

Insulin Self Medication among Diabetic Patients: A Review of Associated Factors

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ABSTRACT

Insulin is a drug used in the treatment of diabetes type one and the emergencies of diabetes type two. Diabetes is a chronic disease which occurs when the pancreas does not produce enough insulin, or when the body cannot effectively use the insulin produced. The majority of the people with diabetes in developing countries are within the productive age range of 45 to 64 years. Besides their reduced productivity, diabetes further makes it expensive in terms of drugs and the economic growth is slowed down. Diabetic patients with old age often have enough knowledge on insulin self-medication but some of them lose their sight as a complication of the disease. It was discovered that men are more compliant to insulin injection than women.

Keywords: insulin, self-medication, diabetic patients associated factors

INTRODUCTION

Insulin is a drug used in the treatment of diabetes type one and the emergencies of diabetes type two. Diabetes is a chronic disease which occurs when the pancreas does not produce enough insulin, or when the body cannot effectively use the insulin produced. This leads to increased concentration of glucose in blood and body weakness [1-7]. Insulin is a drug of choice used in the treatment of diabetes type one all over the world but patients struggle to buy it and the syringes they should use leading to poor glycemic control. This is one of the reasons why the prevalence of diabetes has increased, making diabetes to be recognized as one of the leading cause of death and disability with India being in the leading position. WHO estimated that 366 million people in the world by 2030 will be affected by diabetes. 387million people globally have diabetes with type one accounting for 5-10% of diabetic patients [8-14]. East Africa and other developing countries are also involved where diabetes is now emerging as an epidemic of the 21st Century and it threatens to affect the health care system in the near future, sadly, the majority of the people with diabetes in developing countries are within the productive age range of 45 to 64 years. Besides their reduced productivity, diabetes further makes it expensive in terms of drugs and the economic growth is slowed down [9-18].

The social demographic factors that affect the diabetic patients on insulin self- medication

Age: Diabetic patients with old age often have enough knowledge on insulin self-medication but some of them lose their sight as a complication of the disease. This makes it difficult for them to inject themselves with insulin because they can't see properly. So, their families and friends can improve this by assisting in complex practices like, glucose testing, insulin injection, diabetes meal planning, checking feet, and exercises [9-20].

Sex: It was discovered that men are more compliant to insulin injection than women. This is because most women tend to fear injections and the cosmetic disfigurement brought about by continuous injections [10-23].

Marital status: Furthermore, Kadirvelu *et al.* [11] reported that Sex along with age and marital status may have overlapping influences on self-management. Among older adults, women who tend to exhibit better self-care behavior, are less likely to be married, and are more likely to discuss personal issues with friends than men. This improves their practices during medication.

Level of education

In a study to find out the relationship between literacy rates and medication adherence revealed that Patients particularly those with low levels of literacy may not recall verbal advice or may misinterpret advice. Health cards with figures and pictures, combined with verbal instructions, which should be repeated often to reinforce understanding, may help such people [12].

Religion

Ebrahim *et al.* [13] discovered that most Christian diabetic patients on insulin tend to comply to the treatment than other religions.

Occupation

He also says that among 100 patients interviewed, 50 (50%) were unemployed making it expensive for them to buy the drugs and adherence rate becomes poor. Ebrahim *et al.* [13].

Knowledge of diabetic patients on insulin self-medication

In a study to assess the knowledge of insulin requiring patients with diabetes in Nigeria revealed that insufficient knowledge on insulin medication can result into unpreventable complications, poor adherence to therapy and poor glycaemic control. 38% of Nigerian diabetic patients have insufficient knowledge on insulin use [14].

It was reported that diabetes mellitus is recognized as one of the leading causes of death and disability due to insufficient knowledge about the disease and patients are not sure of the complications of insulin as a drug 375 (65%) (Surendranath *et al.* [8].

Furthermore, a study in Brazil was done focusing on patients' knowledge on the use of medication, regarding the dose, time and how many times a day revealed that there is a significant deficit in knowledge in 50% to 80% of individuals. Therefore sufficient knowledge about the treatment is important in controlling the disease and its complications enabling patients to live better with the chronic condition Enferm *et al.* [15].

Despite the important role of diabetes knowledge towards prevention of serious complication of diabetes, findings showed that generally diabetes knowledge level was suboptimal according to the study done on assessment of diabetic patients knowledge on diabetes [16-24]. It was observed that the level of knowledge of diabetes in all regions in the country is very poor in the community. A study on knowledge attitude and practice of diabetic patients in Saurashtra India was conducted and confirmed that insulin injection was disfavored by most patients 58% because of lack of knowledge about it according to [17-26].

Practices of diabetic patients regarding insulin self-medication

In a survey of knowledge, attitude and practice concerning insulin use in adult diabetic patients in eastern India revealed that among current insulin users, 70% had never used a glucometer, only 27.33% carried simple carbohydrates for use in hypoglycemic attacks; and 32% failed to rotate sites for insulin injection. by Choudhury *et al.* [18]. According to Ebrahim *et al.* [13] in a study done in Basra city in Iraq to assess the attitude and practice of diabetic patient towards self-administration of insulin, it revealed that all patients consult regularly for their condition, (50%) of them prefer private clinic as facility for consultation. (43%) of them check their blood glucose only when they fall ill. Hospitals considered as source of insulin for (41%) of patients, (66%) prefer the arm as a site of injecting insulin. Only (20%) of them use the insulin syringe for single injection, (4%) of them dispose the used insulin needles in a special container at home, (97%) of them eat some food shortly after insulin. Only (54%) had good practices during self-administration of insulin. The rate of correct practices among males was higher than the rates among females for the majority of the items [26-30].

A study that was done to assess the knowledge and self-care practices of diabetic patients. In Ethiopia, discovered that none sterile insulin injection tools are used. There is poor disposal of used needles which increases infection rate. Only in less than 10% of cases used to dispose used injections in special containers [19]. In Ethiopia still, it was revealed that some patients have fair practices regarding self-administration of insulin, 135 (90%) of them knew home management of hypoglycemic effect of insulin. 46 (30.7%) of the patients reported they had missed their insulin due to different reasons at different times. Insulin storage appropriateness was significantly not satisfactory and was associated with educational level which revealed that practices among the diabetic patients regarding self-insulin therapy were still sub optimal [20]. Rwegerera [21] conducted a study on adherence to anti diabetic drugs in Tanzania and mentioned that adherence to antidiabetic drugs particularly insulin was found to be suboptimal. Patients with other medical conditions in addition to diabetes mellitus are more likely to adhere to anti-diabetic medications. There is a need for the responsible authorities to set policies that subsidize cost of anti-diabetic drugs to improve adherence and reduce associated complications [25-32].

CONCLUSION

Diabetes is a chronic disease which occurs when the pancreas does not produce enough insulin, or when the body cannot effectively use the insulin produced. The majority of the people with diabetes in developing countries are within the productive age range of 45 to 64 years. Besides their reduced productivity, diabetes further makes it expensive in terms of drugs and the economic growth is slowed down.

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