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PERCEPTION OF ADVANCED PRACTITIONER NURSES (APNS) AMONG HEALTHCARE PROVIDERS AT RIYADH SECOND HEALTH CLUSTER

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ABSTRACT

Advanced Practice Nurses (APNs) play a critical role in clinical care, leadership, and education. In Saudi Arabia, expanding APN roles supports Vision 2030's goal to improve healthcare quality and accessibility. Nonetheless, uncertainty about APN responsibilities and autonomy persists among healthcare providers. Aim: To examine the perceptions, knowledge, and attitudes of healthcare providers in Riyadh's Second Health Cluster toward APNs. Quantitative, descriptive, cross-sectional study. A validated 30-item questionnaire was distributed to 365 physicians and nurses at King Fahad Medical City, Riyadh. Data were analyzed using descriptive statistics and nonparametric tests (Mann–Whitney U and Kruskal–Wallis). Healthcare providers viewed APNs positively in care, expertise, and education. However, uncertainty about APN autonomy remains: many support APN independence but prefer physician supervision. No significant differences in perception were observed based on gender, setting, or experience ($p > .05$). Healthcare providers value APNs, but unclear roles and misconceptions about autonomy limit their integration. Increased organizational support, policy guidance, and education are needed to advance APN involvement in national health goals.

KEYWORDS: Advanced Practice Nurses, Perception, Healthcare Providers, Vision 2030, Saudi Arabia.

1. INTRODUCTION

Advanced Practice Nurses (APNs) play a critical role in strengthening healthcare delivery globally. The International Council of Nurses defines APNs as registered nurses who have acquired expert knowledge, advanced clinical skills, and decision-making capabilities through postgraduate education (Schober & Affara, 2006). Their introduction has supported improved patient outcomes, enhanced accessibility, and reduced healthcare system burdens in many countries (Koo, 2019).

In Saudi Arabia, the development of APN roles aligns with the Vision 2030 agenda to transform health services through improved quality and efficiency (Mani & Goniewicz, 2024). Despite this momentum, the APN role remains relatively new within the Saudi healthcare system. It faces challenges related to the unclear scope of practice, limited autonomy, and varying perceptions among healthcare professionals (McCaffery et al., 2019).

Healthcare providers' perceptions play a vital role in facilitating APN integration, especially within multidisciplinary teams. Misunderstandings or role ambiguity may result in reduced collaboration and underutilization of APNs' expertise (Al-Dossary & Al-Mutairi, 2020). Riyadh's Second Health Cluster—one of the largest and most diverse healthcare networks in the Kingdom—serves as a strategic location to explore these dynamics.

This study evaluates healthcare providers' perceptions, knowledge, and attitudes toward APNs at King Fahad Medical City, identifies barriers and opportunities to optimize APN integration, and assesses APNs' contributions to patient care.

1.1. Problem Statement

Understanding of healthcare providers' perceptions of APNs in Saudi Arabia, especially in Riyadh's Second Health Cluster, remains limited. This gap may impede APN integration and utilization, affecting healthcare delivery. The study addresses these perceptions to identify barriers and opportunities.

1.2. Research Objectives

- Assess healthcare providers' (physicians and nurses) perceptions of APNs' roles in Riyadh's Second Health Cluster.
- Identify factors influencing healthcare providers' perceptions of APNs in Riyadh's Second Health Cluster.
- Explore how healthcare providers' perceptions affect the integration of APNs into multidisciplinary teams at Riyadh's Second Health Cluster.

2. LITERATURE REVIEW

2.1. Overview

Nurses play a key role in making healthcare more accessible to communities. The International Council of Nurses (ICN) has supported the development of advanced practice nurses (APNs) to improve access to health care (Bryant-Lukosius et al., 2017).

Despite the challenges, studies have shown the significant impact of APNs in healthcare settings, including decreased re-admission rates, improved patient outcomes, and enhanced quality of care (Sullivan & Jones, 2018). Additionally, APNs contribute to the cost-effectiveness of the healthcare system by enhancing primary, preventive, and chronic disease care services, thereby increasing patient satisfaction and improving the healthcare system's sustainability by addressing gaps in provider shortages (Fitzgerald et al., 2017). In Saudi Arabia, Studies highlighted these findings, suggesting full support for APNs' role in accessing primary health care in rural areas to bridge the physician shortage (Al-Surimi et al., 2020).

Countries such as the United States and the United Kingdom view APNs positively because of their well-established roles, responsibilities, and scope of practice, which have significantly improved patient outcomes and reduced re-admission rates (Koo, 2019). In 2020, the International Council of Nurses (ICN) defined APNs as nurses—generalists or specialists—who, through additional graduate education (at least a master's degree), acquire expert knowledge, advanced decision-making abilities, and the clinical competencies required for advanced nursing practice. Their roles are shaped by the specific context in which they are credentialed (Scanlon et al., 2023).

2.2. Apns In Saudi Arabia's Healthcare System

In alignment with Vision 2030, the Saudi Arabian healthcare system has experienced significant refinement to improve healthcare delivery in terms of accessibility, efficiency, and quality (Mani & Goniewicz, 2024). This rapid expansion of the healthcare system has necessitated bridging the shortage of healthcare providers using APNs (Al-Omari, 2021). Despite the growing potential of APNs, their integration into the Saudi Arabian healthcare system is challenging due to the influence of organizational policies, unclear roles, and limited professional recognition (Alotaibi et al., 2020).

The realization of APNs' roles varies, and many

healthcare providers are uncertain about these professionals' roles and scope of practice, which, in turn, raises questions about their competence, responsibilities, and autonomy (Al-Omari, 2021). Furthermore, the lack of standardized policies clarifying APNs' roles and responsibilities in Saudi Arabia hinders their full integration into the multidisciplinary healthcare team, resulting in underutilization of their potential despite their ability to improve the quality-of-care delivery (McCaffery et al., 2019).

2.3. Factors Associated with Perceptions Towards Apns

Organizational culture, professional education, and healthcare providers' experience with APNs significantly shape perceptions of APNs within healthcare systems. In Saudi Arabia, understanding the scope of APN services and cultural attitudes toward nursing influences perceptions of the APN's role (Al-Dossary, 2018).

A critical barrier to integrating APNs into healthcare is the prevailing perception of nursing as a supportive rather than a leadership role. Nurses are not seen as autonomous decision-makers in many cultures within the healthcare system. Accordingly, the perception of APNs as independent practitioners is met with resistance from many healthcare providers, including physicians (Lewis, 2022). In Saudi Arabia, for instance, Alotaibi et al. (2020) reported that 52% of surveyed physicians were uncertain about the scope of practice of APNs, while only 34% supported independent clinical decision-making by APNs. Similarly, AlHarthi et al. (2021) found that 60% of physicians supported APNs in primary care roles, but only 28% believed APNs were ready for advanced clinical procedures.

Additionally, organizational culture significantly impacts APNs' perceptions. Integrating APNs within healthcare systems depends on how healthcare organizations enhance a collaborative work environment. In the Saudi Arabian healthcare context, organizational cultures should be adapted to acknowledge the value of interdisciplinary teams, including APNs. Explain the roles of APNs to healthcare providers and foster mutual respect to facilitate their integration into healthcare teams (Al-Muqbil, 2020).

The level of education of APNs may also shape perceptions, as their knowledge and clinical competence can enhance confidence and decision-making in clinical settings (Spurlock et al., 2017). However, healthcare providers may not always recognize APNs' specialization and training as distinct from those of other registered nurses. Educating other healthcare providers about the role and capabilities of APNs is crucial for improving integration and teamwork (Scanlon et al., 2023). In Saudi Arabia, the lack of formal education and a framework for APNs creates confusion among healthcare providers about APNs' roles, autonomy, and scope of practice, leading to uncertainty about APNs' potential and the expected integration of their contributions to improving patient care (Al-Majed & Al-Shammari, 2022).

3. METHODOLOGY

3.1. Research Design

A quantitative, cross-sectional survey using a structured questionnaire assessed healthcare providers' perceptions of APNs.

3.2. Setting

The study was conducted at King Fahad Medical City, the largest hospital in the Second Riyadh Health Cluster, one of the prominent healthcare networks in Riyadh, Saudi Arabia, with approximately 4,000 healthcare providers.

3.3. Sample

The study sample included healthcare providers at King Fahad Medical City. The sample size (n) was calculated using the Yamane formula (Yamane, 1973). With an expected population (N) of 4,000 physicians and nurses and a 5% margin of error, the required sample size was 365. A total of 367 complete responses were analyzed, slightly higher than the originally distributed sample size due to the collection of additional valid responses.

3.4. Inclusion Criteria

- Active clinical health care providers at KFMC.

3.5. Exclusion Criteria

- Administrative staff and those on extended leave during the data collection period.

3.6. Data Collection

A 30-item survey instrument was used in this study. This instrument was initially adapted from the "US National Survey of Primary Care Nurse Practitioners and Physicians," conducted in 2012, which explored the attitudes of primary-care nurse practitioners and physicians toward the increased scope of practice for nurse practitioners and the supply needed to meet escalating primary-care needs (Donelan et al., 2013). However, Woo et al. (2021)

modified it into 30 items, divided into three sections—the first, comprising 10 items, collected demographic data. The second section consisted of five items that measured APNs' knowledge. The third section consists of 15 items that measure perceptions of APNs' roles. Woo et al. (2021) examined the instrument for validity and reliability.

3.7. Data Collection Procedure

An online survey link was distributed to KFMC healthcare providers. After opening the link, participants read a study explanation and clicked 'agree' to begin the survey.

3.8. Data Analysis

Data were coded, revised, and analyzed using IBM SPSS Statistics version 25. Descriptive statistics (frequencies, means, and standard deviations) were used to summarize responses. Inferential statistics included the Mann–Whitney U test for two-group comparisons and the Kruskal–Walli's test for comparisons across more than two groups. These nonparametric tests were chosen because the normality tests (Shapiro–Wilk and Kolmogorov–Smirnov) indicated significant departures from normality, rendering parametric tests inappropriate. This ensured the production of robust and valid statistical results.

3.9. Pilot Study

A pilot study included 10% of participants to assess the tool's clarity, applicability, content validity, and completion time. Modifications were made in response to feedback, and these participants were excluded from the primary analysis.

3.10. Ethical Considerations

The study adhered to ethical guidelines and obtained Institutional Review Board (IRB) approval from the Riyadh Second Health Cluster. The survey was sent to the participants through a secure link. By clicking the link, the participant entered the coverage, which explained the study's aim, their rights to voluntary participation, and the consequences of withdrawing from the study. In addition, the researcher ensured that coding, anonymity, and confidentiality issues were addressed for all information throughout the coverage. All collected data was stored securely on password-protected computers and accessible only to the research team.

4. RESULT

The collected data were initially screened for completeness and accuracy before analysis. Responses were reviewed to identify missing values, inconsistencies, or entry errors, and any incomplete cases were excluded from the final dataset. All questionnaire items were coded numerically in SPSS, with demographic variables such as age, gender, nationality, role, and work experience categorized accordingly. Likert-scale items measuring perceptions of Advanced Practice Nurses (APNs) were coded from 1 (strongly disagree) to 5 (strongly agree), with negatively worded items reverse-coded to ensure consistent interpretation across the scale. Composite scores for the perception scale were created by averaging the 15 related items, allowing calculation of overall perception scores and subscale reliability. Data were then checked for normality using the Shapiro–Wilk and Kolmogorov–Smirnov tests, both of which indicated significant deviations from normal distribution. As a result, nonparametric statistical tests were employed for inferential analysis, including the Mann–Whitney U test for two-group comparisons and the Kruskal–Walli's test for comparisons across more than two groups. These steps ensured that the dataset was clean, reliable, and appropriate for the planned statistical procedures.

4.1. 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).

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.

4.2. Demographic And Professional Characteristics of Participants

To provide context for the study findings, demographic and professional information were

collected from all respondents (Table 2).

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
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 the APN role	Not familiar	123	33.5
	Somewhat familiar	180	49.0
	Very familiar	64	17.4

Among the 367 participants, nearly half were aged 30–39 years (49.9%), followed by 24.0% aged 40–50 years, 14.4% aged 20–29 years, and 11.7% aged 50+ years. The majority were female (85.6%) and non-Saudi (79.6%). Most respondents were nurses (97.5%) working in inpatient settings (64.6%). In terms of work experience, 23.2% reported 5–9 years, and another 23.2% reported 10–14 years, while 22.1% had less than 5 years, 18.3% had 15–20 years, and 13.4% had more than 20 years of experience. About half (50.7%) had previous or current work experience with APNs, and 49.9% indicated that APNs were present in their current practice, although 13.1% were unsure. When asked about years of direct experience with APNs, 45.5% reported no exposure, 16.3% had 1–3 years, and 24.0% had more than 5 years. Regarding familiarity with the APN role, 49.0% were somewhat familiar, 33.5% were not familiar, and only 17.4% reported being 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
A physician assistant provides 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

Participants were asked about their views on the roles APNs should fulfill, their understanding of APNs' primary responsibilities, and expectations for the evolution of APNs' role in KFMC over the next 5–10 years (Tables 2–3).

The majority of respondents viewed APNs as nurse practitioners providing direct patient care (66.5%) and clinical experts (61.6%), followed by educators and mentors (54.2%). Fewer identified administrator/leader (41.4%), researcher (37.3%), or policymaker/advocate (27.0%) as key APN roles. When explicitly asked about responsibilities, most participants associated APNs with providing independent medical care, including prescribing medications (37.3%), while fewer identified providing general nursing care (20.7%) or functioning as physician assistants (19.3%). Only 3.5% perceived APNs as primarily performing administrative tasks.

Looking to the future, respondents expressed strong optimism about the expansion of APNs' role in KFMC. A large proportion expected the role to expand significantly (40.1%) or at least slightly (16.1%) in the coming 5–10 years. In contrast, only a small minority anticipated that the role would remain the same (4.4%) or decrease (0.5%), while 5.4% were unsure.

Overall, these findings suggest that healthcare providers primarily view APNs as frontline clinical practitioners with expertise in direct patient care and advanced medical functions, while their leadership, policy, and research contributions are less frequently recognized. At the same time, the expectation of significant future expansion reflects growing acceptance of APNs' potential to contribute to healthcare transformation, in line with national reform initiatives.

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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 perception scale results showed that most participants recognized the importance of APNs in clinical practice. A large majority (102; 41.8% strongly agree, 83; 34.0% agree) believed that APNs play a crucial role in enhancing patient care. Confidence in their preparedness was more divided: 149 participants (61.1%) agreed that APNs were adequately prepared, while 71 (29.1%) remained neutral. Similarly, 180 respondents (73.7%) agreed or strongly agreed that APNs provide high-quality patient care, and 186 (79.1%) felt they could help address the growing demand for services. Confidence in their ability to provide safe and effective treatment was also high, with 188 participants (77.1%) in agreement.

Regarding teamwork, 186 respondents (76.2%) agreed that APNs are partners in medical decision-making, and 179 (73.4%) recognized them as clinical leaders and consultants. A similar proportion (172; 70.5%) reported confidence in consulting APNs, while 164 (67.2%) believed APNs were competent in clinical decision-making within their scope of practice. Despite this, many still supported close supervision: 164 participants (67.3%) agreed that APNs should always be supervised by physicians. At the same time, most respondents (177; 72.5%) viewed APNs as part of the nursing profession, with a complementary rather than a substitutive role for physicians.

Broader contributions were also acknowledged. A total of 186 participants (76.2%) believed APNs improve the public image of nursing, and 189 (77.4%) agreed they can provide formal teaching through lectures, seminars, and workshops. Views on autonomy were more mixed: 159 respondents (65.2%) supported APNs making independent clinical decisions without consulting a physician, although 19 (7.8%) disagreed and 57 (23.4%) were neutral. Finally, 172 participants (70.5%) agreed that APNs are integrated into the healthcare team, though 56 (23.0%) expressed neutrality, suggesting partial but not full acceptance of their role.

Overall, these findings suggest that healthcare providers generally hold positive perceptions of APNs' roles in improving care, leadership, and education. However, the contrast between support for independent practice and the simultaneous belief that APNs require physician supervision reflects a persistent uncertainty about their professional autonomy, highlighting the need for more explicit role definitions and policies to guide their integration in Saudi Arabia's healthcare system.

4.3. Comparison Of Perceptions Across Gender

To examine whether perceptions of Advanced Practice Nurses (APNs) differed by gender, a nonparametric test was conducted because the perception scores were not normally distributed. The Independent-Samples Mann–Whitney U test showed no statistically significant difference in perception scores between male and female participants ($U = 3988.5$, $Z = 1.10$, $p = .271$). This indicates that both male and female healthcare providers shared similar views toward the roles of APNs.

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	—

No significant differences were found in perceptions of APNs between genders, suggesting that attitudes toward APNs are broadly consistent among male and female healthcare providers.

4.4. Comparison Of Perceptions by Years of Experience with Apns

To assess whether perceptions toward Advanced Practice Nurses (APNs) differed across groups with varying years of experience working with APNs, an Independent-Samples Kruskal–Walli's test was performed. The results indicated no statistically significant differences in perception scores across the

five experience groups (χ^2 (4, N = 244) = 4.69, p = .321).

Pairwise comparisons between groups, adjusted using the Bonferroni correction, also showed no significant differences (all adjusted p > .05). This suggests that respondents' perceptions of APNs were consistent regardless of whether they had no experience, less than one year, 1–3 years, 4–5 years, or more than 5 years of 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

Perceptions of APNs did not differ significantly among participants with varying levels of exposure. This suggests that the length of professional experience working alongside APNs did not significantly influence attitudes toward their roles.

4.5. Comparison Of Perceptions by Working Setting

A Mann–Whitney U test was conducted to compare perceptions of Advanced Practice Nurses (APNs) between participants working in inpatient and outpatient settings. The analysis showed no statistically significant difference in perception scores between the two groups (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.

5. DISCUSSION

Healthcare providers in Riyadh's Second Health Cluster have a positive perception of Advanced Practice Nurses (APNs), mainly due to their significant contributions to patient care, clinical expertise, and education. Over 70% agreed that APNs enhance care quality and address rising healthcare demands. These findings mirror previous research by Sullivan and Jones (2018), Fitzgerald et al. (2017), and Bryant-Lukosius et al. (2017) on APNs' positive influence on patient outcomes, reduced hospital readmissions, and cost-effectiveness.

A role for APNs must be clearly defined within the hierarchy of Saudi Arabian healthcare. Whereas Registered Nurses (RNs) primarily implement care plans and manage bedside procedures, APNs embody advanced clinical reasoning and possess independent authorization to diagnose, prescribe medications, and coordinate complex patient care in collaboration with physicians (Almutairi, 2020). Although doctors remain solely responsible for all medical diagnoses and treatment, the APN's role is inextricably connected to other nursing roles while enhancing clinical skills. This distinction is important within the context of Saudi Arabia's Vision 2030, where APNs are not designed to substitute physicians, but to strengthen the multidisciplinary team by closing significant gaps in primary and specialized care delivery that will foster additional system efficiency and patient access (Hibbert, 2017; Mani & Goniewicz, 2024).

Uncertainty about APNs' autonomy remains a central issue: while many respondents support independent decision-making, an almost equal number believe physician supervision is necessary. This ongoing division, rooted in persistent cultural and organizational barriers (Alotaibi et al., 2020; Lewis, 2022; McCaffery et al., 2019), may hinder full integration of APNs and limit their contributions.

When examining existing roles, it is clear that whereas RNs work according to well-defined protocols, the APN's areas of responsibility overlap those of junior medical positions and are associated with risk of 'role blurring' and resistance from some sectors within healthcare (Alotaibi, 2019). The lack of knowledge surrounding APNs' competencies can lead to general misunderstandings about their roles. To reduce these misconceptions, there must be a separation between general nursing practice and medical practice through an established regulatory framework that differentiates APN-applicable competencies.

APNs' roles in leadership, research, and policymaking are under-recognized among healthcare providers, indicating an incomplete understanding of APN roles. Participants rarely cited

these functions despite evidence of their global significance (Scanlon et al., 2023; Al-Majed & Al-Shammari, 2022), likely due to the absence of standardized frameworks and educational programs in Saudi Arabia (Al-Surimi et al., 2020).

Misconceptions about APNs are widespread across gender, experience, and clinical settings, as no significant differences in perceptions emerged. This underscores the need for institutional strategies such as role clarification, awareness initiatives, and interprofessional education to enhance collaboration and understanding between APNs and other healthcare providers (Al-Omari, 2021).

Overall findings show strong support for APNs' clinical contributions but ongoing uncertainty about autonomy, leadership, and systemic impact. Addressing these gaps will require national policy development, clear organizational roles, structured professional development, and interprofessional training, thus enabling APNs in Saudi Arabia to enhance service accessibility, improve patient outcomes, and advance the Kingdom's strategic healthcare goals.

6. LIMITATIONS

This study focuses on a single health cluster, reliance on self-reported data, a cross-sectional design, and sample imbalance, which limits generalizability and the ability to infer causality or interprofessional differences. Future research should use longitudinal, multi-site designs to address these limitations.

7. RECOMMENDATIONS

Future research should broaden coverage to multiple health clusters and regions, use longitudinal designs to track changing perceptions, include a more balanced sample of healthcare professionals, and combine qualitative and quantitative methods to deepen understanding of cultural and organizational barriers to APN integration.

Despite APNs being valued within Riyadh's Second Health Cluster, misconceptions and uncertainties about their autonomy and broader roles persist. Education, policy, and organizational support are essential to fully harness APNs' potential and realize Saudi Vision 2030 goals.

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