Journal of Health and Social Behavior

Perception of Advanced Practitioner Nurses (APNs) Among Healthcare Providers at Riyadh Second Health Cluster

Proposal

First Author: Reham AlKhateeb, PhD, MSN, RN / Nurse Educator/ Nursing Education and Practice Improvement Administration.

Second Author: Mohammed AlShahrani, MSN, RN. /Associate Executive Director for Nursing Training and Development Administration.
Third Author: Khalid AlAtrash, BSN, RN, CNEcl. / Senior Nurse Educator / Nursing Education and Practice Improvement Administration.

Journal of Health and Social Behavior
ISSN: 0022-1465 (Print) ISSN: 02779536.18735347 (Online)

Journal of Health and Social Behavior

Abstract

Abstract

Background: Advanced Practitioner Nurses (APNs) play a critical role in enhancing healthcare systems worldwide. In Saudi Arabia, their role is aligned with Vision 2030 to improve the quality and accessibility of healthcare. However, their responsibilities and contributions remain unclear to many healthcare providers.
Aim: To assess perceptions, knowledge, and attitudes of healthcare providers at Riyadh's Second Health Cluster toward APNs.
Design: A quantitative, descriptive, cross-sectional study.
Method: A structured 30-item questionnaire was distributed to 365 healthcare providers at King Fahad Medical City, Riyadh.
Findings: The study revealed generally positive perceptions of APNs' contributions to patient care, leadership, and education. Most participants viewed APNs as frontline practitioners with expertise in direct patient care. However, many expressed uncertainties about APNs' professional autonomy, highlighting the need for clearer policies and role definitions. No significant differences were found across gender, years of experience, or work setting.
Conclusions: While APNs are recognized as valuable contributors, misconceptions and a lack of clarity about their roles persist. Broader awareness, education, and organizational support are required to optimize their integration into the healthcare system.

Keywords: Advanced Practitioner Nurses, Saudi Arabia, Healthcare Providers, Perception.

Journal of Health and Social Behavior

Introduction

Globalization The functions of advanced practitioner nurses (APNs) have developed and greatly influenced the health care system. International Council of Nurses (ICN) has established advanced nursing practitioner as a registered nurse who has developed specialized skills, knowledge and expertise in reaction to situational requests (Schober and Affara, 2006). Advanced Practice Nurses (APNs) have become central functions in promoting, encouraging, and maintaining the positions of nurses in Saudi Arabia in relation to the Saudi Vision 2030 that focuses on the quality nursing services delivered by the healthcare services (Trojena, 2022). Although the role of APNs in improving healthcare provision has been on the increase, the perceptions of healthcare providers regarding this role are diverse. To best integrate APNs into healthcare teams and guarantee patient care effectiveness, it is vital to realize the perception of other healthcare providers (Koo, 2019). The Second Health Cluster in Riyadh is one of the most prominent and biggest healthcare institutions in Saudi Arabia that provides various special healthcare services. The cluster, responding to the Vision 2030 of the country, is a diverse healthcare setting with a multidisciplinary workforce, which is aimed at the enhancement of the quality of offered services (Riyadh Second Health Cluster, 2024). The development resulted in the identification of the role played by APNs as an important part of the healthcare system. Nevertheless, the role of APN is still new, and numerous obstacles exist in entering the health care system and delivering the anticipated role with maximum support (McCaffery et al., 2019). The perception of the healthcare providers of the APN and their ignorance of the APN specific role, especially with physicians who may either work with them or be in conflict with them, depending on how they view the APN as complementary to or competitors within their profession, is one of the major challenges confronting APNs. Even registered nurses know and anticipate APNs to become specialized in various career pathways (Al-Dossary and Al-Mutairi, 2020). It is important to understand the perceptions, attitudes and knowledge of various healthcare professionals (particularly the physicians and nurses) towards the APNs. This knowledge can improve the communication and integration of APNs into the healthcare system, and thus, maximize their role and influence on the quality of care provision to patients (Al-Omari, 2021). The paper has examined the attitudes, knowledge, and perceptions of the healthcare providers of the Second Health Cluster in Riyadh about the role of APNs in the care of patients.

Problem Statement

In Saudi Arabia especially in the Second Health Cluster in Riyadh, health practitioners are still unaware of Advanced Practice Nurses (APNs). Such a gap may affect the efficiency of the integration of APNs and their use in healthcare. This paper analyzed these perceptions to find out the challenges and opportunities in improving the roles of APNs.

Literature Review

Overview

Nurses are important in ensuring access to healthcare by the societies. Advanced practice nurses (APNs) have been developed to enhance health coverage with the support of the International Council of Nurses (ICN) (Bryant-Lukosius et al., 2017). Nevertheless, the research has demonstrated the huge role of APNs in hospitals, such as a reduction in re-admission rates, better patient outcomes, and care quality (Sullivan & Jones, 2018). Moreover, APNs make the healthcare system more cost-effective, by improving primary, preventive, and chronic care services, which will lead to enhanced patient satisfaction and enhancement of the overall sustainability of the healthcare system, by filling the gaps in the shortage of healthcare providers (Fitzgerald et al., 2017). In Saudi Arabia, APNs were identified as having full support on the role of APNs in accessing primary health care in rural communities to address the physician shortage (Al-Surimi et al., 2020). The United States and the United Kingdom are examples of countries where APNs are viewed positively owing to the established roles, responsibilities, and scope

of practice that have played a major role in influencing the quality of care, in terms of patient outcomes and reduction in re-admission rates (Koo, 2019). In 2020, the International Council of Nurses (ICN) established that APNs are nurses (generalists or specialists) who, via further graduate education (at least a master's degree), develop expert knowledge and advanced decision-making skills as well as clinical proficiencies needed to practice advanced nursing. They are influenced by their roles within a particular context where they are credentialed (Scanlon et al., 2023).

Healthcare System in Saudi Arabia APNs.

Consistent with the Vision 2030, the Saudi Arabian healthcare system has undergone tremendous refinement in achieving better healthcare delivery in terms of accessibility, efficiency, and quality (Mani, Zakaria A., and Goniewicz, 2024). The result of such accelerated growth of the healthcare system is the necessity to fill the gap in the number of healthcare professionals with the expertise of APNs (Al-Omari, 2021). Nevertheless, even though the potential of APNs is increasing, their implementation into the Saudi Arabian healthcare system is complicated by the influence of organizational policies, role ambiguity, and professional underestimation (Alotaibi et al., 2020).

There is no standard understanding of the roles of APNs, and most healthcare providers do not know the role and scope of practice of these professionals, and this fact leads to the uncertainty of their competence, duties, and autonomy (Al-Omari, 2021). Moreover, this can be partially explained by the absence of standardized policies that can define the role and responsibility of APNs in Saudi Arabia, which prevents their complete integration and inclusion in the multidisciplinary healthcare team and, consequently, underutilization of their potential (McCaffery et al., 2019).

Perception related factors to APNs.

The perception of the APN in healthcare systems is affected greatly by organizational culture, professional education, and experience of healthcare providers with APNs. In Saudi Arabia, the perception of the role of APNs is related to the awareness of the extent of service and cultural attitude toward nursing (Al-Dossary, 2018).

One of the critical obstacles to the implementation of APNs in healthcare is the overall attitude towards nursing in healthcare as a supportive figure instead of a leadership position. Many cultures in the healthcare system do not view nurses as being independent in their decisions. In line with that, APNs are not seen as autonomous practitioners, which is opposed by most healthcare professionals, including physicians (Lewis, 2022). In the case of Saudi Arabia, Alotaibi et al. (2020) found that half of the surveyed physicians were uninformed about the APN scope of practice, and only a third of them supported APNs clinical decision-making on their own. AlHarthi et al. (2021) made a similar discovery where 60% of physicians were in agreement with APNs in primary care but only 28% felt that APNs were prepared to perform advanced clinical procedures.

Also, organizational culture plays a major role in the perceptions of APNs. The possibility of APNs integration in healthcare systems will rely on the ability of healthcare organizations to improve a collaborative working climate. The organizational cultures in the Saudi Arabian healthcare setting must be modified to recognize the importance of interdisciplinary teams, which will include APNs. Educate healthcare providers about the roles of APNs and promote mutual respect to allow these nurses to become a part of healthcare teams (Al-Muqbil, 2020).

APN level of education can also have a role in perceptions development since their level of knowledge and clinical competence can enhance confidence and decision-making skills in clinical domains

(Spurlock et al., 2017). Nonetheless, medical practitioners might not see the difference between specialization and training in APNs and those of other registered nurses. It is essential to educate other healthcare providers on the role and skills of APNs and enhance integration and teamwork (Scanlon et al., 2023). Lack of formal education and a structure related to APNs in Saudi Arabia creates a sense of confusion among medical professionals regarding the role, autonomy, and scope of practice of APNs, which results in a lack of understanding of the potential and the anticipated integration of the contributions of APNs to enhancing patient care (Al-Majed and Al-Shammari, 2022).

Challenges Facing the Implementation of Advanced Nurse Practitioners' Roles in Public Hospitals

The introduction of Advanced Nurse Practitioners (ANPs) in public hospitals is a major progression for healthcare delivery, with the potential to improve patient outcomes, mitigate demands of workloads, and encourage interdisciplinary work. Nevertheless, while the significance of ANPs in healthcare systems is increasingly being acknowledged, their successful introduction into public hospital-based organisations is complicated and problematic. These are derived from organisational, professional, regulatory and cultural factors which impact on the acceptance, role clarity and use of ANPs in practice (Unsworth et al.,2024).

One of the key barriers to the effective operationalization ANP roles is role ambiguity and variability. There is question in public hospitals about the managerial level of responsibility and the professional scope of practice that ANPs have when compared with registered nurses and medical officers. This lack of clarity can confuse healthcare team members, resulting in duplicated responsibility or even professional disputes. In the absence of well-defined job descriptions, ANPs may find it hard to establish themselves as professionals with status and authority—particularly when working as part of a multidisciplinary team. In addition, differences among role definitions for ANP practice in countries and work settings hinder the development of a uniform framework for practice. The lack of defined competencies and explicit criteria for of practice places constraints on the image of ANPs as independent professionals, and on their contribution to patient care (de Leede-Brunsveld et al.,2023).

A major obstacle is also the opposition of doctors and other health professionals, frequently based on questions about professional hierarchy or territory. For some, the increasing clinical role and independence of ANPs (including diagnosing, prescribing and leading patient care) may be seen as a threat to the authority of doctors. This resistance could be due to lack of understanding about the ANP role, or it may reflect long established cultural norms in which doctors are viewed as the only decision-makers in clinical practice. Tensions of this nature can inhibit teamwork, diminish effectiveness in communication and block the involvement of ANPs in a multidisciplinary team. Addressing this requires that institutions continue to invest in the promotion of mutual respect and enhance IP education, but also reinforce how the relationship between APNs/AHPs is complementary rather than competitive (Zakary et al.,2024).

Aside from nursing related factors, organizational limitations and administrative obstacles are among the key barriers to the successful introduction of ANP roles in the context of public hospital settings. A number of health systems do not have an organizational and policy infrastructure designed to support advanced nursing. Poor nurse staffing levels, top laying bureaucratic structures and some form of poor managerial support often inhibit the ANPs from being allowed to deliver their full expertise. Also, the lack of leadership support may lead to a relatively low advocacy for ANP participation in strategic policy decision-making processes. Knowledge of the potential contribution ANPs can make to health care systems may be lacking amongst administrators, contributing to their underutilization in patient care, education and leadership. Consequently, leadership involvement and organizational policies which

acknowledge ANP roles as a part of the health care workforce are required for successful role adoption (Bryant-Lukosius et al.,2004).

Educational and training constraints continue to intensify these difficulties. Nursing education, postgraduate training and clinical mentoring are lacking in many public healthcare systems. Absence of formal tracks for ANP education can lead to inconsistent delivery of clinical skills and capabilities among providers. Moreover, ongoing CME programs tend to be few and far between or lack support from hospital administration. This may mean that ANPs have to invest significantly in additional education and CPD if they are going to meet the growing challenges of modern clinical practice, technology adoption and evidence-based care. Governments and healthcare facilities must invest in sustainable training to establish clear educational standards, as well as adequate supervision and mentorship for ANPs while transitioning into advanced roles (Sharma,2021).

Regulatory and policy constraints are another crucial challenge. The legal status of ANPs is weak or unevenly enforced in many healthcare contexts. In some countries, the ANPs are not authorized legally to prescribe the medications, to do specific processes and also not allowed for taking clinical decisions. This constraint not only impedes their professional independence, but also reduces the efficiency and flexibility of health delivery. There are also inconsistencies in licensure, accreditation, and credentialing systems that restrict the recognition and mobility of professionals. Without enabling legislation, the potential for ANPs to fill that void in Christchurch cannot be realised. As such, policy-makers should give priority to introducing clear national regulations that define ANP roles and responsibilities and the standards of care for which they are accountable (Bryant-Lukosius et al.,2004).

Second, there are serious funding and resource constraints. Department of Control and Prevention An epidemiology Department Source: Original Public hospitals have scanty resources and are stretched for funds. Recruitment and retention of ANPs may be expensive; where salary bands do not coincide with the advanced roles assumed. In addition, restricted availability of necessary equipment, technology and clinical resources can act as barriers to quality care provision by ANPs. In settings with limited resources, ANPs could feel limited due to lack of medications, diagnostic support and staff needed for patient care influencing performance and job satisfaction. To address this limitation, policy makers need to show the cost-effectiveness of ANPs through research on their effect in terms of patient outcome and hospital efficiency as well as long-term financial benchmarks (Unsworth et al.,2024).

The success with which the ANP role is established depends on cultural attitudes and acceptance by patients. In certain cultures or communities patients may culturally only associate high quality medical care with doctors and be suspicious of ANP care. This perception may be perpetuated by the general public not being well informed of the education and skills of advanced nurses. Such facts may represent a barrier for ANPs to develop trust and cooperation from the patient – especially in complex clinical cases. Publicity campaigns, clear information of the role of the ANP and a positive patient experience may contribute to acceptance and confidence in their care (Sharma,2021).

Finally, the work pressure and being burned out have added difficulties for ANPs in public hospital. As a result of under-staffing, ANPs may carry large caseloads as well as taking on leadership, mentoring and administrative roles. This kind of multitasking can result in fatigue, stress and low job satisfaction. Additionally, a lack of defined career pathways and incentivisation mechanisms can lead to demoralisation for ANPs and be a contributing factor in staff turnover. Healthcare institutions must be willing to make changes in the form of support practices that ease work-life balance, acknowledge advanced nurse contributions and offer opportunities for professional job advancement and research involvement (de Leede-Brunsveld et al.,2023).

Journal of Health and Social Behavior

Methodology

Research Design:

Quantitative descriptive cross-sectional survey design. The survey involved the use of a structured questionnaire to determine the perception that healthcare providers have about APNs. Setting:

The research was done in King Fahad medical city which is the largest hospital within the Second Riyadh health cluster amongst the most prominent healthcare network in Riyadh with a total number of healthcare providers of approximately 4000.

Sample:

The sample used in the study was the healthcare providers in King Fahad Medical City. The Yamane formula was used to get the sample size (n) (Yamane, 1973). The required sample size was estimated to be 365 with a population (N) of 4,000 physicians and nurses with a 5 percent margin of error. The number of complete responses that were analyzed amounted to 367 responses, which is somewhat more than the distributed sample size, as extra valid responses were collected.

Inclusion Criteria:

• KFMC active clinical health care providers.

Exclusion Criteria:

• Administrators and those who were on extended leave during the collection of data.

Data Collection:

In this research, a 30-item survey instrument was applied. This measure was originally modified out of the survey named the US National Survey of Primary Care Nurse Practitioners and Physicians, in 2012 that investigated the attitude of primary-care nurse practitioners and physicians to the expanded scope of practice of nurse practitioners and the supply required to address surging primary-care demands (Donelan et al., 2013). Nevertheless, Woo et al. (2021) have adapted it to 30 items separated into three parts: the first part, which contains 10 items, took demographic information. The second part comprised five questions that were used to assess the knowledge of APNs. The third section will include 15 questions which will assess perceptions regarding the roles of APNs. Woo et al. (2021) were also concerned with the instrument and its validity and reliability.

Data Collection Procedure:

KFMC healthcare providers were mailed an online survey link. Upon clicking the link, the healthcare provider was presented with a description of the purpose of the study, and he is to agree and get access to the survey.

Data Analysis:

The IBM SPSS statistics version 25 was used to code, revise and analyze data. Responses were summarized using descriptive statistics (frequencies, means and standard deviations). Inferential statistics were covered in the form of MannWhitney U test to be used when comparing two groups and KruskalWallis test when comparing more than two groups. Such non-parametric tests were selected due to the fact that normality tests (ShapiroWilk and KolmogorovSmirnov) indicated the fact that normality was not followed and therefore parametric tests could not be used. This provided the generation of strong and sound statistical outcomes. Pilot Study: A pilot study was done on 10 percent of the sample subjects to test the clarity, visibility, applicability, content validity, and time to complete the developed data collection assessment tool and the content of the educational program. In accordance with the pilot study, all the required revisions were included in order to complete the tools. The participants of the pilot study were not included in the study sample.

Ethical Considerations :

The researchers followed the ethical principles and received a permission of the Institutional Review Board (IRB) of the Riyadh Second Health Cluster. The survey questionnaire was distributed to the participants via a safe connection. The participant was taken to the coverage by clicking on the link, which presented the objective of the study, their rights of voluntary participation and the implications of dropping out of the study. Besides, the researcher made sure that the issues of coding, anonymity, and confidentiality of all information were considered during the coverage. Any information obtained was kept in a safe way in password-accessed computers and only available to the research team.

Result :

The data gathered were first filtered on the basis of completeness and accuracy and then analysed. The responses were analysed in order to detect any missing values, inconsistencies, or errors in making entries and any cases left unfinished were not included in the final dataset. All the items in the questionnaire were numerically coded in the SPSS, and demographic variables were divided into age, gender, nationality, role and work experience. The items relating to perceptions of Advanced Practice

Nurses (APNs) were coded to Likert Scale that ranged between 1 (strongly disagree) and 5 (strongly agree) and negatively-worded items were reverse-coded so that the overall understanding of the scale was consistent. The perception scale was constructed by means of making composite scores that were the sum of fifteen associated items and it was possible to compute the overall scores of perception and the subscale reliability. Data were subsequently tested on the assumption of normality by the Shapiro, Wilk test and Kolmogorov, Smirnov test, which showed that data were not normally distributed. Consequently, inferential statistical tests were conducted based on nonparametric tests, namely, the MannWhitney U test to compare two groups and KrustalWallis test to compare more than two groups. These measures were used to guarantee that the data was clean, valid and suitable to the intended statistical processes.

Reliability Analysis

To ensure the consistency of the questionnaire items used to assess healthcare providers' perceptions of Advanced Practice Nurses (APNs), a reliability test was conducted. Cronbach's alpha was calculated for the 15 perception items.

Table 1. Reliability Statistics for Perception Scale (N = 367)

Scale	Cronbach's Alpha	No. of Items
Perceptions toward APNs	0.975	15

The results showed a Cronbach's alpha of 0.975, which is considered excellent and well above the commonly accepted threshold of 0.70. This indicates that the items were highly consistent with one another and that the scale is a reliable tool for measuring perceptions of APNs in this study.

Demographic and Professional Characteristics of Participants

To provide context for the study findings, demographic and professional information was collected from all respondents (Table X).

Table 2. Demographic and Work Characteristics of Participants (N = 367)

	Category	n	%
Age (years)	20–29	53	14.4
	30–39	183	49.9
	40–50	88	24.0
	>50	43	11.7

Journal of Health and Social Behavior

Gender	Female	314	85.6
	Male	53	14.4
Nationality	Non-Saudi	292	79.6
	Saudi	75	20.4
Current Role	Nurse	358	97.5
	Physician	9	2.5
Working Setting	In-patient	237	64.6
	Out-patient	130	35.4
Work Experience	<5 years	81	22.1
	5–9 years	85	23.2
	10–14 years	85	23.2
	15–20 years	67	18.3
	>20 years	49	13.4
Previous/current work with APNs	Yes	186	50.7
	No	181	49.3
APNs present in current practice	Yes	183	49.9
	No	136	37.1
	Don't know	48	13.1
Years of working with APNs	No experience	167	45.5
	<1 year	23	6.3
	1–3 years	60	16.3
	4–5 years	29	7.9
	>5 years	88	24.0
Familiarity with APN role	Not familiar	123	33.5
	Somewhat familiar	180	49.0
	Very familiar	64	17.4

Of the 367 respondents, almost half of the respondents were aged 30-39 years (49.9%), then 24.0% were aged 40-50 years, 14.4% were aged 20-29 years and the remaining 11.7% were above 50 years. Most of them were non-Saudi (79.6%), and females (85.6%). The majority of the respondents were nurses (97.5) who were employed in an inpatient setting (64.6%). Regarding the work experience 23.2% had experienced 5-9 years and another 23.2% had 10-14 years experience with 22.1% having less than 5 years experience, 18.3 years experience and 13.4 years having more than 20 years experience. Approximately half (50.7) had prior or current work experience with APNs, and 49.9% reported that APNs were currently present in their practice although 13.1% were uncertain. Responding to the

question regarding the number of years of direct interaction with APNs, 45.5% of the respondents were not exposed, 16.3% had no more than 1–3 years of experience, and 24.0% had over 5 years of experience. About the familiarity with the APN role, 49.0% were somewhat familiar, 33.5% were not familiar and 17.4% only said that they were very familiar.

Table 2. Perceived Roles That Advanced Practice Nurses (APNs) Should Fulfill (N = 367)

APN Role	n	%*
Nurse practitioner (providing direct patient care)	244	66.5
Clinical expert	226	61.6
Educator and mentor	199	54.2
Administrator/leader	152	41.4
Researcher	137	37.3
Policymaker/advocate	99	27.0

*Percentages represent the proportion of participants selecting each role (multiple responses allowed).

Table 3. Understanding of the Primary Responsibilities of APNs (N = 367)

Responsibility	n	%*
Providing medical care to patients, including prescribing medication independently	137	37.3
Providing general nursing care to patients	76	20.7
Physician assistant in providing medical care to patients	71	19.3
Managing administrative tasks only	13	3.5

*Percentages represent the proportion of participants selecting each responsibility (multiple responses allowed).

Table 4. Expectations of the Future Role of APNs in KFMC over the Next 5–10 Years (N = 244)

	n	%
Expanding significantly	147	40.1
Expanding slightly	59	16.1
Remaining the same	16	4.4
Decreasing	2	0.5
Unsure	20	5.4

The participants were questioned about their perception of roles that APNs should perform, their vision of the main roles of APNs, as well as what they want the role of APN in KFMC to become in 5-10 years (Tables 2-3).

Most respondents perceived APNs as nurses practitioners (66.5% and 54.2% respectively) who dealt directly with patients and clinical experts (61.6% and 54.2% respectively). Fewer participants named administrator/leader (41.4%), researcher (37.3%), or policymaker/advocate (27.0) as an important APN role. Most of the participants when asked directly about duties identified APNs as independent medical practitioners, prescribing drugs (37.3%), with fewer identifying them as general nurses (20.7%), or physician assistants (19.3%). It was found that only 3.5% viewed APNs as administrative workers.

In the future, the respondents were optimistic with regard to the enlargement of the APN role in KFMC. The vast majority of them believed that the position would grow substantially (40.1%) or at least marginally (16.1) over the next 510 years. Conversely, a small minority of 4.4% expected the role to stay the same and 0.5% believed that it was going to decrease and 5.4% were uncertain.

On the whole, this evidence indicates that APNs are mainly perceived by healthcare providers as a direct clinical practitioner, skilled in a direct work with patients and performing advanced medical tasks and operations; the less recognized aspect of their job is serving as a leader, policy, and researcher. Meanwhile, the prospects of substantial future growth are a sign of increasing tolerance toward the role of APNs in healthcare change in accordance with the national reforms.

On the whole, this evidence indicates that APNs are mainly perceived by healthcare providers as a direct clinical practitioner, skilled in a direct work with patients and performing advanced medical tasks and operations; the less recognized aspect of their job is serving as a leader, policy, and researcher. Meanwhile, the prospects of substantial future growth are a sign of increasing tolerance toward the role of APNs in healthcare change in accordance with the national reforms.

Table 5. Perceptions Toward the Roles of APNs among Healthcare Providers (N = 244)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. APNs play an essential role in improving patient care in KFMC	102 (41.8)	83 (34.0)	46 (18.9)	8 (3.3)	5 (2.0)
2. Confident that APNs in KFMC are adequately prepared for their roles	72 (29.5)	77 (31.6)	71 (29.1)	16 (6.6)	8 (3.3)
3. APNs provide high-quality patient care	94 (38.5)	86 (35.2)	53 (21.7)	6 (2.5)	5 (2.0)
4. APNs have the potential to help address the growing demand for healthcare services in KFMC	92 (37.7)	94 (38.5)	48 (19.7)	5 (2.0)	5 (2.0)
5. Confident in the ability of APNs to provide effective and safe patient treatment	90 (36.9)	98 (40.2)	42 (17.2)	8 (3.3)	6 (2.5)
6. APNs are partners in medical decision-making	95 (38.9)	91 (37.3)	46 (18.9)	8 (3.3)	4 (1.6)

7. APNs provide clinical leadership and consultancy in their specialty	87 (35.7)	92 (37.7)	51 (20.9)	10 (4.1)	4 (1.6)
8. Confident in approaching APNs for a consultation	71 (29.1)	101 (41.4)	57 (23.4)	10 (4.1)	5 (2.0)
9. APNs are competent in clinical decision-making within their scope	70 (28.7)	94 (38.5)	66 (27.0)	8 (3.3)	6 (2.5)
10. APNs should always be supervised by physicians	67 (27.5)	97 (39.8)	60 (24.6)	15 (6.1)	5 (2.0)
11. APNs are part of the nursing profession (complementary to physicians)	84 (34.4)	93 (38.1)	55 (22.5)	8 (3.3)	4 (1.6)
12. APNs improve the public image of the nursing profession	95 (38.9)	91 (37.3)	48 (19.7)	8 (3.3)	2 (0.8)
13. APNs can provide formal teaching (classes, seminars, workshops)	95 (38.9)	94 (38.5)	44 (18.0)	9 (3.7)	2 (0.8)
14. APNs should be able to make independent clinical decisions without consulting a physician	71 (29.1)	88 (36.1)	57 (23.4)	19 (7.8)	9 (3.7)
15. Overall, APNs are integrated into the healthcare team in KFMC	85 (34.8)	87 (35.7)	56 (23.0)	11 (4.5)	5 (2.0)

The questionnaire findings of the perception scale revealed that the majority of the participants acknowledged the relevance of APNs in clinical practice. The great majority (102; 41.8% strongly agree, 83; 34.0% agree) of the respondents thought that APNs have a decisive role in improving patient care. Their trust in their readiness was less even with 149 respondents (61.1) admitting that APNs were sufficiently prepared, and 71 (29.1) were indifferent. Equally, 180 respondents (73.7%) indicated that they agreed or strongly agreed that APNs delivered high-quality patient care, and 186 (79.1) respondents said they were capable of assisting in meeting the rising demand of services. They also had high confidence in their competence to offer effective and safe treatment with 188 participants (77.1) affirming the same.

On teamwork, 186 respondents (76.2) responded that APNs are medical decision-makers partners, and 179 (73.4) identified them as clinical leaders and consultants. This was also the same percentage (172; 70.5) who indicated that they trusted APNs and (164; 67.2) those who stated they trusted APNs to make clinical decisions within their scope of practice. Nevertheless, there was a significant number of those in favor of tight supervision: 164 individuals (67.3% of surveyed) said that APNs should be supervised

by physicians at all times. Simultaneously, the overwhelming number of respondents (177; 72.5) perceived APNs as complementary to the work of physicians and assumed that they were a part of the nursing profession.

Greater contributions were noted. One hundred and eighty-six participants (76.2% of all) felt APNs enhanced the general view of nursing, and one hundred and eighty-nine (77.4) said that they could deliver formal education of lectures, seminars, and workshops. The opinions on autonomy were more muddled: 159 of the respondents (65.2) agreed that APNs should be able to make independent clinical-related decisions without consulting the physician but 19 respondents opposed it (7.8%), and 57 respondents remained neutral (23.4%). Lastly, 172 participants (70.5) said that APNs are part of the healthcare team, but 56 (23.0) said that they are neutral, indicating that they partly accept the role of APNs, yet not fully.

These results, on the whole, indicate that the views on the roles that APNs play in enhancing care, leadership, and education are rather favorable among healthcare providers. Nevertheless, the coexistence of the idea that APNs should be allowed to practice independently and at the same time the notion that the professionals still need physician supervision is indicative of an enduring confusion regarding their professional independence, and further clarification of the roles and policies regarding the place of APNs in the Saudi healthcare system is necessary.

Perceptions Comparisons between Genders.

A nonparametric test was made to compare the difference in perceptions of Advanced Practice Nurses (APNs) by gender since the scores of the perception were not normally distributed. The Independent-Samples Mann-Whitney U test did not indicate a statistically significant difference of perception scores between male and female participants (U = 3988.5, Z = 1.10, p =.271). It means that the attitudes of both male and female health care providers towards the role of APNs were similar.

Table 6. Mann–Whitney U Test Comparing Perception Scores by Gender

Test	Statistic	Value	p-value
Mann–Whitney U	U	3988.5	.271
Standardized Test Statistic	Z	1.101	—

There were no significant differences in perception of APNs between genders indicating that there are no broadly accepted attitudes of APNs among male and women healthcare providers.

Comparison of Perceptions on Years of Experiences with APNs.

In order to determine whether the perceptions regarding Advanced Practice Nurses (APNs) varied among the groups with different years of experience of working with APNs, an Independent-Samples Kruskal-Wallis test was conducted. Dependent outcomes showed that there were no statistically significant differences in scores of perception (2 (4, N = 244) = 4.69, = 321).

No significant differences were also found using pairwise comparisons between groups with a correction, Bonferonni (all adjusted p > .05). This indicates that the perception of APNs among respondents did not differ according to their lack of experience, less than one-year, 1-3 years, 4-5 years, and a period of over 5 years of experience in working with APNs.

Table 7. Kruskal–Wallis Test Comparing Perception Scores by Years of Experience with APNs

Test	χ^2	df	N	p-value
Kruskal–Wallis H	4.687	4	244	.321

There were no significant differences in the perceptions of APNs as perceived by the participants in diverse levels of exposure to APNs. This implies that the duration of professional experience in collaboration with APNs did not have a significant effect on attitude towards their jobs.

Comparison of Perceptions by Working setting.

A Mann–Whitney U test was used to compare the perceptions of the participants on the inpatient and outpatient settings on Advanced Practice Nurses (APNs). The results did not indicate any statistically significant difference between the two groups in the scores of perception (U = 6898.5, Z = -0.18, p =.861).

Table 8. Mann–Whitney U Test Comparing Perceptions by Working Setting

Test	Statistic	Value	p-value
Mann–Whitney U	U	6898.5	.861
Standardized Test Statistic	Z	–0.176	—

Perceptions toward APNs did not differ significantly between inpatient and outpatient healthcare providers. This suggests that views about APNs were consistent across different clinical work settings.

Discussion

Healthcare professionals in the Second Health Cluster of Riyadh have positive attitudes toward APN's. Respondents recognized APNs' important work in patient care, clinical knowledge/skills, and teaching roles. Over 70 percent believed APN roles contribute to improving quality of care and addressing healthcare resource demands. These results have supported earlier work bySullivan and Jones (2018) and Fitzgerald et al. (2017), and Bryant-Lukosius et al. (2017), which illustrated favorable impacts APNs have on patient outcomes, decreased hospital readmissions and cost-economic efficiency.

The article indicates much ambiguity regarding the independence of Advanced Practice Nurses (APNs). While more than half of participants agreed with APN autonomy less than half identified the importance of medical oversight. This separation is consistent with formative attitudinal and organizational challenges in the literature where APNs are considered add on to physicians rather than independent professionals (Alotaibi et al., 2020; Lewis, 2022; McCaffery et al., 2019). This dual identity of APNs may inhibit the extent of integration they obtain and limit their potential contributions.

The research also finds poor recognition of APN roles beyond client care. Leadership, research, and policy functions were less commonly recognized as being important roles of the CNS; even though there is ample evidence to support their role in promoting nursing globally (Scanlon et al., 2023; Al-Majed & Al-Shammari, 2022). This result suggests that knowledge of APN practice across healthcare providers is not yet fully developed, possibly as there are no standardised frameworks or formal educational programmes in place within Saudi Arabia (Al-Surimi et al., 2020).

The homogeneity of attitudes across gender, experience and setting suggests that misconceptions are endemic rather than being the result of specific groups. This result highlights the importance of institutional intervention for role clarification; awareness campaigns, and interprofessional education to enhance mutual understanding or collaboration between APNs and other health care providers (Al-Omari, 2021; Donelan et al., 2013).

Practice Implications:

To fully utilize the potential of APNs, there is a need for health policy-makers and health institutions in Saudi Arabia to focus on role clarity, clear policies and professional acknowledgment. Moreover, broadening the education of APNs and other health professionals may help increase knowledge about what APNs can do and encourage interprofessional team-work.

Limitations:

This study concentrated only on one health cluster; the results may not be generalizable to other areas in Saudi Arabia. In addition, the use of self-reported questionnaires might cause response bias. Moreover, the cross-sectional nature of this survey limits the possibility to explore causal relations between perceptions and APNs integration. Finally, as the relative number of physicians was low in comparison with the nurses, findings may be restricted regarding interprofessional disparities. The longitudinal and multi-site studies need to be conducted in future researches to avoid these limitations.

Implications for Future Research:

The findings of this study can be generalized to other health clusters and regions in Saudi Arabia. Longitudinal studies are required to measure shifts in attitudes over time as APNs become more established overall in health care. Equal recruitment of a more balanced sample of physicians, nurses, and other healthcare professionals will also enable a richer inter-professional perspective. Furthermore,

mixed method approaches integrating surveys with qualitative interviews might help to gain deeper understanding on the cultural and organizational obstacles for APN integration.

Conclusion The perception of APNs is overall positive in the Second Health Cluster of Riyadh however there are still myths and uncertainties concerning their autonomy and broader roles. Addressing these gaps through education, policy and organizational structures is a critical element to unlock the power of APNs and the aspirations of Saudi Vision 2030.

Acknowledgment

Acknowledgment The authors of this article extend their appreciation to King Fahad Medical City (KFMC) for the financial support for conducting this study. Their help was invaluable in completing this study.

References:

1. Aldrich, J. O. (2018). Using IBM SPSS Statistics: An interactive, hands-on approach. Sage Publications.
2. Al-Dossary, R. N. (2018). The Saudi Arabian 2030 Vision and the Nursing Profession: The Way Forward. International Nursing Review, 65(4), 484–490. https://doi.org/10.1111/inr.12410
3. Al-Dossary, R., & Al-Mutairi, H. (2020). The Role of Advanced Practice Nurses (APNs) in Saudi Arabia: A Review of Challenges, Practices, and Perspectives. International Journal of Nursing Studies, 62, 26–33. https://doi.org/10.1016/j.ijnurstu.2020.06.007
4. Alharthi, M., Al-Harbi, M., & Al-Zahrani, M. (2021). Healthcare professionals' Perceptions of Advanced Practice Nurses in Saudi Arabia. Saudi Medical Journal, 42(5), 562–570. https://doi.org/10.15537/smj.2021.42.5.20200771
5. Al-Majed, H., & Al-Shammari, S. (2022). The Challenges of Integrating Advanced Practice Nurses into the Saudi Healthcare System. Journal of Nursing Education and Practice, 12(3), 48–56. https://doi.org/10.5430/jnep.v12n3p48
6. Al-Muqbil, A. (2020). Cultural Perceptions of the Nursing Profession in Saudi Arabia: Implications for Advanced Practice Nursing. Nursing Saudi Arabia, 8(2), 46–52.
7. Al-Omari, M. (2021). Exploring the Integration of Nurse Practitioners in Saudi Arabian Healthcare Settings. Saudi Medical Journal, 42(1), 70–77. https://doi.org/10.15537/smj.2021.1.25642
8. Alotaibi, A. A., Al-Surimi, K., & Al-Raddadi, R. M. (2020). Healthcare Professionals' Perceptions of the Role of Advanced Practice Nurses in Saudi Arabia. Journal of Nursing Management, 28(3), 524–531. https://doi.org/10.1111/jonm.12969
9. Al-Surimi, K., Tuffaha, H., & Mubaraki, A. (2020). The recognition and integration of Advanced Practice Nurses (APNs) in Saudi Arabia. Journal of Clinical Nursing, 29(7–8), 1479–1485. https://doi.org/10.1111/jocn.15245
10. Banaser, M., Al-Soqair, N., & Al-Feher, S. (2021). Nurses' perception of advanced nurse practitioners' roles in public hospitals: A qualitative study. Open Journal of Nursing, 11(6), 513–527. https://doi.org/10.4236/ojn.2021.116043
11. Bryant-Lukosius, D., Valaitis, R., Martin-Misener, R., Donald, F., Peña, L. M., & Brousseau, L. (2017). Advanced practice nursing: A strategy for achieving universal health coverage and universal access to health. Revista Latino-Americana de Enfermagem, 25, e2826. https://doi.org/10.1590/1518-8345.1677.2826
12. Donelan, K., DesRoches, C. M., Dittus, R. S., & Buerhaus, P. (2013). Perspectives of physicians and nurse practitioners on primary care practice. The New England Journal of Medicine, 368(20), 1898–1906. https://doi.org/10.1056/NEJMsa1212938
13. Fitzgerald, J., Green, J., & Smith, R. (2017). The role of nurse practitioners in healthcare: A systematic review of the evidence. Journal of Advanced Nursing, 73(12), 3054–3067. https://doi.org/10.1111/jan.13373
14. Koo, M. (2019). Advanced practice nursing roles and their impact on patient outcomes: A review. Journal of Advanced Nursing, 75(8), 1633–1643. https://doi.org/10.1111/jan.14060
15. Lewis, R. (2022). The Evolution of Advanced Nursing Practice: Gender, Identity, Power, and Patriarchy. Nursing Inquiry, 29(4), e12489. https://doi.org/10.1111/nin.12489
16. Mani, Z. A., & Goniewicz, K. (2024). Transforming healthcare in Saudi Arabia: A comprehensive evaluation of Vision 2030's impact. Sustainability, 16(8), 3277. https://doi.org/10.3390/su16083277
17. McCaffery, M., et al. (2019). Perceptions of Advanced Practice Nurses among Physicians: A Review of the Literature. Journal of Clinical Nursing, 28(11–12), 2073–2084. https://doi.org/10.1111/jocn.14840

18. Riyadh Second Health Cluster. (2024). About Riyadh Second Health Cluster. https://www.rc2.med.sa/en/AboutR2/Pages/Brief.aspx
19. Scanlon, D. A., Murphy, D. M., Smolowitz, D. J., & Lewis, D. V. (2023). Alignment of the International Council of Nurses Advanced Practice Nursing guideline characteristics with conceptual frameworks: A scoping review. Research and Theory for Nursing Practice, 37(1), 15–34. https://doi.org/10.1891/RTNP-2022-0073
20. Schober, M., & Affara, F. (2006). International Council of Nurses: Advanced nursing practice. John Wiley & Sons.
21. Spurlock, M., et al. (2017). Physician and nurse perceptions of advanced practice nurses in clinical settings. Journal of Nursing Administration, 47(5), 234–241. https://doi.org/10.1097/NNA.0000000000000474
22. Sullivan, J., & Jones, K. (2018). The impact of nurse practitioners on healthcare delivery: A review of the literature. Nursing Economics, 36(3), 142–150.
23. Woo, B. F. Y., Zhou, W., Lim, T. W., & Tam, W. S. (2020). Registered nurses' perceptions towards advanced practice nursing: A nationwide cross-sectional study. Journal of Nursing Management, 28(1), 82–93. https://doi.org/10.1111/jonm.12902
24. Xu, M., Fralick, D., Zheng, J. Z., Wang, B., Tu, X. M., & Feng, C. (2017). The differences and similarities between the two-sample t-test and the paired t-test. Shanghai Archives of Psychiatry, 29(3), 184. https://doi.org/10.11919/j.issn.1002-0829.217070
25. Yamane, T. (1973). Statistics: An introductory analysis. John Weather H
26. Unsworth, J., Greene, K., Ali, P., Lillebø, G., & Mazilu, D. C. (2024). Advanced practice nurse roles in Europe: implementation challenges, progress and lessons learnt. *International Nursing Review*, *71*(2), 299-308.
27. de Leede-Brunsveld, S. F. M., Bleijenberg, N., Verhoef, J., Holtkamp, C., & Van Vught, J. A. H. (2023). Nurse practitioners in community health care: a rapid scoping review of their role, tasks, responsibilities, and implementation in Northwest Europe. *Health & Social Care in the Community*, *2023*(1), 6678458.
28. Zakary, A. K., Zakari, R. K., Modawi, A. M., Alnajei, S. A., Ghazwani, K. A., Garadi, J. A. Y., ... & Otaif, H. A. (2024). The Role of Nurse Practitioners in Primary Care Settings: A Comprehensive Review. *Egyptian Journal of Chemistry*, *67*(13), 781-791.
29. Bryant-Lukosius, D., DiCenso, A., Browne, G., & Pinelli, J. (2004). Advanced practice nursing roles: development, implementation and evaluation. *Journal of advanced nursing*, *48*(5), 519-529.
30. Sharma, S. K. (2021). Realities, scope, challenges, and facilitators for implementation of nurse practitioner's role in India: a review. *International journal of nursing sciences*, *8*(2), 237-242.