JOURNAL OF INTERNATIONAL CRISIS AND RISK COMMUNICATION RESEARCH
ISSN: 2576-0017
2024, VOL 7, NO S7

Assessment of Nutritional Awareness and Healthy Lifestyle of Makkah Health Cluster Hospitals Employees

Nour Alalawi[1], Eman Alqahtani[2], Ahmad Alessa[3], Bayan Alhabidi[4], Bothainah Al-Hawsawi[5], Basmah Bukhari[6], Fatimah Algarni[7], Nhal Baz[8], Hasan baz[9], Monerah Alotaibi[10], Amani Hawsawi[11], Mada Alotaibi[12]

1. *NAlalawi@makkahhc.sa , senior nutrition specialist, Executive Management Community Engagement, at Makkah Health Cluster, Makkah, Kingdome of Saudi Arabia.*
2. *senior nutrition specialist, clinical nutrition administration, King Abdulla Medical City, Makkah, Kingdome of Saudi Arabia.*
3. *Respiratory Specialist, Respiratory Therapy Administration, King Abdullah Medical City, Makkah, Kingdom of Saudi Arabia.*
4. *nutrition specialist, Makkah Health Care Cluster, Makkah, Kingdom of Saudi Arabia.*
5. *Nutrition Specialist, clinical nutrition administration, King Abdulla Medical City, Makkah, Kingdome of Saudi Arabia.*
6. *Nutrition Specialist, clinical nutrition administration, King Abdulla Medical City, Makkah, Kingdome of Saudi Arabia.*
7. *Nutrition Specialist, clinical nutrition department, Al-Noor Specialist Hospital, Makkah, Kingdom of Saudi Arabia.*
8. *Consultant in Periodontics and Implant Dentistry, Maxillofacial and dental surgery department, King Abdallah medical city, Makkah, Kingdom of Saudi Arabia.*
9. *Pharm. D, Pharmaceutical care department, King Abdallah medical city, Makkah, Kingdom of Saudi Arabia.*
10. *Dental assistant technician, Maxillofacial and dental surgery department, King Abdallah medical city, Makkah, Kingdom of Saudi Arabia.*
11. *Dental Assistant, Maxillofacial and dental surgery department, King Abdallah medical city, Makkah, Kingdom of Saudi Arabia.*
12. *Nursing technician, Yarmouk Primary health care centre, Riyadh, Kingdom of Saudi Arabia.*

Abstract

Background

Nutrition knowledge is crucial for promoting healthy dietary practices and preventing non-communicable diseases (NCDs) like obesity, type 2 diabetes, cardiovascular diseases, and cancer. In Saudi Arabia, rising living standards have led to lifestyle changes contributing to the prevalence of NCDs. Despite this, there is limited research on the nutritional awareness and lifestyle behaviors of healthcare workers, particularly in Makkah Health Cluster Hospitals. This study aims to evaluate the nutritional knowledge, dietary habits, and perceptions of healthy lifestyles among hospital employees to inform potential interventions.

Objectives

Assess nutritional knowledge, dietary habits, and lifestyle behaviors as well as, Identify areas for improvement in workplace dining facilities and employee nutrition education.

Materials and Methods

- **Study Design**: Cross-sectional, prospective, and non-interventional.
- **Population**: Employees (clinical and non-clinical) of 10 Makkah Health Cluster Hospitals.

- **Sample Size**: Based on the total employees, representative sample calculated statistically.
- **Data Collection Tools**: A validated questionnaire covering demographics, dietary habits, and self-reported anthropometric measurements.
- **Data Analysis**: Descriptive and inferential statistics (SPSS/STATA).

Results

Among 243 respondents (58% male, median age: 38 years), 29% had a BMI ≥ 25, indicating overweight or obesity. While 63% engaged in moderate physical activity, gaps in nutritional knowledge and dietary habits were evident, with many employees lacking awareness of calorie needs and consuming high amounts of coffee. Additionally, significant dissatisfaction with workplace dining facilities was reported. These findings highlight the need for workplace policy interventions, including improved dining facilities, enhanced nutritional education, and increased involvement of dietitians to support healthy eating and lifestyle behaviours among healthcare employees.

Conclusion

The study highlights the need for evidence-based dietary policies, enhanced nutrition education, and improved dining facilities in healthcare institutions. Lifelong nutrition education and greater involvement of registered dietitians are essential for fostering healthy behaviors among healthcare employees

Introduction

Nutrition knowledge plays a crucial role in influencing healthy dietary choices, promoting overall well-being, and maintaining appropriate body weight across various population groups [1]. With Saudi Arabia's rapid economic development and rising living standards, significant changes have been observed in the lifestyle and dietary habits of its people [1, 2, and 3]. These lifestyle changes, including physical inactivity, sedentary behaviour, lack of sleep, and increased consumption of calorie-dense diets and sugar-sweetened beverages, have contributed to a surge in non-communicable diseases (NCDs). Such diseases include obesity, type 2 diabetes, cardiovascular diseases, and cancer [4, 5, 6, 7, 8, 9].

According to the World Health Organization (WHO), approximately 40% of the global NCD burden is linked to modifiable risk factors such as physical inactivity and poor nutrition [9, 10]. Physical inactivity alone accounts for 9% of premature mortality worldwide [11]. Additionally, unhealthy dietary patterns have been identified as a significant contributor to coronary artery disease and other cardiovascular diseases, leading to global mortality. Atherosclerosis and dyslipidaemia, associated with these conditions, can be mitigated through nutritional interventions or pharmacological treatments [12].

The global rise in NCDs can be significantly curtailed through appropriate nutrition, regular physical activity, and adoption of a healthy lifestyle. This involves leisure activities, stress management, and overall well-being. Educating the public on nutrition and health offers a valuable opportunity to improve dietary practices and empower individuals to enhance the quality of their diets [13, 14]. Nutrition knowledge not only influences food selection but also aligns with nutrient intake; which can vary across regions and cultures. Consequently, raising

awareness of the importance of balanced meals and healthy dietary habits is essential in promoting behavioural changes [9, 10, 11, and 15].

In Saudi Arabia, there is a gap in research on the public's knowledge and perception of healthy lifestyles, particularly regarding nutrition. This study aims to assess the nutrition knowledge, eating habits, and perceptions of healthy lifestyle behaviours among employees in Makkah Health Cluster Hospitals, including King Abdullah Medical City, Hera General Hospital, Al-Noor Specialist Hospital, and others. The findings will offer valuable insights into the current obesity status, lifestyle behaviours, and dietary habits of healthcare workers in the region. This is crucial as diet and physical activity play significant roles in maintaining health and preventing diseases [16].

Keywords: Nutrition knowledge, lifestyle changes, physical inactivity, obesity, type 2 diabetes, cardiovascular diseases, dietary patterns, nutritional interventions

Materials and Methods:

In a cross-sectional study assessing the nutritional knowledge, dietary habits, and nutritional status of Makkah Health Cluster Hospitals Employees, the materials and methods section typically includes:

1. Study Design:

- **Type of Study:** This is a cross-sectional, prospective, non-interventional study.
- **Study Population:** Employees of hospitals under the Makah Health Cluster, including:
  - King Abdullah Medical City
  - Hera General Hospital
  - Al-Noor Specialist Hospital
  - Maternity and Children Hospital
  - King Abdul-Aziz Hospital
  - King Faisal Hospital
  - Ajyad Emergency Hospital
  - Ibn Sina Hospital
  - Khulais Hospital
  - Al Kamel Hospital

2. Inclusion and Exclusion Criteria

- **Inclusion Criteria:** All employees of the hospitals within the Makah Health Cluster (both clinical and non-clinical staff).
- **Exclusion Criteria:** Employees who decline to participate or those unable to complete the survey.

3. Sample Size:

The sample size will be calculated based on the total number of employees in the health cluster. Statistical formulas can be applied to determine the representative sample size needed to ensure valid conclusions.

4. Data Collection Tools:

Survey Instrument: A validated questionnaire will be used to assess:

- Nutritional knowledge
- Dietary habits
- Nutritional status (may include self-reported or measured anthropometric data such as weight, height, and BMI).

- The questionnaire may consist of both closed- and open-ended questions to gather comprehensive data.

5. Data Collection Procedure:

- **Recruitment:** Hospitals employees invited to participate in the study.
- **Questionnaire Distribution:** Surveys can be distributed electronically (via email or online platforms) or in paper form, depending on participant preference and availability.
- **Nutritional Status Measurement:** Self-reported anthropometric measurements (such as weight and height) collected to estimate BMI, or in some cases, measured by trained personnel if possible.

6. Study Variables:

- **Independent Variables:**
  - Demographics (age, gender, job role, etc.)
  - Nutritional knowledge score
  - Dietary habits (frequency of meal consumption, food types, etc.)
- **Dependent Variables:**
  - Nutritional status (BMI or other relevant anthropometric measures)

7. Statistical Analysis:

- Descriptive statistics (mean, median, percentages) used to summarize the data.
- Associations between nutritional knowledge, dietary habits, and nutritional status assessed using appropriate statistical tests (e.g., chi-square test for categorical variables, correlation tests for continuous variables).
- Statistical software such as SPSS used for data analysis.

8. Ethical Considerations:

- The study will be conducted in accordance with ethical guidelines, ensuring confidentiality, and the right to withdraw from the survey at any time.

Results:

A. Baseline Data

The sample used for calculations included **243** healthcare workers—the overall characteristics are given in Tables 1. The majority of respondents were males (**58%** of working healthcare workers), current non-smokers (**70%** of working healthcare workers), and had a normal waist circumference (71.1% of working healthcare workers). A BMI (kg/m2) ≥ 25 was found in **29%** of healthcare workers. The majority of respondents declared at least moderate recreational physical activity— **63%** of healthcare professionals (Supplementary Table 1).

Table 1. Characteristics of the employee respondents.

Type of employee respondents

Type of Healthcare Workers		
		Number: 243
Sex	Females	N= 102(42%)
	Males	N= 141 (58%)
Smoking	No	N= 170 (70%)
	Yes	N= 46 (19%)

	Yes, used to smoke **	N= 27 (11%)

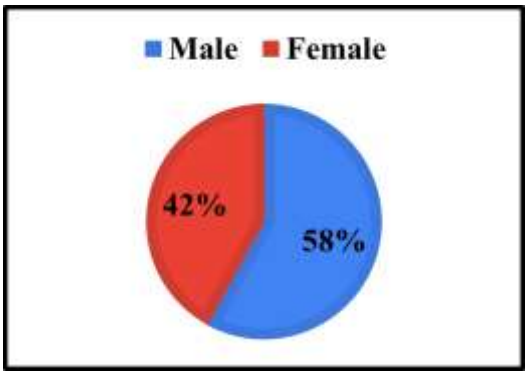

Figure 1: Sex

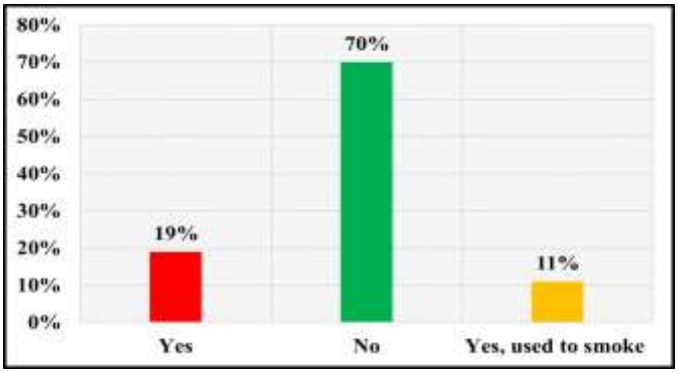

Figure 2: Smoking

* Other includes physiotherapy (n = 5), nursing (n = 12), technicians (n = 7), Administrative staff (n = 3). ** In brackets percentage of those who do not smoke now.

The median age was 38 years (20–70) among healthcare Workers (Table 2).

Table 2. Age groups among employee respondents.

Healthcare Workers		
		Number: 243
	20-30	N= 10 (4%)
Age groups	31-40 years	N= 129 (53%)
	41-50	N= 73 (30%)
	51-60	N= 29 (12%)
	61-70	N= 2 (1%)

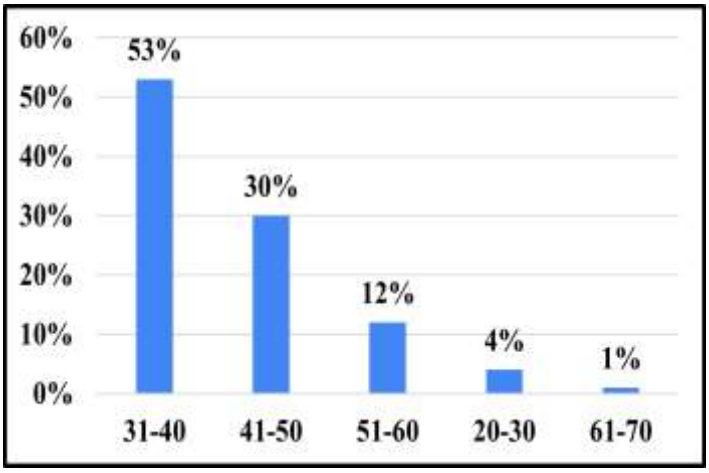

Figure 3: Age Group

B. Dietary Patterns and Nutrition Knowledge

Figures 4–12 display the values and range of dietary habits and knowledge

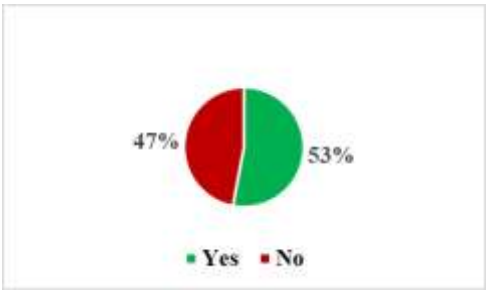

Figure 4: Number of Naps Hours.

Figure 5: Suffer from Chronic Diseases.

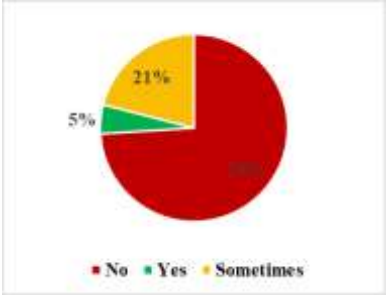

Figure 6: Energy Drinks.

Figure 7: Drinking Coffee**.**

Figure 8: Do you know how many calories you need.

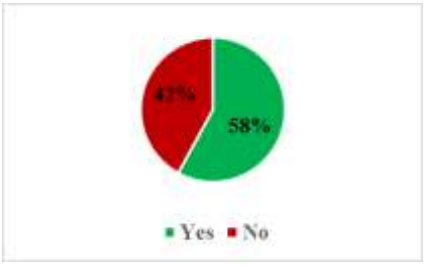

Figure 9: Awareness of the quality of food that suits your health condition.

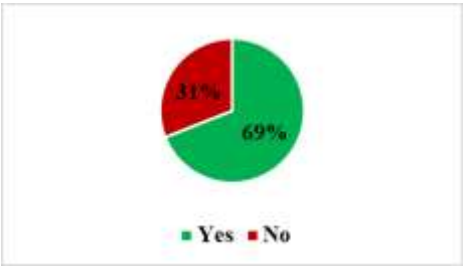

Figure 10: Keen to eat breakfast early.

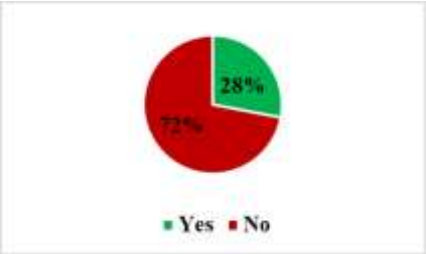

Figure 11: Proper dining hall in the workplace.

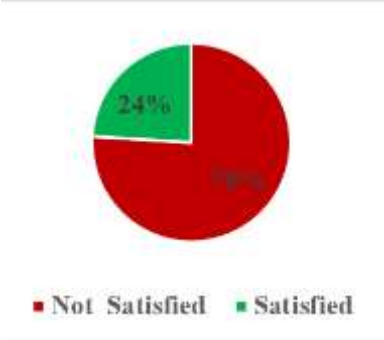

Figure 12: In the event that there is a dining hall, what is your degree of satisfaction.

Discussion

Our study examined associations between a range of dietary, and lifestyle behaviours as well as nutrition knowledge in a sample of Makkah Health Cluster hospitals employees. A validated survey was used for the assessment. Our results revealed variable dietary patterns across Makkah Health Cluster hospitals employees. The analysis shows the highest percentage of employees drinking coffee as well as high percentage of the employees not aware of how many calories they need. High percentage of the employees reported non proper dining hall in the workplace with high percentage of dissatisfaction Thus, there is room for improvement in terms of the eating habits, dining hall ,and dietitian knowledge of all healthcare respondents. Nutritionist could develop some strategies on nutrition among the healthcare workers and improve the work place dining hall. However, evidence is limited in relation to healthcare professionals. Recent meta-analysis evaluated the effectiveness of such interventions, with results being inconclusive yet promising. Dietary awareness and knowledge are factors that improve eating behaviors, but they do not guarantee optimal dietary habits and satisfactory health outcomes. Previous studies reported a variable association between nutrition knowledge and food consumption. Yet, in our study, nutrition knowledge scores were significantly correlated with the. Knowledge itself does not stimulate change, but positive eating habits may dietary habits. Our results indicate that worse self-reported nutritional knowledge was also associated with lower nutritional knowledge scores. Age should be taken into consideration in this context .Thus; our results emphasize the need for life-long nutrition education for all healthcare workers. Globally, physicians recall receiving limited or inadequate nutrition education in medical school. Our results highlight a strong need for expanding the opportunities for and involvement of registered dietitians to improve employee's knowledge.

Limitations

Self-reported dietary assessments, such as ours, are prone to underreporting bias and errors, such as a lack of daily nutrient and caloric intake. An uneven number of male and female

respondents, as well as an inconsistent number of representatives of different medical specialties, altered the statistical integrity and reduced the accuracy of the assessment. Yet the length and the content (for example, the calculated dietary indexes are based on an omnivore diet only) of the questionnaire might have discouraged respondents and resulted in the meaningfully diminished response rate. An interest toward health evaluations is characteristic for people with higher nutrition knowledge and food literacy too.

Conclusion:

Our results illustrate nutrition trends among Makkah Health cluster employees, and such results should encourage the development of specific evidence-based dietary policies in healthcare institutions dedicated to both patients and the workforce. Nutrition is a cornerstone of modern medicine, and a personalized approach to nutrition provides essential building blocks for cellular function, immune system strength, and organ performance. Registered dietitians should be able to more actively participate in the process of patient care, which could ease the overwhelming burden of physicians. High-quality continuing nutrition education should be obligatorily provided to all healthcare workers to enhance their own dietary awareness as well as ensure the high quality of life.

References

1. Hendee, William R. “To Err Is Human: Building a Safer Health System.” Journal of Vascular and Interventional Radiology, vol. 12, no. 1, 2001, https://doi.org/10.1016/s1051-0443(01)70072-3.

2. Weaver, Sallie J., et al. “Promoting a Culture of Safety as a Patient Safety Strategy.” Annals of Internal Medicine, vol. 158, no. 5_Part_2, 2013, p. 369., https://doi.org/10.7326/0003-4819-158-5-201303051-00002.

3. “Patient Safety.” World Health Organization, World Health Organization, https://www.who.int/newsroom/ fact-sheets/detail/patient-safety.

4. Monaca, Clara, et al. “Assessing Patients' Perceptions of Safety Culture in the Hospital Setting:Development and Initial Evaluation of the Patients' Perceptions of Safety Culture Scale.” Journal of Patient Safety, vol. 16, no. 1, 2017, pp. 90–97., https://doi.org/10.1097/pts.0000000000000436.

5. Albalawi, Abdulmajeed, et al. “Factors Contributing to the Patient Safety Culture in Saudi Arabia: A Systematic Review.” BMJ Open, vol. 10, no. 10, 2020, https://doi.org/10.1136/bmjopen-2020- 037875

6. Diet, Physical Activity, and Cancer: A Global Perspective" (American Institute for Cancer Research, AICR)

7. Global Burden of Disease Study" (GBD Study)

8. The Obesity Epidemic and Its Impact on Health" by James A. Levine

9. Nutrition knowledge not only influences food selection but also aligns with nutrient intake, which can vary across regions and cultures. Consequently, raising awareness of the importance of balanced meals and healthy dietary habits is essential in promoting behavioral changes

10. Culture and its Influence on Nutrition and Oral Health

11. Regional and cultural differences in nutrition

12. Food Consumption and its impact on Cardiovascular Disease: Importance of Solutions focused on the globalized food system

13. Healthy lifestyle interventions to combat noncommunicable disease—a novel nonhierarchical connectivity model for key stakeholders: a policy statement from the American Heart Association, European Society of Cardiology, European Association for Cardiovascular Prevention and Rehabilitation, and American College of Preventive Medicine

14. Responding to the Challenge of Non-communicable Diseases

15. Lifestyle Diseases: The Link between Modern Lifestyle and Threat to Public Health

16. Exploration of the nutrition knowledge among general population: multi—national study in Arab countries