

One day Learning Activity on

Healthy Living & Diabetes



world diabetes day
14 November

Abstract Book





PREFACE

On account of World diabetes day, the Health Science Research Division of Advance Educational Institute and Research Centre (AEIRC) is organizing one day learning activity for general public and learners entitled “**Healthy Living and Diabetes**” on 14th November, 2014 at Dr. Essa Laboratories, Blue Building. It is targeted to be highly valued by event participants for encouraging the researchers. This conference is an initiative to provide a chance to researchers to explore new potentials in the field of diabetes related to clinical, biochemical and psychological risk factors and complications. It is hoped that this conference will play a role in spreading adequate knowledge about diabetes and will help people understand the disease better and work towards its management and minimization. The organizing committee of AEIRC conference believes that this conference will do the job of paving ways for further awareness sessions and help people understand diabetes better.

GENERAL INFORMATION

Conference Venue:

Dr. Essa Laboratories, Blue Building.

Dates:

14th November, 2014

Conference Secretariat:

Advance Educational Institute & Research Centre

Scientific Session:

Please read the Program section to get detailed information of the Poster/Oral Sessions
Please be punctual as the sessions will commence on time.

Certificate of Attendance:

A certificate of attendance will be given to all the participants

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Conference Chairperson

Sadaf Ahmed

Conference Secretary

M. Zafar Iqbal Abbasi & Shamoon Noushad

Organizing Team

Zeeshan Ahmed khan
Mahnoor Nadeem
Syed Zain Azher
Saima Khan
Hira Majeed
Huzaifa Sarfaraz
Maria Altaf
Kisa Fatima
Yasir Shamshad

PROGRAM

TIME	TOPIC	SPEAKER	AFFILIATION
10:00 AM	Welcome Address	Shamoon Noushad	AEIRC
10:05 AM	Diabetes; Complications And Medications	Dr. Zafar Iqbal Abbasi	BIDE
10:25 AM	Nutrition: a friendly approach to Diabetes	Saima Rasheed	PNDS
10:45 AM	Diabetic Pain; ways of discomforts and relieves	Dr. Sadaf Ahmed	UoK
11.00 – 12.40 PM	FREE PAPERS (Oral & Posters)		
12.50 PM	CLOSING CEREMONY		
1.10 PM	LUNCH		

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Oral Presentation

	Name	Affiliation	Topic
11.00-11.10 am	Dr. Syed Imran Ali	Healthcare Hospital, Karachi	Perceptions about insulin therapy amongst people with type 2 diabetes in a developing country, a study from Karachi, Pakistan
11.10-11.20 am	Anaiz A. & Mahek J.	Aga Khan University	What's the worry with diabetes? A systematic review and meta-analysis of diabetes in Pakistan
11.20-11.30 am	Muhammad Muneeb	Lumhs Research Forum	A cross sectional analysis of usage of complimentary and alternative medicine by diabetic patients
11.30-11.40 am	Aafir H. Rajput	Lumhs Research Forum	Comparing stress levels among diabetics: insulin users vs non-insulin users, at hyderabad
11.40-11.50 am	Sidra Soomro	Lumhs Research Forum	Prevalence and factors leading to potential treatment non-adherence among diabetes type ii patients of Hyderabad, Pakistan.
11.50-12.00 pm	Qurrat-Ul-Aen Inam	Federal Urdu University	Long-term consumption of sugar-rich diet decreases the effectiveness of somatodendritic serotonin-1a receptors
12.00- 12.10 pm	Sahar Fatima	Pakistan Institute Of Learning And Living	Psychological correlates of diabetes: a cross-sectional study from pakistan
12.10- 12.20 pm	Samiah Tasleem	Fuuast	Honey ointment: a natural remedy for mild diabetics foot infections
12.20- 12.30 pm	Hina Hazrat	University Of Karachi	Obesity and sedentary lifestyle - threat to develop diabetes; a study on subjects with Gestational Diabetes"
12.30- 12.40 pm	Saima Khan	AEIRC	Role of Nutritional Stress as a health concern in diabetic patients; Study Using Sadaf Stress Scale (SSS)
12.40- 12.50 pm	Syed Zain Azher	AEIRC	Relationship of Chemical stress with diabetes-associated Indications

Poster Presentation

P1	Mahek J. Pethani	Aga Khan University	The art and science of diabetes self-management education (DSME): a culture out of balance in Pakistan
P 2	Mahnoor Nadeem	AEIRC	Awareness about diabetes in the high income & literate population in Karachi Pakistan
P 3	Ambreen Shah	Baqai Medical University	Obesity and risk of diabetes mellitus in Pakistani population (literature review)
P 4	Qirat Modi	Lumhs Reseach Forum	<i>Defeating diabetes with a healthy life style</i>
P 5	Warda Musharraf	Hamdard Medical University	Life congruence with diabetic epigenetics and lipotoxicity – review
P 6	Hunaina Hadi	Aga Khan University	Gestational diabetes mellitus and its effects on fetal development
P 7	Shamsa Hadi	Aga Khan University	dealing with diabetic foot ulcers: creating awareness among public
P 8	Hunaina Hadi	Aga Khan University	An ounce of prevention is worth a pound of cure: Diabetes education can make a difference.
P 9	Humaira Ansari	Fatma Jinnah	The anti-hyperglycemic and anti-lipidemic effect of murraya koenigi leaves in experimental animals.

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Keynote Presentations

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Nutrition: A Friendly Approach To Diabetes

Saima Rasheed

Consultant Clinical Dietitian

Lifestyle is the way a person lives. The behaviors and practices within lifestyles are determined by INTERACTION of heredity and environment. Lifestyle plays a major role in development of diseases including diabetes and it can play a major role in progression and outcome of diabetes. Being metabolic disorder Diabetes requires lifestyle adjustment for the improvement of quality of life. Among the three means of entrance of glucose in the blood vessels the Diet is the only source which is adjustable and can be used to control blood glucose levels. Diet should not only help in maintaining NORMOGLYCEMIA but also in providing SUFFICIENT ENERGY AND NUTRIENTS required to maintain a healthy body. People with diabetes can have and enjoy the same diet as taken by the rest of family members keeping in view the portion size and individual needs. Frequency, size and composition of the meal are considered for prescribing a Healthy Diet. The meal plan must exhibit a balance between personal preferences, limitations and flexibility in permissible choices. Monitoring carbohydrate remains a key strategy in achieving glycemic control. Saturated fat intake should be <7% of total calories. Reducing intake of Trans fat lowers LDL cholesterol and increases HDL cholesterol, therefore intake of trans fat should be minimized (<1gm/ day). The best mix of carbohydrate, protein, and fat may be adjusted to meet the metabolic goals and individual preferences of the person with diabetes. Following are the recommendations for optimum use of nutritional therapy in the management of Diabetes:

Limiting and spacing of foods having digestible carbohydrates Eating small amount of meat or lentils, whole grains and non-starchy vegetables at most meals Encourage consumption of low fat milk/yogurt, and raw vegetables as part of meals or snacks Use canola or mustard oil for cooking Limiting the amount of fats used in cooking; for example One Kg oil per person per month. Avoid the use of palm oil and hydrogenated fats (ghee & margarine).



Diabetic Pain; ways of discomforts and relieves

Sadaf Ahmed

Advance Educational Institute & Research Centre (AEIRC)

Pain in diabetic patients is a usual complain that shows up as "sensitive discomfort," where the amount of pain is not every time proportional to the amount of damage. This Diabetic Neuropathic Pain is a combined outcome of dysfunction of mainly peripheral nervous system through direct or indirect stimulation of pain receptors that may leads to unusual painful sensations. In this regard, neuropathic pain can be alienated into peripheral neuropathic pain, central neuropathic pain or mixed neuropathic pain known to originate from peripheral nerve injury or dysfunction that can results in mononeuropathy or polyneuropathy. The possible mechanisms vary that may involve over excitation of regenerating nerves, inflammation and excessive tissue damage. Alleviating the pain understandably should be a top priority as there are many options available. The first step is to obtain a correct diagnosis, because pain can have many origins, and treatment will differ depending on the cause. Treatment for relief can be done by both pharmacological and non-pharmacological options, out of the non-drug based pain management, Transcutaneous nerve stimulation TENS is a known option which uses small amounts of electricity to block pain signals. It may vary on individual pain conditions though many patients report intractable and severe pain, and better treatment strategies are greatly needed.

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Oral Presentations



Perceptions about insulin therapy amongst people with type 2 diabetes in a developing country. a study from Karachi, Pakistan

Dr Syed Imran Ali

Consulting Diabetologist, Healthcare Hospital, Karachi.

To assess the perceptions about insulin and phobias associated with its use amongst people with type 2 diabetes from different socioeconomic backgrounds in Karachi. Insulin remains the mainstay of treatment for people with type 1 diabetes and also in type 2 diabetes when in cases of secondary drug failure it has to be given alone or in combination with oral antidiabetic agents. The use of this drug is limited by many barriers both from the patients as well as doctors. In Pakistan the knowledge about use of insulin is scarce. This study was done to assess the perceptions of patients about insulin and the phobias associated with its use amongst people with type 2 diabetes in different localities of Karachi. Total 426 patients with type 2 diabetes who required insulin (as assessed by their physician) were administered a structured questionnaire. The study was conducted in three different areas of Karachi and patients were categorized on the basis of income into high, middle or low socioeconomic groups. The age of the participants varied from 30 – 54 years with a male to female ratio of 1.13:1.0. 4.9% of participants had postgraduate education, 13.8% were graduates, 42.25% had attended secondary school and 38.9% were uneducated. All the subjects were from urban background with 28%, 42% and 30% belonging to high, middle or low socioeconomic groups respectively. The questionnaire assessed knowledge about benefits of insulin and the phobias prevalent in the community about its use. Only 29.8% of participants agreed that use of insulin can help them achieve good glycemic control and can prevent complications in the long term. As high as 85.6% said that they would be uncomfortable if prescribed insulin. The phobias associated with use of insulin were prevalent. 70% of the patients said that the use of insulin means 'the beginning of the end' and stressed that it should be avoided at all costs. 21.3% went to extreme and labeled it a cause of early death. 36.8% attributed it to blindness, 45.5% calling it a cause of foot amputation and 52.5% said that it causes renal failure and eventually makes a person dependant on hemodialysis. The insulin phobia was found amongst people of all socioeconomic groups irrespective of their educational background. It is evident from this study that myths associated with use of insulin are prevalent in the Pakistani community and because the physicians do not give time to detailed education, the people gather information from non professional sources. It is the need of the hour to start structured 'diabetes education programmes' that can help reduce the negative perceptions of insulin, thereby improving quality of life and care for people with diabetes.

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What's the worry with diabetes? A systematic review and meta-analysis of diabetes in Pakistan

Anaiz A. Khowaja & Mahek J Pethani

Aga Khan University Hospital

Acceleration in rates of diabetes, especially type 2 diabetes in Pakistan is posing coercions to the economy and quality of life of people due to poor glycemic control and very high rates of complications. Cost of care is expected to be very high. Resource constraints society, lack of medical reimbursement and insufficient allocation of health budget are obstructions to quality care. The distinctive combination of various risk factors compels research studies to make appropriate risk assessment tools to control this diabetes pandemic. This review was conducted to study research evidence regarding particularities of diabetes in Pakistan and to recognize the cost effective, appropriate and publicly available preventive strategies required for controlling the diabetic pandemic. An integrative literature review was conducted between the years 2000 and 2014. Keywords used in the computerized search were diabetes, research, and Pakistan. The databases searched were medline, cinahl, healthstar, embase, and chid-he. The 370 articles retrieved were screened out of which 22 articles met the inclusion and exclusion criteria. Epidemiology: prevalence of diabetes is high ranging from 7.6 to 11% in pakistan. Incidence of type 1 diabetes was estimated to be 1.02/100000 per year in karachi, pakistan. Rates of gestational diabetes in pakistan range from 3.2% to 3.5%. Variations according to age, sex, location and urbanization have been identified. Genetics: role of genetics in predisposition of south asians to diabetes has been identified and reported. Maternal hyperglycemia: it has been observed that pakistani infants who had low birth weight had advanced risk for metabolic disorders. Gender: according to the national diabetes survey the prevalence of diabetes is higher in males as compared to females whereas in females prevalence of impaired glucose tolerance (igt) is higher as compared to males. Age: diabetes occurs at lower ages among pakistanis as compared to the western countries. Obesity: high rates of obesity among children and women and association of obesity with insulin levels and metabolic risk have also been identified.

Physical inactivity: no case studies found about assessment of physical activity level of pakistani adults in general. Malnutrition: several evidences of associations between micronutrient deficiencies and risk for diabetes have been noted. Depression and diabetes: depression is found to be significantly associated with newly diagnosed type 2 diabetics. Diabetes has not yet achieved the due attention of health department of government of pakistan. A national commission for prevention of cardiac & non communicable diseases in work in progress by federal government of pakistan. In private sector aga khan university department of diabetes and endocrinology has devise educational training modules for people with diabetes which are organized weekly for diabetic self education management.



It is pivotal to report the burden of ncds with public private partnership and volunteerism as its directorial principles

A cross sectional analysis of usage of complementary and alternative medicine by diabetic patients

Muhammad Muneeb¹, Aatir H. Rajput², Nehan Syed³, Tahir Hanif⁴, Abid Ali⁵

Lumhs Research Forum

A cross-sectional study is designed to evaluate the use of complementary and alternative medicine by patients with diabetes mellitus attending opd of liaquat university hospital, hyderabad. Two hundred and eighty patients attending the outpatient diabetes clinic for allopathic treatment were included via simple random sampling procedure. Through an interview based questionnaire patients were interviewed to assess their knowledge, awareness and practice of non-allopathic forms of therapy. Information on the patients' background characteristics, family history of disease, existing knowledge of their disease and therapy was obtained. Study was conducted from 15th of january, 2014 to 1st of april, 2014. The user rate of complementary and alternative medicine was 73.57 % (n=206) and this was not significantly associated with the educational or socioeconomic status of the patients. Desire for early and maximum benefit was the most common reason (88.57%) for using these remedies. The patients felt that herbal medicine followed by homeopathy were the most beneficial alternative therapies, while accu-pressure was felt to have the least benefit in the control of diabetes. a markedly prevalent use of complementary and alternative systems of treatment by diabetic patients is recorded. Hence it is essentially needed to obtain objective data in order to assess the effectiveness of non-allopathic medicines.



Comparing stress levels among diabetics: insulin users vs non-insulin users, at Hyderabad

Aatir H. Rajput¹, Muhammad Muneeb², Nehan Syed³, Tahir Hanif⁴, Anam Shaikh⁵

Lumhs Research Forum

This descriptive (cross-sectional) study compares depression levels among diabetic patients using different treatments (insulin users v/s non-insulin) at Hyderabad. This study evaluates the depressive symptoms and their association with education, medication adherence, demographic variables and health complaints among diabetics based on type of therapy used. 264 patients visiting Liaquat University Hospital, Hyderabad and different diabetic clinics at Hyderabad in the months of February and March, 2014 were included in the study via simple random sampling. 106 patients (40.16%) of the total sample are females and 158 (59.84%) are males. Patients were interviewed to attain information about age, sex, onset and type of diabetes, type of medication used (insulin or oral hypoglycemic), glycemic control, medication adherence and diabetes associated health complaints. 36.36% of the people in the sample were insulin users while 63.64% were not. Out of 96 insulin users, 30.2% of the sample has dm-type 1 and 69.8% have dm-type 2. Mean depression level of male insulin users is 21.93 while that of females is 22.81. Demographic factors, low education, additional health complaints and low medication adherence also significantly contributed to depression levels. Mental health assessment of diabetics should be made a part of routine clinical assessment at primary healthcare clinics to decrease adversarial consequences among diabetic patients.



Prevalence and factors leading to potential treatment non-adherence among diabetes type ii patients of Hyderabad, Pakistan.

Sameer Luhana¹, Sidra Soomro², Mohammad Muneeb³, Aatir H. Rajput⁴.

Lumhs Research Forum

The goal of the study was to evaluate the probable reasons for patients' non-adherence to prescribed medications in diabetes type ii patients of hyderabad (pakistan). The outcomes of study can be used to raise awareness & education level to improve treatment adherence among diabetics. A cross sectional study was conducted upon 120 diabetic patients, randomly selected from liaquat university hospital, hyderabad and various diabetes clinics of hyderabad from 15th may to 1st august, 2014. Patients who were diagnosed of diabetes, aged above 25 years, and gave informed consent to partake in the study were included in the sample while patients who were recently diagnosed of diabetes (less than a month ago) were excluded from the sample. Primary data obtained by means of a standard questionnaire was used for assessing the consequent risk factors and side effects due to non-adherence. The questions asked included duration of diabetes, medication type, attributable difficulties towards treatment, skipping therapy and presence of depressive symptoms. Spss version 16.0 was used to analyze the results. The prevalence of non-adherence was 72.5%. Potential factors associated with non-adherence were: depressive symptoms such as anxiety (60.3%) and irritability (76.4%). Non adherence to treatment of diabetes type ii is highly prevalent and a marked association between non-adherence and risk of adverse effects is found to be present. Interestingly, depression is found to be a potential factor leading to non-adherence and in accelerating the commencement of complications. Further study should be carried out on controlling patient's depressive symptoms and improving interventions that may lead to better adherence to medication among diabetes type ii patients.



Long-term consumption of sugar-rich diet decreases the effectiveness of somatodendritic serotonin-1a receptors

Qurrat-Ul-Aen Inam¹, Bushra Jabeen¹, M.A. Haleem², Darakhshan J. Haleem¹

Neurochemistry And Biochemical Neuropharmacology Research Unit, Department Of Biochemistry, University Of Karachi, Karachi, Pakistan

Department Of Biomedical Engineering, Sir Syed University Of Engineering And Technology, Karachi, Pakistan

8-hydroxy-2-(di-n-propylamino)-tetralin (8-oh-dpat), a 5-hydroxytryptamine (5-ht)-1a selective agonist was used to investigate a possible role of somatodendritic serotonin-1a receptors in the precipitation of hyperphagia and decreases of 5-ht metabolism associated with long-term consumption of sugar rich-diet. In the first part of study, dose-related hyperphagic effects of 8-ohdpat were monitored in freely feeding rats. In the second part of study, rats were fed freely on a sugar-rich diet (prepared by mixing standard rodent diet with table sugar in the ratio of 3:1 [w/w]) for 5 weeks. Hyperphagic effects of 8-oh-dpat were monitored in sugar-rich diet and normal diet treated rats by injecting the drug at a dose of 0.25 mg/kg body weight, a dose that produced significant hyperphagia. Effects of 8-oh-dpat on decreasing 5-ht metabolism in the hypothalamus were also investigated in the two groups. Results showed that administration of 8-ohdpat at a dose of 0.25 mg/kg body weight elicited hyperphagia and decreased 5-ht metabolism in normal diet treated animals but the effects in sugar-rich diet treated animals were smaller and not significant suggesting a decrease in the effectiveness of somatodendritic 5-ht-1a receptors, which provide a feedback control over the synthesis and release of 5-ht in terminal region. A possible mechanism involved in sugar-diet induced decreases of 5-ht metabolism is discussed.



Relationship of Chemical stress with diabetes-associated Indications

Sadaf Ahmed, Saima Khan, Syed Zain Azher, Shamoon Noushad, M. Zafar Iqbal Abbassi & Hamza Akhter

Advance Educational Institute & Research Centre (AEIRC)

To evaluate the prevalence of various symptoms that leads type 1 and type 2 diabetes patients towards chemical stress. Diabetes mellitus is characterized by absolute or relative deficiencies in insulin secretion or insulin action correlated with chronic hyperglycemia and other disturbances in carbohydrate, lipid and protein metabolism resulting in weakening immunity. In addition, various biochemical disorders associated with diabetic vascular complications, such as hyperlipidemia and oxidative stress frequently co-exist with diabetes mellitus. The observational study suggest that additional factors may be involved in increasing chemical stress in diabetic patients. The questionnaire based survey was conducted including both close & open ended questions along with the assessment of chemical stress using Sadaf Stress Scale (SSS) in diabetic patients. This study was conducted in tertiary care hospitals of Karachi from October 1st till November 10th, 2014. Data was analyzed, calculated and plotted using SPSS. Results showed that 28% of diabetic patients were in severe chemical stress which could be due to medicine used for diabetes treatment. However, the various symptoms of severity included body temperature (50%), feeling of dehydration (56%) and shortness of breath (63%). It is concluded that the diabetes patient with type 2 diabetes are at higher risk of developing chemical stress that may indicate multiple metabolic and oxidative alterations as indicated by prominent symptoms that can be a consequence of increase use of medications and altered glucose metabolism.

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Psychological correlates of diabetes: a cross-sectional study from Pakistan

Sahar Fatima,

Pakistan institute of learning and living

Type-ii diabetes is a metabolic disease characterized as hyperglycemia due to deficiency in insulin. Depression is associated with hyperglycemia in patients with type-ii diabetes. The co-occurrence of anxiety and depression in people with diabetes speed up severe disease complications, comorbidities, scanty quality of life and augmented healthcare costs (ganasegeran k 2014) in Pakistan the prevalence of diabetes is 12.9 million 10% of the total population. (WHO 2013). To Determine the prevalence and factors associated with anxiety and depression among type 2 diabetes outpatients in Pakistan. Descriptive, cross-sectional study with purposive sampling of patients with type 2 diabetes. Diabetes outpatient clinic Civil Hospital Karachi as well as private clinics. 200 patients with type 2 diabetes aged between 18 and 65 years, obtaining follow-up treatment from the diabetic clinic will be included in the study. Socio-demographic questionnaire (age, gender, marital status, education level, employment status, monthly household income and duration of illness) personal health questionnaire (PHQ-9) and anxiety with GAD-7. Euroqole-5d (EQ-5D), multidimensional scale for perceived social support (MSPSS), sf-12 health survey, adherence to medication, and diabetes self-care. Descriptive analysis will execute to all variables in the study. Scores of anxiety and depression will be stated as mean and sd. Analysis of variance will be applied to relate anxiety and depression across socio-demographic variables. Multiple linear regression analysis will execute to get significant factors allied with anxiety and depression among patients with diabetes. The level of significance will be <0.05 .



'Honey Ointment': A Natural Remedy of Mild Diabetics Foot Infections

Samiyah Tasleem¹, Syed Baqir Shyum Naqvi², Saadat Ali Khan³, Khursheed Hashimi⁴

Department Of Microbiology,

Pharmaceutics, University Of Karachi,

Foundation University Medical College Rawalpindi, Aliaquat National Hospital and Medical College, Karachi

Honey's a unique gift of nature; therefore it is not surprising that the substance prescribed as remedy for various ailments and disease. The earliest evidence of its application in wound management was a recipe for an ointment inscribed on the 4500 years old fragment of clay tablet. Thus there is a long history of its application of cure wide variety of wounds infection at folk level and still used in folk medicine for its beneficial therapeutic and medicinal effects. A large number of honey samples evaluated for antimicrobial potential, and a large number of aerobes, anaerobes, gram-positive and gram-negative bacteria have been reported to be inhibited by honey. Diabetic foot infections are common in patients with diabetes and are associated with high morbidity and risk of lower extremity amputation. Diabetic foot infections are classified as mild, moderate, or severe. Gram-positive bacteria, such as staphylococcus aureus and beta-hemolytic streptococci, are the most common pathogens in previously untreated mild and moderate infection. Severe, chronic, or previously treated infections are often polymicrobial. The objectives of this study were to evaluate the antimicrobial activity of honey against micro-organisms, to formulate a honey ointment and to evaluate the efficacy of such ointment by conducting clinical trials on minor diabetic foot infections. The study was conducted at department of pharmaceutics, faculty of pharmacy, university of karachi and out patient department of dermatology, fauji foundation hospital, rawalpindi from november 2009 to october 2010. Study design was experimental. An ointment containing 20% active antimicrobial honey was formulated. The efficacy of such ointment was evaluated by passing thought clinical trials. A total number of 30 (diabetic foot ulcers) patients were involved in the study. Thin layer of newly formulated honey ointment on gauze were applied two to three times per day till complete healing of wounds. In clinical trial very significant results observed. Mild diabetic foot ulcer cases healed 95% with in the mean healing time of 20 days (range 08 – 40 days) time periods. Newly formulated ointment containing 20% active antimicrobial honey is very effective and alternative low – cost product for the treatment of diabetic foot wound infections.

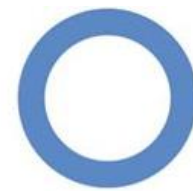


Role of Nutritional Stress as a health concern in diabetic patients; Study Using Sadaf Stress Scale (SSS)

Saima Khan, Sadaf Ahmed, Shamoon Noushad, M. Zafar Iqbal Abbassi & Safdar Ali

Advance Educational Institute & Research Centre (AEIRC)

Diabetes is a collection of metabolic disorders characterized by hyperglycemia resulting from any defect in insulin activity, insulin secretion or in both. The chronic hyperglycemia of diabetes is associated with dysfunction, long-term damage and failure of various organs particularly the kidneys, eyes, nerves, blood vessels and heart. The origin of the abnormalities lies in carbohydrate, protein and fat metabolism in diabetes which is due to deficient action of insulin on targeted tissues. The nutritional assessment, indications for nutritional support, estimates of nutritional needs and biochemical monitoring recommendations for patients with diabetes are of great importance. In this study we are providing our approach to achieve glucose control in nutritionally stressed patients with diabetes using Sadaf Stress Scale; Pakistan's first stress evaluating tool. Stress-induced hyperglycemia is the common complication in patients even when glucose homeostasis has earlier been normal. Hyperglycemia is found to be the near-universal finding in diabetic persons suffering catabolic illnesses. Although evidences are increasing that hyperglycemia weakens immune functions, well-designed approaching randomized trials are needed that determines the risk, cost, and benefit of attaining glucose control and of providing nutritional support to patients with diabetes mellitus. If nutritional support is given in long term, there may have implications for reducing chronic problems of diabetes, such as cardiovascular events. This study evaluates various symptoms that leads diabetic patients towards nutritional stress which include increase blood pressure (56%), Sleep deficiency (68%), mental fog irritability (56%) and abnormal thirst (66%). It also suggests that there is a need for diabetic patients to revise their dietary plan in order to decrease their nutritional stress level.



Obesity and sedentary lifestyle - threat to develop diabetes; a study on subjects with Gestational Diabetes”

Hina Hazrat¹, Sadaf Ahmed^{1 & 2} & Shamoon Noushad²

Advance Educational Institute & Research Centre (AEIRC)

Gestational diabetes is one of the most common complications associated with considerable maternal and fetal morbidity, characterized by glucose intolerance having onset or diagnosis during gestation. While obesity has been associated with gestational diabetes; growing body of research suggests exercise for improving and controlling gestational diabetes. The purpose of this study was to evaluate the relation of gestational diabetes with physical activity, BMI and incidence of obesity. A cross-study study was conducted from August to September 2014, with participants having intrauterine pregnancies, and in the age group of 17-39 years. The participants filled a detailed questionnaire designed for this study. Results: Out of the total sample size of 133 study participants which included 39.85% primigravidae, 0.75% bigravida, 27.07% primiparae, 30.83% multiparae and 1.50% grand multiparae; with 11.27% in their first trimester, 26.33% in second trimester and 62.40% in third trimester; having BMI results of underweight (3%), normal weight (49%), overweight (32%), obesity (16%); 6.02% self-reported presence of gestational diabetes having an average age of 30.28, with BMI results of normal weight (38%), over weight (12%), obese (50%); including 38% primigravidae, 25% primiparae, 25% multiparae and 12% grand multipara. Among study participants with gestational diabetes, 50% reported to have more physically active lifestyle, 50% reported to have less physically active lifestyle, while none reported to have sedentary or inactive lifestyle;. There physical stress levels were evaluated and found to be more in third trimester with moderate and severe level of physical stress. The subjects self-reported to have an active lifestyle beside the case that all of them were having impaired glucose homeostasis and majority with obesity, it is expected to have an association of obesity with gestational diabetes is increasing considerably.

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Poster Presentations



The art and science of diabetes self-management education (DSME): a culture out of balance in Pakistan

Anaiz A. Khowaja & Mahek J Pethani

Aga Khan University Hospital

Group-based Diabetes Self-Management Education (DSME) programmes have been shown to be effective. In spite of growing evidence of the value of DSME in reducing hospitalization costs, improvement in glucose, weight and medication adherence, DSME remains an underutilized insurance benefit and access to qualified diabetes educators is problematic (Tomky, et al., 2013). The purpose of this study is to summarize the accumulated state of knowledge in the area of diabetes patient education research and highlight important issues that research has left unanswered. An integrative literature review was conducted on the topic of diabetes patient education between the years 2000 and 2014. Keywords used in the computerized search were diabetes mellitus, patient education, health education, research, and behavior change. The databases searched were medline, cinahl, healthstar, embase, and chid-he. A total of 25 papers were reviewed most studies lacked a theoretical framework and the majority of studies were conducted in an outpatient setting. HbA_{1c} was the most frequently employed outcome measure, with little, if any, description of the interventions. Since diabetes is a complex condition reaching pandemic proportions, which requires self-management of the chronic disease on a daily basis, the future of DSME faces challenges in the current fee for service environment. The national standards for diabetes self-management education and support and the American association of diabetes educators practice guidelines offers new concepts for meeting the future demand of diabetes educators and education. With the emphasis on patient-centered care, patients and care providers can consider options based on DSME intervention features for its broad and specific impact on outcomes to potentially make programming more effective. Much has been learned in terms of the effectiveness of diabetes education on improving knowledge. However, other topic areas and outcomes need further exploration.



Obesity and risk of diabetes mellitus in Pakistani population

Ambreen Shah

Baqai Medical University, Karachi

Diabetes mellitus is a chronic disorder that affects the metabolism of biomolecules. In the year 2010 there were 7.1 million diabetic people in Pakistan and the number will increase to 13.8 billion by the year 2030. Diabetes mellitus is the 5th leading cause of deaths worldwide as it damages the heart, nerves, kidneys and it is also the cause of amputations. The prevention of diabetes mellitus includes weight loss, maintaining a healthy lifestyle and consumption of a balanced diet, comprised of fruits and vegetables. Obesity is one of the major causes of diabetes. Unfortunately obesity in Pakistan is not considered as a health risk. Obesity is caused by environmental and genetic factors, the environmental factors include a decrease in physical activity, excessive use of technology that leads to sedentary life style, over consumption of calories, increased portion size of food and its costing. According to national health survey of pakistan (year 1990-1994) 22% males and 37% females were obese. According to recent research one fourth of the total population is overweight and obese. In pakistan diabetes mellitus is the 7th leading cause of death and it has a burden on the economy as well. With urbanization, obesity is increasing among the population and also the incidence of diabetes mellitus. Younger people are presented with hyperglycemia and diabetes which is an alarming situation. Weight management may help to decrease the frequency of diabetes mellitus. It's recommended to maintain a healthy life style from the very young age in order to avoid the life threatening disease.

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Defeating Diabetes With A Healthy Life Style

Qirat Modi Shaikh

*Liaquat University of Medical & Health Sciences,
Jamshoro & LUMHS Research Forum*

Globally an estimated 400 million people have diabetes worldwide. And it results in an estimated 1.5 million deaths per year worldwide. Pakistan, the 7th largest country in terms of diabetes population, one which is already struggling to provide proper care to patients will climb up the ladder to become 4th largest by the year 2030. We wish to test whether or not risk factors such as elevated plasma glucose concentrations in the fasting state and after an oral glucose load, over-weight, and a sedentary lifestyle — are potentially reversible. We hypothesize that modifying these factors with a lifestyle-intervention program would prevent or delay the development of diabetes. We plan to randomly assigned a sample of non-diabetic persons with elevated fasting and post-load plasma glucose concentrations to placebo, metformin (850 mg twice daily), or a lifestyle-modification program with the goals of weight loss and at least 150 minutes of physical activity per week. The literature review tilts towards our hypothesis and we hope to receive encouraging results. Preaching healthy living will yield benefits that not only help fight diabetes but other illnesses as well.

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Life congruence with diabetic epigenetics and lipotoxicity – review:

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Major molecular complications in diabetes are insulin resistance and b-cell loss. Several studies have done on underlying mechanisms and pathogenesis in past years. In this review, studies regarding epigenetic modification and its critical role in diabetic pathogenesis specifically lipotoxicity, are discussed. Obesity is established risk factor in diabetic macro-vascular and micro-vascular complications. A high fat diet/ or obesity being the risk factor for b cell lipotoxicity and insulin resistance. From the era of studying human response relationship with environment, it has been elucidated that it influences hassles to human body with genomic alterations without change in nucleotide sequence; epigenetics reversible variations. However, these variations either constitutional or induced have an impact in progression of chronic diseases like diabetes and eventually make them even worst. Life congruence with nutritional balance and physical stability is necessary. According to who facts of diabetes 2014; healthy diet, regular physical activity, maintaining a normal body weight and avoiding tobacco use can prevent or delay the onset of type 2 diabetes.



Gestational diabetes mellitus and its effects on fetal development

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Gestational diabetes mellitus (gdm) i.e. Diabetes diagnosed during pregnancy affects 0.6% - 15% of all pregnancies each year globally. In Pakistan it is known to range from 8-14%. It poses serious adverse effects on mother and fetus with major financial implications; further it clearly leads to development of obesity and metabolic syndrome. The objective of this review is to identify the major fetal complications, risk assessment and preventive solutions. A comprehensive literature search was conducted through electronic medium to explore the relevant literature. Various databases i.e. Pub med, google search engines, science direct, jpm and saga were used. In addition manual search was also done by accessing available articles in periodic library from January 2000- July 2014. Gestational diabetes was strongly associated with higher birth weights, cesarean section of mother and risk of infant shoulder dystocia, Erb's palsy, clavicular fractures, fetal distress, and birth asphyxia resulting in 30 – 50% of perinatal mortality. Respiratory distress syndrome may occur up to 31% of infants while cardiac septal hypertrophy may be seen in 35– 40% of cases. Using insulin therapy has decreased the incidence of fetal macrosomia however, the extent of any effect on maternal and neonatal health outcomes are uncertain. Pre-pregnancy care is the only intervention that targets glycemic control at early organogenesis. Policy makers need to work at: 1) to prevent the development of gdm per se, may implement ADA guidelines by which patients should be screened for risk factors for gdm at their initial visit and 2) to organize program for reducing the incidence of type 2 DM. Keywords: gestational diabetes, complications, policy implementation.



Dealing with diabetic foot ulcers: creating awareness among public

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Diabetes mellitus (dm) is a chronic illness that requires continuing medical care and ongoing patient self-management education. Foot ulcers (open sores) are common in people with diabetes, especially those with problems in the nerves (peripheral neuropathy). These ulcers if remain uncured leads to amputation (surgical removal of part of the limb). Foot ulcers not only lead to physical disability and loss of quality of life but also to economic burden (healthcare costs, industrial disability). The knowledge, awareness and self-care of the foot among diabetic patients have found to be the cost effective ways of preventing foot ulcerations. A comprehensive literature search was conducted through electronic medium to explore the relevant literature. Various databases i.e. Pub med, google search engines, science direct, jpm and saga were used. In addition manual search was also done by accessing available articles in periodic library from january 2000- july 2014. Diabetes mellitus (dm) is now a leading cause of morbidity and mortality throughout the world. It has been reported that diabetes has affected 240 million people worldwide. It is estimated that the rate of morbidity could increase up to 380 million by 2025. The most common complication adding to mortality is incurable foot ulcers. According to world health organization, pakistan ranked seventh on diabetes prevalence list. In addition, total prevalence of diabetes is 12.9 million people with diabetes (10% of total population). Among them 9.4 million people are diagnosed and 3.5 million people remain undiagnosed. Diabetes is a major challenge for healthcare providers in pakistan. It calls for collaborative efforts by diabetic patients, healthcare professionals and healthcare policymakers. Therefore, the aim is to prevent the occurrence of foot ulcers. The review of studies suggests that educating diabetes patients about the ways to look after their feet results to improve knowledge and behavior regarding foot care in the short term. There is insufficient evidence that education alone, without any additional preventive measures, will effectively reduce the occurrence of ulcers and amputations.

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An ounce of prevention is worth a pound of cure: diabetes education can make a difference.

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Diabetes mellitus "too great emptying of sweetened urine" is nowadays common and fast prevailing disease. Diabetes education is the cornerstone of diabetes management because it requires day-to-day knowledge of nutrition, exercise, monitoring, and medication. Living with diabetes becomes a lifelong learning process once diagnosed. Although managing diabetes is exceedingly demanding, nurses play a vital role in healing process and are the key educators in the fight against diabetes. A comprehensive literature search was conducted through electronic medium to explore the relevant literature. Various databases i.e. Pub med, google search engines, science direct, jpm and saga were used. In addition manual search was also done by accessing available articles in periodic library from january 2000- july 2014. About 120,000 people are dying in pakistan every year as a result of diabetes-related complications and many more are being incapacitated because of the disease .more than 10% of the people with pre-diabetic state become diabetic within three years. It has been reported that up to 58% reduction in the development of diabetes could be achieved if pre-diabetes state is controlled effectively and diabetic patients are educated. About half of the people in pakistan who die with diabetes related complications are below 60 years. Screening for pre-diabetes is one essential step in combating the disease as more than 10% of the people with pre-diabetic state become diabetic within three years. It is imperative to have the right information, skills and support to manage diabetes and its pre-existing symptoms. This attenuates the requirement for educating the patients as an ounce of prevention is worth a pound of cure.



The anti-hyperglycemic and anti-lipidemic effect of murraya koenigi leaves in experimental animals.

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The purpose of this study was to determine the anti-oxidant strength of ethanolic murraya leaves against lipid peroxidation and glycemic. The main cause of diabetes is the excess amount of glucose present in blood which reacts with hemoglobin to produce glycosylated hemoglobin. The concentration of glycation is directly proportional to the amount of blood glucose. In diabetic rabbits have evidences the glycation which are responsible to the production of oxygen derived free radicals. Hence it investigated that oxidative stress can play a major role in the destruction of tissue that directly link with diabetic complication. This condition also associated with elevated level of lipid peroxidation also enhanced the formation of reactive oxygen species. Diabetes mellitus lead stroke is another acute complication and the prognosis of stroke is lethal in diabetic patients. Obesity is responsible to increase adipose tissue mass lead beta dysfunction and insulin resistance. Murraya leaves cause decrease the level of hydroperoxidase, and fatty acid in the liver and heart observed in rabbits. The significant prediction of its anti-hyperglycemic and lipidimic activity was therefore explored. The animals were randomly divided into three groups of equal size, control group did not receive any sort of modification in diet throughout the study while the rest of two group were orally administered 10gm of fructose & 6gm of butter in addition with normal animal chow for 45 days while a dietary modification was made in group 3 and it received 10g curry leaves per day for the next 45 days. At the end of the trail measurements were concluded on the HDL, LDL, total serum cholesterol, blood glucose and triglycerides. Concentration of serum glucose showed a marked decline. In lipid profile LDL, TC, TG was significantly decreased and increased HDL, glutathione evaluation was used as a parameter for the oxidative stress showed a mark decline oxidative stress. No physical parameter changed except drastic effect of weight loss. This result showed that the Murraya Koeniigi have potent antioxidant activity due to the presence of biological active components such as carbazole, alkaloids, glycoside, and phenolic compounds due to this Murraya leaves acted as anti-diabetic because it is also responsible to decrease the absorption of the glucose from gastrointestinal tract and inhibits the lipid peroxidation.

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Awareness about diabetes in the high income & literate population in Karachi Pakistan

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The study was conducted to find out the levels of awareness on diabetes in Karachi population. According to the National Health Survey of Pakistan, Diabetes was reported at 10.6 per cent. The incidence of diabetes is rising throughout the world, By 2025 it is anticipated that there will be 300 million diabetics all over the globe² and more than 75 percent of the diabetics will be in the developing countries. A cross-sectional survey was conducted on Karachi population through an interview, In population aged between 18 – 30 years (n = 125, M = 26, F = 99), the study is designed in different stages while this paper only cover the details of people with high income & high literacy rate while they were asked about the questions regarding awareness about diabetes in relation with life style, causes, symptoms and prevention. Data was analyzed using SPSS 21.0. 86 subject lies in normal weight category, 78 have diabetic history, 114 subjects were aware about early age diabetes, 101 reported that pregnancy can induce diabetes but 31 thinks that there is no cure for pregnancy related diabetes, 84 never evaluated their blood sugar. It was found that high income & high literacy rate people are also not properly aware about the risks of diabetes.

One day Learning Activity on

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