

Healthcare Workers' Knowledge, Attitude And Practices Towards The Care For Patients With Type 2 Diabetes Mellitus In Saudi Arabia: Narrative Review

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Abstract

Type 2 diabetes mellitus (T2DM) is a growing health concern globally. Several factors have promoted its increasing prevalence, particularly in developing economies. Saudi Arabia is rated among the top ten global countries, and its prevalence is growing. Caring for patients with T2DM is a demanding responsibility that may lead to the exhaustion of healthcare staffing and resources. Healthcare workers attending to these patients must exercise high levels of resilience and professionalism. However, knowledge, attitudes, and practice of HCW influence the quality-of-service delivery as documented by numerous studies conducted in Saudi Arabia and other healthcare systems. Studies show that HCWs have average knowledge concerning care for patients with T2DM. Still, HCWs have positive attitudes and good practices towards care for patients with T2DM. The present narrative review proposes to assess healthcare workers' (HCWs) knowledge, attitudes, and practices (KAP) in Saudi Arabia regarding the care of patients with type 2 diabetes mellitus.

Introduction

Type 2 diabetes mellitus (T2DMM) is a global expanding issue strongly associated with obesity Henning (2018; Meo et al., 2019). Globally, individuals suffering from T2DM are at an elevated risk of macrovascular complications and microvascular complications due to an individual's metabolic and hyperglycemia syndrome (Ueki et al. 2017). Environmental factors, including unhealthy diet, physical inactivity, and obesity, mainly favor the disease. Additionally, genetic factors contribute to multiple pathophysiological disturbances that are responsible for impaired glucose homeostasis in type 2 diabetes mellitus. Currently, there is a high prevalence of T2DM globally, particularly among the aging population, which promotes a universal health issue needing extra attention from healthcare institutions and systems Henning (2018).

In a recent report, the World Health Organization ranked Saudi Arabia as having the second-highest rate of diabetes in the Middle East and seventh highest globally. This report indicates a high number of T2DM patients among the Saudi population. In the entire population, an estimated eight million Saudis are living with type 2 diabetes mellitus, with over two million others with pre-diabetes. This has been a pressing public health issue as the prevalence continues to grow annually (Robert et al. 2017). Healthcare workers (HCWs) are essential in managing and controlling the spread of both communicable and non-communicable diseases (Robert & Al Darwish, 2021). Diabetes mellitus patients require close attention that can only be provided by healthcare professionals. Studies have reported average knowledge and practice and varying attitudes among healthcare workers concerning the nutritional management of diabetes (Alhabib et al., 2020). This narrative review aims to examine Healthcare workers' knowledge, attitudes, and practices towards the care of patients with type 2 diabetes mellitus in Saudi Arabia.

Knowledge of T2DM Care among HCWs

Knowledge of predisposing risk factors, physical examination, first-line medication, follow-up strategy, and access to guidelines are critical to the appropriate management of patients with T2DM (Robert & Al Darwish, 2021). Knowledge and skills of HCWs about T2DM pathophysiology and risk factors vary depending on regions and levels of prevalence. For example, a study conducted in East Africa showed that the level of knowledge among the HCWs was above average. However, while the study recorded a high level of expertise concerning

predisposing factors and the ability to identify first-line medication for treatment, healthcare officials had limited knowledge about management strategies for patients (Meo 2016). A cross-sectional study conducted by Thirunavukkarasu et al. (2021) assessing the understanding of primary healthcare physicians in the management of T2DM indicated that male physicians scored better than females while rural physicians scored higher than urban physicians. Thirunavukkarasu et al. (2021) Identified that the epidemiology of T2DM among physicians was the main weakness of physicians. Similarly, Alhejji et al. (2020), in a different study, outlined that most of the physicians (39%) in Saudi Arabian primary healthcare institutions do not understand the correct diagnostic criteria for diabetes.

According to a cross-sectional study by Shnaimer and Gosadi (2020), most healthcare workers in urban areas in Saudi Arabia do not agree that self-management education is a crucial part of diabetic care. Yet, most physicians have adequate knowledge about the correct angle of insulin injection. Globally, studies have established levels of knowledge scores among HCWs in different regions. For instance, Alfaifi et al. (2023) reported a significantly higher score among HCWs with an average experience year of five. However, a lower score was obtained among healthcare officials with reduced years of working experience. (Shnaimer & Gosadi, 2020). Elsewhere, a cross-sectional survey by Abu-Amara et al. (2019) found a lower level of Knowledge among HCWs in Saudi healthcare centers. The study reported poor knowledge of risk factors associated with T2DM and management practices. Alfaifi et al. (2023) stated the need for improving KAP levels among healthcare officials.

Different studies conducted globally show an improved knowledge of HCWs concerning the screening, diagnosis, and management of T2DM. Alqahtani et al. (2023) reported that most HCWs have undergone rigorous training to screen, diagnose, and help patients manage the disease effectively. According to Abbasi et al. (2018), in univariate analysis, mental health professionals felt responsible for significantly fewer recommended diabetes care standards than physical health professionals. Moreover, the study still reported barriers, including inadequate knowledge and their ability to manage T2DM in individuals with mental illnesses.

A Malaysian-based study acknowledged an above-average knowledge level, and most of the participants demonstrated

established knowledge regarding predisposing factors, risk factors, diagnosis, and management of the disease among the patients. However, a few weaknesses were reported that were associated with attitudes and education levels among caregivers (Abu-Amara et al., 2019). Analogously, Al-Asbali et al. (2020) reported poor knowledge among the HCWs regarding prevention interventions but demonstrated a clear understanding of the complications accompanying type 2 diabetes mellitus. Most studies identify the necessity of promoting educational interventions among healthcare professionals to enhance skills associated with prevention interventions and proper mechanisms of directing patients to self-care (Alqahtani et al., 2023). A study by Al-Yahya et al. (2020) focusing on s of community health workers' interventions for the prevention and management of type 2 diabetes mellitus in low- and middle-income countries showed that most professionals lacked adequate knowledge on screening and causative factors of T2DM. Nonetheless, numerous studies in the Middle East have found increased HCWs' knowledge of T2DM symptoms and prevention measures, increased adoption of treatment-seeking and prevention measures, increased medication adherence, and improved fasting blood sugar, body mass index, and glycated hemoglobin (Al-Yahya et al. 2020; Alqahtani et al. 2023)

Studies outline the criticality of healthcare workers in helping people with T2DM in the management of diseases. Alduraibi et al. (2020) assessed the knowledge of primary health care physicians regarding pre-travel counseling for patients with type 2 diabetes in Riyadh, Saudi Arabia; the researchers found that most physicians registered poor knowledge scores concerning the pre-travel counseling of T2DM patients, which indicates a reduced understanding of accompanied complications and management interventions as reinforce by (Alduraibi et al. 2020). According to an integrative review by Alotaibi et al. (2016), nurses globally demonstrate significant and long-standing knowledge deficits in various aspects, including diabetes care and overall management. Similarly, study findings in different parts illustrate widespread serious and sustained deficiencies in nurses' knowledge of diabetes and diabetes care ranging from T2DM pathophysiology, risk factors, monitoring, screening, medication-associated complications and their prevention (Alotaibi et al. 2020; Al-Yahya et al. 2020)

Attitudes of HCWs towards T2DM Care

Studies imply that people living with T2DM report satisfaction in the interaction of forms of knowledge building through the exchange of experiences and knowledge between the health team and themselves (Sari et al. 2021). Accordingly, appreciation of the social issues and setting is crucial for diabetes treatment and patient education. According to Hassan (2016), proper communication has been undermined by HCWs' social determinants, such as unwillingness to ask patients questions regarding their management strategies. The attitude of HCWs toward listening is deplorable. Kwak et al. (2021) noted that the fundamental task of HCWs during patient education for self-care involves evaluating and understanding individual patients, providing them with emotional and clinical support and knowledge and skills to achieve the treatment objectives, and helping them discover and develop autonomy to deal better with their illness. However, poor listening attitudes in healthcare hinder the implementation of a patient educational model for T2DM within primary healthcare (Abdullah Al-Rowais et al. 2012).

As noted by Al Rasheed and Al Adel (2017), healthcare workers tend to dehumanize patients unintentionally, leaving them feeling demoralized. However, recent studies report a growing positive attitude towards the disease in Saudi Arabia. According to Khan et al. (2011), HCWs do not refer to patients as being diabetic. The majority of clinicians agree that patients should not be referred to as persons with diabetes, which indicates positive attitudes of HCWs toward individuals living with diabetes (Meo 2016). With increasing appreciation and positivity toward people living with diabetes, healthcare professionals feel that diabetic patients need special considerations and should be treated with respect to diminishing adverse reactions (Kwak et al. 2021).

Ueki et al. (2017) noted that many people have difficulties accepting and adjusting to T2DM. Notably, healthcare workers feel that individuals living with the disease have problems adjusting to suffering from T2DM. Evidence from the literature strongly suggests that HCWs are aware of individuals having adjustment difficulties to the disease (Henning 2018). Acceptance of health complications among the victims has proved challenging and torturous. According to Alhabib et al. (2020), patients diagnosed with T2DM exhibit negative feelings about T2DM. However, studies show that nurse managers and physicians feel that it is clinically normal to suffer from the disease. This attribute suggests that HCWs do not substantiate

feeling embarrassed for having T2DM; therefore, there is no reason for the associated patients to feel ashamed, implying that HCWs accept the patients regardless of their T2DM status (Robert & Al Darwish, 2021).

Studies support the idea that patients can manage their conditions by monitoring insulin levels (Shnaimer & Gosadi, 2020). However, most T2DM patients feel negative about blood glucose control, but healthcare workers disagree with patients' notion of having little to do with controlling their medical conditions. Clinicians agree that patients have a critical role in managing T2DM. Thirunavukkarasu et al. (2021) illustrated that clinicians agree that patients play a more vital role in controlling T2DM. HCWs feel that individuals diagnosed with T2DM can prevent the disease, hence projecting positivity into the patients with T2DM (Al Amro et al. 2018).

A cross-sectional study conducted in Saudi Arabia concerning the psychological implications of T2DM reported that diabetes involves complex treatment and demands for the patient (Abdullah Al-Rowais 2012; Robert et al. 2017). nurses diagnosed with the disease do not feel that the complication should not be treated with a lot of sacrifices as precipitated by the public. HCWs agree and understand that proper control of diabetes should not include a lot of sacrifice. However, globally, HCWs are aware that control of T2DM involves sacrifice and inconvenience. From this perspective, the HCWs indicate positive attitudes towards the management of T2DM, which encourages patients diagnosed with T2DM to understand and accept the sacrifice and inconveniences that have been brought about by the control measures (Al Rasheed & Al Adel, 2017).

Al-Yahya et al. (2020) state that group discussions assist patients in disclosing concerns to other patients with the same condition, circumstances, and problems. Globally, HCWs believe that it is not acceptable to disclose their status about having T2DM. Such negative attitudes have diverse implications for the support and guidance the HCWs provide to patients during service delivery (Alotaibi et al. 2016). Different views indicate that HCWs do not agree on sympathy while treating patients with T2DM but confirm that various modes of treatment have different effects on patients, which causes patients to have difficulty in deciding whether they feel sick or well (Mosalli et al., 2023).

Practices of HCWs in T2DM Care

Studies conducted examining HCWs' practice agree that all patients older than forty-five and patients characterized by many risk factors regardless of their age should undertake screening procedures. Furthermore, T2DM screening should be done every three years (Al Amro et al., 2018). An analogous guideline is found within the Saudi Health Ministry on health guidelines and management of T2DM in adults in primary healthcare facilities (Al Amro et al. 2018). In Saudi Arabia, Asbali et al. (2020) observed that the majority of HCWs reinforce the directive that patients above forty-five should be screened. The clinicians are satisfactorily aware of the feasibility of screening patients above the age of forty-five and high-risk patients, which demonstrates good practice among the HCWs towards screening and early diagnosis (Asbali et al. 2020). Literature has shown that patients with a family history of T2DM in the first and second degree need T2DM screening (Alfaifi et al., 2023). However, a significant percentage of HCWs that community healthcare workers have a poor understanding of T2DM screening; on the contrary, professional healthcare workers and clinical nurse managers show a robust knowledge of screening and early diagnosis of T2DM, hence patients will be identified and treated promptly (Escalada et al. 2016).

Screening of patients on request is done to identify asymptomatic individuals who are likely to have diabetes or have a family history of T2DM. Robert and Al Darwish's (2021) study revealed that HCWs that screened patients on request implied a poor screening of patients, particularly those suffering from T2DM, will not be detected promptly, and complications will not be minimized (Saleem et al. 2024). General healthcare workers in Saudi agree that patients should be advised not to substitute alcohol for meals and cessation of smoking (v et al. 2019).

Studies conducted in the Middle East show that screening for diabetes and discussing complications with patients ensure prompt treatment and reduce complications (Meo et al. 2019). HCWs note that complications of diabetes are typically discussed with patients at diagnosis annually, indicating that HCWs would ensure that complications would be discussed with patients (Alhejji et al., 2020). World Health Organization reports suggest that obesity is one of the significant challenges of the 21st century. LeRoith et al. (2019) noted that HCWs discuss the significance of exercise and diet plus providing guidelines to patients for further medical assistance. Similarly, the majority of nurses' patients are educated regarding diet

and exercise because they showed an understanding of the importance of eating a low-fat diet and exercising for diabetic patients (Meo, 2016). LeRoith et al. 2019) hold that HCWs are essential in directing patients toward achieving self-care goals. In this regard, studies cite that healthcare professionals refer patients who are overweight to dieticians for weight loss guidelines (Saleem et al 2024).

Studies conducted in Saudi Arabia confirm management strategies for T2DM include physical activity. For example, a study reported patients who did not go for screening were not advised to do so by HCWs. Therefore, patient education regarding the importance of exercise was significantly low, as only the minority of the HCWs advised patients who do not exercise to go for screening. Additionally, HCWs advised patients who were diagnosed with hypertension to go for diabetes screening, which indicates that the majority of the HCWs would educate patients regarding hypertension as it is common in T2DM (Alkhatib et al. 2019). Communication has been an integral part of T2DM management, particularly between HCWs and patients; for this reason, it was found that most HCWs in Saudi Arabia advised patients who had a first-degree family history of diabetes to go for screening, which aids in the prompt diagnosis of patients.

Similarly, studies show increased involvement of healthcare workers in campaigning for community and family support with the patients. Alsous et al. (2020) outline that clinicians understand the need for foot care among T2DM patients and communicate and discuss crucial measures for managing the disease. HCWs have been at the forefront in encouraging self-monitoring of blood glucose among patients receiving insulin, as it improves the confidence and self-management of the patient. However, this may not be true for healthcare systems in developing countries where resources are scarce, hence impacting the education of the patients (Alhejji et al., 2020; Meo et al., 2019; Meo, 2016).

Implications and Recommendations

While the literature has revealed an above-average level of KAPs among healthcare workers, there is a need to enhance HCW knowledge, attitude, and practice. The prevalence of T2DM in Saudi Arabia is growing annually, and the existing literature outlines several weaknesses among HCWs in the management of the disease. The current review recommends the creation of interactive workshops that should be presented

on a regular basis. The workshops should objectively provide guidelines, including primary care, coupled with relevant documentation necessary for HCWs' professional development. As underlined by Alkhatib et al. (2019), such workshops should stress the interactive nature of the seminar, which creates a platform for feedback from HCWs regarding all knowledge-related aspects related to T2DM. Monitoring and evaluation mechanisms should be established. The healthcare manager's quarterly monitoring and evaluation of the knowledge component of T2DM will help increase the KAP level among HCWs hence improved healthcare service quality.

HCWs illustrate positive attitudes toward the management and control of T2DM. This implies that patients receive desired care with dignity. However, there is a pressing need to create platforms that explore the clarification of values in primary, secondary, and tertiary healthcare facilities. Such platforms should be conducted focus on sharing experiences. This approach provides healthcare workers with an opportunity to affirm and explain their take on numerous issues, including interactive group discussions, role play, and proud whip (a method used to recognize good deeds).

HCWs have good practice with T2DM, implying effective screening, diagnosis, and treatment. However, there is a pressing necessity to promote monitoring and evaluation instruments for HCWs to identify components influencing their practice positively or negatively.

Conclusion

HCWs' knowledge, attitude, and skills play an important part in how patients diagnosed with diabetes are treated in the public health sector. Studies show that HCWs have average knowledge regarding the elements associated with T2DM. Generally, HCWs have positive attitudes towards the care and manage of T2DM and provide critical information to the patients for self-monitoring and management. Evidence acknowledges that the HCW has good practice in the identification, treatment, and management of T2DM. However, inconsistency of findings provides an opportunity for further research for ultimate conclusions regarding the knowledge of HCWs in the diagnosis, monitoring and management of T2DM.

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