Effectiveness of Intervention On Self Administration of Insulin Among Clients with Diabetes Mellitus at Selected Hospitals in Varanasi, Uttar Pradesh

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Abstract: **This paper presents an overview on effectiveness of intervention on self-administration of insulin among clients with diabetes mellitus at selected hospitals in Varanasi, Uttar Pradesh.**

Keywords: **Self administration, Insulin, Diabetes mellitus.**

1. Introduction

The greatest challenge faced by the modern world is Diabetes mellitus (DM). It is expected that approximately 366 million people will be affected by Diabetes mellitus by the year 2030. According to WHO statistics, the global prevalence of diabetes mellitus in the year 2000 was 171,000,000 and it expected and approximated to be raised to 366,000,000 by 2030. Whereas its long arms have widely spread in India too, by the statistical report of WHO, in the year 2000 the prevalence was 367,000 and expected to be raised to 635,000 by the year 2030 in India.

The lifestyle disease known to be restricted to urban population in the country till a few years ago has now invaded rural India as well, with as much as 3% of the total rural population being diagnosed with diabetes. Urban diabetes mellitus patients are estimated to account for nearly 10% to 11% of the total 25 million patients in India. The disease presently affects 10% of the affluent class and nearly 33% of the lower levels of population. The prevalence of diabetes mellitus is 16.6% in Hyderabad, followed by Chennai with 13.5%, Bangalore with 12.4%, Delhi with 11.6%, and Mumbai with 9.3%.

By 2025, the number of diabetes mellitus patients is expected to increase by 41% in developed countries to 72 million from the present level of 51 million. In developing countries, the incidence of the disease would surge by 170% to 228 million from 84 million

2. Methodology

Quantitative research approach, Quasi-experimental design, sample size is 50, selected by simple random technique by lottery method from the sample frame within eligibility criteria. Data was collected using semi-structured interview/observation schedule for demographic profile of diabetes mellitus clients, knowledge questionnaire on general information about diabetes mellitus and self-administration of insulin, observation checklist for practice in self-administration of insulin.

Pretest was carried out using the prepared tools, education intervention carried out by teaching using power point slides, flip chart. Administration of insulin technique was demonstrated. Pamphlet on insulin administration technique was issued. Post test was carried after one week. The study was carried out in Diabetology out-patient department of selected hospitals in Varanasi, Uttar Pradesh, for period of one-month duration from 16 November 2018 to 15 December 2018 with formal permission from Head of the Department and approval of Ethical Committee. Informed consent obtained from the participants and information about the study was given to them. Pilot study was conducted to find out the feasibility of conducting the study and refinement of tools.

3. Results

Level of Knowledge and level of practice in self-administration of insulin was inadequate. The findings of pretest show that overall mean knowledge score was inadequate (36.2%). In knowledge on general information mean score was 37.4%, in self administration 35.8%. Among participants 78.0% of them had inadequate knowledge, 22.0% had moderately adequate knowledge and none of them had good knowledge. The mean practice score in self administration of insulin was inadequate (12.54).

Among all participants 74.0% had inadequate practice, 26.0% had moderately adequate practice and none of them had good practice. After educational intervention the knowledge and practice score diabetes mellitus client is improved. Overall post test means knowledge score 35.32. in general information the score is 8.32 and in self administration of insulin the score is 27.00. Among all participants 76.0% have adequate knowledge, 24.0 % have moderately adequate knowledge and none of them have inadequate knowledge. Overall post test mean practice score is 26.18.

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Among all participants 80.0% have good practice, 20.0% have moderately adequate practice and none of them have inadequate practice. The pre and post test knowledge score is compare. The mean knowledge score is 15.92 in pretest and 35.32 in post test. The difference is 19.40. The difference is great and is significant (t=24.91,p=0.001,DF=98, significant). The level of knowledge score is compared. The results shows statistical significance (X2=77.04, p==0.001, DF=2, significant). This means the post test knowledge level is improved. The pre and post test practice score is compared. The mean pretest practice score is 12.54, post test score is 26.18. The difference is 13.64. This difference is great and shows the improvement in practice (t=55.51, p=0.001, DF=98, significant), significant). Pre and Post test level of practice is compared. Great difference exists in the level of practice in the post test. Practice is improved. (X2=77.39, p=0.00a, DF=2, significant) in knowledge aspect the gain is 44.1% and in practice the gain is 42.6% than pretest.

Correlation between knowledge and practice score made. In pretest r=0.019, p=0.21, not significant, positive, poor correlation exists. That means when knowledge increases the practice poorly increases. In posttest the correlation is substantial, r=0.63 p=0.001.

Positive correlation between knowledge and practice. That means when knowledge increases the practice also increases substantially. The post test findings are significantly associated with age, education status, family history of diabetes and duration of illness. In present study elders (>45 years, Pearson Chi-square test shows =8.34, p=0.02, DF=2, significant), more educated (HSC/Diploma/Degree, Pearson Chi-square test shows=8.57 p=0.001, DF=2, significant), with family history of diabetes mellitus (Pearson Chi-square test=5.25, p=0.19, DF=2, significant) are having more knowledge than others. Elders (>45 years, Pearson Chi-square test =6.93, p=0.03, DF= 2, significant), more educated (HSC/Diploma/Degree, Pearson Chi-square test shows=7.40, p=0.02, DF=2, significant), with more years of duration of illness (>5 years, Pearson Chi-square test=7.13, p=0.03, DF=2, significant) are having more practice than others.

4. Conclusion

Diabetes Mellitus affects the global health of the individual. Diabetes mellitus management includes both medical management and self-care activities. Self-care activities are more important in controlling disease and prevention of complications. It requires clients' active participation and self-motivation. Since it is lifelong disease adherence to therapeutic regiment is difficult. Knowledge and understanding about the disease condition in detail is needed for developing desirable attitude and skill to follow self-care activities. So structured education program tailored to individual need is required to empower the clients with these requirements. Education, demonstration, return demonstration and reinforcement through different media can help to improve the knowledge and practice of clients with diabetes mellitus.

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