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Social Responsibility And Professional Perceptions Among Pharmacists, Nurses, Social Workers, And Dentists In The Care Of Adolescents With Diabetes In Saudi Arabia

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Abstract

Background:
Adolescent diabetes remains a major health concern in Saudi Arabia, with increasing prevalence and multifactorial challenges that extend beyond glycemic control. Effective management requires the combined social, ethical, and professional commitment of healthcare providers. This review explores how pharmacists, nurses, social workers, and dentists perceive and enact their social responsibility and professional roles in adolescent diabetes care within the Saudi healthcare system.

Methods:
An integrative narrative review was conducted using PubMed, Scopus, CINAHL, ScienceDirect, and Saudi national health databases from 2015 to 2025. Forty-two peer-reviewed studies met inclusion criteria encompassing clinical, educational, psychosocial, and oral-health dimensions. Data were analyzed thematically to identify cross-disciplinary trends related to professional perception, role awareness, and institutional influences.

Results:
Findings revealed that all professions acknowledge a moral and social obligation toward adolescents with diabetes, though the degree of operational integration remains limited. Pharmacists emphasize medication optimization and education; nurses focus on holistic follow-up and family engagement; social workers provide psychosocial and advocacy support; and dentists address oral complications and preventive care. Institutional hierarchies, fragmented interprofessional communication, and limited oral-health inclusion impede cohesive care.

Conclusion:
Adolescent diabetes care in Saudi Arabia is inherently multidisciplinary, demanding unified frameworks of social responsibility among pharmacists, nurses, social workers, and dentists. Strengthening interprofessional education, embedding oral-health and psychosocial dimensions into national diabetes programs, and aligning practice with Vision 2030 health transformation goals are essential to achieving holistic, patient-centered outcomes.

Keywords: Adolescent diabetes, social responsibility, pharmacists, nurses, social workers, dentists, Saudi Arabia, interprofessional care, oral health.

Introduction

Diabetes mellitus represents one of the most pressing public health challenges in the Kingdom of Saudi Arabia, with its prevalence steadily increasing among adolescents. Recent national reports indicate that Saudi Arabia ranks among the highest countries in the Middle East in diabetes incidence, posing serious implications for adolescent health and the healthcare system's capacity to respond effectively. Adolescence, in particular, presents a critical developmental stage in which psychosocial, behavioral, and physiological changes often complicate glycemic control and long-term disease management.

Within this context, healthcare professionals—including pharmacists, nurses, and social workers—play indispensable roles in ensuring holistic, patient-centered care. Beyond clinical management, effective diabetes care for adolescents requires addressing lifestyle modification, medication adherence, emotional well-being, and family engagement. Pharmacists contribute through medication optimization and patient education; nurses serve as the front-line coordinators of care and educators; while social workers address psychosocial challenges, promote adherence, and support the patient's integration within family and community systems.

Despite these essential roles, research exploring how healthcare professionals in Saudi Arabia perceive their social responsibility and professional roles in adolescent diabetes care remains scarce. Existing studies have highlighted moderate levels of diabetes knowledge among nurses and a limited integration of pharmacists into preventive and educational diabetes programs. Likewise, the social work profession—although ethically grounded in community responsibility—has not been fully examined within the context of chronic disease management for adolescents.

Understanding these professional perceptions is vital in light of Saudi Arabia's Health Sector Transformation Program and Vision 2030, which emphasize preventive care, interprofessional collaboration, and community engagement as national health priorities. Clarifying how each profession defines its social responsibility and perceived contribution to adolescent diabetes care can help bridge existing gaps, enhance training frameworks, and guide the development of integrated models of care.

Accordingly, this study aims to explore the professional perceptions and sense of social responsibility among pharmacists, nurses, and social workers in the care of adolescents with diabetes in Saudi Arabia. The findings are expected to provide actionable insights for improving professional education, policy development, and multidisciplinary practice in adolescent diabetes management within the Saudi healthcare context.

statement of the Problem

Adolescent diabetes management in Saudi Arabia faces persistent challenges that extend beyond medical treatment into the social, behavioral, and emotional dimensions of health. Despite substantial advances in healthcare delivery, many adolescents experience poor glycemic control, low adherence to treatment regimens, and insufficient family or community support. These outcomes highlight systemic gaps not only in patient education but also in the professional integration of pharmacists, nurses, and social workers in diabetes care teams.

While pharmacists have begun to assume more active roles in patient counseling and medication therapy management, their engagement in adolescent health programs remains limited. Similarly, nurses—who often act as primary educators and coordinators—face workload pressures and insufficient training specific to adolescent psychosocial needs. Social workers, who could play a pivotal role in addressing emotional and familial dynamics, are frequently underutilized in healthcare settings. Collectively, these issues suggest that the multidimensional concept of social responsibility among healthcare professionals has not been adequately explored or operationalized in Saudi adolescent diabetes care.

Without a clear understanding of how these professionals perceive and enact their social and ethical obligations, healthcare institutions may struggle to foster effective multidisciplinary collaboration or implement evidence-based strategies for adolescent diabetes management. Therefore, there is an urgent need to examine how pharmacists, nurses, and social workers perceive their social responsibility and

professional roles within this context, and how these perceptions influence care delivery, patient outcomes, and community health.

Research Objectives and Questions

Research Objectives

This study seeks to explore and analyze how healthcare professionals—specifically pharmacists, nurses, and social workers—perceive their social responsibility and professional roles in the care of adolescents with diabetes in Saudi Arabia. The specific objectives are to:

1. Examine the levels of awareness and understanding among pharmacists, nurses, and social workers regarding their professional and social responsibilities toward adolescents with diabetes.
2. Identify the perceived roles of each profession in promoting effective diabetes management, education, and psychosocial support for adolescents.
3. Assess how cultural, ethical, and institutional factors influence the professionals' sense of responsibility and engagement in adolescent diabetes care.
4. Explore interprofessional perceptions and areas of overlap or distinction in role conceptualization among pharmacists, nurses, and social workers.
5. Provide evidence-based recommendations to enhance the integration of social responsibility principles into diabetes care practices and training within the Saudi healthcare system.

Research Questions

To achieve these objectives, the study will address the following key questions:

1. How do pharmacists, nurses, and social workers perceive their social responsibility in adolescent diabetes care?
2. What professional roles do they believe they play in supporting the medical, educational, and psychosocial needs of adolescents with diabetes?
3. How do institutional policies, ethical standards, and cultural factors shape these perceptions?
4. Are there notable similarities or differences among the three professions regarding their understanding of social responsibility in diabetes care?
5. What strategies can be implemented to strengthen interprofessional collaboration and embed social responsibility in healthcare practice for adolescents with diabetes in Saudi Arabia?

Methodology

Study Design

This paper employed an integrative narrative review approach to examine the existing body of knowledge concerning the perceptions of social responsibility and professional roles of pharmacists, nurses, social workers, and dental professionals in the care of adolescents with diabetes in Saudi Arabia. An integrative review was chosen because it allows for the inclusion of diverse methodologies—quantitative, qualitative, and theoretical—providing a comprehensive understanding of professional, ethical, and interprofessional perspectives across multiple health disciplines.

Search Strategy

A comprehensive and systematic literature search was conducted between January 2015 and September 2025 using the databases PubMed, Scopus, CINAHL, ScienceDirect, and Google Scholar. Additional regional literature was identified through Saudi health portals, including the Saudi Health Council (SHC), the Ministry of Health (MOH), and King Saud University repositories.

The search combined controlled vocabulary and free-text terms, including:

("adolescent diabetes" OR "type 1 diabetes in youth" OR "pediatric diabetes") AND
("social responsibility" OR "professional ethics" OR "accountability") AND
("pharmacist role" OR "nursing role" OR "social work" OR "dental care" OR "oral health") AND
("Saudi Arabia" OR "Gulf region" OR "Middle East")

Boolean operators (AND/OR) were applied to refine search sensitivity and specificity. Reference lists of retrieved papers were manually screened to identify any additional relevant studies.

Inclusion and Exclusion Criteria

Inclusion Criteria:

- Peer-reviewed articles, systematic reviews, and official Saudi health documents published between 2015–2025.
- Studies written in English or Arabic with relevance to healthcare professional roles or social responsibility.
- Research focusing on adolescents or youth with type 1 or type 2 diabetes, including psychosocial and oral-health aspects.
- Studies conducted in Saudi Arabia or comparable Middle Eastern healthcare systems.

Exclusion Criteria:

- Studies focusing exclusively on adults or elderly diabetic populations.
- Editorials, letters to the editor, and opinion papers lacking empirical or theoretical evidence.
- Articles that addressed diabetes management without reference to healthcare professional roles, ethics, or patient education.

Data Extraction Process

Data extraction was performed using a structured matrix including the following variables:

1. Author(s) and year of publication
2. Country/region
3. Study design and sample
4. Profession(s) examined
5. Major findings related to professional role or social responsibility
6. Relevance to adolescent diabetes care and oral health
7. Implications for practice and policy

Two independent reviewers extracted the data. Discrepancies were resolved through discussion until consensus was achieved.

Quality Appraisal

Each included study was critically appraised using the Joanna Briggs Institute (JBI) Critical Appraisal Tools.
Studies were scored on methodological transparency, sample validity, analytical rigor, and practical relevance. Only studies rated as medium (7/10) or high quality (≥8/10) were retained for synthesis.

Data Synthesis and Analysis

A thematic synthesis was employed to integrate data from multiple disciplines. The analysis followed three sequential stages:

1. **Data Reduction:** Key statements, findings, and themes related to professional responsibility and adolescent diabetes care were extracted and summarized.
2. **Data Comparison:** Findings were organized and compared across professions (pharmacists, nurses, social workers, dentists) to identify overlapping and divergent concepts.
3. **Categorical Integration:** Themes were mapped to the study's objectives and questions, focusing on:
    - Awareness and understanding of social responsibility.
    - Perceived professional roles in adolescent diabetes care.
    - Institutional, ethical, and cultural influences.
    - Interprofessional gaps and opportunities for integration.
    - Emerging inclusion of dental/oral-health care in diabetes management.

To ensure accuracy and coherence, the synthesis incorporated Saudi national reports, WHO publications, and Vision 2030 health strategy documents for contextual interpretation.

Ethical Considerations

As this study is based on secondary data and published literature, no direct ethical approval was required. Nevertheless, the review adhered to ethical standards for scholarly integrity, transparency, and accurate citation of all sources.

Outcome of the Search

The initial search yielded 247 articles, of which 42 studies met the inclusion criteria after title, abstract, and full-text screening. These comprised:

- 18 nursing studies
- 12 pharmacy studies
- 6 social work studies
- 4 dental/oral-health studies
- 2 multidisciplinary or policy reviews

The PRISMA-style flow summary is presented in **Table 1**.

Table 1. Literature Screening Summary

Stage	Records Identified	Excluded	Included
Initial database search	247	—	—
After duplicates removed	214	—	—
Title & abstract screening	214	130	84
Full-text review	84	42	42 (final)

Results and Discussion

Overview of Included Studies

A total of 42 studies met the inclusion criteria after full-text screening. Among these,

- 18 focused on nursing,
- 12 on pharmacy,
- 6 on social work,
- 4 on dental care/oral health, and
- 2 multidisciplinary policy or conceptual reviews.

Together, these studies provided a broad view of professional perceptions of social responsibility and their implications for adolescent diabetes management in the Saudi context and similar healthcare systems.

Table 1. Summary of Reviewed Studies by Profession and Core Focus

Profession	Global Studies	Saudi/GCC Studies	Major Focus Areas
Nursing	18	9	Patient education, psychosocial support, lifestyle management
Pharmacy	12	7	Medication adherence, patient counselling, preventive roles
Social Work	6	4	Family empowerment, psychosocial adaptation, advocacy
Dentistry	4	2	Oral complications, preventive education, multidisciplinary collaboration
Total	**42**	**22**	—

Theme 1: Awareness of Social Responsibility

Across all professions, social responsibility was defined not only as a professional obligation but also as a moral and community-based commitment to improving patient outcomes. Pharmacists and nurses in Saudi studies viewed social responsibility as "caring beyond the prescription or procedure"—promoting adherence, awareness, and family engagement (Alotaibi et al., 2022; Alshammari & El-Mahalli, 2020).

Social workers, drawing from ethical and religious values, emphasized justice, empathy, and empowerment for adolescents facing the psychosocial burden of diabetes (Althumali, 2021). Dentists, meanwhile, expressed growing recognition of their role in diabetes care, particularly in prevention of periodontal disease and patient education on the bidirectional relationship between diabetes and oral health. A Riyadh-based study reported that 53% of children with diabetes experienced dental caries, and awareness of oral complications among both patients and caregivers remained limited (Al-Dlaigan & Al-Dabaan, 2024).

Collectively, these findings demonstrate an increasing but uneven awareness of social responsibility across professions—anchored in ethical commitment yet lacking standardized institutional frameworks.

Theme 2: Perceived Professional Roles in Adolescent Diabetes Care

The professions differ in how they perceive and operationalize their role within diabetes care.

- Pharmacists focus primarily on optimizing medication regimens, preventing drug interactions, and providing education on insulin use and lifestyle modification.

- Nurses emphasize patient and family education, adherence counseling, self-management training, and holistic follow-up care.
- Social Workers concentrate on addressing psychological distress, school integration, and family communication, acting as advocates within the health system.
- Dentists contribute to monitoring oral health, preventing periodontal infections, and educating patients about how poor glycemic control can exacerbate dental disease—and vice versa.

Table 2. Comparative Summary of Professional Roles

Core Role	Pharmacists	Nurses	Social Workers	Dentists
Medication Management	✔ Strong	○ Moderate	○ Minimal	○ Minimal
Patient Education	✔ Strong	✔ Strong	○ Moderate	✔ Moderate
Psychosocial Support	○ Limited	✔ Moderate	✔ Strong	○ Limited
Family Engagement	○ Limited	✔ Strong	✔ Strong	○ Limited
Preventive/Community Role	✔ Moderate	✔ Strong	✔ Moderate	✔ Strong
Oral Health and Complications	○ Minimal	○ Limited	○ Minimal	✔ Strong

This comparison highlights that while nurses and social workers dominate psychosocial and family domains, pharmacists and dentists lead in clinical and preventive aspects. The lack of coordinated overlap underscores the need for interprofessional integration.

Theme 3: Cultural, Ethical, and Institutional Influences

Saudi Arabia's healthcare landscape shapes professional perceptions in unique ways. Hierarchical structures and medical dominance often limit collaborative practice. Nurses and social workers have reported being excluded from decision-making processes in diabetes clinics. Pharmacists remain more visible in tertiary-care hospitals than in community or school-based programs. Dentists, despite increasing awareness of diabetes' oral implications, are rarely incorporated into formal diabetes management pathways, even though the Saudi Health Council (2023) emphasizes preventive oral care as part of national wellness initiatives.

Moreover, cultural factors—such as family decision-making and social stigma surrounding chronic illness—strongly influence how adolescents engage with healthcare teams. These elements require culturally responsive training emphasizing ethical responsibility and community-oriented care.

Theme 4: Interprofessional Gaps and Integration Opportunities

The review found significant conceptual and operational gaps among the four professions regarding role clarity and communication.

Pharmacists perceive responsibility through the lens of safety and adherence, nurses through care and compassion, social workers through empowerment and advocacy, and dentists through prevention and oral-systemic health.

While these perspectives are complementary, their separation results in fragmented care delivery.

For example, adolescent patients often see different specialists independently—pharmacists for medication, nurses for education, and dentists only when dental symptoms emerge—rather than as part of a unified team. Integrating these professionals into multidisciplinary adolescent diabetes clinics would foster early identification of oral complications, improve medication adherence, and enhance psychosocial support simultaneously.

Theme 5: Strategies for Strengthening Social Responsibility and Integrated Care

The synthesis of global and Saudi studies yielded practical recommendations summarized below.

Table 3. Evidence-Based Recommendations for Role Integration and Social Responsibility

Domain	Recommended Action	Expected Outcome
Education	Integrate interprofessional ethics, oral health, and adolescent care modules in undergraduate curricula for pharmacists, nurses, social workers, and dentists.	Unified understanding of holistic adolescent care and shared social accountability.
Practice	Establish adolescent diabetes units that include dental screening, pharmacist-led medication review, nurse-led education, and social worker counseling.	Early prevention, better adherence, and improved psychosocial well-being.
Policy	Expand national diabetes guidelines to include oral-health protocols and social-work intervention pathways.	Institutional recognition of multidisciplinary social responsibility.
Professional Development	Continuous education on diabetes–oral health links, adolescent communication, and ethical practice.	Enhanced competency and confidence in patient-centered teamwork.
Research	Encourage qualitative and mixed-methods studies on professional perceptions and teamwork models in adolescent diabetes.	Evidence-based frameworks for interprofessional collaboration.

Integrated Discussion

The findings across disciplines converge on one central conclusion: adolescent diabetes care is a multidimensional responsibility that cannot be achieved through single-profession efforts. Pharmacists bring pharmacotherapeutic expertise essential for controlling blood glucose and preventing complications. Nurses provide the day-to-day educational and behavioral reinforcement adolescents need to manage their condition. Social workers ensure that psychosocial, familial, and economic factors do not hinder adherence. Dentists extend this circle of care by managing oral manifestations of diabetes—often among the earliest indicators of poor metabolic control.

However, most of these roles operate in isolation rather than within structured, collaborative frameworks. The literature suggests that institutional hierarchies, lack of role awareness, and insufficient interprofessional education impede the realization of shared social responsibility. By contrast, international models (e.g., integrated diabetic clinics in the UK and Canada) demonstrate how team-based approaches—where pharmacists, nurses, social workers, and dental professionals collaborate in one setting—result in superior glycemic control, fewer hospitalizations, and better quality of life.

For Saudi Arabia, aligning these findings with Vision 2030 priorities offers a roadmap:

1. Incorporate dental and psychosocial care into diabetes management protocols.
2. Develop unified ethical codes of social responsibility across health professions.
3. Establish continuing education programs emphasizing adolescent development, communication, and oral-systemic health.
4. Encourage policy-makers to include oral-health indicators in adolescent diabetes monitoring systems.

Conclusion

This review underscores that effective adolescent diabetes management in Saudi Arabia requires recognizing the shared social responsibility of pharmacists, nurses, social workers, and dentists. Each profession provides a unique but complementary contribution—clinical, educational, psychosocial, and oral-health.

When united through interprofessional collaboration, these roles form the foundation of holistic, patient-centered care that aligns with the nation's preventive and community-health goals. To actualize this vision, structured multidisciplinary programs, unified ethical frameworks, and robust professional training must be implemented to transform awareness into action and policy into practice.