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Patient Perspectives of Nutrition in Healthcare: An Exploratory Study

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PATIENT PERSPECTIVES OF NUTRITION IN HEALTHCARE: AN EXPLORATORY STUDY

by

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Approved:

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Abstract

Healthcare is one of the most debated and controversial issues facing our nation and the world today. From availability to affordability, healthcare influences the lives of millions of people daily. For more than a decade the World Health Organization has called for an integrated approach to improve global health by improving patient adherence to prescribed treatments. [1] Despite this, very little improvement has been made in adherence trends since the 1980's. [1] Some current research has focused on improved adherence through an understanding of the patient's perspective of healthcare. By understanding how the patient sees healthcare, physicians are able to provide more effective care.

This study focuses specifically on the role of nutrition in healthcare. Nutrition is implicated in the development and progression of some of the nation's most prevalent chronic conditions such as diabetes, heart disease, cancer, and obesity. [2] This study aims to explore and understand how patients expect nutrition to play a role in healthcare. This understanding will help align physician education and practice with patient expectations and may lead to improved care.

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SECTION 1

Objective

To understand how patients perceive nutrition and its role in healthcare both locally and nationally.

Background

Since the late 1990s the World Health Organization has called for a multidisciplinary approach to improve global health by increasing patient adherence to prescribed treatment plans. [1] These treatments include medication, diet, and lifestyle changes[1]. Experts generally accept the correlation between treatment adherence and overall health stating, "Poor adherence is the primary reason for suboptimal clinical benefit". [1] While over 200 variables affecting patient adherence have been identified little improvement in adherence has been made since the 1980s. [3] Some experts theorize that a lack of success is due to, "neglect of patient perspectives and an absence of qualitative research". [2] Understanding patient's perspectives of healthcare and its components may help shed light on the problem of non-adherence and allow physicians to better communicate with patients and provide quality healthcare.

Preliminary research on this topic conducted by assistant professor Rebecca Walton and graduate student researcher Ryan Price at Utah State University has been aimed at understanding the essence of what it means to be a low-income patient based on lived experience. Patients from a local free health clinic were interviewed and asked broad open-ended questions aimed at understanding their

experiences in various healthcare settings. This study aims to expand on that research by delving into patients' perspectives of diet and nutrition in healthcare.

Although diet is implicated in the development and progression of some of the world's most prevalent chronic conditions such as diabetes, heart disease, and obesity surveys show significant public confusion regarding healthy eating. [2] Buttriss reports that while 81% of the public considers diet to be an important component of health, a general cynicism and concern exists over the amount of contradictory information available. [3] Studies have shown that television, friends, and family serve as major sources of nutrition information especially among low-income participants. These are some of the most easily accessible sources of nutrition information but are also some of the lowest quality. [4] Other studies cite general practitioners as trusted sources of nutrition information who know a "great deal" about nutrition. [4,5] However, one survey of physicians showed that only 39% of U.S. medical graduates had taken a nutrition class and only 40% implemented any kind of nutrition assessment, counseling, or intervention in their practice. Surveys of U.S. medical schools show that only 23% have a required nutrition course as part of their curriculum. [6]

During preliminary work with patients of local free health clinic, the topic of nutrition was raised multiple times by participants. It became apparent that patients had different conceptions of nutrition than the physicians treating them. For example, one participant was instructed to increase iron intake to treat anemia. The patient could not recall any specific dierary advice given by the physician, and could not afford a supplement or name a single good food-source of iron. Two

participants mentioned using home remedies that included nutritional aspects but stated that it was not the doctor's job to prescribe these. Participants thought nutrition interventions were "more likely" to be found at home or learned from family than in clinics. This study aims to explore and understanding the topic of nutrition as perceived by patients.

SECTION 2

Materials and Methods

This study was planned in conjunction with Dr. Rebecca Walton and Dr. Heidi Wengreen. A proposal was approved by the IRB to work with human subjects. Two volunteer undergraduate researchers were taken on to assist with data collection and analysis. Data was collected by survey administration and analyzed using IBM's statistical software SPSS. The project was funded in full by the Utah State University College of Agriculture and Applied Sciences.

Participants were selected from patients at Cache Valley Community Health Clinic in Logan, Utah. This clinic exclusively serves patients who have no access to health insurance. This does not include those who are eligible for health insurance but elect not to pay for it. Drawing a sample from this group provided a socioeconomically homogenous population. The survey was administered to the first 200 consenting patients over the course of three months. Survey participation was not incentivized. The survey was comprised of four basic categories as outlined in Table 1.

Category	# of Questions
Demographic Information	4
Past Experience with Nutrition	8
Expectations of nutritional application	5
General nutrition knowledge	3
Total	**20**

Table 1.

Data from 209 surveys was compiled using Excel spreadsheets. Each data point was independently entered twice to ensure accuracy. Any discrepancies were

settled by the principle investigator for the sake of consistency. Surveys were administered in English and Spanish, and questions could be answered by checking applicable boxes or filling in free-response areas. Patient's free responses were assigned alphanumeric codes for brevity and convenience. Data was then imported to SPSS for statistical analysis. Frequency distributions, cross tabs, chi squared tests, and graphical analyses were carried out using this program. Figures found in this publication are adaptations of graphics generated in SPSS created in Microsoft Word and Excel.

Additional statistics were obtained from information regularly maintained by the Cache Valley Community Health Clinic as well as those published in scholarly articles or government documents.

Patient responses were anonymous and contained no identifying personal information. After survey administration, surveys were numbered, recorded, and are maintained on file for future use according to the standards set forth by the Institutional Review Board.

SECTION 3

A Need for Nutritional Knowledge

The first task in this study was to establish whether or not there is a need for nutrition in healthcare. The actual and perceived importance of nutrition in healthcare must be established before it can be integrated. The second task is to show a population that would be receptive to the assimilation of such information. If nutrition is indeed an important component of healthcare, it must be incorporated in a way that will be most easily received by patients.

In showing the importance of nutrition knowledge in healthcare we first turned to the United States Centers for Disease Control and Prevention (CDC). According to the CDC the top ten leading causes of death in the U.S. in 2010 were heart disease (597,689), cancer (574,743), chronic lower respiratory disease (138,080), stroke (129, 476), accidents (120,859), Alzheimer's disease (83,494), and diabetes (69,071), nephritis (50,476), pneumonia (50, 097), and suicide (38,364). [2] Of these, the Academy of Nutrition and Dietetics (AND) identifies seven of the top ten as being impacted by nutrition. [7] Heart disease, cancer, chronic lower respiratory disease, stroke, Alzheimer's disease, diabetes, and nephritis all have nutrition-related origins. The AND estimated the total cost of nutrition related conditions in the U.S. is $1.18 trillion annually. [5,8]

The need for nutrition knowledge in a healthcare setting was also demonstrated as patients reported the sources from which they received nutrition information. This portion of the survey was modeled after the 2011 "Nutrition and You" survey administered nationwide by the United States Department of

Agriculture (USDA) and included the same categories found in that survey. A comparison of local data to national data is shown in Figure 1. Our data shows that television, the Internet, and doctors served as trusted resources for both populations. Among the least utilized sources in both populations were dietitians, nurses, and educational classes. [9]

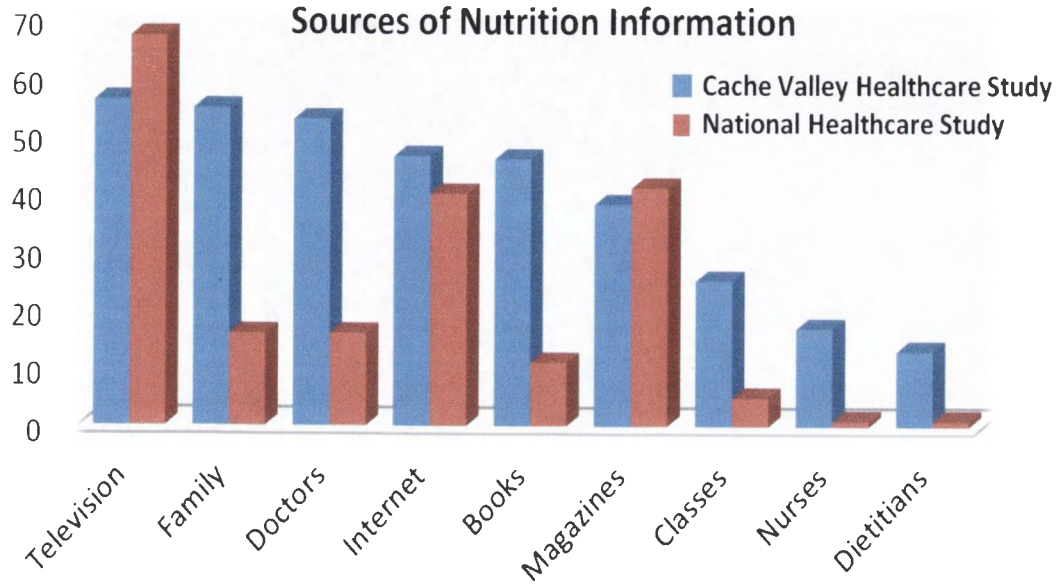

Figure 1.

The most frequent form of nutrition information presented on television comes from food industry-sponsored advertisements. The Internet also includes advertisements but is also an open source of information where information of varying levels of validity can easily be found and may be difficult to distinguish. Highly valid and reliable sources such as dietitians, nutritionists, and government-sponsored research-based classes are among the lowest utilized sources of

information. A majority (>60%) of participants also indicated that in the future they would be more likely to seek nutrition information from the media than professional sources.

This data shows that nutrition is intimately tied to health and should be an integral part of professional healthcare, counterbalancing nutrition information disseminated by adverting and mass media.

The second task of this research was to show a receptive population. It is clear that nutrition is tied to health, however, the sources to which patients are most receptive will influence how nutrition intervention is integrated.

Patients were asked about nutrition as both prevention and treatment in the clinic. Of those surveyed, most believed that chronic (87.9%) and acute (65.3%) illnesses could be prevented by diet. Additionally, most patients (85.7%) said they believed nutrition could be used as treatment. The population surveyed showed a high receptivity to nutrition in a healthcare setting.

Patients were also surveyed about their perception of their physician's education. Among patients surveyed in Cache Valley, 90% believe that physicians receive nutrition training. This is true regardless of age, gender, education level, or language spoken. Confidence in the nutritional competency of physicians is reflected in the fact that 75.9% of patients report following nutrition advice from a physician.

Percent of Patients Who Believe Doctors Receive Nutrition Training

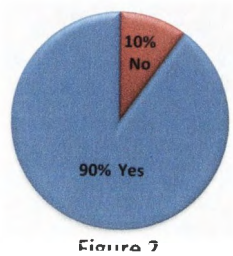

Figure 2

Percent of Medical Schools that Require Nutrition Training

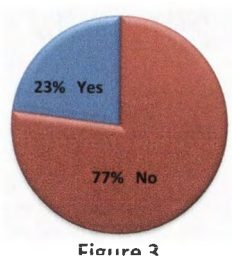

Figure 3

Showing A Lack of Nutrition in Practice

Although we did not survey local physicians for this study, their practices were ascertained from patient experience. In this study 57.8% of patients said a doctor has asked them about their diet. Additionally, just over half of the patients surveyed reported having been given nutrition advice by a physician. Patients reported on the nutrition advice they received in a free-response format. Three general pieces of advice accounted for more than 60% of advice given, they were: "eat more fruits and vegetables" (21.9%), eat less fat, grease, fatty foods, etc. (21.1%), and "eat healthy" (18.4%). This non-specific advice did not strike a chord with patients, only 15% of participants report having made a change in diet based on the advice of a physician.

Bridging the Gap

The information shows that patients are seeking nutrition information and that they believe it to be a legitimate part of healthcare. Patients are seeking information from the sources that are most readily available, which may not necessarily be the most accurate. [9,10] Physicians are not receiving nutrition training during their medical education and so are not implementing it as part of their practice. [5] Nutrition information that is disseminated by physicians at this clinic tended to be vague and general providing little or no help to most participants.

SECTION 4

Discussion

A need for nutrition knowledge

Our study, in conjunction with past research, shows that there is an unequivocal need for an increase of nutrition knowledge among healthcare professionals. According to the CDC, seven of the top ten leading causes of death in the U.S. are nutrition related. [2] In the Cache Valley clinic, records show that nutrition is a factor in three of the top five diagnoses Clinical studies such as the DASH and Portfolio diets indicate that diet can be at least as effective as pharmaceuticals in the treatment of nutrition related chronic diseases. [11]

A Receptive Population

Our research shows that a significant majority of patients are receptive to nutrition as both prevention and treatment. While more than half reported having taken nutrition advice from a physician only 15% made major dietary changes. This may be a result of non-specific advice given by physicians or confusion from other sources. [13,14]

Bridging the Gap

Most advice received from physicians was broad and general. Increasing nutrition education would increase specific advice that may increase patient adherence and benefit. [13] Confusion may also result from the fact that most patients seek information from media sources such as television and the Internet that have been cited as being less accurate than professional sources such as dietitians, books, and educational classes. [13,15]

Conclusion

Patients view nutrition as an important and useful part of healthcare. Patients expect to find nutrition advice in healthcare settings, however medical education and practice lag behind patient expectations.

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AUTHOR'S BIOGRAPHY

Matthew Gary Petersen matriculated at Utah State University Fall semester of 2007. He is currently a senior majoring in Nutrition Science with a Pre-Medical emphasis. Upon enrolling at Utah State he was awarded the Presidential Scholarship, the Young Epidemiology Scholarship and an Undergraduate Research Fellowship.

For three years Matthew worked under the direction of Dr. Timothy Gilbertson in the Center for Advanced Nutrition. He presented research on the TRPM5 channel and bitter taste perception at the National Conference on Undergraduate Research in 2011. During the summer of 2011 Matthew also worked in the infectious disease lab of Dr. Scott Bernhardt. This project, involving a strain of *Bartonella* bacteria carried by fleas, was related to the transmission and infection patterns of plague.

After finishing projects with Dr. Gilbertson's lab in early 2012 Matthew began work with Dr. Rebecca Walton in the department of English. As a Spanish translator, he helped conduct interviews with patients in Cache Valley. This research spurred the creation of a thesis project involving patient's perspectives of nutrition and how it relates to healthcare. With the help of Dr. Heidi Wengreen, this vision became a reality and the research was presented at the National Conference on Undergraduate Research in La Crosse, Wisconsin.

In addition to a rigorous research career, Matthew has excelled academically, maintaining a 3.96 GPA. He also volunteers his time across the Valley through

Access Hospice, Best Buddies, Logan Regional Hospital, Utah AIDS Foundation, and Cache Valley Community Health Clinic. Matthew has served as a Peer Mentor and Peer Advisor for the Honors Program and currently tutors for the USU Athletics Department.

In June 2013 Matthew will be applying to medical school. He is currently employed as an analyst with a healthcare intelligence firm based in Salt Lake City, Utah.

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