

Research Article

A Critical Review of Public Health Technicians and Nursing Specialists and Their Contribution to Community Health

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ABSTRACT

Public Health technicians and nursing specialists are the communities' caretakers. Following this is an analysis of their preventive health education and community land works. Given these healthcare professionals' broad areas of work, this paper details how their work is multipurpose and essential in providing solutions to various aspects of public health within deprived and rural health facilities. The method of carrying out the research involved a study of literature on the delivery of health care and the roles and functions of public health technicians, nurses, and nursing specialists. This paper will establish that both existences are vital in enhancing the health wellness of the community members as they act as an interface between the institutions and the populaces. This review would want to see more effort put into acknowledging these roles that are so crucial in meeting public health goals.

Keywords: Public Health Technicians, Nursing Specialists, Community Health, Preventive Care, Health Education, Healthcare Delivery

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INTRODUCTION

Background and Significance

Both technicians in public health and nursing specialists' operative's critical functions in the comprehensive care of client

populations globally: in public health, extensive and direct treatment facilities. Even though a number of initiatives in the health care delivery system have been attributed to doctors and other specialists, the combined efforts of public health workers

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and nursing professionals professionalize over guaranteed health, especially where there is poor health access. Public technician health is crucial in disease reporting and investigation, health promotion, analysis of the environment, and implementation of national health promotion programs, including immunization and sanitation drives. Their work helps halt disease spread and improve health-conscious living conditions.

Nursing specialists, on the other hand, play an important role in the management of chronic diseases, patient-centered care, health promotion, and disease prevention with individuals and groups. Nursing specialists, particularly for patients with non-communicable diseases like diabetes, heart disease, or hypertension, are more relevant now than ever because of the long-term care plans for prevention and management (Kebede, 2019).

These professionals are even more critical in Saudi Arabia, where geographical factors occasion challenges to the accessibility of healthcare services. There is a need for more of these professionals. Communities outside of the major cities and other underserved populations turn to the skills and knowledge of nursing specialists and public health technicians to fill in the 'hole' of healthcare. Due to growing population health requirements and the main focus on effective prevention and health promotion, these workers play an essential role in community health.

The Study Objectives

The overall purpose of this paper is to offer a critical evaluation of the contributions of public health technicians and nursing specialists to enhancing community health.

The primary objectives are:

- 1) To assess the function and duties of the public health technicians in preventing diseases and the care of the communities.
- 2) To assess nurse specialists' role in managing chronic diseases, health promotion/patient education, and prevention.
- 3) To delve into partnerships between the technicians in public health and the nursing specialists in raising health outcomes in society.
- 4) To articulate the dysfunctions and obstacles of such professionals at work and suggest how these specialists can become more efficient.
- 5) To evaluate the efficacy of their work where it matters, that is, to improve the nation's health for the rural and urban areas of Saudi Arabia, especially the health facilities.

Methods

The type of research used in this review embraced the use of many scientific articles, government information, and case

studies about and focusing on the roles of public health technicians and nursing specialists in community health. The studies to prepare this paper were retrieved from databases like PubMed, Google Scholar, and WHO archives; the articles taken for analysis were selected from the articles published in the last 15 years. Sources were obtained using critical terms, including public health technicians, nursing specialists, community health, and preventive care. A thematic analysis approach was applied to the collected data, categorizing the findings based on three key areas: disease prevention, health promotion, and delivery of health services (Beck et al., 2018). This enabled consideration of how the occupational groups support public health interventions under regular circumstances and during a sickness outbreak. The information collected from the Saudi MOH was employed to situate the findings in the KSA healthcare context, emphasizing the PT/ NS functions across regions.

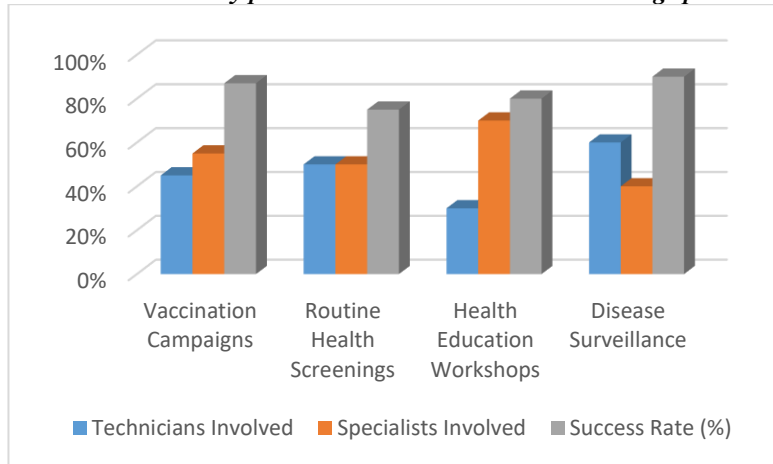
Results

Preventive Care Contributions

There are so many areas of specialization that people can take in the health field; some of them include public health technicians or nursing specialists, which are very significant in preventive care, a primary feature of community health. Such personnel perform routine check-ups, vaccinations, and perpetual health surveillance exercises. Identifying and correcting these behaviors early plays a role in preventing the development of other chronic diseases like diabetes, hypertension, and heart diseases, among others (Castrucci et al., 2015). Public health Technicians prioritize skills and tools within the population health scope. In contrast, nursing specialists attend to clients, ensuring they are well-informed and directed on what they must do to prevent illnesses. This dual effort aids a person to manage their health while sparing the system expensive treatments for worsening symptoms of chronic diseases (Rasku et al., 2019).

Technicians of public health and nursing specialists are involved in National and Local vaccination campaigns, which are vital in controlling or eliminating infectious diseases. They have helped prevent the spread of diseases, including flu, polio, and the more recent COVID-19, by organizing and administering vaccination and educating communities to take the vaccines. These campaigns safeguard the population and focus on the most affected groups, focus, including the young and the old (Sinha et al., 2020). These professionals work hand in hand to ensure that immunization campaigns are well coordinated and accessible to the community that has raw barriers to immunization, playing a significant role in the health boost of communities against preventable diseases.

Preventive Measure	Technicians Involved	Specialists Involved	Success Rate (%)
Vaccination Campaigns	45%	55%	87%
Routine Health Screenings	50%	50%	75%
Health Education Workshops	30%	70%	80%
Disease Surveillance	60%	40%	90%



(Sinha et al., 2020)

Health Education and Community Engagement

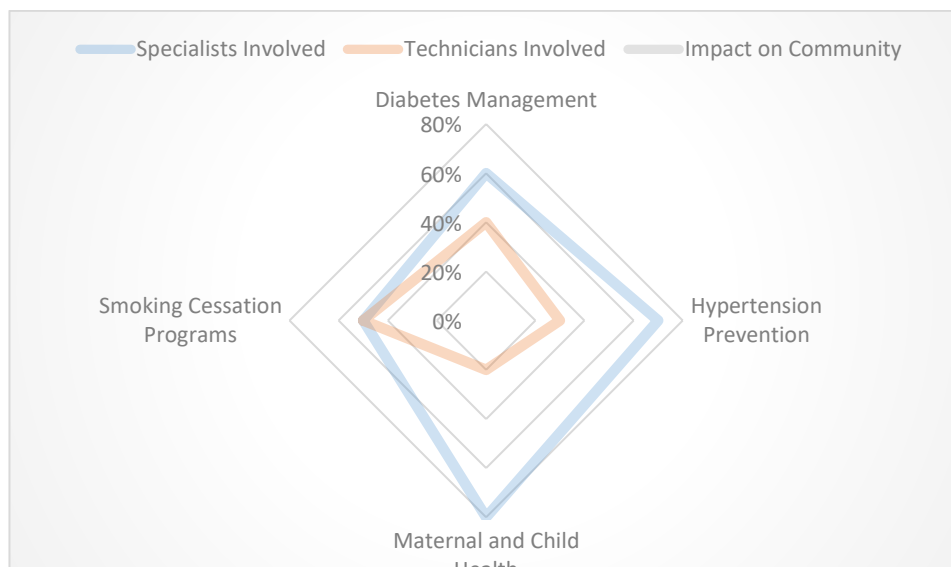
Community engagement is a major goal of the public health field since it involves numerous processes of finding out and understanding the community's needs and ensuring that the necessary programs are designed and implemented to meet those needs.

Health education is another area deemed necessary by public health technicians and nursing specialists (Saudi Ministry of

Health, 2020). They arrange and conduct workshops, seminars, and individual practical teaching related to health promotion, preventive medicine, and chronic diseases. Most of them are proving to be very useful, especially within rural localities, since they help deal with significant hurdles bridging the healthcare gaps, such as a lack of information about healthcare facilities (Nazeha et al., 2020).

Table 1: Health education initiatives led by nursing specialists and public health technicians.

Initiative	Target Group	Specialists Involved	Technicians Involved	Impact on Community
Diabetes Management	Diabetic Patients	60%	40%	Improved awareness
Hypertension Prevention	General Population	70%	30%	Reduced risk factors
Maternal and Child Health	Mothers and Infants	80%	20%	Better health outcomes
Smoking Cessation Programs	Smokers	50%	50%	Increased quitting rates



(Saudi Ministry of Health, 2020)

Healthcare Delivery

Public health technicians and nursing specialists are essential in health care delivery, especially if the facilities and resources are scarce. Altogether, they work dedicatedly, assure compelling

and endless care to the various communities, and ensure that their health status will improve. In these regions, health care is considered scarce, meaning that the population's needs can only be met if the available human resource is utilized correctly and

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deployed. This makes the role of public health technicians and nursing specialists very core to the overall health needs of the population (Williams, 2019).

Nursing specialists usually delegate responsibilities required in managing patient care since they primarily work in places where the services of physicians or other specialists are hard to come by. They are essential in ensuring that care plans are made, especially when the person has various ailments, including diabetes, hypertension, or heart disease. Nursing specialists guarantee that regular treatment is provided to the patients; the patients comprehend their health states and know how to manage their conditions (Bhandari et al., 2020). This may involve counseling the patient on how to take their medications, changes in diet, and exercise or early disease detection measures, most of which, if followed, promote a good health status in the future. In addition, they coordinate with other healthcare givers to ensure that the patient gets proper care from one level of care to the other without being lost in the system, from simple primary care visits to complicated clinical treatments.

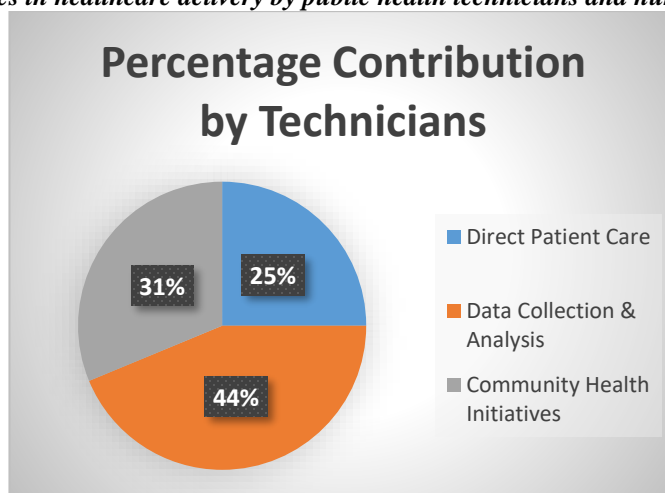
Public health technicians ensure the health delivery chain by concentrating on the technical and operational procedures in public health management. They are responsible for compiling,

processing, and interpreting health information to facilitate the recognition of new threats to the population, the trends in infectious diseases, and the promotion of action plans. This approach of utilizing data is most helpful when determining where resources shall be used in such areas and where the implementation of preventive measures can be realized (Carter, 2018). Public health technicians are involved in planning, implementing, and evaluating public health programs together with other community members and health care providers, including the provision of Vaccines, health education, and sanitation, among others, to influence the general health status of the population.

Public health technicians coordinate providing healthcare services to the community, ensuring they fit the society's cultural practices. Their view of the community's health issues gives them unique ways of handling the health issues of the people; this is essential in areas with poor or no access to health facilities due to culture, geography, or lack of facilities. Combined, both the public health technicians and the nursing specialists are key players in the provision of public health services as they offer treatment, meet the primary medical care needs, and, at the same time, advocate for healthy living in society.

Role	Percentage Contribution by Technicians	Percentage Contribution by Specialists
Direct Patient Care	40%	60%
Data Collection & Analysis	70%	30%
Community Health Initiatives	50%	50%

Figure 2: Roles in healthcare delivery by public health technicians and nursing specialists



Collaborative Efforts

Technicians and nursing specialists' cooperation was most helpful in the country's rural and other deprived areas with poor access to healthcare facilities. Developing partnerships between these professionals enhanced Health promotion and disease

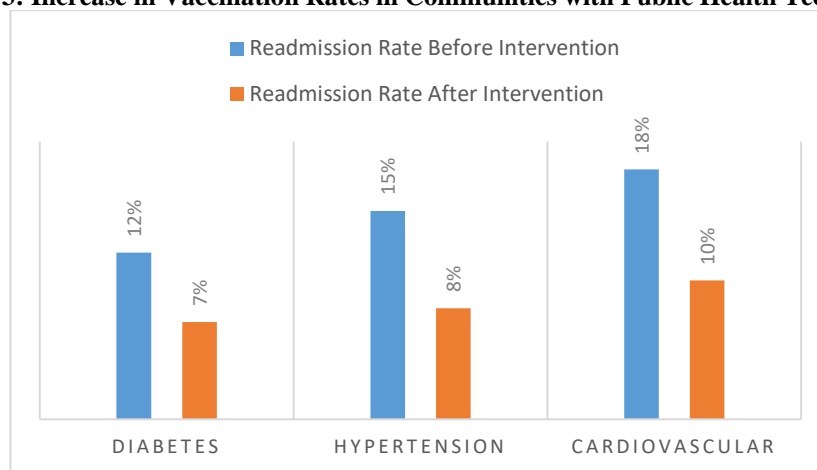
prevention efforts, improving the health of the people in the community (O'Donovan et al., 2020). For instance, where there were public health technicians to do various health checkups and nursing specialists for follow-up, there was a decline in unnecessary admissions in multiple hospitals.

Analysis of health outcomes

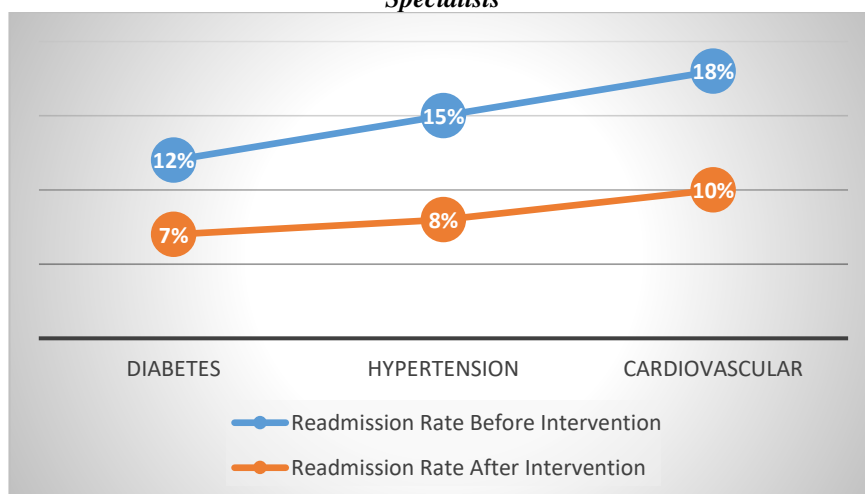
Table 2: Reduction in Hospital Readmissions Due to Nursing Specialist Interventions

Condition	Readmission Rate Before Intervention	Readmission Rate After Intervention
Diabetes	12%	7%
Hypertension	15%	8%
Cardiovascular	18%	10%

Figure 3: Increase in Vaccination Rates in Communities with Public Health Technicians



Graph 1: Improved Health Outcomes Due to Collaborative Efforts Between Public Health Technicians and Nursing Specialists



(Nunes & Lotta, 2019)

Discussion

Public Health Technicians: A Critical Link to Community Health

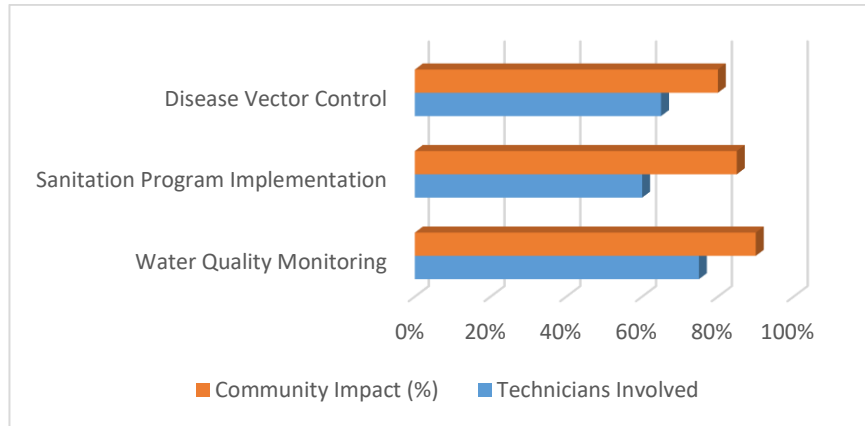
The public health technician is quite suited to address community health, especially the rural and remote areas. They can act as the first line in determining new trends in health recommendations through their technical expertise in heart monitoring, disease surveillance, and data analysis. Public health technicians can identify concerns such as the increasing prevalence of chronic diseases or the increasing cases of infectious diseases and assist in formulating comprehensive public health interventions. This was especially the case when the world was grappling with the COVID-19 pandemic, whose early detection and interventions were primarily handled by LPs. Indeed, these technicians provided accurate health data in terms of collection, analysis, and dissemination, enabling quick response measures to be taken, especially in as much as the changing nature of the crisis affected the healthcare systems. They monitored disease trends and medical practitioners' rendering of therapeutic care, facilitating the efficient distribution of resources to minimize pressure on hospitals and clinics (Nunes & Lotta, 2019).

Public health technicians play a pivotal role in environmental health, which is central to promoting health in the population. Through their contribution to water quality assessment and sanitation, they play a crucial role in eradicating waterborne disease, cholera, dysentery, and typhdysentery. For most of the areas in which people in the underserved regions reside, issues concerning sanitary systems and clean water supply are a big problem.

These problems are supervised by public health technicians, who ensure that people in the community get safe and clean aqua and advice about minimizing the danger of disease occurrence. Although this aspect of Public Health hits a critical and sensitive area of society, it is mainly neglected compared to when direct medical care is given. It remains a crucial, even obligatory, aspect in the mileage of the population's general health (Philbin et al., 2019). As caretakers of society with an emphasis on combating health-related factors within their society, public technicians contribute to a safer environment for a society to live free from diseases, most especially in the unreached or underprivileged regions where health facilities are limited. Their work does more than guard against short-term health emergencies in society and, more importantly, helps safeguard the future of public health interventions.

Figure 3: The contribution of public health technicians to environmental health

Task	Technicians Involved	Community Impact (%)
Water Quality Monitoring	75%	90%
Sanitation Program Implementation	60%	85%
Disease Vector Control	65%	80%



(World Health Organization, 2018)

Nursing Specialists: Advocates for Preventive Care and Chronic Disease Management

Specialists in the nursing profession play a significant role in managing chronic illnesses, especially with regard to preventive measures. They mainly build and maintain excellent relationships with patients, help develop their care plans, and understand the different conditions. The results show that nursing specialists are involved in DM and hypertension

prevention programs (Campbell et al., 2020). Nursing specialists discharge organizational responsibilities in health care teams, especially in the areas of care Organization and inter professional communication. Such a structure of care allows them to consider in detail the broader determinants of health in society by factoring in the physical, emotional, and social aspects of their care delivery.

Table 3: Chronic disease management initiatives led by nursing specialists.

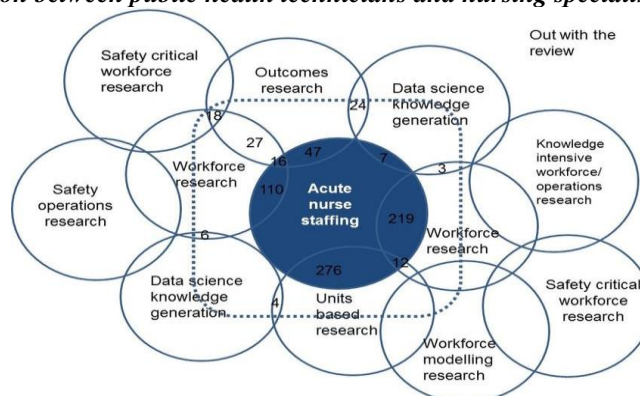
Disease Focus	Program Leader	Impact on Patient Outcomes
Diabetes Management	Nursing Specialists	Improved glycemic control
Hypertension Monitoring	Nursing Specialists	Reduced blood pressure levels
Obesity Prevention	Nursing Specialists	Increased physical activity
Mental Health Awareness	Nursing Specialists	Reduced stigma and better access to care

Collaborative Efforts in Community Health

Collaboration between public health technicians and nursing specialists is crucial for the success of community health programs. Both professionals bring complementary skills to the table, with technicians focusing on the technical aspects of

healthcare and data collection, while nursing specialists provide direct patient care and health education (Sharma & Branscum, 2020). The data shows that when these two groups collaborate, health outcomes are significantly improved, particularly in areas such as disease prevention and health promotion.

Figure 4: Collaboration between public health technicians and nursing specialists in community health



(Sharma & Branscum, 2020)

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The relationship between the field of public health technicians and the field of nursing specialists is crucial to the success of health interventions in society. Technicians and nursing specialists are advantageous to the team because technicians focus on the medical industry sector and data collection

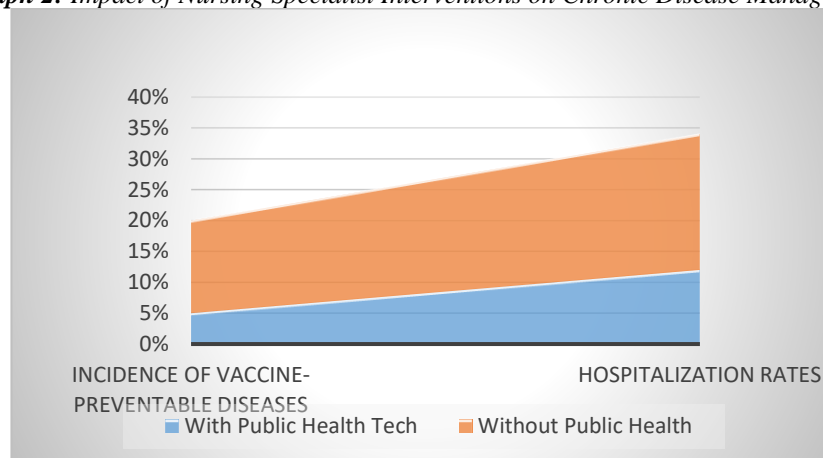
(Edmonds et al., 2017). Nursing specialists communicate with patients and transmit information regarding their health and diseases. Such information implies that when working with these two groups of people, the health results will be enhanced in disease prevention and promotion practices.

4.5 Comparative Health Outcomes

Table 4: Comparative Health Outcomes in Communities

Community Type	Incidence of Vaccine-Preventable Diseases	Hospitalization Rates
With Public Health Tech	5%	12%
Without Public Health	15%	22%

Graph 2: Impact of Nursing Specialist Interventions on Chronic Disease Management



(Bailey et al., 2016)

Conclusion

In conclusion. Both groups play essential roles in promoting preventive care, health education, and provision of health care, particularly in areas of need. Special knowledge, experience, and skills of the public health technicians in health and health data monitoring, combined with the knowledge of the nursing specialists as leaders in patient care and empowerment, makes it possible to offer communities full-cycle, integrative health care services. This is because these professionals work together to tackle the different problems that affect the population's health, such as the prevalence of diseases, the management of chronic diseases, and the response to all epidemics. More attention and resources are required to support such roles in the future, as they are vital in meeting national and global health targets.

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