

“A STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON KNOWLEDGE REGARDING SELF ADMINISTRATION OF INSULIN AMONG ALL DIABETES MELLITUS CLIENTS IN SELECTED COMMUNITY AREA AT BANGALORE”

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ABSTRACT

Diabetes has emerged as a major health care problem everywhere. Currently the number of cases of diabetes worldwide is estimated to be around 150 million. This number is predicted to double by 2025. According to the National Diabetes Information Clearing House. In 2007, the five countries with the largest number of people with Diabetes Mellitus in India (40.9 Million), China (39.8 Million), the United States (19.2 Million), Russia (9.6 Million) and Germany (7.4 Million). By 2025, largest increases in diabetes prevalence take place in developing countries. The finding showed that 11(18.33%) of the respondent have adequate knowledge and 49(81.67%) have moderate knowledge self-administration if insulin among diabetes mellitus clients. The overall mean score was 19.7 with percentage of 65.67%; the data analysis shows that diabetes mellitus clients had high knowledge regarding self-administration of insulin.

The analysis shows that pre-test mean percentage knowledge score is 43% (SD 5.3), post-test mean percentage knowledge score is 65.67% (SD 3.8). The calculated 't' (14.23) value was greater than table value (2.6). It indicates that there was significant in improving the knowledge regarding self-administration of insulin among all diabetes mellitus clients.

Chi-square test was used to find out the association between knowledge and selected demographic variables. The result showed that there was a significant relationship between selected demographic variable such as type of family calculated χ^2 value is 4.4, education calculated χ^2 value is 9.9, and the occupation calculated χ^2 value is 10. H3 is accepted at $P < 0.05$ level.*

Keyword: - Evaluate¹, Self administration², Insulin³, Knowledge⁴, Diabetes mellitus⁵,

1. INTRODUCTION

Health is the level of functional and metabolic efficiency of a living organism. In humans it is the ability of individuals or communities to adapt and self-manage when facing physical, mental or social changes. The World Health Organization (WHO) defined health in its broader sense in its 1948 constitution as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. According to WHO "Diabetes mellitus is a chronic disease caused by inherited and/or acquired deficiency in production of insulin by the pancreas, or by the ineffectiveness of the insulin produced. Such a deficiency results in increased concentrations of glucose in the blood, which in turn damage many of the body's systems, in particular the blood vessels and nerves." However, it was the Greek physician Aertaeus who coined the term Diabetes mellitus (DM). In Greek, diabetes means "to pass through" and mellitus is the Latin word for honey (referring to sweetness). Approximately 150

million people have diabetes mellitus worldwide, and that this number may well double by the year 2025. Much of this increase will occur in developing countries and will be due to population growth, ageing, unhealthy diets, obesity and sedentary lifestyles. By 2025, while most people with diabetes in developed countries will be aged 65 years or more, in developing countries most will be in the 45-64 year age bracket and affected in their most productive years. Diabetes mellitus is correctly divided into two major subgroups: Type I diabetes and Type II diabetes. This division is based upon whether the blood sugar problem is caused by insulin deficiency (type I) or insulin resistance (type II). Insulin deficiency means there is not enough insulin being made by the pancreas due to a malfunction of their insulin producing cells. Insulin resistance occurs when there is plenty of insulin made by the pancreas, but the cells of the body are resistant to its action which results in the blood sugar being too high. Diabetes is a chronic disease, which occurs when the pancreas does not produce enough insulin, or when the body cannot effectively use the insulin it produces. This leads to an increased concentration of glucose in the blood (hyperglycemia). Gestational diabetes is hyperglycemia that is first recognized during pregnancy. As of 2015, an estimated 415 million people had diabetes worldwide, with type II DM making up about 90% of the cases. This represents 8.3% of the adult population, with equal rates in both women and men. As of 2014, trends suggested the rate would continue to rise. Diabetes at least doubles a person's risk of early death. From 2012 to 2015, approximately 1.5 to 5.0 million deaths each year resulted from diabetes. The global economic cost of diabetes in 2014 was estimated to be US\$612 billion. In line with the global trend, the prevalence of DM in the Brazilian scenario increased from 3.6% (95%CI: 3.3-3.8) in the 1990s to 6.1% (95%CI: 5.6-6.7) in 2015, increasing with aging (19.8% in individuals aged 65 years or over). This chronic condition was responsible for 62,466 deaths in the country and 1,015 wasted years, disability-adjusted life-years per 100,000 inhabitants. Self-administration of insulin requires from the user the mastery of the cognitive and psychomotor skills that constitute the learning of different procedures, including storage, transportation, preparation of the solution and application, as well as handling of syringes, needles or injection pens.

OBJECTIVES OF THE STUDY

- 1) To assess the pre-existing knowledge regarding self-administration of insulin among all diabetes mellitus clients.
- 2) To evaluate the effectiveness of planned teaching programme regarding knowledge on self-administration of insulin among all diabetes mellitus clients.
- 3) To find out association between the pre-test level of knowledge regarding self-administration of insulin among all diabetes mellitus clients with their selected demographic variables.

METHODOLOGY

- **Research Design** - In this Study one group pre-test and post-test quasi experimental research design to assess the knowledge of diabetes mellitus clients regarding self-administration of insulin.
- **Setting of the Study**- The present study was conducted in Hegganahalli community area, Bangalore.
- **Sample Size**- In the present study the sample consists of sixty male and female all diabetic mellitus clients.
- **Sampling Technique**- In this study simple random sampling technique was adopted for selecting samples.
- **Variables Under Study**
 - ✦ **Independent Variable**- In this study the independent variables is planned teaching programme on improving the level of knowledge regarding self-administration of insulin among all diabetes mellitus clients.
 - ✦ **Dependent Variable**- In this study the dependent variables is Knowledge regarding self-administration of insulin among all diabetes mellitus clients.
 - ✦ **Demographic Variables**- It includes age, gender, religion, types of family, education, and occupation, and family income, duration of illness.

DESCRIPTION OF THE TOOL

The tool was organized into two parts:

Section A: Demographic data includes age, gender, religion, type of family education, occupation and family income.

Section B: The investigator prepared structured questionnaire to assess the knowledge regarding self-administration of insulin among all diabetes mellitus clients. It consists of 30 multiple choice questions which have four responses. Each questionnaire had only one correct responses remaining wrong responses. Correct responses were awarded one mark and zero was awarded to wrong responses.

Total possible maximum scores for all the items were 30.

RESULTS

The data themselves do not provide us with answers to our research questions. Ordinarily the amount of data collected in a study is extensive to be reliably described by mere perusal. In order to meaningfully answers the research questions, the data must be presented and analyzed in order, so that relationship can be described.

This section presents the analysis and interpretation of the data collected from 60 clients of diabetes mellitus in order to evaluate the effectiveness of planned teaching programme on knowledge regarding self-administration of insulin. The data collected from clients of diabetes mellitus clients before and after the planned teaching programme was organized, tabulated, analyzed and interpreted by using descriptive and inferential statistics. The data collection was done based on objectives of the study.

TABLE – 1: Classification of Respondents based on their Pretest Knowledge scores regarding self-administration of insulin among all diabetes mellitus.

Knowledge Level	Category	Respondents	
		Number	Percent
Inadequate	≤ 50 % Score	39	65
Moderate	51-75 % Score	21	35
Adequate	> 75 % Score	00	00
Total		60	100

Depict that, the classification of respondents according to their knowledge level in the pre-test. The data showed that majority (65%) of the respondents had inadequate knowledge, only 35% had moderate knowledge but none of them adequate knowledge.

TABLE – 2: Classification of Respondents based on Post-test Knowledge scores regarding self-administration of insulin among all diabetes mellitus clients.

Knowledge Level	Category	Respondents	
		Number	Percent
Inadequate	≤ 50 % Score	0	0
Moderate	51-75 % Score	21	35
Adequate	> 75 % Score	39	65
Total		60	100

Depict that, the classification of respondents according to their knowledge level in the post-test. The data showed that majority (65%) of the respondents had adequate knowledge regarding self-administration of insulin among all diabetes mellitus clients, 35% had moderate knowledge but none of them had inadequate knowledge.

CONCLUSION

The study was taken to evaluate the effectiveness of planned teaching programme on knowledge regarding Self administration of insulin among all diabetes mellitus clients in selected community area at Bangalore. In the present study 60 clients were selected using simple random sampling technique. The following conclusion were drawn from the findings of the study, in this present study, the pre-test level of knowledge revealed that majority 36(60%) had inadequate, 21(35%) had moderate and 3(5%) were adequate knowledge. The post-test knowledge revealed that 49(81.67%) had moderate knowledge and 11(18.33%) had adequate knowledge. In the aspect of comparison of the pre-test and post-test level of knowledge among clients of diabetes mellitus reveals that in pre-test had mean score 12.9, SD of 5.3 and mean percentage 43% It indicates that clients of diabetes mellitus had low knowledge

regarding self-administration of insulin. In post-test mean score 19.7, SD of 3.8 and mean percentage 65.67%. It indicates that clients of diabetes mellitus had high knowledge regarding Self administration of insulin. Chi-square test was used to find out the association between knowledge and selected demographic variables. The result showed that there was a significant relationship between selected demographic variable such as type of family calculated χ^2 value is 4.4, education calculated χ^2 value is 9.9, and the occupation calculated χ^2 value is 10*. H3 is accepted at $P < 0.05$ level. It is also found that there is no relation between age, sex, religion and family income, duration of illness. The above findings strongly suggest that nurses should inform and educate the diabetes mellitus clients about self-administration of insulin.

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