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Original Research Article.

Balanced Diet Awareness Amongst Children Suffering from Diabetes

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ABSTRACT

Background: Diabetes is a silent and a chronic disease that people generally become aware of once they develop complications. Even with various advancements in medical practice, majority of cases in diabetes go undiagnosed, chiefly due to lack of knowledge. Ultimately it leads to development of various macro and micro vascular complications. According to American Diabetes Association, nutrition plays an important role in diabetes management. The aim of present study is to make people aware about balanced diet and to determine the level of awareness that is present amongst them.

Materials and Methods: The study included both men and women whose children were diabetic. They were made to fill a questionnaire, which was either manual or online. All the data was arranged in tabulated format. Ethical committee clearance was obtained from the Institute's ethical board and informed consent was also obtained from the subjects. SPSS software was used for analysis.

Results: There were 38.1% (n=42) children aged between 10-12 years. The least number of children (15.4%) were aged between 3-5 years. Majority of the persons have heard about balanced diet (87.2%). There were still 12.7% people who have never heard about the balanced diet. Nearly all the subjects know that fruits and vegetables are important for health (99.1%).

Conclusion: According to our study there higher portion of subjects were unaware of the balanced diet. Health programs conducted by the Government can significantly enhance this knowledge. Nutritional education at home should be encouraged.

Keywords: Balanced Diet, Diabetes, Nutrition, Undiagnosed.

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INTRODUCTION

Diabetes is a silent and a chronic disease that people generally become aware of once they develop complications. It is one of the most common matters of concern in public health sector. It affects approximately 366 million people worldwide and it is expected to double after 2030.[1,2] Type 2 diabetes mellitus accounts for 90% of all the cases. Even with various advancements in medical practice, majority of cases in diabetes go undiagnosed, chiefly due to lack of knowledge. Ultimately it leads to development of various macro and micro vascular complications. These act as an economic burden on the family and society.[3,4] It is now seen that diabetes is majorly seen in individuals of reproductive age group.[5,6] The chief factor of diabetes is glycemic control which can be achieved by control of lifestyle and risk factors.[7,8] Prevention and control of diabetes is best achieved by education. Education plays a key role in diabetes care.[9,10]

According to American Diabetes Association, nutrition plays an important role in diabetes management. Each patient suffering from diabetes should receive a personalized diet plan from his/her nutritionist.[11] A balance diet not only aids in management of diabetes but also provides complete energy requirement. With proper diet control, there is improvement in quality of life and reduction in chance of complications.[12] The aim of present study is to make children aware about balanced diet and to determine the level of awareness that is present amongst them.

MATERIALS AND METHODS

A descriptive survey method was used to evaluate the awareness about balanced diet among diabetic children and their parents. The study included both males and females who were diabetic. Only children aged between 3-12 years were included in the study. This study was conducted over a period of 1 year. They were made to fill a questionnaire, which was either manual or online. The questionnaire contained information regarding the demographic details like age, sex, educational status and questions regarding awareness about balanced diet. A total of 110 subjects participated in the study. Any incomplete questionnaires were excluded from the sample.

Data analysis was done using descriptive statistics. All the data was arranged in tabulated format. Ethical committee clearance was obtained from the Institute's ethical board and informed consent was also obtained from the subjects. SPSS software was used for analysis.

RESULTS

The survey enrolled 110 subjects, out of which 66 were males (60%) and rest 40% (n=44) were females.

Table 1 shows the age group of patients enrolled in this study. There were 38.1% (n=42) children aged between 10-12 years. The least number of children (15.4%) were aged between 3-5 years. There were 19.1% children (n=21) who were 5-7 years of age. 30 people (27.3% were aged between 7-9 years.

Table 2 shows the response of the people to the questionnaire. Majority of the subjects have heard about balanced diet (87.2%). There were still 12.7% people who have never heard about the balanced diet. Nearly all the subjects know that fruits and vegetables are important for health (99.1%). But 35.5% didn't know how much proportion of fruits and vegetables to be included in diet. There were 73.6% people who knew that fats are essential and should be included in diet. 74.5% subjects have no idea about starchy diet and foods. There were only few (47.3%) who knew the quantity of sugar to be consumed in a day. Only 56.4% people knew the daily requirement of carbohydrates in their diet and 76.4% knew about food sources containing carbohydrates.

Table 1: Age distribution of subjects

S.NO	AGE	FREQUENCY	PERCENTAGE
1	3-5	17	15.4
2	5-7	21	19.1
3	7-9	30	27.3
4	10-12	42	38.1

Table 2: Response to questionnaire

AWARENESS	YES (%)	NO (%)
Have you heard about balanced diet?	96(87.2%)	14(12.7%)
Is it important to include fruits and vegetables in diet?	109(99.1%)	1(0.9%)
Do you how much portions of fruits and /or vegetables should be taken every day?	71(64.5%)	39(35.5%)
Are fats essential to be included in daily diet?	81(73.6%)	29(26.3%)
Is it essential to choose low fat products?	75(68.2%)	35(31.8%)
Are unsalted nuts and seeds good to be included in your diet?	90(81.8%)	20(18.2%)
Do you know what starchy foods are?	82(74.5%)	28(25.5%)
Is it important to include starchy foods in diet daily?	64(58.2%)	46(41.8%)
Is it essential to include whole grain cereals and pulses in your diet?	105(95.5%)	5(4.5%)
Do you know how much of sugar should be consumed in a day?	52(47.3%)	58(52.7%)
Do you know the daily requirements of carbohydrate in your diet	62(56.4%)	48(43.6%)
Do you know the food sources of carbohydrates?	84(76.4%)	24(21.8%)

DISCUSSION

Diabetes Mellitus is a silent public health problem that is a threat on the economy of developing nations. Education acts as a key factor in controlling diabetes. Long term complications like retinopathy, neuropathy and nephropathy associated with diabetes interferes with the financial and social background of the person. Even at present various people are unaware of diabetes and this clearly indicates that the knowledge and awareness about diabetes is low in community with its high prevalence.[13,14] In a study conducted by Naheed et al[15] in Pakistan, he found that there were 40-92% of the subjects who had knowledge about the risk factors associated with diabetes. In their study only 50% were aware about the importance of serum lipids. In our present study 73.6% had an idea that fats were essential for our diet. In another study conducted by Foma et al[16] amongst people of Gambia 50% of the population was unaware of diabetes. Majority of the complications associated with diabetes are preventable. They can be prevented by lifestyle modifications, exercise and dietary changes.[17] This knowledge was very poor according to their study.

In our study there were 87.2% subjects who were aware of balanced diet and 99.1% included fruits and vegetables in diet.

According to a study by Khatiab MS et al[18] amongst people residing in Saudi Arabia, he reported that 40% of the diabetic patients adhered to their diet plan strictly. In a study conducted by Jingram Cas et al[19] in Chinese population, they showed that 54.10% patients were aware that diet should be balanced. In a study conducted by Kiren J et al[20] in Tamil Nadu, they showed that there were 86.7% of diabetic patients who were aware of balanced diet and 93.3% patients thought that it was important to have a balanced diet. The age range in our study was 3-12 years. This was similar to a study conducted by KH Hart et al[21]. In their study children aged between 7-12 years of age were assessed about the knowledge regarding balanced diet. In our study, majority of the subjects have heard about balanced diet (87.2%). There were still 12.7% people who have never heard about the balanced diet. Nearly all the subjects know that fruits and vegetables are important for health (99.1%). But 35.5% didn't know how much proportion of fruits and vegetables to be included in diet. There were 73.6% people who knew that fats are essential and should be included in diet. 74.5% subjects have no idea about starchy diet and foods. In a study conducted by Ku et al amongst

Korean school children, children's nutritional knowledge was poor. 85% of the subjects in their study had unbalanced diet.[22] Another study conducted by K hesketh amongst parents and children regarding healthy eating habit and obesity, they found that even though the awareness about healthy food was present amongst them but it didn't not translate into healthy eating habit.[23] Authorities should take a step forward to initiate awareness programs about nutrition and promote balanced diet. The balanced diet is the key in preventing various complications associated with diabetes Mellitus.

CONCLUSION

A diet should contain appropriate amount of micro and macronutrients and a balanced diet reduces the risk of development of complications. According to our study there higher portion of subjects were unaware of the balanced diet. Health programs conducted by the Government can significantly enhance this knowledge. Nutritional education at home should be encouraged.

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