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## The quality of service provided by the nursing and pharmacy sector in the Kingdom of Saudi Arabia during the Corona pandemic

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### ***Abstract***

The nursing and pharmacy sector in the Kingdom of Saudi Arabia (KSA) played a vital role in the health preparedness and response to the COVID-19 pandemic. The KSA faced several challenges, such as low nursing school capacity, high employment of expatriates, labor market fragmentation, shortage of nurses in rural areas, uneven quality, and gender issues. However, the KSA also implemented various policy interventions to support the transformation of nursing into a profession that contributes to efficient, high-quality healthcare for every Saudi citizen. These interventions included creating a pipeline of nurses from middle and high school to nursing school, offering diverse career paths and postgraduate education for nurses, making nursing practice more attractive and family friendly, modernizing existing nurse postgraduate education, opening new postgraduate programs in nursing, creating new positions and career paths for nurses such as telenursing, informatics, and quality, providing incentives and increased

compensation packages for underserved areas, and strengthening nursing leadership at all levels. The KSA also documented its experience and strategies in dealing with the COVID-19 pandemic, and shared its innovative concepts and models with the international community. The KSA's experience in health preparedness and response to COVID-19 pandemic demonstrated the importance and potential of the nursing and pharmacy sector in the KSA and beyond.

**Keywords:** COVID\_19, Nursing sector, Pharmacy sector, health care services

#### \* Introduction

The global community was severely damaged by the COVID-19 epidemic. The illness swiftly spread, burdening the whole medical system. Patients with COVID-19 symptoms were referred to fever clinics because, in the early phases of the pandemic, they were overrun with suspected and confirmed cases<sup>1</sup>. Medical staff who had never treated infectious illnesses before rushed in to help convert general hospitals to isolation units. There is a wide range of symptoms that COVID-19 can cause, from no symptoms at all to a serious respiratory infection that can result in pneumonia. Supportive care was offered to the critically sick individuals<sup>2</sup>.

Nursing plays a critical role in the COVID-19 pandemic. Nurses are at the forefront of patient care, providing essential services to those affected by the virus. They are responsible for monitoring patients' symptoms, administering medications, and providing emotional support to patients and their families. Nurses also play a crucial role in infection prevention and control, ensuring that proper protocols are followed to prevent the spread of the virus<sup>3</sup>. They are responsible for educating patients and the public about the virus and how to prevent its spread. Additionally, nurses are involved in research and data collection to help understand the virus and develop effective treatments<sup>4</sup>. Overall, nursing is an essential component of the healthcare system's response to the COVID-19 pandemic. Also, the pharmacists have a vital role in Saudi Arabia during the COVID-19 pandemic. They are responsible for providing health education and promotion, dispensing medications and ensuring timely refilling to reduce unnecessary hospital visits, conducting medication reconciliation and patient counseling, training for self-management during the outbreak and emergency preparedness, encouraging the public to wear surgical masks, maintain social distance, use hand sanitizers, and avoid social gatherings, actively participating in community services and reporting suspected COVID-19 cases to the authorities, offering home delivery services of medications to individuals

in home quarantine or isolation, providing continuous counseling remotely and ensuring medication management activities in clinical and non-clinical settings, formulating emergency medications, addressing product shortages, and building remote pharmacy systems to avoid human-to-human infections<sup>5</sup>.

Saudi Arabia has invested heavily in its health care system in the past few decades, establishing health care infrastructures and expanding health services to improve the health of the nation<sup>6</sup>. However, the country also faces critical challenges in its primary health care system, which is the basis of universal health coverage and the first line of defense against the pandemic. Some of these challenges include low nursing school capacity, high employment of expatriates, labor market fragmentation, shortage of nurses in rural areas, uneven quality, and gender issues<sup>7</sup>. Moreover, the country has to cope with the growing burden of chronic diseases, the lack of an effective information system, the management and leadership issues, and the gaps in the referral system. In response to the Corona pandemic, Saudi Arabia has implemented a number of measures to strengthen and transform its health care system, in line with the National Transformation Program and the Vision 2030<sup>6</sup>. These measures include increasing the testing and tracing capacity, expanding the hospital beds and intensive care units, providing free treatment for all citizens and residents, enhancing the infection prevention and control protocols, launching telemedicine and e-health services, improving the quality and safety of services, and adhering to international standards<sup>7</sup>. The nursing and pharmacy sector have been at the forefront of these efforts, demonstrating resilience, professionalism, and dedication. The Ministry of Health and the Saudi Health Council have also taken steps to address the challenges facing the nursing profession, such as increasing the enrollment and graduation of nursing and pharmacy students, offering incentives and compensation packages for nurses, creating career paths and postgraduate programs for nurses, and strengthening the leadership at all levels<sup>8</sup>.

#### \* **The Body**

##### **1- The quality of nursing in Corona virus pandemic**

The Saudi Arabian health care system is a complex and evolving system that consists of public and private sectors. The public sector provides free health care services to Saudi citizens and public sector workers through the Ministry of Health and other government agencies<sup>9</sup>. The private sector provides health care services to expatriates and some Saudi citizens who can afford it. The health care system in

Saudi Arabia faces several challenges, such as inequitable access, quality and safety issues, rising costs, workforce shortages, and the growing burden of chronic diseases<sup>10</sup>. The role of nursing in the Corona Virus pandemic is crucial and multifaceted. Nurses are on the front lines of caring for patients with COVID-19, implementing infection prevention and control measures, providing health education and psychosocial support, and coordinating with other health professionals<sup>11</sup>. Nurses also face many risks and challenges, such as exposure to the virus, lack of personal protective equipment, stress, burnout, and violence. Nurses have demonstrated resilience, courage, and leadership in the face of the pandemic, and have advocated for their rights and the rights of their patients<sup>12</sup>.

The Corona pandemic has had a profound impact on the demand and supply of nursing services in Saudi Arabia. On the one hand, the demand for nursing services has increased due to the surge of COVID-19 cases, the need for intensive care and isolation units, and the expansion of testing and vaccination programs. On the other hand, the supply of nursing services has been affected by several factors, such as travel restrictions, quarantine measures, staff shortages, infection risks, and stress and burnout. These factors have created challenges and opportunities for the nursing workforce and the health care system in Saudi Arabia<sup>13</sup>. Some of the challenges as shortage of qualified nurses, especially in rural and remote areas, and the reliance on expatriate nurses who may face difficulties in obtaining visas or returning to their home countries, lack of adequate personal protective equipment, testing kits, and ventilators, which may expose nurses to infection and compromise patient safety, high workload, long working hours, and emotional distress that nurses experience while caring for COVID-19 patients and their families, which may lead to burnout, depression, and anxiety, and stigma and discrimination that nurses may face from the public or their own communities, who may perceive them as potential sources of infection or blame them for the spread of the virus<sup>14,15,16</sup>.

Some of the opportunities as recognition and appreciation of the vital role that nurses play in the pandemic response and the health care system, which may increase their motivation, morale, and professional status, adoption of innovative and flexible approaches to nursing education, such as online learning, simulation, and clinical placements in non-traditional settings, which may enhance the quality and accessibility of nursing education, implementation of telehealth and digital health solutions, such as remote monitoring, consultation, and triage, which may improve

the efficiency and effectiveness of nursing services and expand their reach to underserved populations, collaboration and coordination among nurses and other health professionals, as well as between the public and private sectors, which may foster teamwork, communication, and integration of care<sup>13</sup>.

Some of the policy opportunities and recommendations to improve the nursing sector in Saudi Arabia such as Increasing the capacity and quality of nursing education, by expanding the enrollment of nursing schools, diversifying the curriculum and teaching methods, and enhancing the accreditation and evaluation standards, Promoting the recruitment and retention of Saudi nurses, by raising the public awareness and perception of nursing as a profession, providing attractive incentives and benefits, and creating a supportive and safe work environment, strengthen the nursing leadership and governance, by establishing a unified national nursing council, enhancing the regulation and licensing of nursing practice, and empowering nurses to participate in decision-making and policy-making<sup>17</sup>. Foster the innovation and integration of nursing services, by adopting digital and telehealth solutions, developing new roles and specialties for nurses, and facilitating the collaboration and coordination among nurses and other health professionals. These policy recommendations are aligned with the Saudi Vision 2030, which aims to transform the health care system and improve the health outcomes of the population. By implementing these recommendations, the nursing sector in Saudi Arabia can overcome the current challenges and seize the future opportunities<sup>13</sup>.

## **2- The quality of pharmacy in Corona virus pandemic**

Pharmacists in Saudi Arabia played a crucial role in responding to the Covid-19 pandemic. They participated in various initiatives including health education and promotion, medication dispensing, medication reconciliation, medication and patient counselling, training for self-management in current outbreak and emergency preparedness<sup>18</sup>. Community pharmacies in Saudi Arabia prepared information materials like posters, leaflets, app alerts and text messages in order to simplify the MOH guidelines related to the disease. They also offered door-to-door step delivery of medications, online counselling especially for high-risk individuals and for those undertaking home quarantine or isolation<sup>19</sup>. In addition, several hospitals in Saudi Arabia launched "drive-through pharmacy" services allowing medicine to be picked up at the hospital so that there is no need for visitors to enter the premises. Since the launch of the drive-through pharmacies, thousands of

patients were being serviced daily <sup>20</sup>. Overall, the involvement of pharmacists in Saudi Arabia has enhanced patient outcomes, quality of life, disease and drug knowledge, and reduced utilization of health care services.

As indicated by Alhossan et al, <sup>21</sup> The quality of services provided by community pharmacies during the COVID-19 pandemic in Saudi Arabia were assessed in a study conducted between July and November 2020. The results of the study showed that a total of 315 respondents completed the survey. The majority of the participants were male (92.7%) and under 34 years of age (74.6%). Only 56 respondents (17.8%) were Saudis. Most participants had a bachelor's degree (97.1%) and less than ten years of experience (68.9%). The majority of the sample (43%) worked in a shift where at least two pharmacists are available. In terms of preventative measures implemented by community pharmacies during the COVID-19 pandemic, the study found that the most frequently implemented measures were disinfecting clients' hands, wearing face masks, and checking body temperature, with application rates of 90.8%, 89.2%, and 85.1% respectively. The provision of pharmaceutical counseling and public education were identified as having the most significant impact due to the pandemic, with 52.1% and 49.5% of participants concurring, respectively.

The study found that community pharmacies demonstrated a notable degree of preparedness and compliance in implementing preventative measures. Most pharmacies had implemented customer and employee prevention measures, such as disinfecting hands, wearing face masks, and measuring body temperature. The study also highlighted the role of community pharmacies in raising public awareness through strategies like wall posters, social media posts, and educational videos. However, there were variations in infection control policies among pharmacies, indicating the need for national standards and regulations.

The study assessed the quality of services provided by community pharmacies in Saudi Arabia during the COVID-19 pandemic. The results showed that community pharmacies demonstrated a notable level of preparedness and compliance in implementing preventative measures. Most pharmacies had implemented measures such as disinfecting hands, wearing face masks, and measuring body temperature for both customers and employees. This indicates a proactive approach to preventing the spread of the virus within pharmacy premises.

The study also highlighted the role of community pharmacies in raising public awareness about COVID-19. Strategies such as wall posters, social media posts, and educational videos were utilized to disseminate important information and promote public health. This demonstrates the pharmacies' commitment to educating the community and ensuring that accurate information reaches the public. However, the study identified variations in infection control policies among pharmacies, indicating the need for national standards and regulations. Having standardized guidelines would help ensure consistency in the implementation of preventative measures across all community pharmacies, further enhancing public safety.

#### **\* Conclusion**

The Corona pandemic has highlighted the importance and the challenges of the nursing and pharmacy sector in Saudi Arabia. The quality of service provided by the nursing and pharmacy sector has been commendable, but there is still room for improvement and reform. The country needs to invest more in its nursing and pharmacy human resources, to ensure adequate supply, distribution, and retention of qualified and motivated nurses, especially in rural and underserved areas. The country also needs to enhance the scope, structure, and infrastructure of the primary health care system, to ensure equitable access, quality, and continuity of care for all. The country also needs to foster a culture of collaboration and integration among the different stakeholders in the health system, to ensure effective coordination and communication. The country also needs to leverage the opportunities of digitalization and innovation, to improve the efficiency and effectiveness of the health services. By addressing these issues, Saudi Arabia can achieve its vision of a modern, efficient, and high-quality health care system that serves the needs and expectations of its population.

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