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## Assess the effectiveness of structured teaching programme on knowledge regarding the awareness of risk factors of diabetes mellitus

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### Abstract

The present aim was to assess the effectiveness of structured teaching program on knowledge regarding the awareness of risk factors of Diabetes Mellitus among home makers in Porur. A quantitative research with one group pre-test post-test design was used for the present study. 100 home makers were selected by using non probability convenience sampling technique. Self-structured questionnaire method was used to collect both the demographic data and the knowledge to assess the awareness of risk factors of Diabetes Mellitus among home makers. In pre-test, out of 100 samples 26 (26%) had inadequate knowledge, 64 (64%) had moderate knowledge and 10 (10%) have adequate knowledge in pretest. In post-test, out of 100 samples 80 (80%) had adequate knowledge, 20 (20%) had moderate knowledge and none of them had inadequate knowledge in post-test. In pretest, the mean value was 16.73 and standard deviation 4.01. and in post-test, The mean value is 24.84 and the standard deviation is 3.15. The mean difference between pre and post-test is 8.11. The paired t test value is 31.2730 and was highly significant and the study finally concluded that there was a significant improvement in mean and standard deviation in the post-test when comparing with the pre-test.

**Keywords:** Knowledge, awareness, risk factors, diabetes mellitus, home makers

### Introduction

Diabetes mellitus is a group of metabolic diseases in which a person has high blood sugar, either because the pancreas does not produce enough insulin or because cell do not respond to the insulin that is produced. The high blood sugar produces the classical symptoms of polyuria, polydipsia and polyphagia (Metcalfe, 2011) [2].

India has a population of 61.3 million diabetic in adult and the WHO estimates that this figure will raise to 101 million by 2025. The prevalence of diabetes mellitus is increasing throughout the globe at an alarming rate with India being the diabetes capital of the world. Diabetes is now not a disease of the elderly as it was 30 years ago, more and more of diabetes mellitus at a very young age (HarjatSalo, 2011) [3].

Diabetes cannot be cured but can be controlled. Client with diabetes must incorporate a complicated regimen of self-management in to their lives that is, taking medication, adherence to diet, exercise and also recognition of symptoms associated with glycosuria and hypoglycaemia. Management of all diabetes in patient should include regular assessment, careful monitoring of glycaemia control and the presence of hypoglycaemia and educational training on disease management. Hypoglycaemic episodes, especially nocturnal events are frequent in diabetic patient. A continuous glucose monitoring system can provide important insight into 24 hour glycemic control and yield positive treatment outcome in patient with diabetes (Weinaimer S. A, 2012) [4]. Diabetes is managed by insulin replacement, balancing of diet and exercise to maintain the glycemic control and prevent the occurrence of the complication. It is important that in order to effectively manage diabetes, education about the components of management such as blood glucose monitoring, insulin replacement, diet, exercise, and problem solving strategies must be delivered to the patient, education is necessary both at diagnosis, and also throughout the patient's lifetime to develop self-management skills and prevention of complication (Edmonton, 2010) [5].

Diabetes self-management education is considered an integral component of care and is recommended at diagnosis and thereafter. Diabetes self-management. Education helps people with diabetes initiate effective self-care when first diagnosed and also help people maintain effective self-management as diabetes.

The aim of educational intervention is to manage hypoglycaemia and hypoglycaemia, maintain normal blood glucose level reduce the complications, gain skill in self-management or improve quality of life (Robert Couch. MS 2013) [6]. According to WHO, 2009 reports, in India it was estimated that 31.7 million individuals were affected with diabetes in 2000 and it is likely to grow up to 57.2 million by the year 2025. Rate of diabetes have increased markedly over the last 50 years, as of 2010 there are approximately 285 million people with the disease compared to around 30 million in 1985. Diabetes is a typically a chronic disease associated with a ten year shorter life expectancy this is due to a number of complications with which it is associated, including two to four times the risk of cardiovascular disease including ischemic heart disease and stroke. A 20-fold increase in lower limb amputations, and increase rate of hospitalization. In the developed world and increasingly elsewhere, diabetes is the largest cause of nontraumatic blindness and kidney failure (Pradeepa, 2012) [6].

The purpose of the study is 1. To assess the existing level of knowledge on awareness of risk factors on Diabetes Mellitus among homemakers. 2. To compare the pre and post-test level of knowledge regarding the awareness on risk factors of Diabetes Mellitus. 3. To find the association between the post-test level of knowledge regarding the awareness on risk factors of diabetes mellitus among home makers with their selected demographic variables.

## Methods and Materials

The quantitative approach with one group pre-test-post-test was used for the present study. After obtaining ethical clearance from the Institutional Ethical Committee (IEC) of Saveetha Institute of Medical and Technical Sciences and a formal permission from the urban health authorities, the study was conducted. A total of 100 home makers, who meet the inclusion criteria, were selected by using non probability convenience sampling technique as the study participants. The inclusion criteria for the Homemaker who are willing participated, Home maker group 30-40, Home maker (female only). The exclusion criteria for the study participants were Homemaker who are not participated, Homemaker with illness like ophthalmic problem, physical problem. The purpose of the study was explained by the investigator to each of the study participant and a written informed consent was obtained from them. The demographic data and the awareness on the risk factors of Diabetes Mellitus among home makers was collected by using the self-structured questionnaire and the collected data were tabulated and analysed by using descriptive and inferential statistics.

## Results and Discussion

### Section-A: Demographic characteristics

Among 100 study participants, shows that regarding age, out of 100 samples 27(27%) samples were come under age group of 21-30 years, 38(38%) were under the age group of 31-40 years, 35(35%) were under the age group of 41-50 years. Regarding place of residence out of 100 sample 36(36%) were residing in rural, 64(64%) were residing at urban. Regarding religion out of 100 samples 68(68%) were Hindu, 20(20%) were Christian, 12(12%) were Muslim. Regarding type of family out of 100 samples 80(80%) were living as nuclear family, 20(20%) were living as a joint family. Regarding husband's education of home makers. out

of 100 samples 40(40%) were No formal education, 28(28%) were primary, 22(22%) Higher secondary, 10(10%) were College. Regarding husband's occupation out of 100 samples 20(20%) is Private employees, 38(38%) were Self-employed, 19(19%) were Daily wages, 23(23%) were Government employee. Regarding education out of 100 sample 53(53%) have no formal education, 33(33%) were primary education, 12(12%) were higher secondary, 2(2%) were college education. Regarding health information out of 100 samples 45(45%) were received information through mass media, 26(26%) were received through social media, 14(14%) were received through health professionals, 15(15%) were received through awareness programmes.

### Section- B: To compare the level of knowledge about risk factors of Diabetes Mellitus in both pre and post-test

**Table 1:** Frequency and percentage distribution of the knowledge about awareness of risk factors of diabetes mellitus in home makers before and after structured teaching programme

Level of knowledge	Pre-test		Post-test	
	Frequency	percentage	Frequency	percentage
Inadequate knowledge	26	26%	-	-
Moderate knowledge	64	64%	20	20%
Adequate knowledge	10	10%	80	80%

The above table 1 shows that, In pre-test, out of 100 samples 26 (26%) had inadequate knowledge, 64 (64%) had moderate knowledge and 10 (10%) have adequate knowledge in pretest. In post-test, out of 100 samples 80 (80%) had adequate knowledge, 20 (20%) had moderate knowledge and none of them had inadequate knowledge in post-test.

### Section- C: To find the association between the post-test level of knowledge on risk factors of diabetes mellitus among home makers with their selected demographic variables

In the present study, a study was conducted on effectiveness of structured teaching programme on knowledge regarding risk factors of diabetes mellitus among home makers in porur by approaching one group pre- test, post- test design. The sample consisted 100 home makers selected by convenient sampling and data was collected by using structured knowledge questionnaire. The result showed the significant difference suggesting that structured teaching programme was effective in increasing the knowledge of home makers ( $t=14.34$ ). The mean post-test knowledge ( $\chi^2=43.17$ ) higher than the mean pre- test knowledge ( $\chi^1=30.40$ ). There was no association between the pre- test knowledge scores and the selected demographic variables like age, weight, place of residence, type of family and previous knowledge source.

**Table 2:** Distribution of mean and standard deviation on the level of knowledge on risk factors of diabetes mellitus among home makers in pretest and post-test

Level of knowledge	mean	S.D	Mean difference	Paired t value
Pre-test	16.73	4.01	8.11	$P < 0.0001$
Post-test	24.84	3.15	8.11	$t=31.2730$ $Df=99$ $S^{***}$

S.D = Standard Deviation  $P < 0.0001$  S= significant

## Conclusion

The findings revealed that the level of knowledge on awareness on risk factors about the Diabetes Mellitus is increased among the home makers after initiation of structured teaching programme.

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