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Effect of Nutrition on Health of Patients Suffering from Chronic Disease

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Abstract - The mechanics of the chronic illness process are better understood, and treatments have been shown to minimize risk, thanks to a Joint WHO/FAO Expert Consultation on Diet, Nutrition, and the Prevention of Chronic Diseases held in Geneva from January 28th to February 1st, 2002. Industrialization, urbanization, economic growth, and market globalization have all contributed to significant dietary and lifestyle shifts, and these shifts have increased over the last decade. The term "nutrition" refers to the consumption of food in proportion to one's dietary requirements. The study found that 80.8% of the 401 Umrah pilgrims with chronic illnesses were currently taking medication. Type 2 diabetes accounted for 41.4% of all illnesses. 206 HCPs at Sligo University Hospital responded to the NUTCOMP survey.

Keywords - chronic diseases, nutrition, health, patients, world health organization

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INTRODUCTION

The World Health Organization and the Food and Agriculture Organization of the United Nations held a joint expert consultation on diet, nutrition, and the prevention of chronic diseases from January 28 - February 1, 2002 in Geneva. To represent the UN FAO and WHO Directors-General, Dr. D. Yacht, Executive Director, Noncommunicable Diseases and Mental Health, WHO, started the meeting. The Consultation was a follow-up to the 1989 meeting of a World Health Organization (WHO) Study Group on Diet, Nutrition, and the Prevention of Noncommunicable Diseases, which had made recommendations for the reduction of chronic illness and its effect.

The Consultation acknowledged that the rising pandemic of chronic illness impacting both rich and developing nations was tied to food and lifestyle changes, and so it set out to assess the significant scientific progress that has been achieved in several areas. For instance, we now have more reliable epidemiological data with which to assess potential dangers, and the outcomes of many controlled clinical studies can be examined. Interventions have been shown to minimize risk, and the underlying processes of the chronic illness process are becoming more understood. The importance of nutrition in preventing and regulating morbidity and premature death due to noncommunicable illnesses has become clearer because to the fast development of a number of important scientific domains over the last decade, in particular the quantity of population-based epidemiological data (NCDs).

Particular food groups that raise an individual's risk for various illnesses have been discovered, as have therapies to mitigate their effects. Dietary and lifestyle changes associated with industrialization, urbanization, economic growth, and the globalization of markets have increased during the last decade. Particularly in emerging and transitional nations, this is having a major effect on population health and nutrition. While living standards have risen, food availability has grown and diversified, and access to services has improved, there have been serious drawbacks in the form of unhealthy eating habits, inactivity, and tobacco use, leading to an alarming rise in chronic diseases that are directly linked to poor diet, particularly among the poor.

The term "nutrition" refers to the consumption of food in proportion to one's dietary requirements. The foundation of health is proper nutrition, which consists of a sufficient, balanced diet and frequent physical exercise. Negative effects on health, development (physical and mental), and productivity might result from a lack of proper diet (WHO, 2019)

A chronic ailment is one that lasts a long period or has enduring symptoms, or one that develops over time. When a patient has symptoms for more than three months, doctors frequently label their condition as chronic. Diabetes, functional gastrointestinal disorder, eczema, arthritis, asthma, cancer, COPD, Lyme disease, autoimmune diseases, genetic disorders, and some viral diseases like hepatitis C, acquired immunodeficiency syndrome, and stroke are all examples of chronic diseases that affect a large percentage of the population. Terminal sickness is defined as one that ultimately results in

death and hence lasts for the rest of one's life. Altering a disease's classification from terminal to chronic is achievable and not unheard of. Such diseases as diabetes and HIV, which were formerly fatal but are now deemed chronic owing to the availability of insulin for diabetics and daily medication therapy for persons with HIV, have been reclassified as chronic.

LITERATURE REVIEW

Omorogieva Ojo (2019) In light of the worldwide increase in these illnesses, the growth in the elderly population, and the enormous cost to health care systems, this editorial explores and analyses the importance of dietary interventions in the treatment of chronic ailments. Researchers have looked at the significance of unsaturated fatty acids, vitamins, and bioactive compounds in chronic disease management, and their findings support the use of low-glycemic index (GI) and low-carbohydrate diets for the treatment of type 2 diabetes. However, despite the importance of multifaceted techniques in the treatment of various chronic illnesses, dietary interventions are crucial and key to these tactics.

Christian A. Gregory (2017) According to this study, persons of working age whose household income is at or below 200 percent of the federal poverty level have a significantly higher risk of having a chronic health condition if they do not have access to (FPL). All of the chronic illnesses we look at—hypertension, coronary heart disease (CHD), hepatitis, stroke, cancer, asthma, diabetes, arthritis, chronic obstructive pulmonary disease (COPD), and kidney disease—have higher prevalence rates in areas with poorer food security. There is a robust correlation between food insecurity and the prevalence of chronic illness, the number of chronic diseases one has, and one's own perception of their own health. As a result, it is essential to examine the whole spectrum of family food security (high, marginal, low, and extremely poor) in order to comprehend people's experiences with chronic disease and, more broadly, health. In fact, in certain circumstances, food insecurity is a stronger predictor of chronic disease than income itself. Only three of the ten chronic illnesses analyzed in this paper have been shown to have a substantial relationship with income, but food insecurity is linked to every single one.

Wullianallur Raghupathi (2018) Using the CDC's data with visualization and descriptive analytics methods, this study investigates the contemporary landscape of chronic illnesses in the USA. Chronic illness conditions, behavioral and mental health, demographics, and broader situations are the five primary groups of factors examined. These are examined in the context of U.S. regions and states to identify potential associations between a wide range of factors. There are large differences across states when it comes to the incidence of certain chronic illnesses, the frequency with which certain diseases are hospitalized, and the rates at which they are diagnosed and lead to death. The risks and costs associated with chronic illnesses may be reduced by the implementation of effective management, mitigation, and preventative measures, and this can be achieved through the identification of such linkages. It is crucial that the government, non-governmental organizations (NGOs), policy makers, health professionals, and society as a whole address the negative impacts of an ageing population and comorbidity as soon as possible and effectively.

Shuzhen Zhao et.al (2022) The number of people dealing with more than one chronic condition is rising. Nonetheless, the hospital now implements chronic illness treatment in accordance with the division's standards. What this implies is that a patient with a chronic condition will need to visit many clinics to get the care they require. To assess the existing chronic illness management system in China's big third-class hospitals, this research provides 6 aspects (organizational management, medical service support, medical service, community alliance, self-management support, management information system) and 36 questions. A total of 143 medical professionals, including physicians, nurses, and other healthcare workers, participated in the survey for this research. Three essential components of the service delivery system for managing chronic diseases were extracted using principal component analysis (service management organization, management information system, medical core service). Then, a model describing the connection between the system's overall performance and its constituent parts was established using multiple regression. The regression model's weighting method identified three crucial service nodes of the system: access to medical specialists, patient monitoring management, and individualized intervention. The following three primary parts have a comparable effect on the system's performance as shown by the regression coefficients,

Donsky (2017) Diet-related health disorders affect about 70% of the U.S. population, putting them at higher risk for chronic disease. 117 million persons, or over half of the adult population, suffer from at least one chronic condition that may be prevented by making healthier food choices. More than 1.5 million Americans lose their lives each year to diet-related illnesses, making the present status of the nation's health a major public health problem. Groups of people, particularly those with lower socioeconomic position and communities of color, are at increased risk for developing chronic diseases like obesity because they lack access to affordable, healthy dietary options. Resulting health disparities are now major problems. Spending on healthcare in the United States now exceeds 17% of GDP. As the primary drivers of rising health care expenditures, chronic illnesses and their associated disorders are a major public health issue. In 2010, patients with one or more chronic medical disorders accounted for 86% of total health care expenditures. To answer this issue, we ran a literature search in SCOPUS

and PubMed to see whether there is any correlation between a plant-based diet high in whole foods and lower incidence of chronic illnesses. This dissertation investigates the role of a whole foods, plant-based (WFPB) diet in lowering the incidence of chronic disease and in managing the impacts of chronic illness after it has manifested.

RESEARCH METHODOLOGY

An individual's knowledge, talent, and attitude all play a role in his or her competence to carry out a given activity successfully. Anyone working to improve a person's diet, whether for disease prevention or the treatment of illnesses brought on by poor eating habits, is providing nutrition care. The purpose of this cross-sectional survey research was to characterize healthcare professionals' understanding, competence, and outlook on delivering nutrition care in clinical settings.

Equipment for Conducting Surveys. Confidence in knowledge of nutrition and chronic illness, confidence in nutrition abilities, and attitudes toward nutrition care were all measured using the validated NUTCOMP survey. Instead,then zeroing down on a specific ailment or state, like obesity, the questions in each subject area were written to cover as much ground as possible. In addition to questions on the respondent's demographics and educational background, the survey probes for indicators of how confident HCPs are in their ability to provide nutritional treatment. It all starts with gathering information, or Section 2.3. Between March and September of 2017, surveys were sent out to all of the wards of Sligo University Hospital. Statistics 2. SPSS, a statistical tool, version 24, was used for the analysis of the data.

For each question on the survey, we determined its frequency distribution as well as its mean, standard deviation, and range of values. Participant scores on knowledge and abilities were computed by aggregating the points awarded for each response (not confident = 1, not very confident = 2, fairly confident = 3, very confident = 4, and very confident = 5). Similar to the agreement/disagreement scale, a score of 1 indicates strong disagreement, 2 indicates moderate disagreement, 3 indicates neutral agreement, 4 indicates considerable agreement, and 5 indicates strong agreement. General practitioners and GP trainees were separated from hospital physicians, registered nurses and RN students, and allied health professionals. Comparisons of knowledge, competence, and attitude mean scores across these three groups were made using an independent between-groups analysis of variance (ANOVA). Skewness, kurtosis, and z-values were all computed, and all of the data fell within acceptable parameters.

Pearson's Chi-squared tests were used to examine the relationship between self-reported participation in continuing education on the topic of nutrition or self-reported prior nutrition education and self-confidence in knowledge about nutrition and chronic disease, self-confidence in nutrition skills, and attitudes towards nutrition care. Categories were combined to guarantee compliance with the assumptions underlying Chi-square testing.

Research was carried out in Makkah Al Mukarramah, Saudi Arabia, during the early months of 1439, at the peak of the Umrah season (1st September till 31th of December 2017). The study included 401 travelers (Umrah participants) who were selected at random and who filled out a data collecting form tailored to the recording of the most common chronic conditions among Umrah participants. Age, education, employment, marital status, socioeconomic position, medical history, and dietary intake were some of the socio-demographic variables that were collected (Weather participant take white or brown rice and bread, low or whole dairy products, low-fat meat or chicken, low-sugar or regular beverage, fresh or canned salty food, well-cooked or raw food). The SPSS 21.0 application was used for both data input and statistical analysis.

DATA ANALYSIS

HCP and thus includes the results of these polls. Pharmacists, physical therapists, occupational therapists, and medical assistants are all examples of allied health workers. Table 1 displays participant characteristics. The majority of the professionals who took part in the survey were women (71%), and the majority of them were between the ages of 25 and 44 (68%). While most respondents (78%) say they have completed a programmed that included nutrition-related material, almost identical percentages (78%) say they agree or strongly agree that they need further training in this area to be effective in their current position. While many people recognize the need of nutrition education, just 28% have actively pursued more training in this area.

Table 2 displays the average scores for each HCP group on a confidence-in-knowledge-of-nutrition-and-chronic-diseases scale from 1 to 35. No significant difference between HCPs was found ($p=0.072$). The relationship between body composition and the onset of chronic illness was cited as a point of most confidence by 43 percent of respondents. Most participants either answered some of the knowledge questions with some degree of confidence or some degree of uncertainty. Confidence in how body composition can influence the development of chronic disease, the interaction of various foods and nutrients with medications, and familiarity with the most recently published peer-reviewed evidence regarding nutrition and chronic disease were all positively associated with prior nutrition education ($p<0.05$).

Table 2 displays the average scores for each HCP group on the nutrition-related confidence scale, with a mean of 30.2 (7.7) out of a possible 55. Compared to other professions, allied health workers had significantly less confidence in their abilities

(p=0.029). A large percentage of responders (62%), said they are confident in their ability to understand biological facts. The majority of respondents said they were either slightly confident or not at all confident in every other ability except this one. An individual's level of confidence in their ability to: collect information on the food an individual usually eats; recommend changes in food choices for an individual with chronic disease; determine appropriate food or nutrition goals for an individual with a chronic disease was positively correlated with their level of previous nutrition education (Table 3).

Table 1: Participant characteristics (n=196)

Category	Subcategory	Frequency	Percentage
Profession	GP/GP trainee	15	7.7
	Doctor/med student	61	31.1
	Nurse/nurse student	106	54.1
	Allied health *	14	7.1
Gender	Male	58	29
	Female	142	71
Age	≤24 years	17	8.7
	25-34 years	68	34.7
	35-44 years	66	33.7
	45-54 years	37	18.9
	55+	8	4.1
Current job duration (years)	Mean ±SD = 12.1 ± 9.2	Range <1 year to 38 years	
Previous nutrition education (n=186)	Completion of a programmed that did not contain any nutrition content	39	21
	Completion of a programmed that contained some nutrition content	145	78
	Completion of a programmed that was predominantly focused on nutrition	2	1
Previous engagement in continuing education on the topic of nutrition	yes	54	27.6
	no	142	72.4
Need of further nutrition education	Strongly disagree	17	8.6
	Disagree	6	3
	Neither agree nor disagree	20	10.2
	Agree	101	51.3
	Strongly agree	53	26.9

Pharmacists, physical therapists, occupational therapists, and medical assistants are all examples of allied health workers.

Table 2: A Comparison of General Practitioners and General Practitioner Trainees, Medical Students and Nursing Students, and Allied Health Professionals Regarding Their Knowledge of Nutritional Care.

Category	Profession	n	Mean	SD	F	P
Knowledge (maximum =35)	GP/GP trainee Doctor/med student Nurse/nurse student Allied	15 61 106 14	18.3 20.5 19.6 17.1	3.5 4.7 4.6 6.7	2.36	0.072
Skills (maximum =55)	GP/GP trainee Doctor/med student Nurse/nurse student Allied	15 59 103 14	30.3 30.4 30.7 24.2	6.6 7.0 7.6 10.2	3.085	0.029
Attitude (maximum =40)	GP/GP trainee Doctor/med student Nurse/nurse student Allied	14 59 106 12	34 34.3 35.9 32.8	3.3 4.9 3.7 4.9	3.847	0.011

chronic disease, and formulating a meal plan for an individual with chronic disease (p=<0.05).

Even while a trip to Makkah may be both soothing and enjoyable, those with chronic conditions may have additional difficulties due to the physical constraints of travelling abroad. This research analyzed the prevalence of chronic illnesses and the eating habits of pilgrims who performed their first Umrah in 1439. (2017). Of the 401 Umrah pilgrims who reported having chronic illnesses, 65.38 percent were men and 65.38 percent were married (Figure 1). (Figure 2).

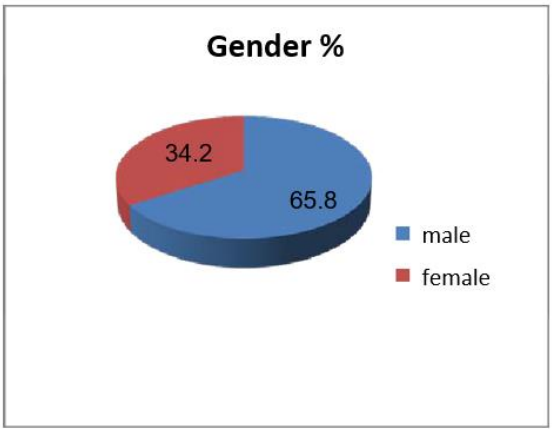

Figure 1*:* Frequency of gender

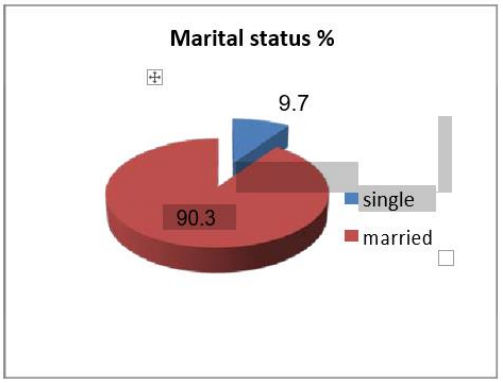

Figure 2: Frequency of married patients

Sixty-six percent of the patients were in the 21-40 age range, and no one was older than 80. (Figure 3).

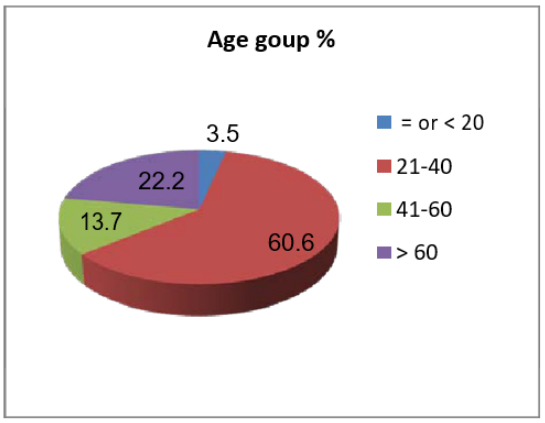

Figure 3: Frequency of age group

According to this research, 62.1% of Umrah pilgrims had completed high school and 37.4% had completed college or above (Figure 4).

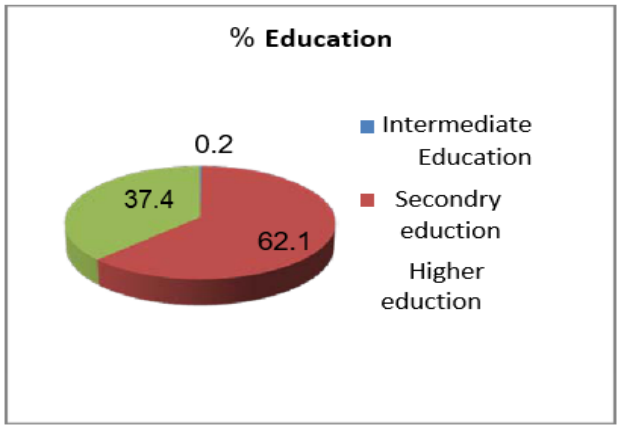

Figure 4: Frequency of education

The Saudis accounted for 21.7% of all Umrah pilgrims with chronic illnesses, followed by the Bangladeshis at 19.7% and the Egyptians at 14.4%. (Figure 5).

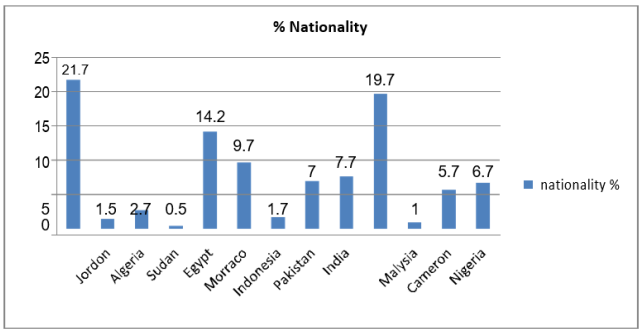

Figure 5: Distribution of chronic diseases according to nationality

The current study's findings were consistent with those of earlier investigations (28), which found that 42.5% of all patients were Saudi nationals and that the incidence in Saudi patients was higher than that in patients of other nationalities. According to this research, 41.4% of Umrah pilgrims suffer from diabetes mellitus, followed by 31.9% from hypertension, 31.9% from chronic respiratory illness, 6.5% from cardiovascular disease, and 1% from inflammatory bowel disease (Figure 6).

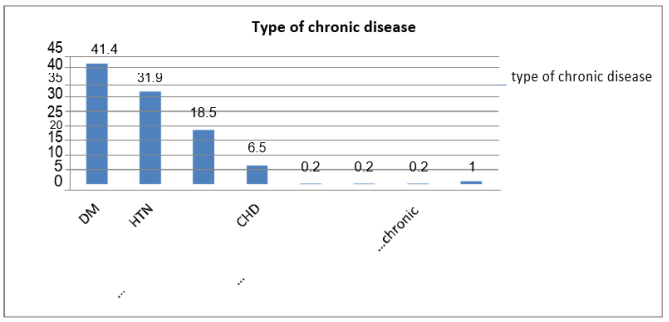

Figure 6: Type of chronic disease %

CONCLUSION

A chronic ailment is one that lasts a long period or has enduring symptoms, or one that develops over time Previous research (28), which also indicated that 42.5% of all patients were Saudi nationals and that the incidence in Saudi patients was greater than that in patients of other nationalities, corroborated the results of the present study. This study found that among those who performed the Umrah, 41.4% had diabetic mellitus, 31.9 % had hypertension, 31.9 % had chronic respiratory illness, 6.5 % had cardiovascular disease, and 1% had inflammatory bowel disease

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