

A review of socio-economic factors affecting for diabetes

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Abstract

Diabetes is one of the principal healthcare challenge in worldwide and diabetes is a serious complex condition which can affect the entire body. Diabetes mellitus is classified in to three main subtypes. Namely, type 1 diabetes mellitus, type 2 diabetes mellitus and gestational diabetes mellitus, occurs during some pregnancies. Cardiovascular disease, blindness, kidney failure, and lower limb assumption are main complications of diabetes. The prevalence of diabetic in the significant risk factors associated Age, gender, decreased literacy, long duration of diabetes, family history of diabetic nephropathy and poor glycemic control, physical activity, ethnicity, geographical background. Diabetic prevalence has risen faster in low and middle income countries than in high income country. There was 1.16 million cases of diabetes in Sri Lanka. The diabetes prevalence is increase for aged 65 years and above. Direct and indirect economic cost affecting for diabetes patients. The purpose of this study to determine the socio-economic factors affecting for diabetes. The information obtained the review of articles.

Key words: diabetes, prevalence, risk factors, economic cost

Introduction

Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produce. (WHO, 2006). According to the World Health Organization (WHO) and the International Diabetes Federation (IDF), even today diabetes has become one of the principal healthcare challenge in worldwide. And its magnitude is forecast to grow in the near future.

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Diabetes is a serious complex condition which can affect the entire body. Diabetes mellitus is classified in to three main subtypes. Namely, type 1 diabetes mellitus, type 2 diabetes mellitus and gestational diabetes mellitus, occurs during some pregnancies. Type 1 diabetes (previously known as insulin dependent juvenile or childhood-onset) is characterized by deficient insulin production and requires daily administration of insulin (WHO, American Diabetes Association). Type 2 diabetes (T2DM) is when the body loses the ability to produce and utilize insulin properly, and it is sometimes combined with an absolute insulin deficiency. Type 2 diabetes most often develops in adulthood and used to be called adult-onset diabetes. Usually, it does not appear suddenly. Type 2 diabetes is the most common form of diabetes. Common symptoms may also include increased thirst, frequent urination and unexplained weight loss. Symptoms may also include increased hunger, feeling tired and sores that do not heal. Often symptoms come on slowly. Long-term complications from high blood sugar include heart disease, strokes, diabetic retinopathy which can result in blindness, kidney failure and poor blood flow the limbs which may lead to amputations.

Gestational diabetes mellitus (GDM) is defined as any degree of glucose intolerance with onset or first recognition during pregnancy (American Diabetes Association, 2014). Gestational diabetes is caused by improper insulin responses.

Objective of the study

The objective of this study is to identify the socio-economic factors affecting for diabetes.

Methodology

This study mainly used previous research article . WHO reports, as secondary data collection

Complications of diabetes

People with diabetes have an increased risk of developing a number of serious health problems. Consistently high blood glucose levels can lead to

serious diseases affecting the heart and blood vessels, eyes, kidneys, nerves and teeth. In addition, people infections. In almost all high-income countries, diabetes is a leading cause of cardiovascular disease, blindness, kidney failure, and lower limb amputation. (Hill J, Nielsen M et al, 2013).

Trends of Diabetes prevalence

World trend of diabetic prevalence

Diabetes is on the rise, no longer a disease of mostly rich nations, the prevalence of diabetes is steadily increasing everywhere, most markedly in the world's middle-income countries (WHO). The number of cases of diabetes worldwide in 2000 among adults 20 years of age is estimated to be 171 million. (Sarah Wild et al, 2004). WHO reported that globally, an estimated 422 million adults were living with diabetes in 2014. This reflects an increase in associated risk factors such as being overweight or obese. Diabetes was considered a disease confined to developed countries and affluent people. The prevalence of diabetes is rising globally, particularly in developing countries.(Prasad Katulanda, Ranasinghe, Jayawardana, Sheriff, & Matthews, n.d.). The greatest relative increases will occur in the Middle Eastern Crescent, sub-Saharan Africa, and India. Globally, diabetes prevalence is similar in men and women but it is slightly higher in men 60 years of age and in women at older ages. (Sarah Wild et al, 2004). Diabetes mellitus has become an important health concern in the South Asian region with an estimated increase in the prevalence of diabetes between year 2000 and 2030.(Jayawardana et al., 2012).

Sri Lankan situation in diabetics

Sri Lanka is a middle-income country with a population of 20.7 million people and the population comprises of two broadly different socio-demographic groups, namely urban and rural. (P Katulanda, Rathnapala, Sheriff, & Matthews, 2011). There was 1.16 million cases of diabetes in Sri Lanka. (IDF). Rural areas have shown an increase in the prevalence of diabetes from 2.5% in 1990 to 8.5% in 2000 (P Katulanda et al., 2011). In the suburban populations, the prevalence has been reported as 5.0% in 1994 and 6.6% in 2002. (P Katulanda, Rathnapala, Sheriff, & Matthews, 2012).

There was a marked variation in the province specific prevalence of diabetes with 18.6% in the highest (Western) and 6.8% in the lowest (Uva). (P Katulanda et al., 2011). Diabetes Association of Sri Lanka (DASL) said that, There nearly four million diabetics in Sri Lanka. Prevalence of diabetes in adults 8.5% in 2015 in Sri Lanka. (DASL)

Socio-economic Factors

The prevalence of diabetic in the significant risk factors associated male gender, decreased literacy, long duration of diabetes, family history of diabetic nephropathy and poor glycemic control (high HbA1c). The world prevalence of diabetes in 2010 among adults aged 20-79 years is estimated to 6.4%, affecting 285 million adults. Between 2010 and 2030, there is an expected 70% increase in number of adults with diabetes in developing countries and a 20% increase in developed countries (Joseph, 2010). According to the (Pradeepa et al., 2008) and (Alrawahi, Rizvi, Al-Riyami, & Al-Anqoodi, 2012) the age factor not associated with diabetic nephropathy. Age is not important and important is the duration of diabetes. Globally, diabetes prevalence is similar in men and women but it is slightly higher in men 60 years of age and in women at older ages. (Wild et al, 2004). As for risk factors, male gender is an independent risk factors for diabetic nephropathy. A strong association between male gender and diabetic nephropathy (Alrawahi et al., 2012)

Different genetic and environmental backgrounds in diabetic populations could also contribute different pattern of correlate of diabetes ((Joseph, 2010); (D. D. Wang, Bakhotmah, Hu, & Ali Alzahrani, 2014). Several studies have found that genetic components plays an important role in pathogenesis of type 2 diabetes (Joseph, 2010). Furthermore, studies have shown certain ethnic groups to be more susceptible to developing diabetes than others. (Joseph, 2010). The growing diabetic population in Asia and the high frequency of fungal foot infections in patients with diabetes present a considerable health problem. (Wijesuriya et al., 2014).

The literacy status is an independent risk factor for diabetic nephropathy increase as literacy decreases.(Alrawahi et al., 2012). According to the (Alrawahi et al., 2012) studies have shown that the highest percentage of type 2 nephropathy was found in patients with no school education and university level education. Women with low education had a higher prevalence of diabetes than the better educated (Joseph, 2010).

History of impaired glucose regulation and microalbuminuria were strong risk factor for diabetic retinopathy (Wang J et al, 2013; R.Pradeepa et al, 2008; Rajalakshmi R et al, 2014 ; Bertelsen et al, 2013).

Risk factors for candid parapsilosis infection include previous traumatic dystrophy of the foot and exposure to soil during activities such as gardening. Fungal foot infections were seen significantly with the increasing age, gender, duration of diabetes and with less controlled glycemic level (Wijesuriya et al., 2014). Many studies reported that Body Mass Index is a strong risk factors for type 2 diabetes (Joseph, 2010). A strong positive association between obesity and type 2 diabetes is found both men and women.

Economic cost

Direct and indirect economic cost affecting for diabetes patients. Estimated global healthcare expenditures to treat and prevent diabetes and its complications is at least 376 billion US Dollar (USD) in 2010.(Yang et al., 2013). By 2030, this number is projected to exceed some 490 billion USD. Diabetes risk factors are serious not only for those who suffer the disease, significantly increasing their morbidity and mortality and causing a deterioration in their quality of life, but also for healthcare systems, significantly increasing the associated direct and indirect economic costs.(Ballesta, Carral, Olveira, Girón, & Aguilar, 2006).

Diabetes cost the U.S. an estimated \$132 billion in 2002 in direct medical and indirect expenditures (American Diabetes Association, 2002). Direct medical expenditures alone totaled \$91.8 billion and Attributable indirect expenditures resulting from lost workdays, restricted activity days, mortality, and permanent disability due to diabetes totaled \$ 39.8 billion

(American Diabetes Association, 2002). According to ADA, 2012 increasing the diabetes cost the U.S. The total estimated cost of diagnosed diabetes in 2012 is \$ 245 billion, including \$ 176 billion in direct medical costs and \$ 69 billion reduced productivity. According to the previous study in 2002, total estimated cost of diagnosed diabetes is \$ 132 billion including \$ 91.8 billion direct medical cost and \$39.8 billion indirect cost. By 2012, U.S. diabetes cost increasing to more than 2002. The largest components of medical expenditures are hospital inpatient care (43% of the total medical cost), prescription medications to treat the complications of diabetes, antidiabetic agents and diabetes supplies (American Diabetes Association).

Conclusion

It was conclude that, diabetes is a large healthcare problem in worldwide. The prevalence of diabetes is rising globally, particularly in developing countries. Diabetes is a leading cause of cardiovascular disease, blindness, kidney failure, and lower limb amputation. Globally, diabetes prevalence is similar in men and women but it is slightly higher in men 60 years of age and in women at older ages. Diabetes mellitus has become an important health concern in the South Asian region with an estimated increase in the prevalence of diabetes between year 2000 and 2030. Many studies have elaborated the associations between several risk factors and the risk of diabetes. Age, Gender, Body mass index (BMI), lipids, hypertension, smoking, physical inactivity, low education, dietary patterns, family history, and recently also specific genes are the most frequently documented risk factors for diabetes. Environmental and lifestyle factors are the main causes of the dramatic increase in type 2 diabetes prevalence. Direct and indirect economic cost affecting for diabetes patients. Estimated global healthcare expenditures to treat and prevent diabetes and its complications is at least 376 billion US Dollar (USD) in 2010. By 2030, this number is projected to exceed some 490 billion USD. Direct cost are mainly associated with medical expenditure for inpatient and indirect expenditures are depend on the lost workdays, restricted activity days, mortality, and permanent disability.

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