

Addressing Social Determinants in Oral and Nutritional Health: An Interdisciplinary Approach in a Tertiary Hospital Setting

Abdullah M. Alghamdi¹, Talal M. Hijazi², Mohammed H. Khubrani³,
Mohammed A. Alanazi⁴, Saud M. Alenazi⁵, Norah S. Algahtani⁶,
Sara S. Alhamdan⁷, Najwa J. Alshammari⁸, Saud D. Almalki⁹

Health Affairs at the Ministry of National Guard

Abstract

This study explores the role of interdisciplinary collaboration between laboratory specialists, dentists, clinical nutritionists, and social workers in addressing social determinants of health (SDOH) that affect oral and nutritional health in a tertiary hospital setting. Using qualitative interviews with healthcare professionals and patients, the research highlights how SDOH, such as food insecurity and housing instability, contribute to poor health outcomes. Findings indicate that interdisciplinary collaboration improves patient care by addressing both medical and social needs. However, resource limitations and time constraints were identified as challenges in fully addressing these social factors. The study emphasizes the need for enhanced communication, increased social service support, and ongoing training to optimize care.

Keywords: Social Determinants of Health, Interdisciplinary Collaboration, Oral Health, Nutritional Health, Tertiary Hospital, Healthcare Disparities

Introduction

Social determinants of health (SDOH) play a significant role in influencing patient outcomes, particularly in the areas of oral and nutritional health. These determinants include factors such as socioeconomic status, access to healthcare, education, housing, and social support, which collectively shape an individual's ability to maintain good health. The World Health Organization (WHO) defines SDOH as "the conditions in which people are born, grow, live, work, and age," and highlights their critical role in health inequities (World Health Organization, 2012). Research has consistently shown that populations facing adverse social conditions are at higher risk for poor oral and nutritional health, contributing to the burden of chronic diseases (Marmot et al., 2008).

Oral health and nutrition are closely intertwined, as poor oral health can lead to inadequate nutrition, and malnutrition can exacerbate oral health problems (Sheiham & Watt, 2000). Patients with limited access to dental care and healthy food options are particularly vulnerable, often facing a cycle of poor diet and deteriorating oral health, which affects their overall well-being. Additionally, SDOH such as income inequality and food insecurity disproportionately affect marginalized populations, making it difficult for them to access necessary healthcare services and maintain a balanced diet (Watt et al., 2016).

In response to these challenges, interdisciplinary collaboration between healthcare professionals is essential to address both the medical and social aspects of patient care. In a tertiary hospital setting, laboratory specialists, dentists, clinical nutritionists, and social workers can work together to provide comprehensive care that addresses the root causes of poor oral and nutritional health. Laboratory specialists provide diagnostic support to identify underlying conditions, dentists manage oral health issues, clinical nutritionists address dietary deficiencies, and social workers assist in connecting patients with social services and resources that can alleviate the impact of SDOH.

This paper aims to explore how an interdisciplinary approach involving laboratory specialists, dentists, clinical nutritionists, and social workers can effectively address the social determinants that impact oral and nutritional health in a tertiary hospital setting. By examining the roles of each profession and the collaboration among them, this study seeks to identify strategies for improving patient outcomes and reducing health disparities caused by SDOH.

Literature Review

1. Social Determinants of Health (SDOH) and Their Impact on Healthcare

Social determinants of health (SDOH) are widely recognized as key factors influencing health outcomes. These determinants, including socioeconomic status, education, housing, and access to healthcare, create significant disparities in health outcomes between different population groups (Marmot et al., 2008). The World Health Organization (WHO) has emphasized that addressing SDOH is crucial for reducing health inequities, as these factors affect individuals' ability to access care, follow medical recommendations, and maintain overall well-being (WHO, 2012). SDOH not only impact chronic disease management but also influence access to basic health services, including dental and nutritional care, which are essential for maintaining quality of life.

Several studies have highlighted the role of SDOH in exacerbating health disparities, particularly for vulnerable populations. Individuals living in poverty, for example, often face barriers to healthcare access, which increases their risk for preventable conditions, including poor oral and nutritional health (Phelan et al., 2010). Addressing these social factors is necessary for improving health outcomes and reducing healthcare costs associated with preventable hospitalizations.

2. Impact of Social Determinants on Oral Health

Oral health is significantly affected by SDOH. Individuals from lower socioeconomic backgrounds often experience higher rates of dental disease due to limited access to dental care, lack of oral health education, and unhealthy diets (Sheiham & Watt, 2000). Dental caries, periodontal disease, and oral infections are more prevalent in populations with low income and education levels. Studies have also found that individuals with poor housing and limited access to clean water are at greater risk of oral health problems due to their inability to maintain adequate hygiene (Watt et al., 2016).

Moreover, research has demonstrated that food insecurity—a key social determinant—directly impacts oral health. When individuals lack access to nutritious food, they are more likely to consume inexpensive, processed foods that are high in sugar, which increases the risk of dental decay (Dye et al., 2012). SDOH also contribute to delays in seeking dental care, as financial barriers, lack of transportation, and poor health literacy prevent individuals from accessing preventive services (Lee et al., 2012). This situation results in a higher burden of untreated dental conditions and greater reliance on emergency dental care, further straining healthcare systems.

3. Impact of Social Determinants on Nutritional Health

Similar to oral health, nutritional status is profoundly influenced by social determinants. Individuals facing food insecurity and poverty are more likely to experience malnutrition, which can lead to chronic conditions such as obesity, diabetes, and cardiovascular disease (Seligman et al., 2010). Research has shown that limited access to healthy food options in "food deserts" and low-income communities contributes to poor dietary habits and nutritional deficiencies (Walker et al., 2010). This highlights the interconnection between socioeconomic factors and dietary choices, where individuals with fewer resources are often forced to prioritize cheaper, unhealthy food over nutritious alternatives.

Nutritional deficiencies resulting from poor dietary intake also exacerbate health problems and increase the risk of hospitalization (Seligman & Schillinger, 2010). Patients in these situations often struggle to manage chronic diseases, as they lack both the education and resources needed to maintain a healthy diet. This reality emphasizes the need for interdisciplinary care that addresses both the medical and social aspects of nutrition, particularly for vulnerable populations in tertiary hospital settings.

4. Interdisciplinary Approaches in Addressing SDOH

The literature underscores the importance of interdisciplinary approaches to healthcare in addressing the complex challenges posed by SDOH. Interdisciplinary teams that include healthcare providers such as laboratory specialists, dentists, clinical nutritionists, and social workers are better equipped to manage the multifaceted needs of patients affected by SDOH (Reeves et al., 2016). These teams bring together diverse expertise, allowing for comprehensive care that addresses both the medical and social components of health.

Research indicates that when professionals from different disciplines collaborate, patient outcomes improve, particularly for those with chronic conditions affected by social determinants (Valaitis et al., 2020). For example, clinical nutritionists play a critical role in educating patients on healthy dietary choices and managing nutritional deficiencies, while social workers help patients navigate the healthcare system and connect them with community resources, such as food assistance programs and housing support (Andermann, 2016). Dentists contribute by providing preventive care and treatment for oral diseases, which are often exacerbated by poor nutrition and socioeconomic factors.

In the context of a tertiary hospital, laboratory specialists provide diagnostic insights that inform care plans, particularly for patients with underlying conditions that complicate oral and nutritional health. For example, laboratory tests can detect vitamin deficiencies, anemia, or infections that may be linked to poor nutrition and inadequate dental care. These findings underscore the need for comprehensive, team-based approaches to healthcare, where each discipline contributes to addressing the root causes of health disparities.

5. Addressing Social Determinants in Oral and Nutritional Health

The integration of social workers into healthcare teams is particularly important in addressing the social determinants that contribute to poor oral and nutritional health. Social workers are uniquely positioned to assess the broader context of patients' lives, including their financial stability, housing conditions, and access to healthcare services (Andermann, 2016). By addressing these non-medical factors, social workers can play a key role in preventing hospital readmissions and improving long-term health outcomes.

Programs that incorporate social work services into healthcare settings have shown success in reducing health disparities by ensuring that patients receive the necessary social support to manage their health conditions (Hsu et al., 2020). In the context of oral and nutritional health, social workers can help patients

overcome barriers such as food insecurity, lack of transportation to dental appointments, or financial difficulties in purchasing healthy food. This interdisciplinary approach ensures that patients' health needs are met holistically, improving their quality of life and reducing the burden on healthcare systems.

Methodology

This study was conducted in a tertiary hospital to explore how interdisciplinary collaboration among laboratory specialists, dentists, clinical nutritionists, and social workers addresses the social determinants of health (SDOH) affecting oral and nutritional health. A qualitative approach was used to gather in-depth insights from healthcare professionals and patients regarding the role of SDOH in patient care and how interdisciplinary efforts improve outcomes.

Study Design

A qualitative, descriptive research design was employed to investigate the interdisciplinary approach to managing oral and nutritional health, focusing on the role of social determinants. Semi-structured interviews were conducted with healthcare professionals and patients to gain an understanding of how SDOH are addressed in clinical practice and the impact of interdisciplinary collaboration.

Participants

The study involved two groups of participants: healthcare professionals (laboratory specialists, dentists, clinical nutritionists, and social workers) and patients who were receiving or had received care related to oral and nutritional health in the tertiary hospital.

1. Healthcare Professionals: A purposive sampling technique was used to recruit 20 healthcare professionals from the hospital. The sample included:

- 5 laboratory specialists: who contributed to the diagnostic and clinical aspects of care, particularly in identifying underlying conditions such as nutritional deficiencies or infections.
- 5 dentists: who managed the oral health issues of patients, including the treatment of dental diseases exacerbated by poor nutrition and social factors.
- 5 clinical nutritionists: who assessed and managed the nutritional status of patients, especially those impacted by food insecurity or malnutrition.
- 5 social workers: who addressed the broader social issues that affected patients' health, such as housing instability, food access, and healthcare navigation.

2. Patients: Ten patients who had received care for oral and nutritional health issues and were impacted by SDOH were also interviewed. Inclusion criteria for patients included:

- Patients over the age of 18 who had been treated in the hospital's dental or nutrition clinics within the past 12 months.
- Patients who faced social challenges (e.g., food insecurity, housing instability, or financial difficulties) that were documented in their medical or social work records.
- Patients who consented to participate in interviews regarding their healthcare experiences.

Data Collection

Data were collected through semi-structured interviews with healthcare professionals and patients, as well as a review of patient records to contextualize their care pathways.

1. Interviews with Healthcare Professionals: Interviews were conducted in a private setting within the hospital and lasted 30-60 minutes. An interview guide was developed to ensure consistency across interviews, with questions focusing on:

- The role of each professional in addressing SDOH related to oral and nutritional health.
- Experiences of interdisciplinary collaboration in patient care.
- Challenges faced when managing patients affected by social factors.
- The perceived impact of their efforts on patient outcomes.

Sample questions included:

- "How do social determinants of health affect your approach to patient care in this hospital?"
- "Can you provide an example of a case where interdisciplinary collaboration helped address both oral and nutritional health needs?"

2. Interviews with Patients: Patients were interviewed about their experiences with the healthcare system, particularly how social factors influenced their health and the care they received. Questions focused on their interactions with the healthcare team, how well their social needs were addressed, and the overall effectiveness of the interdisciplinary approach.

Sample questions included:

- "How did your healthcare team address challenges such as access to food or dental care?"
- "Can you describe any support you received from the hospital's social workers, dentists, or nutritionists to manage your health?"

3. Patient Record Review: Patient records were reviewed to gather contextual information about their medical, nutritional, and social history. This data provided a deeper understanding of the patients' health conditions and the specific social determinants that affected their care.

Data Analysis

Thematic analysis was used to analyze the qualitative data from interviews and patient records. The six-phase process outlined by Braun and Clarke (2006) was followed:

1. Familiarization with the data: The research team transcribed the interviews and reviewed the patient records to become familiar with the content.
2. Generating initial codes: Data were coded to identify key themes related to interdisciplinary collaboration, the impact of SDOH on health, and the effectiveness of the hospital's interventions.
3. Searching for themes: Codes were organized into broader themes, such as "interdisciplinary collaboration," "barriers to addressing SDOH," and "improvement in patient outcomes."
4. Reviewing themes: The themes were reviewed to ensure they accurately reflected the data and captured the experiences of both healthcare professionals and patients.
5. Defining and naming themes: Final themes were defined, and key excerpts from interviews were selected to illustrate each theme.
6. Writing up the results: The findings were written up, with a focus on how interdisciplinary collaboration helped to address the social and health needs of patients in the tertiary hospital.

Ethical Considerations

Ethical approval for the study was obtained from the ethics committee. All participants were provided with detailed information about the study, including its purpose, their rights, and the confidentiality of their

responses. Written informed consent was obtained from all participants before the interviews. Patients' medical records were anonymized to protect their privacy, and only relevant health and social information was included in the analysis.

Trustworthiness of the Study

To ensure the trustworthiness and rigor of the study, the following strategies were employed:

-Credibility: Triangulation was achieved by collecting data from both healthcare professionals and patients, ensuring a well-rounded understanding of the interdisciplinary approach to addressing SDOH.

-Transferability: Thick descriptions of the hospital setting, the participants' roles, and the interdisciplinary processes were provided, allowing readers to assess the applicability of the findings to other healthcare contexts.

-Dependability: An audit trail was maintained throughout the research process, documenting all key decisions related to data collection, analysis, and interpretation.

-Confirmability: Reflexivity was practiced by the research team, who maintained reflective journals to ensure that potential biases were minimized and that the findings were grounded in the data.

Limitations

This study had several limitations. The sample size was relatively small and limited to a single tertiary hospital, which may limit the generalizability of the findings. Additionally, the study relied on self-reported data from interviews, which may be subject to recall bias or social desirability bias. Future research could address these limitations by expanding the sample size, including multiple hospital settings, and incorporating quantitative measures of patient outcomes.

Findings

The analysis of interviews with healthcare professionals and patients revealed several key themes related to the role of social determinants of health (SDOH) in oral and nutritional health, and the impact of interdisciplinary collaboration in addressing these issues. Four main themes emerged: (1) The Influence of Social Determinants on Health, (2) The Role of Each Discipline in Addressing SDOH, (3) Interdisciplinary Collaboration and Communication, and (4) Challenges and Barriers in Addressing SDOH.

Theme 1: The Influence of Social Determinants on Health

Participants across all professions highlighted the significant impact of social determinants on both oral and nutritional health. Factors such as housing instability, food insecurity, and limited access to healthcare services were frequently mentioned as contributing to poor patient outcomes.

Sub-theme 1.1: Food Insecurity and Nutritional Health

Clinical nutritionists and social workers described the direct impact of food insecurity on patients' nutritional status, which led to challenges in managing chronic health conditions such as diabetes and malnutrition.

- "Many of our patients struggle to afford healthy food, which makes it difficult to manage their diabetes or malnutrition. They often rely on cheap, processed foods, which only exacerbate their health problems." (Nutritionist 3)

- "We see a clear connection between poverty and poor nutrition. When a patient is food insecure, it's almost impossible for them to follow a healthy diet. We work to connect them with food assistance programs, but the resources are limited." (Social Worker 2)

Sub-theme 1.2: Access to Dental Care

Dentists discussed how socioeconomic factors such as income, transportation, and health literacy affected patients' ability to access dental care. This, in turn, contributed to the progression of untreated oral conditions.

- "We have patients who haven't seen a dentist in years because they either can't afford it or don't have the transportation to get to appointments. By the time we see them, their oral health has deteriorated significantly." (Dentist 1)
- "Dental care is often a low priority for people dealing with housing or food insecurity. It's seen as an 'extra' when they're struggling just to meet basic needs." (Dentist 4)

Theme 2: The Role of Each Discipline in Addressing SDOH

Each profession—laboratory specialists, dentists, clinical nutritionists, and social workers—played a distinct role in addressing the SDOH that influenced patient health. Collaboration between these disciplines was key in providing holistic care.

Sub-theme 2.1: Dentists Addressing Oral Health and SDOH

Dentists highlighted the role they played in identifying social determinants that contributed to poor oral health. In collaboration with social workers, they worked to ensure that patients received the necessary resources to manage both their oral and general health.

- "We don't just treat dental issues. We have to look at the bigger picture—whether the patient can maintain oral hygiene at home or if they have the resources to afford follow-up care. That's where working with social workers is essential." (Dentist 3)

Sub-theme 2.2: Clinical Nutritionists Managing Nutritional Health

Clinical nutritionists focused on assessing patients' dietary intake and nutritional needs, particularly in cases where social determinants like food insecurity or lack of access to healthy food played a significant role.

- "Our job is to help patients improve their nutrition, but we often encounter barriers related to their environment. If a patient can't access fresh food or doesn't have enough money for groceries, we have to come up with alternative solutions, which often involves coordinating with social workers." (Nutritionist 5)

Sub-theme 2.3: Social Workers Addressing Broader Social Determinants

Social workers played a central role in addressing SDOH by connecting patients with community resources, such as housing assistance, food programs, and transportation services.

- "We address the underlying social issues that are often the root cause of health problems. Whether it's housing instability, lack of insurance, or food insecurity, our job is to help patients navigate these barriers so they can follow their treatment plans." (Social Worker 1)

Sub-theme 2.4: Laboratory Specialists Providing Diagnostic Support

Laboratory specialists contributed by diagnosing health issues related to malnutrition or chronic disease, often flagging conditions that required further intervention from nutritionists or other specialists.

- "We provide the clinical data that informs the patient's care plan. For example, if we detect a nutrient deficiency, that's something the nutritionist can act on immediately. Our role is to give the team the information they need to tailor the treatment to the patient's needs." (Laboratory Specialist 4)

Theme 3: Interdisciplinary Collaboration and Communication

Interdisciplinary collaboration was seen as essential in addressing the complex needs of patients affected by SDOH. Participants described the importance of regular communication and shared decision-making between healthcare professionals to provide comprehensive care.

Sub-theme 3.1: Regular Interdisciplinary Meetings

Healthcare professionals emphasized the importance of regular meetings where each discipline could share insights and coordinate care.

- “We meet regularly to discuss patient cases, especially those that are complex or involve social determinants. Having everyone in the room—the dentist, nutritionist, social worker, and lab specialists—means that we’re all on the same page and can come up with a plan that addresses all aspects of the patient’s health.” (Nutritionist 2)
- “When we meet with social workers, we can understand the bigger picture of the patient’s life and figure out how to support them beyond just the immediate dental or nutritional issues.” (Dentist 2)

Sub-theme 3.2: The Role of Communication in Enhancing Patient Care

Effective communication between team members was seen as critical to ensuring that all aspects of the patient’s health were addressed, particularly when multiple social factors were involved.

- “We rely on each other’s expertise. As a dentist, I may not fully understand the nutritional challenges a patient faces, but when the nutritionist and social worker share their perspectives, we can create a plan that addresses those needs holistically.” (Dentist 5)
- “Good communication is key. We use shared electronic health records to document our findings and interventions, which helps ensure that everyone involved in the patient’s care is up-to-date.” (Social Worker 3)

Theme 4: Challenges and Barriers in Addressing SDOH

Despite the benefits of interdisciplinary collaboration, participants identified several challenges and barriers to fully addressing SDOH, including resource limitations, time constraints, and systemic issues.

Sub-theme 4.1: Limited Resources for Addressing Social Determinants

Social workers and other healthcare professionals reported that there were often insufficient resources to fully address the social needs of patients, particularly in cases of housing instability or food insecurity.

- “We try to connect patients with housing assistance or food programs, but the reality is that these resources are limited. There’s only so much we can do with what’s available.” (Social Worker 4)
- “Sometimes we have patients who are in desperate need of social support, but the waitlists for community resources are long, and it can take weeks or months to get them the help they need.” (Nutritionist 4)

Sub-theme 4.2: Time Constraints in Providing Comprehensive Care

Many participants highlighted the challenge of time constraints in a busy hospital setting, which made it difficult to fully address all aspects of a patient’s social and health needs.

- “In the hospital, we’re often pressed for time. While we want to address every factor affecting a patient’s health, the reality is that we sometimes have to prioritize the most urgent issues and follow up on the social determinants later.” (Dentist 3)
- “We’re doing our best, but we’re often dealing with multiple complex cases at once, and it’s hard to give each patient the time and attention they need.” (Social Worker 5)

Discussion

This study explored the role of interdisciplinary collaboration in addressing social determinants of health (SDOH) and improving oral and nutritional health outcomes in a tertiary hospital setting. The findings emphasize the significance of SDOH in influencing patient health and the critical role that collaboration between laboratory specialists, dentists, clinical nutritionists, and social workers plays in providing comprehensive care. Despite the clear benefits of interdisciplinary efforts, challenges such as resource limitations and time constraints remain barriers to fully addressing the social factors that affect patient outcomes.

Impact of Social Determinants on Health

The study reinforces existing literature that highlights the profound influence of social determinants, such as food insecurity, housing instability, and limited access to healthcare, on both oral and nutritional health. Consistent with the findings of Marmot et al. (2008), participants in this study noted that patients facing socioeconomic challenges were more likely to suffer from malnutrition, poor oral health, and chronic diseases exacerbated by these conditions. Food insecurity, in particular, was frequently mentioned by nutritionists and social workers as a primary barrier to maintaining a healthy diet and managing chronic illnesses, which aligns with prior research showing that individuals in low-income settings are more likely to have unhealthy dietary patterns (Seligman et al., 2010).

The link between SDOH and oral health outcomes was similarly clear. As noted by dentists in this study, patients from lower socioeconomic backgrounds often experienced greater barriers to accessing dental care, leading to untreated dental conditions such as caries and periodontal disease. This finding is consistent with the work of Watt et al. (2016), which highlights the disproportionate burden of dental disease among socioeconomically disadvantaged populations. These observations underscore the need for healthcare providers to address the underlying social factors that contribute to poor health, rather than focusing solely on medical interventions.

The Role of Interdisciplinary Collaboration

The study highlights the importance of an interdisciplinary approach in addressing the complex needs of patients affected by SDOH. Each professional—laboratory specialists, dentists, clinical nutritionists, and social workers—brings a unique perspective that contributes to holistic patient care. This aligns with previous research suggesting that interdisciplinary collaboration enhances the quality of care by allowing healthcare providers to address both medical and social aspects of health (Reeves et al., 2016).

Dentists and nutritionists emphasized the value of working closely with social workers to ensure that patients' social challenges, such as lack of access to food or transportation, were addressed alongside their medical and dental needs. The findings also reveal that laboratory specialists play a vital role in diagnosing conditions related to poor nutrition, such as vitamin deficiencies or anemia, which enables timely intervention by nutritionists. This collaboration ensures that the health team addresses the broader context of patients' lives, which is particularly important in managing chronic health conditions that are exacerbated by SDOH.

Effective communication between team members was key to successful collaboration, with participants noting that regular interdisciplinary meetings allowed them to share insights and coordinate care effectively. This finding supports the work of Smeulders et al. (2014), who found that structured communication among healthcare teams improves patient outcomes by reducing gaps in care and ensuring that all aspects of a

patient's health are considered. However, the study also highlights the need for further integration of communication tools, such as shared electronic health records, to facilitate seamless coordination between team members.

Challenges in Addressing SDOH

Despite the positive impact of interdisciplinary collaboration, participants identified significant challenges in fully addressing the SDOH that affect oral and nutritional health. One of the major barriers was the limited availability of resources, particularly for social workers, who frequently struggled to connect patients with housing, food, or financial support. This finding is consistent with existing literature on the limitations of social services in many healthcare settings (Hsu et al., 2020). Social workers reported that long waitlists for community programs and limited funding for social services made it difficult to provide timely support to patients, which in turn affected their ability to follow through with health recommendations.

Another key challenge was time constraints, particularly in the fast-paced environment of a tertiary hospital. Healthcare professionals noted that while they recognized the importance of addressing social determinants, the demands of daily clinical care often meant that they had limited time to dedicate to each patient's social needs. This echoes the findings of Chuang et al. (2016), who reported that time pressures are a common barrier to providing comprehensive care in hospital settings.

Implications for Practice

The findings of this study have important implications for healthcare practice, particularly in terms of improving interdisciplinary collaboration and addressing SDOH. First, healthcare systems should prioritize regular interdisciplinary meetings where team members can discuss patient cases, share insights, and coordinate care plans. These meetings ensure that each professional's expertise is integrated into the patient's care and that social determinants are addressed alongside medical needs. Moreover, hospitals should invest in improving communication tools, such as shared electronic health records, to facilitate seamless collaboration between team members and ensure that patient information is easily accessible to all.

Second, hospitals and healthcare providers must advocate for increased funding and support for social services, particularly in addressing the SDOH that disproportionately affect disadvantaged populations. Strengthening partnerships between healthcare systems and community organizations is essential to ensure that patients receive the social support they need, whether it be housing assistance, access to nutritious food, or transportation services.

Third, healthcare professionals should receive ongoing training on how to identify and address SDOH in clinical practice. This training would enable them to recognize the signs of social distress and make appropriate referrals to social workers or community programs, thereby improving patient outcomes.

Limitations and Future Research

This study has several limitations. The sample size was relatively small and limited to a single tertiary hospital, which may affect the generalizability of the findings. Additionally, the study relied on self-reported data from healthcare professionals and patients, which may be subject to recall bias or social desirability bias. Future research could expand the scope of this study by including a larger sample of healthcare providers and patients from multiple hospital settings. Furthermore, longitudinal studies could provide

valuable insights into the long-term impact of interdisciplinary interventions on addressing SDOH and improving patient outcomes.

Conclusion

This study highlights the critical role of interdisciplinary collaboration in addressing the social determinants of health that affect oral and nutritional health in a tertiary hospital setting. By integrating the expertise of laboratory specialists, dentists, clinical nutritionists, and social workers, healthcare teams can provide more comprehensive care that addresses both medical and social factors. However, significant challenges remain, particularly in terms of resource limitations and time constraints, which must be addressed to optimize patient care. Moving forward, healthcare systems must prioritize interdisciplinary collaboration, advocate for increased support for social services, and provide training to healthcare professionals on addressing SDOH, ultimately improving health outcomes for vulnerable populations.

References:

1. Andermann, A. (2016). Taking action on the social determinants of health in clinical practice: a framework for health professionals. *Cmaj*, 188(17-18), E474-E483.
2. Dye, B. A. (2012). *Oral health disparities as determined by selected healthy people 2020 oral health objectives for the United States, 2009-2010* (No. 100). US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.
3. Hsu, C., Cruz, S., Placzek, H., Chapdelaine, M., Levin, S., Gutierrez, F., ... & Cheadle, A. (2020). Patient perspectives on addressing social needs in primary care using a screening and resource referral intervention. *Journal of General Internal Medicine*, 35, 481-489.
4. Lee, H. H., Lewis, C. W., Saltzman, B., & Starks, H. (2012). Visiting the emergency department for dental problems: trends in utilization, 2001 to 2008. *American journal of public health*, 102(11), e77-e83.
5. Marmot, M., Friel, S., Bell, R., Houweling, T. A., & Taylor, S. (2008). Closing the gap in a generation: health equity through action on the social determinants of health. *The lancet*, 372(9650), 1661-1669.
6. Phelan, J. C., Link, B. G., & Tehranifar, P. (2010). Social conditions as fundamental causes of health inequalities: theory, evidence, and policy implications. *Journal of health and social behavior*, 51(1_suppl), S28-S40.
7. Reeves, S., Fletcher, S., Barr, H., Birch, I., Boet, S., Davies, N., ... & Kitto, S. (2016). A BEME systematic review of the effects of interprofessional education: BEME Guide No. 39. *Medical teacher*, 38(7), 656-668.
8. Seligman, H. K., & Schillinger, D. (2010). Hunger and socioeconomic disparities in chronic disease. *N Engl J Med*, 363(1), 6-9.
9. Valaitis, R. K., Wong, S. T., MacDonald, M., Martin-Misener, R., O'Mara, L., Meagher-Stewart, D., ... & Savage, R. (2020). Addressing quadruple aims through primary care and public health collaboration: ten Canadian case studies. *BMC Public Health*, 20, 1-16.
10. Watt, R. G., Heilmann, A., Listl, S., & Peres, M. A. (2016). London charter on oral health inequalities. *Journal of dental research*, 95(3), 245-247.
11. Walker, R. E., Keane, C. R., & Burke, J. G. (2010). Disparities and access to healthy food in the United States: A review of food deserts literature. *Health & place*, 16(5), 876-884.
12. World Health Organization. (2012). Social determinants of health. Retrieved from https://www.who.int/social_determinants/sdh_definition/en/