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REVIEW ARTICLE

REVIEW ON THE PREVALENCE OF DIABETES MELLITUS SINDH PROVINCE OF PAKISTAN.

Farhad Hussain laghari¹, Hafeeza Gul¹, Yasmeen Gull sarwar¹, Mehwish Alais Bakhatawar Bhatti², Raheela Mangi² and Fozia Wassan².

1. Khairpur Medical College Civil Hospital Khairpur Mir's
2. Department of Zoology, Shah Abdul Latif university Khairpur.

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Abstract

DM is a metabolic condition distinguished by high blood sugar owed by shortage or lack of insulin. Lack of insulin influence on the metabolism of carbohydrate, protein and fat, and causes a significant interruption of water and electrolyte balance. International Diabetes Foundation (IDF) reported 366 million people were affected worldwide as of diabetes in 2011, 371 million peoples were suffering by diabetes in 2012. During 2014, 6.9 million diabetic patients were reported from Pakistan by IDF between the age group of 20-79 years old, the occurrence was 6.8% in adults. IDF estimates the prevalence of 12.8 million diabetics by 2035, Considerable work also done in Sindh Province. During 1995 Shera *et al.*, made a survey on the occurrence of DM in the rural regions of district Shikarpur of Sindh Province. 16.2% males and 11.7% females were suffering from DM (Mahar *et al.*, 2010) reported the prevalence diabetes type 2 in the rural populace of Gaddap town, Karachi Pakistan. The prevalence was 8.73%, with 1258 (6.55% previously and newly reported 2.18%) (Bukhari *et al.*, 2016) made survey on Diabetes Mellitus and reported a total of 11.20% of population were suffering from DM among them 9.19% were reported for women and 16.2% of man suffering from DM. (Parveen *et al.*, 2017) survey on the diabetes in Hyderabad district of Sindh Pakistan. They randomly select 240 samples from Hyderabad out of which 142 males and 98 females, the total prevalence was 59% male and 41% of females.

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Introduction:-

Diabetes mellitus (DM) is a metabolic diseases differentiate by abnormally high blood sugar due to shortage or absence or of insulin. Deficiency of insulin disturb the metabolism of carbohydrate, protein and fat, and causes a major disturbance of water and electrolyte balance. (Edwards *et al.*, 1991).

Diabetes mellitus (DM) categories in to 1 and 2 symptoms are analogous in a diabetes disorder but varying in concentration including weight loss, polydipsia, polyurea, polyphagia, cramps, fatigue, constipation and indistinct vision (Kumar, 2002). Incident (type 1 DM) patient are at the risk of micro vascular complexities, macro vascular

diseases, such as blockage of arteries, heart diseases and peripheral vascular illness (Shukla, 2003 and Saely, 2004).

Some diseases like obesity, visceral adiposity, and increasing age, are can also causes Diabetes associated with sleep-disordered breathing (SDB). Research reveals that diabetes enhance the chances of cardiovascular disease outcomes, including high blood pressure and myocardial infaction (Grunstein *et al.*, 1995; Cowie and Harris, 1995 : Nieto *et al.*, 2000).

DM type 2 enhance the chances of cardiovascular diseases which leads to word to premature illness and death worldwide (Jabir,2006). It is origin for retinopathy, neuropathy and neuropathy DAP shows chronic complications affecting peoples retinopathies affected 43% of people, nephropathy affected 20%, WHO Diabetes. [online] 2009 [cited 2010 July 19 or glycemic control results in diabetic foot ulcer and elimination eventually leading toward addiction. depression, and gigantic healthcare costs for almost every society (Vileikyte, 2005).

The prevalence of diabetes mellitus increasing day by day due to increased in rapidly increase in populace, ageing, social process and related lifestyle modification (Zimmet *et al.*, 2011)

The recent report of International Diabetes Foundation (IDF) at worldwide 366 million people were suffering by diabetes at globally during 2011, 371 million population were diabetes in 2012; India (63 million), China (92.3 million), (24.1 million) were recorded in United kingdom and 4.8 million people were die due to diabetes, diabetic peoples were survive in short and intrmediate profits in Pakistan from 4 out of 5 (IDF 2012).

Pakistan is the 6th densely populated country of the world with a populace of 184.35 million (Mazhar 2015). According to the DAP Diabetic Association of Pakistan and World Health Organization (WHO) the total prevalence of diabetes as 11.47% (extend from 6.39–16.5%) (Shera *et al.*, 1995 and Nishtar and Shera 2006). International Diabetic Federation (IDF) reported 6.9 million diabetic patients were in Pakistan during 2014 with the age 20-79 years old, the occurrence was 6.8% 7 in adults. IDF estimates the prevalence may rise up to 12.8 million diabetics by 2035, an alarming situation, and Pakistan will be on the 8th position among the world's top 10 countries having higher incidence of Diabetes (IDF 2013) awchich means increased morbidity due to its snag. According to another study, mortality associated with diabetes alone will increase by 51% over the next 10 years (Basit and Williams (2006)

Discussion:-

Diabetes mellitus (DM) is an everlasting metabolic disorder that enhance socioeconomic problem in developing world. In the past few decades there has been a considerable increase in the occurrence of this distressing diseases and is existing as a upsetting problem The current survey of Diabetes Foundation (IDF) at worldwide 366 millions population were affected at globally from diabetes in (2011). In 2015, The International Diabetes Federation (IDF) has reported that there is more than 35.4 million diabetic patient in the North and Middle East African areas, out of which more than 7 million case was reported from Pakistan alone with occurrence rate of 6.9% among adults aged from 20-79 years in Pakistan (Diabetes In Pakistan 2015), (Din., 2014). In fact Pakistan unfortunately happed to be the 7th in the world in term of prevalence of diabetes and the 133rd in term of health care system due to many reasons and factors, and type-II diabetes represented the vast majority of patients (Ansari, *et. al.*, 2015), (Hussain, 2016). It has been anticipated that by 2040 DM will become globally so pandemic that every 10 persons 1 at least will be diabetic, and some studies expected that by 2030 there will be more than 14 million patient of DM in Pakistan (Ansari, *et. al.*, 2014 and Hussain 2016).

In various provinces of Pakistan considerable work had been done on the different aspects diabetes mellitus. Including (Shera *et al.*, 1995; Shera *et al.*, 1999; 1995; 2007; 2010; Basit *et al.*, 2002; Jafar *et al.*, 2004; Rifat-uz-Zaman *et al.*, 2009; Mahar *et al.*, 2010; Zafar *et al.*, 2011. Din., 2014; Ansari *et al.*, 2015; 2016; Hussain, 2016) to give advance knowledge about the prevalence DM Type 2 in the different provinces of Pakistan. (Shera *et al.*, 1999) explore the prevalence of diabetes mellitus type 2 in the various regions of Baluchistan. Scholars examine 1404 males and females of rural and urban inhabitant. The total prevalence was 13.46% in which 14.71% males were suffering from diabetes and 12.89% of females having diabetes. (Basit *et al.*, 2000) reported the prevalence of DM from Lasbella district of Balouchistan they examined total of 2032 (670 males and 1362 females. The prevalence of diabetes were diagnosed by means of the ADA American Diabetic Association FBG criteria. They discover the total occurrence of DM of the past and newly detected diabetes mellitus was 7.2 %, though, the occurrence in male was

11.9% in female was 4.9% (Shera *et al.*, 2010) made an assessment on the prevalence of DM and IGT Impaired Glucose Tolerance in Punjab provinces of Pakistan. OGTT were performed on 1852 victims having age group 25 years and above. There were 12.14% of males victims and 9.83% of females victims were suffering from diabetes. The average prevalence of DM was 10.98%. (Zafar *et al.*, 2011) made a study to examine the prevalence of DM in the urban resident of Rawalpindi, Punjab, Pakistan. They examined 1091 subjects there were 293 males and 798 females among them 15.41% males and 12.31% females were found diabetic with the whole percentage was 13.14%. (Husnain and Shaikh., 2009) reported 29.3% cases of Diabetes from Lahore .

(Sohail, Rashid and Ahmad 2011) Described the occurrences of Diabetes mellitus of Rawalpindi, diagnose the prevalence of (DM). Cross Sectional investigation, from Nov 1995 to Jul 1996 (938) victims were randomly collected from Rawalpindi at the Armed Forces Institute of Pathology, Department of Chemical Pathology and Endocrinology, between these 532 females and 406 were male victims among them 66 (12.4%) female have confirmed diabetics and from 406 males 36 (8.87%) having diabetic.

(Shera *et al.*, 1999) also worked on diabetes mellitus in KPK (Khyber Pakhtukhwa) previously known NWFP (North West Frontier Province). In this region researchers examined 1035 victims having age group 25 years and greater. OGTT were performed and the diabetes diagnosis was made as per WHO criteria. The Total prevalence of type 2 diabetes was 11.1% in which 9.2% was males and 11.6% was females.

Considerable work also done in Sindh Province by (Shera *et al.*, 1995) made an examination on the prevalence of DM in the rural areas of District Shikarpur, Sindh Pakistan, They examined 967 victims among them 387 were males and 580 were females with the age group 25 years. The prevalence of diabetes was 16.2% (9.0% known, 7.2% recently diagnosed) in males, and 11.7% (6.3% previously, 5.3% recently identified) in females. (Hydrie *et al.*, 2004). Conducted work on 103 children of Karachi between the age group of 8-12 years among them 80% of children found to be the family history diabetes mellitus. (Mahar *et al.*, 2010) performed a community based study in both male and female they examine the prevalence diabetes mellitus type 2 in the rural population of Gaddap town, Karachi Pakistan. The victims were 30 years and above aged were included; 19211 victims were examined among them 1677 subjects were suffering from DM, with the prevalence 8.73%, with 1258 (6.55%) reported and 419 (2.18%) lately detected cases. (Chuhan *et al.*, 2010) made an observational work on the prevalence of DM a total of 44800 patients were selected who were suffering from various diseases like Hypothyroidism, Hyperthyroidism, Hepatitis, Renal and other diseases only 602 victims were suffering from DM among them only 30 patient were observed with DM Type 1 and 572 were suffering from DM Type 2 the prevalence was 4.98% suffering from Type 1 and 95.02% victims were Type 2 among them 63.12% were male and 36.88 were females. (Bukhari *et al.*, 2016) made survey on Diabetes Mellitus and reported a total of 11.20% of population were suffering from DM among them 9.19% were reported for women and 16.2% of man suffering from DM (Parveen *et al.*, 2017) survey on the diabetes in Hyderabad district of Sindh Pakistan. They randomly select 240 samples from Hyderabad out of which 142 males and 98 females the total prevalence was 59% male and 41% of females.

Prevention control and recommendations.

Regular physical and mental activities should be done to reduce the obesity and depression which are the main cause of diabetes mellitus.

Proper and healthy proteinous and multi vitamins diet should be taken.

To minimize the carbohydrate intake.

The most important preventive measure that can be taken to prevent DM outbreak in the future is to arm people with knowledge through proper medical counseling and massive education, because it is the key factor to maintain a healthy life style.

It is necessary for family doctor to train the people having DM for proper medication.

They can also advise defensive plan that based on suitable diet and physical activity.

Advance diabetic health care should be established in rural and urban areas essential glucose measuring unit glucometers should be provided to check blood glucose.

DM awareness, normal physical work out, dietary plans of provision should be given to the people to manage DM in the state. DM and its signs must be habitually discussed. Awareness seminars about diabetes should be arranged.

Conclusion:-

The percentage of DM is rising gradually due to increasing in populace, aging and urbanization, and change in life style and physical activities causes obesity and depression which lead to word DM.

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