary in relation to medical doctors (MD) and are more likely to accept a wider range of patients. Due to this, it is important that perceived patient satisfaction is high with NPs, as they are more likely than physicians to be caring for patients in rural communities.

The field of advanced practice nursing has increased greatly over the past decade as 23 states have now granted full practice authority to nurse practitioners, which means they can open their own clinics without physician oversight (Marysville University, 2021). Advanced practice nurses (NPs) may perform many of the same procedures, tests, and examinations as physicians.

They also are qualified to diagnose and manage acute, chronic, and complex health problems, as well as have a focus on disease prevention (American Association of Nurse Practitioners, 2019). In states where nurse practitioners are not granted full authority, NPs must diagnose and prescribe under the supervision of a medical doctor (MD). However, more states are leaning towards allowing nurse practitioners to have their own practice. NPs with a greater freedom in their scope of practice are associated with a greater availability for patients to healthcare. Barns et. al. (2018) states that, “Research has found that the least restrictive practice environments are associated with greater NP availability, especially in primary care. Importantly, no research has shown an erosion of quality when scope-of-practice restrictions are removed” (para 3). Nurse practitioners are gaining more independence and a greater scope of practice related to the need for more medical providers and easier accessibility for patients.

Purpose Statement

The purpose of this evidence-based practice review is to determine if perceived patient satisfaction of people under 65 years of age differs when receiving care from a medical doctor versus a nurse practitioner. According to Xie et. al. “good patient experience is associated with higher levels of adherence to recommended prevention and treatment plans, better clinical effectiveness and outcomes, better patient safety within hospitals, and lower health-care utilization” (2019, para. 4). High perceived satisfaction with their medical provider provides patients with an increase in their safety, encourages them to adhere to their treatment regimens, and overall creates most positive outcomes for the patient. The independent variable in this review is provider type and the dependent variable is perceived patient satisfaction. This Evidence-Based Practice Review is clinically significant and relevant to nursing practice because it affects the level of utilization of advanced practice nurses independently from physicians and

how their care is perceived by patients. With more NPs filling the void of the medical provider shortage, especially the shortage of physicians, it is important that patients have a high perceived level of satisfaction with these providers by NPs providing trustworthy, evidence-based, accessible, and high-quality care.

Search for Evidence

In the search for evidence, several strategies were used to find relevant articles. The search was directed towards finding articles that specifically answered the PICOT question. Two Carroll College databases were used: PubMed and Academic Search Complete (ASC). Articles were obtained from multiple journals, including *Health Care: The Journal of Delivery Science and Innovation*, *The Journal of Congenital Heart Disease*, *The Journal of Health Affairs*, *Association of Occupational Health Nurses Journal* and *The International Journal of MS Care*. Since the PICOT question focuses on the patient's perceived satisfaction, each article was reviewed and an age limit from 0 to 65 years was determined. To search Carroll College databases effectively and efficiently, combinations of phrases and keywords were used to obtain relevant articles. Keywords and phrases used in the search included, "medical doctor," "nurse practitioner," "verses," "patient satisfaction," "advance practice nurses," and "perceived satisfaction." The Boolean operator tool "and" along with "or" was used between a variety of keywords to refine the search. Additionally, the Boolean operator tool "and" was used to group the phrases "medical doctor," "nurse practitioner," and "patient satisfaction."

To further filter the search results, specific selection criteria were used. There was a five-year publication limit placed on the articles. Two of the articles included are greater than five-years-old with one being six years old and another being twelve years old. Permission was given

for both articles due to them being applicable to every part of the PICOT question, as well as having a narrow selection of relevant articles that matched all given criteria. The search results were then narrowed to include only peer reviewed, evidence-based articles. The four articles included in this Evidence--Based Practice Brief had evidence levels of two through four. Article one is categorized has a level three evidence, and articles two, three, and four are all categorized as level four. Each article also was required to be an English publication. As stated before, to ensure adherence to the article's PICOT question, "aged 65+ years" was used as selection criteria. Overall, there were very few quality research articles discussing patient satisfaction rates between NPs and MDs.

Critical Appraisals

Article One

The research article titled "Patient preferences in primary care provider type" by Leach et al. (2018), is a level three, mixed analysis, used to identify themes in open text responses about provider type preferences by patients. In this study, 4220 individuals chosen by the Association of American Medical Colleges' biannual Consumer Survey of HealthCare Access, report their personal preferences in the type of health care provider they prefer to utilize. The sample used included respondents who received medical care within the 12 months prior, and those who expressed provider type preference. According to this study, "Respondents were then asked if they would prefer a physician, an NP/PA [physician's assistant], or had no preference for their new PCP [primary care provider]. Respondents who expressed a provider type preference were then presented with an open-ended follow-up question where they were asked to explain the reason for their preference" (para 1). Analysis of patient responses was done by utilizing NVivo

software to identify themes in the open text responses as to why patients preferred a specific type of provider (para 3). Two coders assigned the general responses to categories which were then reviewed by an entire study team, then reviewed again and refined by the initial coders.

Additionally, a chi-square test was then used to identify if there were statistically significant differences for the reasoning behind patient preferences of provider type (para 2).

Overall, the findings of this study show that 55% of respondents indicated that they would prefer a physician as their primary care provider (PCP), 21% preferred a nurse practitioner (NP) or physician's assistant (PA) as their PCP, and 23% expressed no preference between the two, or were unsure (para 3). Despite these findings, it is important to note that there were multiple factors contributing to why respondents preferred one type of care provider over the other. The article stated, "Those preferring physicians are statistically significantly more likely to mention qualifications (Physician = 75%; NP/PA = 36%), trust (Physician = 7%; NP/PA = 4%) and feeling more comfortable (Physician = 4%; NP/PA = 3%) than those preferring NP/PAs" (para 5). In this case, patient satisfaction was high for both providers in all areas but, patients placed a higher emphasis on their perceived qualifications of their provider. In contrast to those preferring physicians due to their qualifications, respondents were more likely to report preferring NPs/PAs for bedside manner (Physician = 5%; NP/PA = 20%), convenience (Physician = 4%; NP/PA = 9%), and value/cost (Physician = 3%; NP/PA = 5%) (para 5). NPs and PAs were found in this study to have a higher perceived satisfaction rate in patients in bedside manner, cost, and convenience. Based on these findings, this study concluded that respondents cited provider qualifications, education, and previous health care experiences as important factors, no matter their PCP preference type (para 6).

After appraisal, many limitations were identified throughout this study. Initially, 34 participants were dropped from the study due to reporting that they made an error in recording their provider type preferences when answering the open text question (para 5). Additionally, 23% of participants were inconclusive in their response of patient provider type preference. This decreased the ability of the researcher to formulate a concrete conclusion that patients prefer a physician over an NP/PA. Furthermore, the patients who stated that they had no preference or that they “didn’t know,” were then not asked to provide a reason for their lack of decisiveness, and therefore, they were excluded for the analysis altogether. It was also identified that there was no control for potentially confounding factors which could contribute to patient influence in their type of provider preference. Although this data analysis was published in 2018, the initial data was from 2014, causing a possible gap in researching techniques, as they may have been less effective or conclusive than current research methods available. Finally, the study notes a conflict of interest by identifying that the project was funded in part by an award grant from the Physician’s Assistant Education Association of Washington D.C. therefore, increasing the studies vulnerability to bias.

Article Two

The research article “Patient preference and perception of care provided by advanced nurse practitioners and physicians in outpatient adult congenital clinics” by Maul et al. (2015) utilizes a level four, prospective cross-sectional study, completed at two outpatient adult congenital heart disease centers (ACHDC). These clinics were managed concurrently by physicians and advanced practice nurses (NP) to assess patient satisfaction through standardized surveys. In this study, a sample of 371 people were selected from both outpatient adult congenital heart disease centers and were distributed equally between medical doctor (MD) and

NP-managed clinics. After each visit, patients were given a survey which included a total of 12 items, with five additional questions to assess the clarity of the NP role:

Respondents then rated each item on a 5-point Likert scale ranging from 1 (dissatisfied/strongly disagree) to 5 (very satisfied/strongly agree). Well-validated measures were used to assess patient health status. The Short-Form 12 was administered to subjects to assess perceived physical and mental health. (para. 4)

Some of the statements presented include “I felt confidence (trust) with the health care provider,” “The health care provider felt ‘rushed’ during my visit” and “The health care provider provided answers to my questions that were easy to understand” (para. 5). Analysis of patient responses was performed using the Statistical Package for the Social Sciences. “Comparisons between MD and NP perceptions of care were performed using a Wilcoxon's ranked sum test because of the ordered nature of the survey questions” (para. 6). Additionally, Chi-squared tests were used for comparisons of categorical demographic variables, and Mann–Whitney U-tests were used for comparisons of continuous demographic variables (2015).

Overall, the findings in this study demonstrated that patient satisfaction rates were high regardless of the provider type. Patients preferred physicians to specifically discuss medical treatments, especially if the patient considered their symptoms as serious. Patients also considered the physician to be more experienced when compared with the NP due to their perceived higher level of education. However, they reported high satisfaction with all other aspects of the NP managed practices. Around 50% of the participants stated that they had a “very good” understanding of the NPs role. There was a lack of understanding of the NPs medical training and how it differed from that of a registered nurse (2015). Overall, this study presented

inconclusive results on if one provider type had higher perceived satisfaction from patients, as satisfaction with both was very high.

After appraisal, a few limitations were noted surrounding the study and the method used to gather data. The use of two moderate-to-large outpatient ACHDC may have affected results in which they could differ from individual or smaller ACHDC. This can have a negative impact on patient wait times and time spent with either provider, lowering satisfaction rates overall. The study was also unable to control the education and training the advanced NP had received as there is no formal education standard within the field. Ongoing education typically occurs within regional ACHDC centers leading to a wider variety of knowledge bases (para. 15). It was also identified that the questionnaires utilized in the study may be influenced by the patient's chief complaint, or even time of year. The use of a progressive cross-sectional study is not the highest level of evidence achievable and could be improved with a longitudinal study in future research.

Article Three

The research article "Patient satisfaction with physicians and nurse practitioners in multiple sclerosis centers" by Thotam and Buhse (2019), is a level four, cross-sectional pilot study, designed to determine patient satisfaction with medical doctors (MDs) and nurse practitioners (NPs) within multiple sclerosis (MS) centers. This study's use of a self-selected convenience sample of 60 participants, was balanced between two MS centers, with each center seeing 30 patients in total. Care was then divided between MD and NP's equally (2019). Patients completed a Patient Satisfaction Questionnaire Short Form (PSQ-18) and a Visit-Specific Satisfaction Instrument (VSQ-9) form immediately after each visit. The VSQ is a 9-question survey to identify patient satisfaction. According to this article, "To limit selection bias, all

patients with MS who came to the center on data collection days were offered the survey and then screened for inclusion” (p. 5). The first 30 random patients to fill out the survey and sign all waivers, were picked to participate in the study (p. 5). Scheduled office visit time for the appointment with each practitioner and the patient-perceived visit time were also obtained. The article continued by stating, “MDs were scheduled for 15 or 20 minutes per visit and NPs were scheduled for 20 or 30 minutes” (p. 5). The patient was then asked to state their perceived amount of time spent with the provider in minutes. Data analysis for this study was performed manually and used IBM SPSS Statistics for windows.

Overall, the results of this pilot study suggests that providers have comparable satisfaction scores within these two MS centers during a 6-month period. According to this research, scores for MDs ranged from 4.5 to 5.0 and from 4.0 to 5.0 for NPs on a scale of 0-5 with 0 being no satisfaction and 5.0 being the highest satisfaction possible. There was no significant difference in any of the specific areas of satisfaction between the two different groups (p. 8). Data were also broken down into demographics including race, marital status, employment status, educational level, and insurance coverage. It was also noted that the length of visit affected patient satisfaction rates. When both providers spent less than 20 minutes with their patient, it was found that physicians scored higher on average in the VSQ-9 with a 74% satisfaction rate (2019). Even if providers spent a longer period with their patient, it was found that nurse practitioners scored higher on average in the VSQ-9 with a 78% satisfaction rate (2019). This finding demonstrates that overall satisfaction rates are high for both providers, and there was no significant difference between either provider type.

This study has several limitations, including that it was designed using only two MS centers. The use of just two centers within one city limits the range of diverse participants, while

simultaneously lowering the sample size, resulting in 60 subjects total being surveyed. When addressing this study's small sample size, the article stated, "...associations between provider type and patient satisfaction must be interpreted with caution and limits the generalizability of the study" (p. 9). Another limitation of this study was its methodology. Since it is exploratory in nature, it is not testing a true hypothesis, lowering the overall level of evidence. Lastly, the study was limited by the number of individual providers on staff during the day of testing, resulting in longer wait times for patients and a lack of variability (p. 9).

Article Four

The research article "Patient satisfaction with nurse practitioner and physician services in the occupational health setting" by Guzik et al. (2009), is a level four, cross-sectional study, used to identify if there is a difference in perceived patient satisfaction between care provided by a nurse practitioner or a physician in an occupational health setting. This study was completed in May of 2009 using a total of 129 participants. Participants included in this study were those with new injuries, able to read, speak and comprehend English, and older than 18. Color-coded surveys were given to each patient to represent their type of health care provider: physician or nurse practitioner (p. 2). Patient responses to surveys were then analyzed using specific instruments. The two instruments used in this study to measure patient satisfaction were the Visual Analog Scale (VAS) and the 9-item specific Questionnaire (VSQ9) (p.3). The VAS is a scale with bipolar anchors that range from "least possible satisfaction" to "most possible satisfaction." The subjects were instructed to place a mark in the scale line with their perceived level of satisfaction with their specific health care professional. According to the study, "The VSQ-9 uses a 5-point response scale ('poor,' 'fair,' 'good,' 'very good,' and 'excellent')" (p.3).

Each rating was then translated into a number and viewed in a linear form on a 0- to 100-point scale.

The results from this study showed little to no variance in patient satisfaction with one provider type over another. When analyzing data from the VSQ-9, the article presented that the difference in the calculated level of patient satisfaction was not significantly different when the care was provided by an MD or NP (p.4). When analyzing the results from the VAS, scores were high for both NPs and MDs for overall patient satisfaction, and there was little to no variance between the two (p.4). This comparison indicates that although patient satisfaction was high for both NPs and MD, there was no significant difference between patient preference for either, showing no definitive conclusion in the results.

There were several limitations present in this study, the most significant being that it was conducted in 2009, which was twelve years ago. Due to the increase in medical development and additional studies, the information in this study may be outdated and not relevant in current times. The research instruments used to conduct this study, the VAS, and the VSQ-9, also have been updated and redefined in recent years. Another limitation is the very small sample size. The sample size started with 209, but then decreased to 129 due to disqualification of certain individuals. Patients were excluded from this study if they had injuries requiring emergent medical attention outside the clinic, had significant health-related conditions causing acute distress, those who were mentally or physically unable to complete the survey, those who were co-examined by both an NP and MD, and those who came to the clinic for any other reason than treatment of the initial injury (p.3). The use of a nonrandom, convenience sample also limits generalizability of the findings to other populations that are not injured. The exclusion of non-English speaking individuals also limited the diversity of the population sample. Furthermore,

the likability or connection between the randomly selected patient and provider may present a confounding variability, as the participant and provider that were paired may not have been an appropriate fit socially.

Synthesis of Evidence

After reviewing and synthesizing all previously mentioned articles, these studies suggest that each provider presents with their own strengths as perceived by their patients. MD's strengths include education, trust, and perceived ability to diagnose complex diseases. The strengths of NPs included accessibility, convenience, and bedside manner. The four articles above were inconclusive on whether overall perceived patient satisfaction was higher for either provider type. This information can be applied to answer the PICOT question which asks, "What are self-reported patient satisfaction rates of people below 65 when receiving care from a Medical Doctor versus a Nurse Practitioner?" All of the research articles selected for this Evidence Based Practice Brief found that patient's satisfaction was high regardless of provider type, with little to no difference in overall satisfaction levels. After analysis of the evidence, there is little to no difference in patient preference of provider type in most situations, as each provider presents their own strengths and attributes that patient's value in their primary care.

The article by Leach et. al. (2018) details how just over half of the participants indicated that they would prefer a physician as their primary care provider while 21% preferred a nurse practitioner. These results suggest that there is a large bias in patient preference when choosing providers, regardless of their perceived level of satisfaction after seeing either provider type. However, when results are broken down into specific qualifications, each provider has their own specific strengths. In the article by Maul et. al. (2015), patient satisfaction rates were high

regardless of the provider, but there was a preference for physician managed practices when the patient deemed their symptoms as serious. The article by Thotam and Buhse (2019) suggests that providers have comparable satisfaction scores within the MS centers, with no significant difference in any of the attributes between the two groups. Lastly, the article by Guzik et. al. (2009) suggests that there was also little to no variance in patient satisfaction rates when comparing one provider to another.

Application to Nursing Process

When analyzing data from multiple patient studies about their perception of care from an NP vs MD, overall satisfaction was high for both provider types. However, MDs are perceived to have higher levels of trust, experience, and education, whereas NPs are perceived to have a higher quality of bedside care, easier accessibility, and lower costs associated with their care (Thotam, Buhse, 2020). Based on the evidence findings of equal satisfaction rates of patients across the United States, the argument should be made to allow nurse practitioners full autonomy nationwide. Currently, 27 states have restricted or reduced practice for nurse practitioners (American Association of Nurse Practitioners, 2021). This means that NPs must work under the supervision of a physician to provide patient care. This has very distinct drawbacks according to the American Association of Nurse Practitioners which states, “States that restrict or reduce NPs’ ability to practice according to their abilities through limiting licensure authority are more closely associated with geographic health care disparities, higher chronic disease burden, primary care shortages and a higher cost of care” (2021, para. 4). In contrast, states that have Full Practice Authority (FPA) regulations in place have seen an increase in access to health care, a decrease in cost of care and an increase in overall efficiency according to American Association of Nurse Practitioners (2021).

Making the change to FPA for NPs nationwide, is one that cannot be done solely by advanced practice nurses and will require increased awareness and education to the public. Registered nurses are at the frontline of the healthcare system. They are the eyes and ears of any hospital or clinic and play an important role in advocating for and educating their patients. However, their role in advocacy and education goes beyond just the bedside; their experience and education may be applied on a larger stage. This can be accomplished by reaching out to local and national members of government through writing letters, calling congressmen, and testifying in legislative hearings, which is the most effective way for their voices to be heard. As stated previously, a change as instrumental as this, is one that cannot be made by nurse practitioners alone. By forming a group of patients and providers that understand the role and importance of FPA for NPs, awareness will be increased at a local and national level for this cause.

All the studies used in this evidence-based review provided an inability to determine concretely whether perceived patient satisfaction is higher with either nurse practitioners or medical doctors. With each study providing inconclusive evidence, nurses and medical facilities would benefit from additional research to determine if patient satisfaction is higher with a specific provider type. Additional studies should be completed on floors where bedside manner, accessibility, trust, and education, are valued extremely high, such as on an oncology unit. Oncology patients and their families require very high levels of trust and confidence in their provider type due to the complexity of their disease, but also require effective communication and bedside manner to assist themselves and their family in applying new information and coping with their state of health. A large, randomized sample size of individuals below the age of 65, on multiple different oncology units, would constitute an appropriate and effective sample for this study. Each patient would be provided with a questionnaire to rank their overall

satisfaction of both NPs and MDs separately on a numerical scale of 0-10, with 0 being not satisfied at all and 10 being completely satisfied. This data could then be compiled and used to determine if perceived satisfaction is higher for advanced practice nurses or physicians on an oncology unit. This same test could then be replicated to other units of similar care requirements such as intensive care units (ICU) or post-surgical units. Creating a new study to determine if patient satisfaction is higher with NPs or MDs would provide hospitals valuable information to determine the appropriate amount of each provider type needed in order to effectively meet the needs of all patients, as well as provide patients with a more beneficial and satisfying experience in health care facilities.

Nurses and other health care providers should use the information provided in this Evidence-Based Review to educate patients on the roles of and NP and how they differ from those of a registered nurse, as well as those of an MD. With this increased education, perceived patient satisfaction may be increased when being cared for by an advanced practice nurse. This would be the result of patients having a better understanding and trust in their quality of care by NPs, as well as having knowledge of the specific qualifications possessed by an NP. With optimal patient satisfaction, care for each patient will be improved and overall health complications may be treated faster and more effectively.

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