

A Descriptive Study to Assess the Knowledge, Attitude and Practices Related to Insulin Self Administration among Diabetic Patients in a Selected Tertiary Care Hospital of West Bengal

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Abstract: Background: According to the World Health Organization (WHO) report, India today heads the world with over 32 million diabetic patients and this number is projected to increase to 79.4 million by the year 2030¹. Recent surveys indicate that diabetes now affects a staggering 10-16% of urban population and 5-8% of rural population in India. Approximately 12% of diabetics follow the method of self administration of insulin as a treatment modality. The effectiveness of insulin therapy can be enhanced by appropriate and correct use of insulin and promoting awareness and right attitude. Aim of the study: The present study aimed at assessing the knowledge, attitude and practice regarding Insulin Self Administration (ISA) among diabetic patients. Methods and Materials: The research design selected for the study was non experimental descriptive cross sectional design. The tool used was a semi structured interview schedule. 50 diabetic patients on Insulin Self Administration (ISA) were considered using purposive sampling for the study. Study was conducted at various Out Patients Departments of a selected tertiary care hospital in Kolkata. Result: The result of the study revealed that 76% of subjects had good knowledge regarding ISA compared to 20% who had poor knowledge. 56 % of samples had good attitude towards ISA vis a vis 34% who had excellent attitude and 10% had negative or unfavorable attitude towards ISA. Statistically no significant association was seen between knowledge, attitude and practice however a significant association was seen between age of the person and attitude towards ISA. Significant knowledge deficit was seen in areas like storage of insulin, cleaning of site, rotation of sites and technique of injecting. There was a total agreement that ISA gives them confidence and independence in controlling Diabetes. Conclusion: It is concluded that education is likely to be effective when the characteristics of the patients in terms of their knowledge, attitude and practices about self care management are known. Therefore, it is of paramount importance, that people with diabetes mellitus should be provided with ongoing high quality need based education to be delivered by skilled health care providers.

1. Introduction

Diabetes Mellitus occurs throughout the world but is more common in the more developed countries. The greatest increase in prevalence is however occurring in low and middle income countries including Asia and Africa. It is estimated that \$ 613 billion, i.e 12% of global health expenditure is spent on diabetes. The increase in incidence in developing countries follows the trend of urbanization, increasing sedentary lifestyle and global nutrition transition.

Diabetes is incurable but very much controllable. Insulin is the core molecule that is still the best treatment for diabetes. in addition to medications Diabetes mellitus often require significant alterations is lifestyle and strict adherence to self-care task such as blood sugar monitoring and proper practice of self- administration of insulin².

2. Background

International Diabetes Federations (2015) stated that globally 415 million people are living with diabetes and is estimated to reach 642 million by 2040. WHO estimated that diabetes resulted in 1.5 million deaths in 2012 making it the 8th leading causes of death.³

Diabetes is fast gaining the statistics of a potential epidemic in India with more than 62 million diabetes currently diagnosed and by 2030 may affect up to 79.4 millions.

According to the National Urban Survey reports Kolkata has 11.7% of total population with diabetes mellitus.⁴

3. Objectives

The present study attempted to assess the knowledge, attitude and practices regarding Insulin Self Administration (ISA) among diabetes patients and socio demographic factors affecting knowledge, attitude and practices related to ISA.

4. Methods & Materials

A descriptive cross sectional design based on quantitative approach was used. The study was conducted in the Out Patient Department of a Multispecialty hospital in Kolkata, West-Bengal.

50 diabetic patients who were on Self Insulin Administration between the age group 30 to 60, able to read and understand Hindi/English/Bengali were selected based on incidence rate from previous studies using purposive sampling technique. Institutional ethical clearance and informed consent of subjects were obtained and all ethical considerations adhered to throughout the study. Subjects on self insulin administrations for duration of less than 6 months were excluded from the study.

A self structured questionnaire consisting of 20 MCQ knowledge related, 15 attitude related likert scale items and 15 dichotomous (Yes/No) items to assess reported practices

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was developed, The questionnaire used for the survey was designed by the author and underwent content and construct validation by peer groups, endocrinologist and Public health specialist. and was administered, Every correct item was individually scored with a max score of 50.

5. Result

Mean age of the subjects was 52.1 years. Mean duration of diabetes of 7.6 years and the mean duration of use of oral hypoglycemic was 5.2 years and mean duration of Insulin Self Adm was 4.2 years. Results revealed only 23% patients used glucometres for blood sugar monitoring compared to 77% who depended exclusively on treating hospitals for blood sugar monitoring.

Among the participants 84% patients were on combination therapy with both insulin and oral hypoglycemic drugs. 58% subjects regularly monitored their blood sugar on a monthly basis compared to 31% who went for a blood sugar testing 6 monthly and 11% had a blood sugar monitoring only annually.

About 54% patients confided that their source of knowledge regarding ISA was from doctors compared to 16% responded that they gained knowledge from nurses. 46% diabetes patients preferred abdomen as the preferred site for insulin injections compared to 54% who rotated sites regularly. Regarding disposal of needles 80% subjects disposed their needles by throwing in thrash. 55% subjects

used same needles for more than 10 injections and only 3.5% used needles once or twice and discarded. Regarding storing insulin 48% patients had good knowledge and 12% patient had poor knowledge.

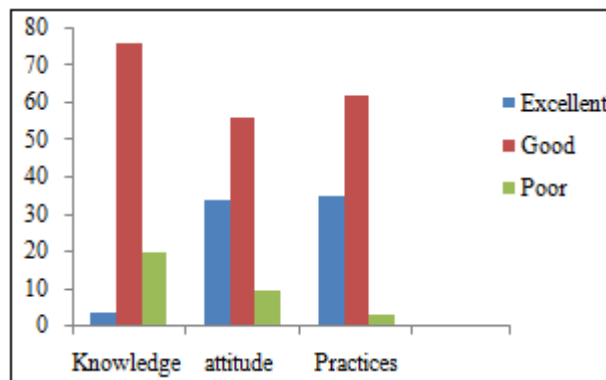


Figure 1: Knowledge, Attitude and Practices of diabetes patients regarding Insulin Self Administration

The study revealed that 76% of subjects had good knowledge regarding ISA compared to 20% who had poor knowledge. 56 % of samples had good attitude towards ISA vis a vis 34% who had excellent attitude and 10% had negative or unfavorable attitude towards ISA. 62% diabetes had good practices compared to 35% who had excellent practices and only 3% sample had poor practices related to ISA.

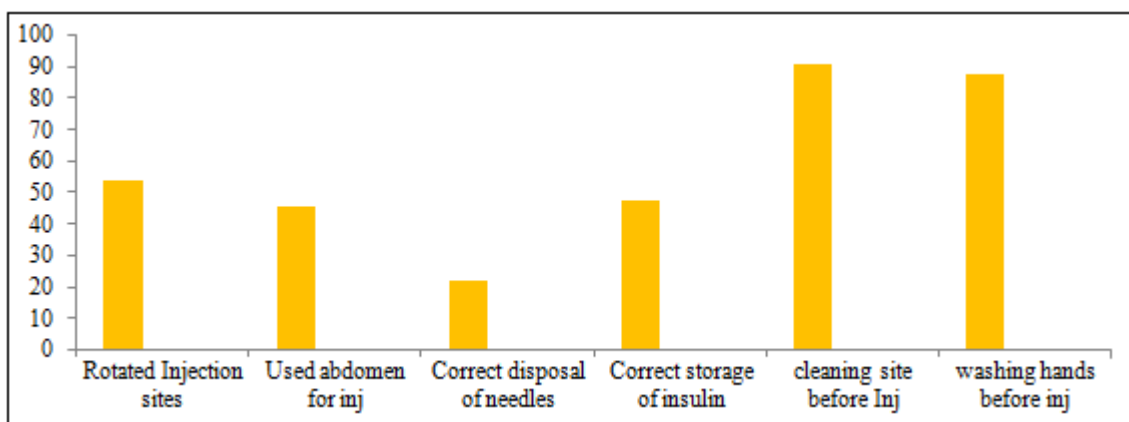


Figure 2: Practices related to insulin self administration. Fig shows that there are significant practice gaps in the area of safe disposal of needles after injection

Results of the study revealed that 88% of subjects washed hands before administration of insulin and 91% samples cleaned the skin before insulin administration.

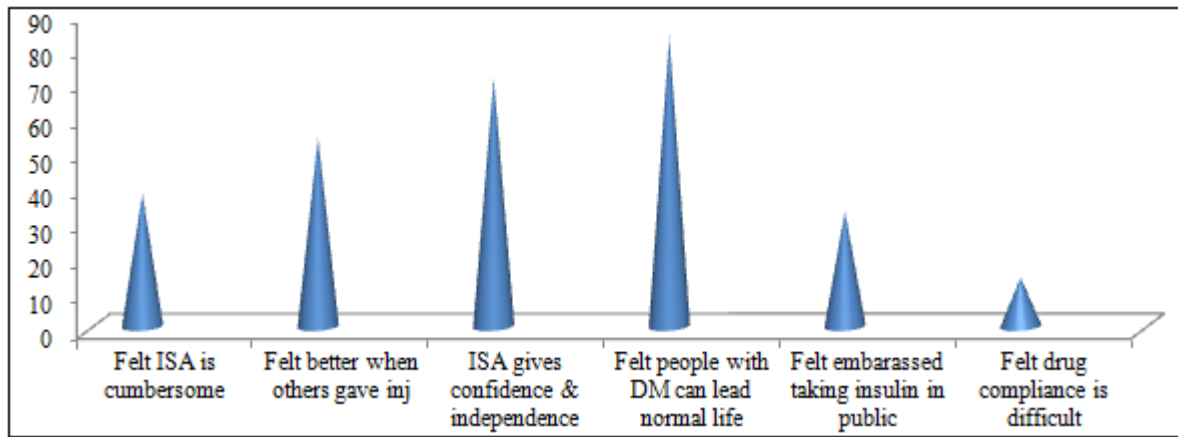


Figure 3: shows the common perceptions and attitudes of diabetes patients related to Insulin Self Administration

Association between knowledge, attitude and practice with selected socio-demographic variables was tested using inferential statistics (Chi square). Significant association was seen between knowledge and duration of treatment and age of the client with attitude regarding ISA (at 0.05 level of significance). However no association was seen between socioeconomic status, type of family, educational status or place of residence with knowledge, attitude or practice.

6. Discussion

The study population showed satisfactory trends comparable to earlier KAP studies conducted in other parts of India. A multicentre KAP study conducted by Choudhury DS, Das SK and Hazra A⁵ in the OPDs and wards of three multispecialty hospitals in the urban India revealed that 51% of subjects had a satisfactory idea about diabetes and its signs and symptoms, only a minority of subjects reported carrying simple sugars while traveling as precaution against serious hypoglycemia, awareness regarding insulin as a therapeutic option was satisfactory and the belief that insulin could cure diabetes or that it could be substituted was minimal. In the present study 76% of subjects had good knowledge regarding ISA compared to 20% who had poor knowledge.

Choudhury DS, Das SK and Hazra A also found that majority of their sample were getting their blood glucose checked regularly and only a handful used glucometer regularly, majority had never used one. In the present study it is seen that 23% patients used glucometers for blood sugar monitoring compared to 77% who depended exclusively on treating hospitals for blood sugar monitoring, 58% subjects regularly monitored their blood sugar on a monthly basis compared to 31% who went for a blood sugar testing 6 monthly and 11% had a blood sugar monitoring only annually or totally ignored it.

A descriptive study conducted by Sajai BM⁶ at a diabetic clinic of Primary Health Centre, Alnamas, Saudi Arabia among 20 DM patients found that 60% subjects had good knowledge compared to 20% who had very poor knowledge which is close to the findings of present study however the sample size of the former is very less to make generalizations. Study also found significant relationship of knowledge level with selected variables and chi-square test revealed that there was significant association between knowledge level and education of the participant, occupation

of the participant, duration since diagnosis of Diabetes Mellitus, actual number of years on insulin therapy, family history of diabetes mellitus. But there is no association between knowledge level and age, Gender, Religion, Marital status, Family income per-month. But in the present study significant association was seen only between age of patient and attitude towards ISA. However no association was seen between knowledge and other selected socio-demographic variables like education, socio economic status, marital status etc however significant association was seen between socio-economic status and practices related to ISA.

A study conducted by Gerada Y et al⁷ among diabetes mellitus patients at Tikur Anbessa specialized hospital revealed that 6.9% of participants stopped taking their medication when they were feeling better, 69.6% were using abdomen as site of injection and 73.0% used upper arm. About 65.1% Respondents store/keep their insulin in refrigerator. About three fourth (75.7%) of participant took their insulin with themselves when they were out of home for long time. Present study was indicative that 46% diabetes patients preferred abdomen as the preferred site for insulin injections compared to 54% who rotated sites regularly, approx 50% subjects stored insulin correctly.

7. Conclusion

Increasing urbanization, rural to urban migration, adoption of sedentary lifestyle and unhealthy food habits interact with the already heightened genetic predisposition makes Indians highly susceptible to diabetes mellitus. The study provides a baseline to identify educational needs and plan more effective diabetes care services. Diabetes clinics in tertiary care hospitals are probably in the best position to launch interventional and educational programs with the help of local physicians, nurses, other healthcare workers, community leaders, and mass media.

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