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Exploring The Inadequacy of Nutrition Education of General Physicians in Lahore, Pakistan - A Qualitative Study

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Abstract

General physicians are accountable for general health care of population. The inadequacy of nutrition education may have negative effects on quality of healthcare. Many studies showed improved nutrition status after implementing nutrition guidelines by doctors therefore, adequate nutritional knowledge is required for general physicians. Self-administered semi structured interviews of total 25 participants were conducted through non probability convenient sampling technique on 15 respondents till the point of saturation. The study was conducted from “Avicenna Medical and Dental Hospital Lahore” and also from “Nawaz Sharif Medical Complex Lahore”. Codes were assigned to similar situations and points to generate themes and subthemes.(Akyürek & Afacan, 2018a) The results emerged in the form of themes and subthemes as a result of thematic analysis through NVIVO. The themes generated are the role of nutrition education, adequacy of nutrition education, nutrition education and OPD, need for nutrition education, knowledge about human nutrition. The subthemes created as results are role of nutrition in disease prevention, primary nutritional management, nutrition education of young graduates and role of management bodies in nutrition education.

Keywords: Nutrition education in physicians, Human nutrition, Knowledge about human nutrition, Need of nutrition education, Nutritional management

Introduction

Over last few decades there has been an uprise in the importance of clinical nutrition and its effects on overall health of the patients. Therefore, it is established that clinical nutrition is as vital and important as medication for the disease prevention and maintenance. It also plays an important role in the treatment of various chronic conditions (Cuenca et al., 2020). Recent researchers have reported that there is a gap in nutrition knowledge in medical sector the medical professionals such as doctors and other paramedical staff such as nurses are the professionals who have a little

knowledge about human nutrition and its application in the field of healthcare (Coppoolse et al., 2020). A recent study conducted in Canada revealed that around 42 percent of the physicians working as general practitioners have limited knowledge of human nutrition (Zeldman & Andrade, 2020). Interdisciplinary health care team is essential in hospitals and healthcare institutes to provide sound quality of healthcare to patients. Thus, the objective of the present study was to assess the inadequacy of nutrition education in general physicians and importance of this education will result in advance the nutrition practice behavior and develop clinical outcomes.

Material and methods

Study design and sample size: The design of the study was qualitative, abductive theory approach study. Self-administered semi-structured interviews were conducted with total of 25 participants till the point of saturation (Akyürek & Afacan, 2018b). The point of saturation was established at 15 participants.

Sampling Technique: Non-probability convenient sampling technique

Inclusion Criteria: This study included the House officer, PGR working in hospital, General physicians with 2 to 5 years clinical experience.

Exclusion Criteria: The study excludes the participants who failed to lie in this category were excluded in this study, also not willing to participate, Participants on medication for anxiety or clinical depression and Clinicians having a gap in their clinical practice for one or more than one year.

Tools

Semi structured interviews had been conducted by the help of interview guide. To explore the thoughts of participants about nutrition education a questionnaire of 10 self-administered questions was used. The interview guide is attached in appendixes. In addition to that, an expert team has validated the questionnaire to get reliability test.

All questions of the questionnaire were marked on a four-point scale in accordance to the relevance to the research. The value of Cronbach's Alpha was calculated using SPSS. The result of reliability test and the value of Cronbach's Alpha calculated by SPSS is .904.

Statistical analysis

Self-administered semi structured interviews were conducted through non probability convenient sampling technique on 15 respondents till the point of saturation. The obtained data from interviews was analyzed through NVIVO. To meet the research aims the data obtained has been analyzed. Codes were assigned to similar situations and points to generate themes and subthemes (Akyürek & Afacan, 2018a). NVIVO software was used to analyze the obtained data and to generate themes and subthemes which are then presented in results. To ensure the validity of data and to provide proper understanding of the themes and subthemes observed the quotations of the participants are directly quoted in the results and discussion. Data had been processed and had classified into open, axial and selective codes. To increase the reliability, another fellow also coded the data independently. Emerging codes and hypotheses had been discussed among the research team until consensus were reached.

Data Analysis Procedure:

NVIVO software was used to analyze the obtained data. The data obtained was transcribed and then analyzed in NVIVO to generate themes and subthemes. To meet the research aims the data obtained has been analyzed. Codes were assigned to similar situations and points to generate themes and subthemes (Akyürek & Afacan, 2018a). NVIVO software was used to analyze the obtained data and to generate themes and subthemes which are then presented in results. To ensure the validity of data and to

provide proper understanding of the themes and subthemes observed the quotations of the participants are directly quoted in the results and discussion. The validity of data is ensured by quoting the statements in results and are important to be stated as examples.(Akyürek & Afacan, 2018a) The thoughts and experiences shared by the participants were transcribed and in the second step themes and subthemes were generated as results of content analysis by NVIVO. The thoughts expressed by the interviews of the participants are presented in the form of word trees generated in NVIVO. The word trees explain the themes and the related remarks of the respondents. Word tree can help understand the remarks of the respondents precisely.

Results

The aim of the research was to explore the thoughts about human nutrition and nutrition education among doctors. The results emerged in the form of themes and subthemes as a result of thematic analysis through NVIVO. The themes generated are the role of nutrition education, adequacy of nutrition education, nutrition education and OPD, need for nutrition education, knowledge about human nutrition. Subthemes generated include role of nutrition in disease prevention, primary nutritional management, nutrition education of young graduates and role of management bodies.

1. Role of nutrition education

Nutrition education play a pivotal role in medical practice. It plays a vital role in disease prevention and progression. For the treatment of chronic conditions (type II diabetes, obesity, cardiovascular diseases, arthritis) nutritional aspects are important to be kept in mind. The respondents agreed about the point that nutrition education is important to keep alongside medication.

Respondent 1,

“I think doctors play an vital role in providing patients with nutrition guidance. If the doctor is dealing in first contact with the patient, he should guide the patient about basic nutrition and healthy eating patterns according to the patient's condition alongside prescribing medicine to the patient.”

Respondent 2,

“Yes, nutrition education plays a vital role in disease prevention and management. I have seen conditions where only medication did not help the patient until nutritional management was introduced. So, I think nutrition education is necessary.”

Respondent 10,

“In my opinion, it is important for general physicians to have basic knowledge about nutrition so that they can give better advice to their patients. It can have very positive effects on patient care and patient education.”

Respondent 15,

“The importance of nutrition education among doctors cannot be neglected as it plays a vital role in patient care and management. Medication is for the treatment of a disease but nutrition is for the disease prevention and to prevent progression of a disease.”

1.1 Role of nutrition in disease prevention

Upon asking the prompt question about the role of nutrition in medical profession nearly all respondents explained that nutrition is vital for disease prevention and to prevent the progression of a disease. Nutritional management of a patient can help

him with the prevention of a disease and it also aids in the progression of different diseases. In case of chronic condition nutrition prevent the progression of such conditions. In case of diabetes, obesity, thyroid related problems, PCOS and other hormonal imbalances nutrition in an important aspect to be managed along with the medication of the patient.

Respondent 2,

“There are some cases where only a dietician can effectively help the patient. Nutritionists play an important role in preventing different disorders and the progression of different diseases.”

Respondent 3,

“To explain further the role of nutrition I would say that the important aspect of disease prevention is nutrition education and nutrition counseling of the patients in OPD. A disease can be treated by medication and can be managed by nutrition a dietary control of the patient.”

Respondent 10,

“In my opinion, nutrition does play an important role in disease prevention and management of the progression of a disease. Nutrition evaluation, education, counseling and support of the patient is necessary.”

2. Adequacy of nutrition education

When the respondents were asked about the adequacy of nutrition education they responded effectively and raised some points relevant to the adequacy of nutrition

education. Most of the respondents explained that it is important for a doctor to have adequate knowledge about nutritional aspects of the body and should also have knowledge about disease specific nutritional requirements of the body. Some respondents said that nutrition adequacy is not as important as there are nutritionist and dietetics who are efficient in the subject. If a patient requires additional nutrition guidance a doctor can refer them to a nutritionist.

Respondent 1,

“In my opinion, a patient should be treated with medication and general nutrition education, in case, the patient is not getting better with medication only then the physician should look for nutrition assessment and any other underlying nutrition condition, in that case, he should refer the patient to a dietician so that proper nutrition assessment can be done and the patient could be guided accordingly. this can vary from patient to patient.”

Respondent 5,

“let’s say if a patient is suffering from type 1 diabetes it should be managed by medication and if a patient is suffering from type 2 diabetes depending on the age, further comorbidities, and associated cardiovascular disorder, in that case, I’ll suggest the patient to do exercise on daily bases and to cut out extra amount of carbs, added sugars, and bakery items. I’ll advise my patient to avoid sweets and sweet fruits and will suggest them to shift to healthy eating patterns. If he is not getting results, I’ll refer him to a dietician.”

Respondent 10,

“The adequacy or you can say validity of your nutritional information depends on your evidence-based practice. If a doctor doubts the information he is

providing to his patients about nutrition, he should not provide at all and should refer the patient to a dietician.”

Respondent 15,

“Adequacy means the relevance and accuracy of information that a doctor is providing to his patient. Providing the right information is far more important than just providing information. A doctor should never compromise on the quality of treatment he is providing to his patients; he should rather consult a dietician that providing false information to a patient. As we all know patient education and counseling is as important as medication.”

3. Nutrition education and OPD

The respondent discussed that they are in first contact with the patient in hospital Emergency or in Outdoor Patient Department, thus they have seen many cases of nutritional deficiency or malnourishment and obesity. As first contact medical professionals such as HOs, PGs, and MOs knowledge about nutrition is important for them as they have to guide the patient about basic nutritional requirements related to their medical conditions. Nutrition based primary management can be made possible if the staff have valid and reliable information about human nutrition. Thus, nutrition education is important for staff working in OPD so that they can provide primary nutritional management and can refer to a dietician for further nutritional assessment and treatment.

Respondent 1,

“As a general physician I have provided nutrition guidance to many patients but there are some cases where proper calorie count is necessary let's say in obesity monitoring of calorie intake is necessary for that purpose a dietician can help the

physicians to monitor and help the patient to keep their caloric amount reasonably. So yes, I refer such patients to a dietician.”

Respondent 6,

“I think doctors play an important role in providing patients with nutrition guidance. If the doctor is dealing in first contact with the patient, he should guide the patient about basic nutrition and healthy eating patterns according to the patient's condition alongside prescribing medicine to the patient.”

Respondent 11,

“Nutrition education of patients is very frequent in OPDs. Most of the patients require nutrition education and dietary guidance so as a medical professional I always try to guide them as far as I can guide.”

Respondent 15,

“In medical OPD, on daily bases, I encounter many cases which require nutritional guidance. I try to provide them the accurate information as per my knowledge about nutrition. However, some cases require proper nutritional assessment and calorie count so I refer them to the Nutrition OPD.”

3.1 Primary Nutritional Management

Upon asking the role of nutrition in medical OPD the respondents explained different points which include the primary nutritional management of the patients. The respondents explained that the medical professionals working in medical OPD are the first contact medical professionals thus they require a wide range of medical knowledge to deal with the patients to maintain the standards of healthcare. To provide

quality care to a patient, nutritional aspect of the patient cannot be neglected by the physicians. Primary nutritional management of the patient includes the dietary history, nutrition evaluation, education, counseling and support of the patient. These points should be kept in mind by the physicians while giving a nutrition advise, thus require basic nutrition education. To deal with such conditions a physician should be aware of the basics of human nutrition or he can refer the patient to a dietician for thorough nutrition evaluation and guidance.

Respondent 2,

“I have seen patients in OPD who need nutrition education and management of a disease by diet. I try to provide these patients with an effective nutritional advise and sometimes when the patient need further evaluation, I refer them to a dietician.”

Respondent 5,

“Nutritional management in medical OPD is a tough task to manage as it requires a detailed and precise knowledge about human nutrition and basics of dietary management. Therefore, I try to refer such patients to a dietician.”

Respondent 10,

“To further clarify my statement, I would say that nutritional management in OPD is necessary to maintain our healthcare standards. I give nutrition advise to my patients according to my knowledge but I refer such patients to a dietician who require in depth evaluation and proper dietary interventions.”

Respondent 15,

“You raised a good point, yes physicians who are in first contact with the patient should have a wide range of medical knowledge and it is true they should also have basic knowledge about human nutrition so that they can give an effective dietary advise as it is vital for the patient.”

4. Need for nutrition education

In relevance to the previous discussion about human nutrition and nutrition knowledge the respondents were asked to comment about if they think there is a need to educate medical professionals about human nutrition and its implementation in medical professional. Initial responses were in denial of the need for nutrition education but the saturation of respondents agreed upon the point that there is a need for nutrition education and it should be taught to the students and young graduates and hence a subtheme emerged. The respondents were very clear about the importance and necessity of nutrition education in the medical profession as it plays a vital role in disease prevention and progression.

Respondent 3,

“In my opinion, a patient should be treated with medication and general nutrition education, in case, the patient is not getting better with medication only then the physician should look for nutrition assessment and any other underlying nutrition condition, in that case, he should refer the patient to a dietician so that proper nutrition assessment.”

Respondent 6,

“Nutrition education should be introduced in medical professionals and especially in young graduates such as HOs. As they are first contact medical

professionals in most of the cases and should have a brief overview of nutrition education. So there is a need for nutrition education among medical professionals.”

Respondent 14,

“Medical professionals most importantly HOs should have comprehensive knowledge about nutrition education and should strive for latest information so they can provide quality care to their patients and can counsel them in an efficient way.”

Respondent 15,

“Furthermore, I would like to raise a point about the education of our young graduates. They lack accurate nutrition information as it is not a part of their educational curriculum. A course should be introduced in their medical curriculum about human nutrition and its implementation in medical profession.”

4.1 Nutrition education of young graduates

Nutrition education of young graduates emerged as a subtheme while discussing the needs of nutrition education. The respondents raised the points about educating the young graduates as it is the start of their career as medical professionals and educating them at that point can strengthen their basics and can promote them to work in a multi-disciplinary work environment.

Respondent 3,

“Students should be taught about the basics of human nutrition so that in their practice they can perform better in providing nutrition guidance to the patients.

Sometimes, we refer a patient to a dietician but the patient chooses not to go to a dietician. If physicians are taught the basics, they can guide better.”

Respondent 7,

“In my opinion a subject about human nutrition should be introduced in the medical curriculum, other than that awareness of the general population is also necessary.”

R13,

“Workshops, seminar, or conferences can be held to promote nutrition education in young graduates. The workshops and seminars can be helpful in educating our young graduates about nutritional aspects of medical profession.”

5. Knowledge about human nutrition

The respondents were asked about their knowledge about human nutrition most of the respondents were positive about their knowledge and some of the respondents claimed that their level of knowledge about human nutrition is not updated and said that they need to improve. Upon asking about basic of human nutrition such as carbohydrates, proteins and fat, vitamins and minerals, some respondents were familiar with the basic concepts and some of them were not sure about the effects of nutritional deficiencies or toxicity.

Respondent 1,

“Seminars or conferences about nutrition can be an option for doctors to learn about the basics of human nutrition.”

Respondent 5,

“I have basic knowledge about biochemistry but I think my with respect to human nutrition my knowledge is not adequate enough to guide the patient. There is definitely a need to update my knowledge about human nutrition.”

Respondent 10,

“Human nutrition is complex subject having a command in this subject is not possible for a person other than a nutritionist or dietician. However, one can learn the basics and can help the patient in a effective manner.”

Respondent 13,

“Nutritionist play an important role in disease management and yet there is also a need for doctors to update and widen their horizon about human nutrition and its implementation in medical profession.”

5.1 Role of management bodies

The discussion about the aspects of knowledge in human nutrition led to a further subtheme where the point was raised by the respondents that management bodies either medical or nutrition should play their role in the promotion of nutrition education. It plays a role in medical profession and it should not be neglected at any case. The role of human nutrition in medical field is now being discussed in different researches and a number of researches have also shown that a number of diseases can be managed easily and effectively by managing the diet of a patient. PCOS, Thyroid related problems, Obesity, malnourishment, diabetes, hormonal imbalance, arthritis, and, cardiovascular diseases are main conditions that can be managed by just managing the diet of a patient. Thus, the management bodies should take some steps to promote nutrition education in general population and in medical professionals.

Respondent 5,

“I would like to add that management bodies should work in a way that they should promote human nutrition in medical professionals and should raise awareness about the importance of the subject.”

Respondent 7,

“Seminars, workshops and conferences about the importance of human nutrition should be held by management bodies, where the importance and need of human nutrition in medical profession can be high lightened.”

Respondent 13,

“Management bodies should introduce a subject of at least 2 credit hours about human nutrition and disease specific diets in medical curriculum. If not so, they should manage some workshops for the students so they can learn about the important aspects of nutrition.”

DISCUSSION

Qualitative study (grounded theory approach) is used to explore in depth the adequacy of nutrition education in general physicians, house officers, and post graduate residents working in hospital setups. The exploration of their thoughts about human nutrition and nutrition education was important to find and point out the adequacy and inadequate factors which can affect the quality of patient care. The themes and sub themes that generated as a result of discussion are **role of nutrition education, adequacy of nutrition education, nutrition education and OPD, need for nutrition education, knowledge about human nutrition, and subthemes are role of nutrition in disease prevention, primary nutritional management, nutrition**

education of young graduates and role of management bodies. As explained in previous studies there is a gap in nutrition knowledge in medical sector the medical professionals such as doctors and other paramedical staff such as nurses are the professionals who have a little knowledge about human nutrition and its application in the field of healthcare (Coppoolse et al., 2020) The respondents raised different points and shared their experiences. Almost all the respondents agreed on the point that nutrition plays an important role in patient care and overall health. The respondents discussed the role of nutrition education and raised points related to nutrition education, it's importance and role in patient care. **“I think doctors play a vital role in providing patients with nutrition guidance. If the doctor is dealing in first contact with the patient, he should guide the patient about basic nutrition and healthy eating patterns according to the patient's condition alongside prescribing medicine to the patient.” (Respondent 1).** A cross sectional study was conducted in 2021 by Aldubayan K, Alsamani AS et al on-physician's knowledge about nutrition education. They used a questionnaire to indicate the nutrition information of physicians in clinical discipline. 15 questions-based questionnaires related to the 6 areas in clinical nutrition discipline. Physicians that received some nutritional education reported more scored than physicians who did not have adequate nutritional knowledge. This study recommended that human nutrition should be included in as an essential subject of continue medical education (Aldubayan et al., 2021). The role of nutrition education in general practice is to maintain patient's health. Nutrition education important for disease prevention and progression such as in diabetes, PCOS, hypertension, and obesity. Other than that nutrition education is vital for disease management, especially in chronic conditions. Medical interventions along with nutrition education can help manage a disease more effectively and efficiently. **“Role of nutrition education in general practice is very clear and to**

the point. Overall patient management require to use a multidisciplinary approach, which requires patient education, behavioral assessment and change, and, nutrition education. Thus, nutrition education plays a vital role in patient care and management.” (Respondent 14). Many studies have reported that nutritional education is not enough to meet the demands in physicians. Many authorized professional bodies have acknowledged the role of general physicians in nutrition education of patients (Agwara et al., 2024). Respondents explained that the role of nutrition is vital for the disease prevention and to control the progression of a disease. Nutrition education of patients is helpful for the patients to prevent the onset of any disease and to manage chronic conditions such as Parkinsonism, rheumatoid arthritis, osteoarthritis, and cardiovascular diseases. Other than that nutrition management of the patient can help in weight management in different medical conditions associated to obesity and mal nourishment. There are some medical conditions where bone health can be compromised and nutrition of the patient along with medication is necessary. **“There are some cases where only a dietician can effectively help the patient. Nutritionists play an important role in preventing different disorders and the progression of different diseases.” (Respondent 2)** A cross sectional study designed by Ihab. A. Naser et.al in 2018 to explore the Nutritional knowledge, attitude and practice of nurses and physicians at major Palestinian Hospital in Gaza Strip. The study was included 96 nurses and 48 physicians used in self-administered questionnaire that included the demographic data, knowledge of nutritional sciences attitude towards uses of nutrition care and counselling. The mean score of physician’s knowledges was 10.91, which was significantly higher than the nurse’s knowledge score that was 7.44. The attitude among physicians were 16.7% negative and the good nutrition practice through assessment and counselling were 53.1% for nurses and 52.1% in physicians. The study

discussion concluded that nurses and doctors were unable to provide nutrition intervention in health care settings and needed to improve their nutritional knowledge, attitudes a practice (Naser et al., 2021). Adequacy of nutrition education is described as the comprehensiveness of the basic knowledge about nutrition. Relevance and accuracy of nutrition education is also described in terms of nutrition adequacy. The thoughts about the adequacy of nutrition education among HOs and PGR were mixed. Comprehensive information about nutrition education include knowledge about basic nutrients, portion control, dietary habits and meal planning. The information must be in relevance to prevalent health conditions, chronic conditions, patient food choices and behavior. The information must be accurate and in accordance to the evidence-based guidelines. If a clinician is providing nutrition education based on all these points (comprehensiveness, accuracy and relevance) he is providing a good nutrition care to his patients. These can be the parameters where a clinician can self-evaluate. **“The adequacy of nutrition education is important as you know without proper knowledge a doctor cannot guide his patients, nutritional aspects of a patient cannot be ignored while treating the patient. So, I think a doctor must have accurate and updated knowledge about nutrition so that he can guide his patients properly.” (Respondent 13).** A study conducted by Powers MA, Bardsley JK, Cypress M et al in which they concluded that general physicians should have sufficient knowledge about human nutrition which is necessary in providing nutritional advices to patients during the hospital and in outdoor patients setting as well as in the care of malnourished patients (Powers et al., 2020). Nutrition education in Outdoor Patient Department is important as it plays a vital role in disease prevention, disease management and aids in medication. Obese patients are at risk of many other associated health conditions, their nutritional assessment and education is important as it can prevent progression of disease and manage the obesity along with

medication. If a doctor has no basic knowledge about nutrition assessment and nutrition guidelines, how can he manage that patient. First step is to maintain the health condition with medication and guide the patient with potential risks and to guide him with basic nutrition education and the second step is to refer the patient to a nutritionist where proper examination can take place and a precisely and accurately.

“In my opinion, a patient should be treated with medication and general nutrition education, in case, the patient is not getting better with medication only then the physician should look for nutrition assessment and any other underlying nutrition condition, in that case, he should refer the patient to a dietician so that proper nutrition assessment can be done and the patient could be guided accordingly. this can vary from patient to patient.” (Respondent 1).

As the medical professionals working in outdoor patient department are the first contact to a patient thus basic knowledge about human nutrition is important and plays a vital role in providing quality care to the patients. Role of nutrition education in OPD can be explained by the primary nutritional management of the patient. The primary goals of nutritional management of patient should include the assessment and evaluation, nutrition counseling and education. These roles should be managed in OPD by the medical professionals to ensure quality service. These points of nutritional management are important to deal in primary contact with the patient to prevent disease and manage other medical conditions. **“I have seen patients in OPD who need nutrition education and management of a disease by diet. I try to provide these patients with an effective nutritional advise and sometimes when the patient need further evaluation, I refer them to a dietician.” (Respondent 2).**

Current researches support the introduction of nutrition education in medical curriculum (Dabbous et al., 2021). Moreover, in the 2019 NHS Long Term Plan focus on disease prevention and health inequalities, it was assured that nutrition education

would be a part of medical education. This was specified, so that doctors are encouraged to address the role of nutrition in healthcare in an effective way and can refer such cases which require nutrition support (Agusala et al., 2024). On discussion the point raised about nutrition education among doctors so the respondents were asked prompts and some of them agreed with the point that nutrition education among doctors is important as they are working as first contact with the patient. It is their core responsibility to treat and guide the patient. Patient education is also an important aspect of patient care which includes the nutrition education of the patient. Thus, a doctor must have accurate and comprehensive knowledge about human nutrition. The respondent agreed upon the point that basic level of nutrition education must be mandatory for doctors so that they can guide the patient at their first contact and depending on the condition of patient they can refer him to a nutritionist using a multi-disciplinary approach. **“In my opinion, it is important for general physicians to have basic knowledge about nutrition so that they can give better advice to their patients. It can have very positive effects on patient care and patient education. Furthermore, for that purpose, it will be good if MBBS students are taught a subject about basic human nutrition so that in their clinical practice they can perform better in nutritional counseling of their patients.” (Respondent 1)** A quasi-experimental design was constructed in 2023 on medical students to determine human nutrition as a part of medical education. The objective of this study was to determine the effectiveness of an integrated medical curriculum to increase the importance of human nutrition. They concluded that there was an improvement in clinical skills of students who participated in integrated nutrition education in curriculum (Dumm et al., 2023). Basic knowledge about human nutrition is important for doctors as established by the explored data. Basic knowledge about human nutrition includes knowledge about vitamins and minerals, effects of nutrients in

body, portion control, dietary patterns, current dietary trends, food sources for carbohydrates, proteins, and, fats. The knowledge about human nutrition is important for doctors as it helps in disease prevention, optimal care of patient, and patient education. **“In my opinion, a doctor should have knowledge about human nutrition as it is helpful in various aspects and can improve the quality of health care.” (Respondent 13).** Management bodies can play an important role in the promotion nutrition education among doctors and other medical professionals. The respondent upon asking some prompts responded that management bodies keeping in mind the need of nutrition education, should organize or arrange some maneuvers to improve and promote the quality of nutrition education among doctors. The management bodies dealing with human nutrition in medical sector can also play a role in organizing seminars and conferences, where they can raise the importance of nutrition education among general population, medical students and medical professionals. **“I would like to say the relevant authorities should arrange seminars, workshops or conferences where they should promote human nutrition and nutrition education among doctors.” (Respondent 1).**

Conclusion

The study summed up that, there is a gap in nutrition education and general practitioners the major themes explored by the study are role of nutrition education, adequacy of nutrition education, nutrition education and OPD, need for nutrition education, knowledge about human nutrition. Subthemes generated include role of nutrition in disease prevention, primary nutritional management, nutrition education of young graduates and role of management bodies. In conclusion nutrition education plays an important role in patient management. The knowledge of practitioners about

human nutrition is not adequate enough to meet the demands. There is a need to introduce human nutrition as a course content in medical curriculum.

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