

ORAL PRESENTATIONS

OP 01

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Stream: Diabetes and Ramadan.

Modes of Ramadan specific diabetes education

ABSTRACT:

Objective: Education of the patients with diabetes has long been considered a crucial part of diabetes care. We aimed to find out the effect of (Ramadan specific diabetes) education and modes of education on acute diabetes complications during fast.

Methods: This prospective study was carried out at Baqai institute of Diabetology & Endocrinology (BIDE) in 2012. All Muslim diabetic patients attended the out-patient department and showed intention to hold fast in the coming month of Ramadan were invited to participate. Those who had no identifiable language barrier or known mental disability and willing to participate were included in the study. A pre Ramadan medical assessment of the participants was done to ensure their fitness for holding fast. Study was approved ethically by Institutional review board of BIDE. Consented participants (n=102) were given Ramadan specific diabetes education (Education groups) via three different modes, namely on one to one (n=32), in group (n=25) and via printed brochures (n=45). Brochure had same information about fasting and diabetes as given to other two groups. Non-education group was constituted after Ramadan. It included patients had not visited OPD before Ramadan thus did not receive Ramadan specific diabetes education (n=76). Participants were instructed for monitoring of blood glucose and recording of all hypoglycemic and hyperglycemic events and action taken after these episodes.

Data was entered and analyze by SPSS version 13.0. Chi-square and student t test were used as test of significance where applicable. A $p \leq 0.05$ was considered statistically significant.

Results: Patients who received education showed compliance in self-monitoring of blood glucose (SMBG) (94.1%) and alteration of drug dosage and timing (79.4%). Hyperglycemic episodes were reported in increased frequency in non-education group (30.3% vs 26.5%) whereas hypoglycemic episodes (34.3% vs 17.1%) were reported in increased frequency in education group.

Among three education groups, all patients of one to one session monitor blood glucose by SMBG (100%). Hypoglycemic symptoms were appreciated more by the patients of group session (44%) whereas hyperglycemic symptoms were reported in increased frequency in patients received written educational materials only (28.9%). In response to hyper or hypoglycemic symptoms during fast, most of the patients of group session checked their blood glucose level (80% and 54.5% respectively).

Conclusion: Patients who received education showed compliance to SMBG, changing of drug dosage and timing during Ramadan. Patients with education appreciated symptoms of hypos and checked blood glucose level. Irrespective of mode, education is imperative for glycemic control and reduction of acute diabetes complications.

OP 02

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Stream: Diabetes and Ramadan

Conventional and intensive glycemic control among people with type 2 diabetes (T2DM) during Ramadan.

ABSTRACT:

Objectives: (I) To assess safe blood glucose targets and (ii) optimal insulin ratio during fasting in Ramadan.

Method: In this prospective study, people with T2DM who were on the treatment of free mixing insulin were recruited from the outpatient department of Baqai Institute of Diabetology and Endocrinology (BIDE), a tertiary care diabetes center of Karachi, Pakistan from June 2014 to August 2014.

HbA1c test of each participant was conducted prior to the month of Ramadan. A pre- designed questionnaire was filled for baseline data. One to one education was provided regarding diet and diabetes self-management during Ramadan. A glucometer with 100 testing strips, a self-monitoring (SMBG) log book and food intake diary was provided to each participant. The blood glucose targets were given between 100-200 mg/dL. A separate 24/7 telephonic help line service was also provided for insulin dose adjustment and to encounter emergency situations. Each participant was contacted every third day. Insulin dose was adjusted according to the respective blood glucose values and dietary intake of the last three days. Drug dosage adjustments were provided by a trained diabetes educator. Post Ramadan data was collected on the SMBG log book, last adjusted insulin dose during fasting and HbA1C test values after the month of Ramadan. SPSS version 13.0 was used for data analysis.

Results: A total of 75 people with T2DM were included in the study. Morning dose of short acting insulin was shifted to sunset with the reduction of 8%, however at the end of Ramadan it was observed that the dose should be increased by 10% instead of reduction. Similarly, morning dose of basal insulin was shifted to sunset with the reduction of 20% but at the end of Ramadan, it was observed that the dose should be reduced to 10%. The evening dose of short acting insulin was shifted to pre-dawn with reduction of 50% and at the end of Ramadan, results suggested that the change made was accurate. Likewise evening dose of basal insulin was shifted to pre-dawn with reduction of 40% but at the end of Ramadan, results showed that the dose should be reduced to 30%. Mean HbA1c was reduced to almost one percent within 60 days which was statistically significant ($p < 0.05$)

Conclusion: This study demonstrates that fasting during Ramadan is safe for people with diabetes with reinforcement of diabetes education, continuous attention to dietary intake, daily physical activity, frequent self-monitoring of blood glucose and insulin dose adjustments. Hypoglycemic events can be minimized with conventional control during fast and intensive control during non-fasting hours. Further large scale studies are needed to validate our findings.

OP 03

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Stream: Diabetes and Ramadan

Food and nutrient intake in patients with diabetes during Ramadan

ABSTRACT:

Background: Limited information is available about food and nutrient intake patterns of Pakistani people with diabetes during Ramadan.

Objective: To observe food and nutrient intake trends among a group of middle income urban Pakistani people with diabetes during Ramadan.

Methodology: This cross sectional study was conducted in the Outpatient Department of Baqai Institute of Diabetology and Endocrinology in 2010. All subjects were advised to keep record of food intake for all the fasting days. SPSS version 15 was used for data analysis.

Results: Out of 93 patients all of them were taking sehri, 54.7% were taking roti or slice while 43.0% were consuming paratha, 77.9% meat or egg, 27.9% pheni or khajla, 39.5% milk or yogurt. All of them were taking iftar in which 94.2% were eating fried items, 76.7% channachat 65.1% dahibara; and 90.7% fruits or fruit chat and 5.8% were taking milk. 40.7% were taking dinner and 37% were drinking milk at bedtime.

Conclusion: Food choices of people with diabetes during Ramadan were not balanced. It also gives us insight towards need of multiple dietary counseling sessions for people with diabetes before Ramadan.

OP 04

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Stream: Diabetes and Ramadan

Dietary intake of people with Type 1 Diabetes during Ramadan

ABSTRACT:

Background: Fasting during Ramadan is one of the five pillars of Islam. It is obligatory for all healthy adult and adolescent Muslims to fast from dawn to dusk for 1 month. On type1 diabetes to the best of our knowledge mostly studies have been done on insulin dose adjustment and education, none of the studies observed the food intake of type1 diabetics during Ramadan.

Objective: To assess the dietary intake of type1 diabetics during Ramadan their macronutrients distribution, calorie intake at different intervals and their compliance to dietary counseling.

Methodology: This prospective study was a part of a study conducted at the outpatient department of Baqai Institute of Diabetology and Endocrinology. Recruitment of patients for the study commenced 15 days before Ramadan of 2013.

Data Collection: Demographic data such as age, weight, height, body mass index (BMI), duration of diabetes and details about other complications were collected from each patient... All the subjects were asked to keep record of food intake. Dietary counseling by a dietitian, were given to each patient on one to one basis. The educational session with the dietitian usually lasted for 20minutes. The aim of the session was to counsel the subjects to encourage, 1) adequate intake of energy 2) consuming balanced meal 3) spreading carbohydrate intake over 3-4 meals.

Result: Total number of patients were 36. The average number of fasting days was 21 days. The dietary records obtained from all patients were 714. Mean age of study population was 19.9 years. The mean calorie intake before Ramadan was 1654 calories and during Ramadan the mean calorie intake was 1480 ± 630.3 calories, in which the carbohydrates was $55.9 \pm 9.8\%$, protein was $13.9 \pm 5.6\%$ and fat was $30.2 \pm 8.4\%$. The mean calorie intake at sehri was 554.1 ± 248.1 calories in which 32.3% were taking appropriate amount of calories and from these intakes 64. % macro distribution were proper (64.3%, 60%, 60% carbohydrates, protein and fat respectively). The mean calorie intake at after was 542.2 ± 288 in which 26.8% calories intake were appropriate and from these intakes 50% macronutrient distribution were appropriate (48.6%, 48.7% carbohydrates, fat respectively). Protein from meat almost nil at after. At dinner the mean calorie intake were 596.3 ± 351.2 in which 63.9% were taking appropriate amount of calories in which 50% carbohydrates 50% fat and 60% protein intake were appropriate. At bedtime calories intake were 591.8 and from which 98% calories were high, only 2.6% were taking appropriate amount of calories. Four times meal consumption were 25.2% in which sehri, after, dinner and bedtime were included. Three meals a day included sehri, after, dinner 71.7%, sehri, after, bedtime 28.3% and two meal consumption a day sehri, after were 96%.

Conclusion: In this study, we observed that majority of people with type1 diabetes did not adhere to dietary advice regarding calorie intake and macronutrient distribution during Ramadan. Hence repeated counseling sessions might be needed to improve compliance to dietary advice.

OP 05

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Stream: Diabetes and Ramadan

Hypoglycemia during Ramadan - An audit

ABSTRACT:

Background: Fasting during Ramadan is the 3rd pillar of Islam and all healthy, adult Muslims are ordered to fast from sunrise to sunset. It includes refraining from food, water, smoking, oral drugs, and sexual activity. Ramadan fasting is passionately practiced by millions of Muslims with diabetes mellitus across the globe, however the Islam exempts chronically ill from fasting. Patients with diabetes who fast during Ramadan can have acute complications like hypoglycemia. This study is a part of a multi-national study.

Objective: To determine the frequency of hypoglycemia during the Ramadan of 2015 among patients with diabetes mellitus at a tertiary care diabetes center in Karachi, Pakistan.

Methods: The cross-sectional study was conducted in August 2015 among patients attended out-patient departments of Baqai Institute of Diabetes and Endocrinology (BIDE), Karachi. Patients were selected by non-probability convenient sampling technique. All the diabetic patients of either gender, who did fast during the Ramadan of 2015, were included, irrespective of their anti-diabetic treatment and co-morbidities/complications. Those patients who did not fast, did not give consent to participate in the study or patients with known psychiatric illness were excluded. Data was gathered using a pre-designed close ended questionnaire which contains patient's demographic profile, frequency of hypoglycemia and its consequences. Data analysis was done on SPSS version 20.

Results: During the study period, total 546 patients were recruited. Among them 251 (45.9%) were males and 295 (54.1%) were females with an overall mean age of 48.6 ± 8.7 years. 519 (95%) were having type 2 diabetes mellitus. Mean duration of diabetes mellitus among the study participants were 9.7 ± 3.4 years. 66 (12%) patients manage fasting of 1-10 days while full month fasting were managed by 330 (60.4%) patients. In Ramadan of 2015, 528 (96.7%) did not have any episode of hypoglycemia while only 18 (3.2%) suffered from hypoglycemia. Among those patients who had hypoglycemia during Ramadan, all 18 (100%) had this condition for one day. None of them attended any medical facility or change their anti-diabetic treatment while 3 (16.6%) patients broke their fast. Twelve (66.6%) patients who had hypoglycemia were on basal bolus insulin regimen while 6 (33.4%) were on pre-mixed insulin regimen.

Conclusion: Majority of patients with diabetes mellitus who did fast in the month of Ramadan of 2015 did not have hypoglycemia. Hence, patients with diabetes can safely fast during Ramadan.

OP 06

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Stream: Diabetes and Ramadan

Perceptions of Family Physicians about Nutritional advice in Ramadan

ABSTRACT:

Background: The International Diabetes Federation (IDF) has described diabetes as one of the largest global health emergencies of the 21st century. Estimates for 2015 indicated that there were approximately 415 million people with diabetes in the world, which could rise to 642 million in 2040; a 55% increase. This global epidemic includes countries with sizeable Muslim populations, where the comparative prevalence of diabetes is well above the global average and is predicted to rise dramatically over the next 25 years.

During Ramadan, the normal diet changes considerably and physical activity levels fall during the daytime compared with other times of the year. Studies have shown that fasting may increase the occurrence of the major risks which include hypoglycemia, hyperglycemia, dehydration, significant weight gain, electrolyte imbalance, and acute renal failure in patients prone to severe dehydration. These risks can be minimized through proper nutrition.

Patient education is, therefore, fundamental for the provision of optimal care when fasting. So ensuring that health-care practitioners (HCPs) are knowledgeable and adequately trained is vital for the provision of appropriate advice and optimal diabetes care. Medical professionals should be aware of potential risks associated with diabetic patients who fast during Ramadan, and also with approaches to mitigate those risks. Ramadan-focused educational programmes should include information about risk quantification, blood glucose monitoring, fluids and dietary advice, exercise advice, medication adjustments and when to break the fast.

Dietary recommendations should be individualized and tailored to patient's lifestyle requirements, age, co-morbidities and other medical needs. Therefore, there is a need of a tool that may quickly formulate a meal plan for a particular patient according to his diet habits. Ramadan nutritional plan (RNP) has been designed by the IDF to help health-care practitioners individualize medical nutrition therapy (MNT) for patients with diabetes during Ramadan fasting. However, in practice these tools are not being utilized.

Objective: The present study was aimed to assess the perceptions of family physicians about nutritional advice to diabetic patients during Ramadan.

Methodology: Fifty doctors practicing in various cities of Pakistan providing out-patient care to diabetes patients are exposed to a questionnaire assessed regarding their existing knowledge of nutritional advice. These doctors are not aware of Ramadan Nutritional Plan by International Diabetes Federation before. A specially formulated questionnaire was made to evaluate their perceptions about nutritional advice to diabetes patients in Ramadan.

Results: Will be presented during the congress.

OP 07

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Stream: Diabetes and Ramadan

Frequency of depression pre and post Ramadan among patients with type 2 diabetes

ABSTRACT:

Objective: To compare the frequency of depression pre and post Ramadan among patients with type 2 diabetes at a tertiary care diabetes center in Karachi, Pakistan.

Methods: This observational study was conducted at Baqai Institute of Diabetes and Endocrinology (BIDE) between May 2015 to August 2015 in 247 type 2 diabetic patients, who held fast in the Ramadan of 2015. Patients were selected by non-probability convenient sampling technique. Inclusion criteria was type 2 diabetic patients of either gender of age above 35 years, on anti-hyperglycemic agents and willing to participate in the study while patients with known psychiatric problems, hepatic and renal impairment and having history of diabetic ketoacidosis were excluded. Patient's demographic data was recorded on a pre-designed performa and Patient Health Questionnaire-9 scale (PHQ-9) was used for assessment of depression four weeks before and four weeks after Ramadan. In PHQ-9, score 1-4 is minimum depression, score 5-9 is mild depression, score 10-14 is moderate depression, 15-19 is moderately severe depression and score 20-27 is severe depression. Data analysis was done on SPSS version 20.

Results: A total of 247 patients with T2DM were recruited in the study. Among them, there were 160 (64.7%) males with the mean age 42.99 ± 6.2 years and 87 (35.3%) females with the mean age 42.06 ± 5.5 years. According to PHQ-9 scale, depression was found in 108 (43.7%) patients, four weeks prior to Ramadan. Among them, minimal depression was found in 47 (43.5%) patients, mild depression was found in 33 (30.5%) patients while moderate depression was found in 7 (6.4%) patients. Four weeks after Ramadan, improvement was found in 87 (80.5%) patients ($p=0.037$). In which, 47 (54%) patients were found to have no depression who were minimally depressed, 32 (36.7%) patients improved from mild to minimum depression, 4 (4.5%) patients improved from moderate to minimum, 3 (3.4%) patients improved from moderate to mild, and 1 (1.1%) patient improved from mild to no depression. 21 (19.4%) patients were those whose PHQ-9 score remained same after Ramadan.

Conclusion: It was observed that there was a significant improvement in depression scores in patients with diabetes who held fast during Ramadan.

OP 08

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Stream: Diabetes and Ramadan

Perceptions of Family Physicians about Diabetes Management in Ramadan

ABSTRACT:

The prevalence of diabetes has been increasing throughout the world over recent decades and the trend is set to continue. Prevalence rates in many countries in the Middle East and North Africa are well above the average global prevalence of 8.8%, and the region as a whole has the second highest comparative prevalence of diabetes (10.7%). Muslims comprise almost a quarter of the world's population, with nearly 1.6 billion followers of Islam worldwide as of 2010. Fasting is mandatory for all Muslim adults, with certain groups exempted, such as those who are suffering with illness - this may include some individuals with diabetes. Because of the metabolic nature of the disease, patients with diabetes are at particular risk of complications from marked changes in food and fluid intake. Potential health hazards include hypoglycemia, hyperglycemia, dehydration and acute metabolic complications such as diabetic ketoacidosis (DKA). There are 148 million Muslims with diabetes across the world, of whom over 116 million may fast during Ramadan. Despite being exempt, many people with diabetes do participate in fasting during Ramadan. It is important that the decision about whether to fast is made on an individual basis in consultation with the patient's treating physician, taking into account the severity of illness and the level of risk involved.

Background: The present study is aimed to assess the Perceptions of Family Physicians about Diabetes Management during Ramadan.

Methods: 50 adult practicing family physicians practicing in different areas of Pakistan, not exposed to Ramadan diabetic guidelines before, who were involved in out-patient management of diabetics were exposed to a questionnaire. This questionnaire was designed to evaluate their perceptions about diabetes management in Ramadan in terms of risk and type of medications.

Results: Will be presented during the congress.