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Review on Diabetes and Diabetic – Complications in Human Health : A Social Problem

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Abstract:- Diabetes are of two types. NIDDM-it is not insulin dependent diabetes mellitus. It means insulin is present in the body not accepted by the receptors present in the cell surface. Second one is IDDM- It is insulin dependent diabetes mellitus. In this case, a person requires insulin injected to the body. Uma maheswari et al reported that oral administrtion of , aIlogen- excel (It is an Ayurvedic formulation fortified with andrographis paniculata used for sixty days. It results insignificant lowering of blood sugar and raises plasma insulin in the body and hepatic glycogen and total hemoglobin (1). According to Thomas Jefferson (2000) (2) .Momordica charantina and a paniculata extract when orally administered toalloxan induced rats they showed increased in weight and good health.

Key Words: - IDDM, NIDDM, Neo cortex, Antioxidant, Andrographis paniculata, diabetes mellitus

I. INTRODUCTION

There is a blood brain barrier between brain and blood capillaries. This barrier acts as guard cells so that not more than 0.1 % blood glucose reaches to the brain. More than 0.1% glucose damage the brain cells. This may results in coma and death. The main part of brain are-

(1) Neo cortex or new brain : it is a thinking brain (or voice of reason). It gives order to the primitive brain
(2) Limbic system : it is primitive brain which has evolved ove millions of years. It controls basic emotions like Anger , fear and sexual instincts.
(3) Thalamus : These influence aggressive behaviors.
(4) Hypothalamus and pituitary glands associated withemotion response.

Diabetes is a disease that affects our body's ability to produce or use insulin hormone it causes too much sugar in the blood and increase our blood glucose. It is also known as blood sugar. Blood glucose is our main source of energy and comes from the food we eat. Insulin a hormone made by the beta cells of pancreas helps glucose from food get into our cells to be used for energy. Main type of diabetes are –

Type – 1 Diabetes – It is one of major type of a chronic condition in which the beta cells of pancreas produce little quantity or no insulin. In this our immune system destroy insulin making cells (beta cells) in our pancreas. The condition is usually diagnosed in children and young people. So it is also used to be called Juvenile diabetes or Insuline Dependent Diabetes Mellitus (IDDM)

Type -2 Diabetes – This type of diabetes is a most common chronic condition. That affects our body to unable effective use of insulin to processes blood sugar. In this condition our body is not able to effectively use of insulin to bring glucose into our body cells. Symptoms of this type of diabetes include increased thirst, frequent urination , hunger, fatigue and blurred vision. In some cases there may be no symptoms. Treatment include diet, exercise medication. This is known as Non Insuline Dependent Diabetes Mellitus (NIDDM).

Before the mid-20th century there is no diffrenciation between type-1 and type-2 diabetes.Type 1 diabetes is an inability to produce insulin, that occurs in childhood and most affected organ is pancrease. There is no effective cure of type-1 diabetes before the discovery of insulin in the 1920s (Furdell **2009**) Anyone unfortunate to develop the illness prior to the 1920s probably had their young life cut short within a matter of months – if not weeks – of diagnosis, despite the best interventions of their doctor. Themain characteristic of type-2 diabetes is insulin resistence generally occure in middle age.A number of reviews have appeared recently stress role of " oxidative stress" results in the cellular dysfuncting to cardiovascular , hepatic and other complication of diabetes reported by Evan, j. l.etal. (2005) [5]. A paniculata induces cell cycles arrest and mitochondrion apoptosis reported Cheung , H.

Y. et al. (2005)[6] . Andrographis paniculata inhibits formation of oxygen free radicals according to Shreeja K. et al. Immuno pharma Toxicology.(7)

II. METHODS TO CHECK DIABETES

We can take a blood **sugar test** two ways.
By Glucometer :-People who are monitoring or managing their diabetes prick their finger using a glucometer for daily testing.
By blood screening : - The other method is drawing blood. Blood samples are generally used to screen for diabetes.

Complications ofdiabetes

1. Acute complication
2. Chronic complication – a) Vascular complication
   b) Nonvascular complication
   a) Vascular complication – i) Microvascular – Ratinopathy
      Neuropathy
      Nephropathy
      ii) Macrovascular – Coronary artery disease
      Peripheral vascular disease
      Cerebro vascular disease
   b) Nonvascular complication - Sexual dysfunction and skin change

Importance of antioxidants against diabetic complications :

There are considerable evidences are there that hyperglycemia results in the generation of Reactive Oxygen Species (ROS). Indian subcontinent is suffering from diabetes. Our food habits, life style aid fuel to the fire. There are two types of diabetes mellitus. It is Insulin Dependent Diabetes Mellitus (IDDM) and the second in Non Insulin Dependent Diabetes Mellitus. (NIDDM). In the Ist case insulin is not sufficiently produced from the beta cells of Islets of langer hans. In the second case , insulin is present in the body system but recepters of the cells are unable to form a link so as to permit insulin to get inside and enter the mitochondria for burning the glucose and other metabolities

Social work : -

Social work is carried by trined personals. With an air alleviating the condition of those who have no knowledge of medical plants. A paniculata , coleus force kohlii et al reported by Shobha Prajapati (2014).[8]Antioxidant activity of moringa conkonesis due to the presence of Polyphenols, Tannin etc. It is free radical scavenging activity reported by Dey Ankita et al. [9] According to M.Krisnaraj et are used as traditional medicine . Such information should be propagated amongst villagers and town people. [10]] Diabetes is growing rapidly and now –a-days it becomes one of the main health problem for all mankind around the world .[11] In the USA the 15% of total health care costs is just because of diabetes.[12]The cause of this disease is either insufficient production of insulin from the pancreas, or the produced insulin is not properly utilized by the body.[13] 9% among adults aged above 18-year-old were estimated under the prevalence of diabetes in 2014[14,15]. In 2014, 422 million adult persons were affected by diabetes compared to 108 million in 1980.[16]From the various research it has been found that the women have impaired glucose tolerance than the men. [17,18]Metabolic disorder(obesity, glucose tolerance) and type-2 diabetes is depend on age also.[19,20]Less physical activity increases the risk for type -2 diabetes.[21,22]

Several complications are associated with diabetes medications such as micro and macrovascular damage to various organs.[23,24]Abeer Alassaf et al. were worked on Type-1 diabetes in Jorden, they conclude that age, poor or not receiving insulin at childhood and absence of direct other care are responsible for poor metabolic rate. Insulin at school level reduced HbA1c levels.[25]Mothers knowledge of diabetes and education level is verry important factor in glycemic control for children.[26]In 2012 1.5 million people were died because of diabetes, it was the eighth leading cause of death among men and women, and fifth leading reason of death in women.[27]

The risk factors of DM are likely to be multifactorial behavioural problems such as cigarette smoking, physical inactivity, intake of saturated fatty acids and sugar-sweetened beverages are known to be risk factors of DM.[28]Kritkantorn Suwannaphant et al worked on DM in Thais, they found that SES factors such as : gender, age , jobs, place, income status and liability were also verry closely related with DM.[29] In glucose tolerance test it was found that women have less muscle available for glucose uptake than in men. [30] Oestrogen and progesterone reduce body insulin sensitivity in women.[31] K Konharn et al in their work in Thailand were found that women were less physical inactive than men.[32]The use of medication in post menopausal women is associated with an increases risk of DM. [33] The prevalence of type 2 DM increases with age (the old person are more sensitive for type-2 DM than youths) ,the person of age group 60-74 have high risk of type-2 DM. [34,35]

III. CONCLUSION

The currently available drugs in allopathic system of medicine are not so effective in combating a wide variety of complications. The remedial measures lie in the phyto chemicals like Andrographis paniculata, mango ginger and other medicinal plants. Most of the Plants are known for their biological activities such as – antioxidant, antimicrobial , anticancer, antitubercular and plateet aggregation inhibition activity reported by Police gougra ei al. (2007) . [37]Socio –economic status of patient affect the recovery and diabetes affects the socio-economic state of patient, because treatment of diabetes is costly. It affect the physical and mental health of person and affect their working efficiency. Proper treatment, social support and family care is very important in treatment of Diabetes.

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