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## **Perception of Healthcare Workers about the Role of Primary Healthcare (PHC) in Achieving Sustainable Development Goals (SDGs)**

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## Perception of Healthcare Workers about the Role of Primary Healthcare (PHC) in Achieving Sustainable Development Goals (SDGs)

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### Abstract

**Purpose:** The Sustainable Development Goals (SDGs) are essential to enhance worldwide health and well-being. Primary Health Care (PHC) is pivotal in achieving these goals. Understanding the HCWs' views on the importance of the role of PHC in achieving the SDGs is essential for the successful execution of health policies and initiatives. This research aims to explore the perception of healthcare workers in primary healthcare centers in Saudi Arabia about the role of PHC in achieving SDG.

**Materials and Methods:** A cross-sectional study design was utilized to select 382 HCWs employed in primary healthcare centers in Jeddah, using convenient sampling via an online survey. A self-administered valid questionnaire was used to evaluate the perception of the role of PHC in SDG. Data were saved and analyzed utilizing SPSS Ver.26 software. Along with descriptive statistics, independent sample t-tests and ANOVA were employed to examine the significance of differences among subgroups. A p-value below 0.05 signifies the statistical significance.

**Findings:** Although 80.1% of the HCWs declared that they had heard about SDGs, 45.3% knew the number of goals in SDGs, and an even smaller percentage (21.5%) knew the number of goals related to health. The overall agreement score about the role of PHC in SDG was (Mean = 3.71, SD = 1.165), with the role of PHC in supporting the research and development of

vaccines and medicines as the highest (Mean = 3.86, SD = 1.330), whereas the lowest score was noted for its role in reducing maternal mortality (Mean = 3.39, SD = 1.653). The significantly highest scores were recorded among Saudis (Mean = 3.81, SD = 1.107), physicians (Mean = 3.97, SD = 1.123), with clinical jobs (Mean = 3.85, SD = 1.008), working in clinics (Mean = 3.85, SD = 1.107), with years of experience  $\geq 10$  years (Mean = 3.93, SD = 1.123), and those who denoted that they had heard about SDG before (Mean = 3.97, SD = 0.863)  $p < 0.001$ .

**Implications to Theory, Practice and Policy:** The healthcare workers in the PHC centers have a positive perception of the role of the PHC in achieving the SDGs. However, they lack knowledge about the details of the SDGs and the role of PHC in reducing maternal mortality. Saudis, physicians working in clinics with extended years of experience, and those who have heard about SDGs have better knowledge and perception. To ensure efficient incorporation of PHC in SDGs, training courses for HCWs in the PHC should be conducted with emphasis on the goals related to PHC.

**Keywords:** Sustainable Development Goals, Primary Health Care, Perception, Healthcare Workers

JEL Codes: I15 and I18

## 1.0 INTRODUCTION

In 2015, the United Nations launched the 2030 Sustainable Development Goals (SDGs), which consist of 17 interrelated goals aimed at eliminating poverty, protecting the environment, and enhancing prosperity for everyone. Among these goals, SDG 3 focuses on ensuring the best possible health and well-being for individuals of all ages (1). A key component of SDG 3 is Universal Health Coverage (UHC), which seeks to provide essential health services to all individuals without causing financial hardship. Achieving UHC is crucial for establishing equitable and sustainable healthcare systems, which are essential for achieving other goals in SDG 3 (2).

UHC emphasizes providing access to vital health services for everyone, including health promotion, disease prevention, treatment, rehabilitation, and palliative. These services cover all age ranges, gender identities, and economic backgrounds and encompass maternal and child healthcare, vaccinations, chronic disease management, and mental health services (3).

In this regard, the integration of primary health care (PHC), (SDGs), and (UHC) is essential to reach equitable, effective, and sustainable healthcare systems (4). PHC plays a crucial role in providing access to fundamental health services, focusing on social determinants of health. Hence, they advocate for health systems that are sustainable, fair, and able to withstand challenges (5). SDGs also have indirect connections to health from perspectives of PHC services, such as SDG 6, which pertains to clean water and sanitation, and SDG 13, which addresses climate change (1).

A recent study evaluating the progress of SDGs through PHC, involving 14 countries from low, middle, and high-income regions, revealed substantial disparities in key population-level coverage among countries. The findings indicated that utilizing PHC correlates with enhanced screening and preventive services, suggesting that initiatives should be taken to assist health systems in effectively integrating PHC to reach SDG targets (6). Another international study showed that nurses perceived themselves as lacking knowledge and expressed their need to know more about SDGs (7).

In 2015, Saudi Arabia formally launched the United Nations' Sustainable Development Goals (SDGs) along with the Vision 2030. Since that time, the Kingdom has harmonized its national development plans with the SDGs. The strategy seeks to broaden the economy, lessen reliance on oil, and improve social progress in sectors like health, education, and infrastructure (8). In this way, UHC has slowed evolution, consistent with its initiatives to upgrade and widen healthcare services. The Health Sector Transformation Program highlights the increasing availability of quality healthcare services for everyone, advancing health fairness, and changing the emphasis from treatment to prevention (9). Saudi Arabia has prioritized the advancement of primary health care (PHC) Efforts include increasing the number of PHC centers and improving their services (10).

### Statement of the Problem

The understanding of healthcare workers (HCWs) regarding the importance of Primary Health Care (PHC) in attaining (SDGs) and (UHC) is essential for the success of health initiatives. Insufficient comprehension of healthcare workers may hinder their capacity to provide high-quality care to achieve the planned reform of the health system. The review of published articles showed that there has been little research on HCWs' views regarding PHC's contribution to

reaching the SDGs in Saudi Arabia. Therefore, the study aims to assess the knowledge of the healthcare workers serving in the primary healthcare centers in Jeddah about the role of PHC in achieving SDGs.

This study will contribute to the global discourse on strengthening PHCs to achieve SDGs by providing evidence-based insights into HCWs' knowledge about the role of PHCs in achieving UHC and SDGs. The findings can guide policymakers, healthcare leaders, and educators in designing interventions to bridge knowledge gaps and foster SDG-focused healthcare delivery.

**Theoretical framework:** The Health Belief Model (HBM) serves as a pertinent theoretical framework for examining healthcare workers' (HCWs) views on the significance of primary healthcare (PHC) in attaining Sustainable Development Goals (SDGs). This model emphasizes personal beliefs and perceptions as crucial factors in behavior, making it especially relevant for grasping how HCWs perceive PHC's contribution to SDG attainment and how these views affect their involvement and actions (11).

## 2.0 MATERIAL AND METHODS

A cross-sectional survey design was employed to collect data from healthcare workers (HCWs), including physicians, nurses, and allied health professionals working in PHC in Jeddah, KSA. The inclusion criteria involve HCWs with at least six months of experience in PHC. The sample size was calculated using the Raosoft program with the following parameters: confidence level: 95%, margin of error: 5%, response distribution: 50%. The required sample size was approximately 370 participants. Stratified random sampling was used to ensure proportional representation of different HCW roles (e.g., doctors, nurses, and allied health professionals). A structured questionnaire was developed based on existing literature and validated through an expert review that had been done in Malaysia to evaluate the knowledge of medical students about SDGs (12).

The questionnaires include parts A, B, and C. Part A covers socio-demographic features like age, gender, education level, and employment status. Part B focuses on Sustainable Development Goals (SDG), particularly on the total number of goals, the number of targets, the target year for achievement, the number of goals about health, and the roles of the PHC in SDG. A 5-point Likert scale was used to measure participants' knowledge, ranging from strongly disagree to strongly agree. Section C pertains to HCWs' views on the Sustainable Development Goals (SDGs) and how they compare to the Millennium Development Goals (MDGs). Data were collected through online surveys distributed via email and social media applications. For estimating the total score, the score for each item was calculated as "1" for strongly disagree and "5" for strongly agree. The total score was tested for normality by Shapiro-Wilk's test. For inferential statistics, independent sample t-tests and ANOVA were used to analyze group differences. The regional Institutional Research Committee in the Directorate of Health Affairs approved the study.

## 3.0 FINDINGS

Table 1 shows that there is an almost equal distribution of males (49.0%) and females (51.1%), with marked dominance of Saudis (90.1%). The average age of the participants is  $36.3 \pm 7.5$  years, with 50.5% falling in the 30–<40 year age range. Most participants have bachelor's degrees (39.5%). Doctors (36.1%) and nurses (33.0%) make up the largest share of them, while allied

health professionals, pharmacists, and technicians constitute smaller shares. Most participants occupy clinical positions (72.0%), and most of them occupy staff positions (76.2%), while managerial roles (9.2%) and combined staff-managerial positions (14.7%) are less frequent. Civil contracts are more common (68.1%) than annual contracts (31.9%). Clinics serve as the main workplace (75.1%), and almost half of them (47.4%) have  $\geq 10$  years of experience, with a mean of  $9.6 \pm 6.5$  years. Table 2 shows that, although the majority of the participants (80.1%) reported their awareness about the SDGs, less than one-half (45.3%) correctly recognized the number of targets in SDG, and only 21.5% accurately recognized the number of SDG goals associated with health. The overwhelming majority (92.9%) think that the SDG objectives are attainable, and the majority (85.9%) view the SDGs as better than the Millennium Development Goals (MDGs). Table 3 presents participants' views on the significance of primary healthcare (PHC) in attaining Sustainable Development Goals (SDGs).

The overall mean score of 3.71 (SD 1.165) reflects a consensus (74.1%) among participants regarding the significance of PHC in promoting SDGs. The majority of participants acknowledged the importance of different PHC-related measures, particularly highlighting both preventive and treatment aspects of global health issues. Participants expressed the highest level of agreement (mean 3.86; 77.2%) concerning PHC's function in facilitating research and development of vaccines and medicines while guaranteeing access to affordable essential medications and vaccines. Additional domains with significant consensus encompassing decreasing deaths and diseases caused by hazardous substances and pollution (76.8%). The lowest rating was for lowering maternal mortality (mean 3.39; 67.7%), classified as neutral.

Table 4 examines how the levels of agreement among respondents regarding the role of (PHC) in (SDGs) differ based on demographic and professional attributes. Male participants showed marginally higher levels of agreement (Mean: 3.82) compared to females (Mean: 3.60), yet this difference is not statistically significant ( $P=0.056$ ). Saudis exhibited a markedly greater level of agreement (Mean: 3.81) than non-Saudis (Mean: 2.76) ( $P<0.001$ ). The highest level of Agreement was observed among individuals under 30 years old (Mean: 3.96), but it slightly declined with increasing age. Nonetheless, the variations were not statistically significant ( $P=0.252$ ). A statistically significant difference was observed ( $P<0.01$ ), with levels of agreement rising with increased years of experience, where it accounts for 3.17 in those with  $<5$  years of experience up to 3.93 in those with  $\geq 10$ . Physicians exhibited the greatest consensus (Mean: 3.97), with nurses following closely (Mean: 3.76).

While health professionals (Mean: 2.69) and various support roles showed reduced levels of agreement. The variations are statistically significant ( $P<0.001$ ). Those occupying clinical roles showed the greatest consensus (Mean: 3.85), whereas non-clinical roles and mixed roles received notably lower scores ( $P<0.001$ ). Also, staff roles received a higher score (Mean: 3.79) than managerial or combined roles, but the differences were not statistically significant ( $P=0.054$ ). Notable differences were noted ( $P<0.001$ ), with those working in clinics (Mean: 3.85), compared to other departments such as WBC (Mean: 2.39) and maternal care (Mean: 3.02). Notably, participants who indicated they had heard of SDG expressed a significantly greater consensus regarding the functions of PHC in SDG, with an average score of 3.97 for those aware of SDG, in contrast to an average score of 2.64 for those who had not heard of it.

## Discussion

The results indicate a significant disparity between healthcare workers' overall knowledge of the Sustainable Development Goals (SDGs) and their more comprehensive grasp of particular SDG targets, especially those about health. Although most respondents stated they were aware of the SDGs, less than one-half (45.3%) accurately recognized the number of targets associated with health in the SDGs. An even smaller number correctly identified the number of health-related objectives. The elevated degree of public awareness implies that SDGs are broadly acknowledged, likely because of worldwide initiatives and their incorporation into national health and development strategies (13). These findings are comparable with an international study showed that nurses perceived a lack of knowledge, and they reported the need for training in SDFGs (7). One of the most plausible explanations for this gap between general and detailed knowledge may be a lack of adequate training opportunities. Healthcare workers (HCWs) might not receive sufficient exposure to educational or professional growth opportunities that highlight the SDGs and their incorporation into PHC. Training initiatives in numerous healthcare systems typically emphasize clinical abilities and direct patient care (10), while global frameworks such as the SDGs receive comparatively less focus. The limited precision in identifying specific targets is alarming since healthcare workers are essential for accomplishing health-related SDGs, including universal health coverage (UHC) (14).

The findings emphasize a predominantly hopeful and progressive outlook among healthcare workers (HCWs) about SDGs, with a strong conviction that SDG goals are achievable. This optimism might stem from the SDG framework's collaborative and all-encompassing aspect, highlighting inclusivity and collective accountability among countries. Moreover, most HCWs consider the SDGs to be an advancement compared to the Millennium Development Goals (MDGs). This viewpoint corresponds with important differences between the two frameworks. In contrast to the MDGs, which concentrated mainly on alleviating poverty in developing countries, the SDGs take a wider and more cohesive approach, tackling concerns like sustainability, equity, and international collaboration (15).

The participants' views on the importance of primary healthcare (PHC) in meeting SDGs showed a strong agreement regarding the significance of PHC in promoting global health objectives. PHC is also acknowledged for its essential function in both preventive and therapeutic dimensions of healthcare, which are vital to the SDGs, particularly SDG 3, which aims at guaranteeing healthy lives and enhancing well-being for everyone (16). One of the most highly valued aspects was the significance of PHC in promoting the research and development of vaccines and guaranteeing access to cost-effective medications. This demonstrates the worldwide acknowledgment of PHC's importance in tackling infectious diseases, enhancing vaccination rates, and supplying essential medications, which are crucial for managing both communicable and non-communicable diseases (5,16). Another important area with considerable consensus was decreasing fatalities and illnesses associated with dangerous chemicals, pollution, and contamination. This highlights the growing importance of PHC in environmental health, tackling the health effects of pollution, and encouraging preventive actions to lower exposure to harmful agents (17). Notably, the least consensus was observed concerning PHC's impact on decreasing maternal mortality. While PHC is vital for maternal health (16), This lack of knowledge about maternal mortality, for instance, may result in inadequate focus on initiatives like family planning, perinatal care, maternal health

education, or immunizations. This care inadequacy could increase the chances of avoidable maternal mortality (18).

The increasing agreement among healthcare workers regarding the role of PHC in achieving SDGs, with years of experience, supports previous research on professional experience and healthcare views. Experienced HCWs develop a comprehensive understanding of the healthcare system's complexities, especially how PHC addresses social determinants that meet SDG targets. Also, they are likely to appreciate PHC's multifaceted approach, offering preventive, promotive, and curative services essential for sustainable outcomes (19). Over time, HCWs engage with various health initiatives directly related to SDGs, enhancing their recognition of PHC's importance in promoting health equity. Furthermore, repeated involvement in community healthcare reinforces the significance of PHC, as HCWs observe its direct impact on health outcomes, education, and disease prevention (16,20). The WHO underlines that experienced HCWs are crucial for achieving Universal Health Coverage (UHC), integral to SDG 3, facilitating improvements in care delivery and health systems (17).

Physicians showed the highest agreement about the role of PHC in SDG, followed by nurses, and the least were the allied professionals. Physicians play leadership roles in healthcare, influencing policymaking and patient care, which improves their recognition of PHC's role in achieving SDGs like universal health coverage and disease control (21). Nurses, through daily patient interactions, have practical knowledge of PHC's effects on health equity and community care, vital for sustainable development (22). These factors also explain the highest score of agreement recorded by those who are working in clinics. In contrast, allied health professionals and support staff are less engaged in comprehensive health strategies, often focusing on specific tasks. Their limited exposure to SDG-oriented health policies leads to a weaker understanding and lower consensus on PHC's importance in addressing these goals, which need further research.

On the same line, Healthcare workers in clinical roles demonstrated a greater consensus on the significance of PHC for achieving SDGs. Their direct involvement in patient care activities, such as chronic disease management, vaccination campaigns, and maternal care, enhances their recognition of PHC's vital role in fulfilling SDG 3 (Good Health and Well-Being) (14). In contrast, HCWs in non-clinical and mixed roles show lower agreement, possibly due to limited exposure to patient care and preventive strategies integral to PHC's impact on the SDGs. Those in non-clinical positions often focus on logistical and policy matters, which may obscure the direct effects of PHC on health outcomes.

One significant limitation of the current study is the potential lack of generalizability of the findings beyond the specific context of Jeddah, which is a primary cosmopolitan city in the Kingdom of Saudi Arabia; it is distinct from rural areas and the capital, which vary in infrastructure and training facilities. Another limitation is linked to the nature of online surveys, where participants are usually self-selected, representing those more motivated, engaged, or interested in the topic, potentially resulting in an overrepresentation of those concerned with the topic.

#### **4.0 CONCLUSION AND RECOMMENDATIONS**

The study highlights the vital role of healthcare workers' (HCWs) knowledge, attitudes, and experiences in recognizing primary healthcare's (PHC) significance for Sustainable Development

Goals (SDGs). While many HCWs are aware of the SDGs, there is a gap in identifying specific health-related targets. Participants generally viewed PHC positively, acknowledging its contributions to vaccine research, access to critical medicines, and addressing environmental health issues. However, lower agreement on maternal mortality reduction points to potential gaps in understanding PHC delivery. Saudis, physicians who are working in clinics with extended years of experience, and those who have heard about SDGs have better knowledge and better perception. To ensure the efficient incorporation of PHC in SDGs, training courses for HCWs in the PHC should be conducted with emphasis on the goals related to PHC, particularly regarding the role of PHC in reducing maternal mortality rate. We also recommend further studies to explore various regions and employ interviews to evaluate healthcare workers' views on the role of PHC in the SDGs.

**Institutional Review Board Statement:** The study was approved by the Institutional Review Board (IRB) of the Directorate of Health Affairs, Jeddah, Saudi Arabia.

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**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** The data presented in this study are available on request from the corresponding author.

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**Conflicts of Interest:** The authors declare no conflicts of interest.



**Table 1: Characteristics of the Study Group (n=382)**

Variable	Category	Frequency	Percentage
Sex	Male	187	49.0%
	Female	195	51.1%
Nationality	Saudi	344	90.1%
	Non-Saudi	38	10.0%
Cluster	Cluster 1	135	35.3%
	Cluster 2	247	64.7%
Education level	Diploma	99	25.9%
	Bachelor	151	39.5%
	Postgraduate	132	34.6%
Age	<30 years	65	17.0%
	30-<40 years	193	50.5%
	40-<50 years	107	28.0%
	≥50 years	17	4.5%
	Mean±SD	36.3±7.5 years	
Profession	Physician	138	36.1%
	Nurse	126	33.0%
	Pharmacist	32	8.4%
	Allied health	13	3.4%
	Professional	16	4.2%
	X-ray technician	20	5.2%
	Specialist	20	5.2%
	Technicians	17	4.5%
What is your job role	Clinical	275	72.0%
	Non-Clinical	41	10.7%
	Both	66	17.3%
Current position in the PHC	Staff	291	76.2%
	Managerial	35	9.2%
	Both	56	14.7%
Type of job contract	Civil	260	68.1%
	Annual contract	122	31.9%
Department mostly work in	Clinics	287	75.1%
	WBC	11	2.9%
	Maternal care	10	2.6%
	Pharmacy	28	7.3%
	Laboratory	16	4.2%
	X-ray	20	5.2%
	Technicians	10	2.6%
Years of experience in PHC	<5 years	100	26.2%
	5-<10 years	101	26.4%
	≥10 years	181	47.4%
	Mean±SD	9.6± 6.5 years	

**Table 2: Response of the Participants on the Items Reflecting Their Knowledge about SDG**

		<b>NO.</b>	<b>%</b>
Have you heard about Sustainable Development Goals (SDG) before?	<i>Yes</i>	306	80.1%
	<i>No</i>	76	19.9%
How many targets are in the SDG?	<i>Correct</i>	173	45.3%
	<i>Rong</i>	209	54.7%
How many SDG goals are related to health?	<i>Correct</i>	82	21.5%
	<i>Rong</i>	300	78.5%
Do you think that SDG goals will be achieved?	<i>Yes</i>	355	92.9%
	<i>No</i>	27	7.1%
Do you think that SDG is better than MDG (Millennium Development Goals)?	<i>Yes</i>	328	85.9%
	<i>No</i>	54	14.1%

**Table 3: Agreement about the Items Reflecting the Role of PHC on SDG**

<b>Variable</b>	<b>Mean</b>	<b>SD</b>	<b>%</b>	<b>Response</b>
Reduce maternal mortality.	3.39	1.653	67.7%	Neutral
Reduce neonatal and Under-five mortality	3.50	1.589	70.0%	Agree
End the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases	3.62	1.453	72.4%	Agree
Reduce non-communicable diseases mortality	3.66	1.442	73.2%	Agree
Strengthen the prevention and treatment of substance abuse.	3.83	1.297	76.6%	Agree
Reduce deaths and injuries from road traffic accidents.	3.78	1.297	75.7%	Agree
Ensure universal access to sexual and reproductive health-care services.	3.77	1.348	75.3%	Agree
Achieve universal health coverage .	3.77	1.377	75.3%	Agree
Reduce mortality and illnesses from hazardous chemicals, pollution and contamination.	3.84	1.316	76.8%	Agree
Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control.	3.80	1.356	76.0%	Agree
Support the research and development of vaccines and medicines, provide access to affordable essential medicines and vaccines.	3.86	1.330	77.2%	Agree
Strengthen the capacity for early warning, risk reduction and management of national and global health risks.	3.67	1.524	73.4%	Agree
<b>OVERALL</b>	<b>3.71</b>	<b>1.165</b>	<b>74.1%</b>	<b>Agree</b>

**Table 4: Differences in the Respondents' Level of Agreement about the Items Reflecting the Role of PHC on SDG According to Their Characteristics**

Variables	Categories	NO.	Mean	Std	P
Sex	Male	187	3.82	1.096	0.056
	Female	195	3.60	1.220	
Nationality	Saudi	344	3.81	1.107	0.000*
	Non-Saudi	38	2.76	1.267	
Education level	Diploma	99	3.53	1.419	0.078
	Bachelor	151	3.68	0.900	
	Postgraduate	132	3.87	1.209	
Age	<30 years	65	3.96	1.133	0.252
	30-<40 years	193	3.65	1.190	
	40-<50 years	107	3.68	1.123	
	≥50 years	17	3.50	1.165	
Years of experience	<5 years	100	3.17	1.289	<0.01*
	5-<10 years	101	3.83	0.931	
	≥10 years	181	3.93	1.123	
Profession	Physician	138	3.97	1.123	<0.001*
	Nurse	126	3.76	1.020	
	Pharmacist	32	3.41	1.318	
	Allied health professional	13	2.69	1.434	
	x-ray technician	16	3.10	0.771	
	specialist	20	3.55	1.673	
	technicians	20	3.62	0.890	
	technicians	17	3.42	1.252	
What is your job role	Clinical	275	3.85	1.008	<0.001*
	Non-Clinical	41	3.58	1.306	
	Both	66	3.18	1.499	
What is your current position in the PHC	Staff	291	3.79	1.132	0.054
	Managerial	35	3.45	1.005	
	Both	66	3.45	1.374	
Department mostly you work in	Clinics	287	3.85	1.066	<0.001*
	WBC	11	2.39	0.407	
	Maternal care	10	3.02	1.418	
	Pharmacy	28	3.43	1.351	
	Laboratory	16	3.34	1.422	
	X-ray technicians	20	3.40	1.668	
	technicians	10	3.83	0.684	
Heard before about SDG	Yes	306	3.97	0.863	<0.001*
	No	76	2.64	1.580	

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