

# A Comparative Study to Assess the Knowledge of Clients Having Diabetic Mellitus about the Control of Blood Sugar and Complication of Un-Control Blood Sugar among Diabetic Client in Age of Above 30 Years Old Living in Nandhivaram Rural Area

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## ABSTRACT

There are approximately 90% people affected due to diabetic in our countries and many patient go for complication of uncontrolled blood sugar so we take this study to assess the knowledge and improve the client having diabetic about the control of blood sugar and to avoid complication of uncontrolled blood sugar. It is a comparative study, & simple random sampling technique was used. The sample size consist of 20 diabetic mellitus patient living in Nandhivaram rural area at the age group of above 30 years Reveal that in the pre-test majority of subjects 2% had poor knowledge while 60% average knowledge and 32% adequate knowledge 8% people have very good knowledge, and Reveals that in the post, 80% of the samples had acquired very good knowledge and 16% adequate knowledge 4% had average knowledge about control of sugar and complication of un-control blood sugar.

**Key words:** Uncontrolled blood sugar, Diabetic mellitus, Knowledge, Assess

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## INTRODUCTION

Diabetes mellitus (DM) is a chronic progressive metabolic disorder characterized by hyperglycaemia mainly due to absolute (Type 1 DM) or relative (Type 2 DM) deficiency of insulin hormone. DM virtually affects every system of the body mainly due to metabolic disturbances caused by Hyperglycemia, especially if diabetes control over a period of time proves to be suboptimal. Until recently it was believed to be a disease occurring mainly in developed countries, but recent findings reveal a rise in number of new cases of type 2 DM with an earlier onset and associated complications in developing countries. Diabetes is associated with complications such as cardiovascular diseases, nephropathy, retinopathy and neuropathy, which can lead to chronic morbidities and mortality. World Health Organization (WHO) estimates that more than 346 million people worldwide have DM. This number is likely to more than double by 2030 without any intervention. Almost 80% of diabetes deaths occur in low and middle-income countries. According to 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 2030. Recent surveys indicate that diabetes now affects a staggering 10-16% of urban population and 5-8% of rural population in India and Sri Lanka.

In 2010, 12.1 million people were estimated to be living with diabetes in Africa, and this is projected to increase to 23.9 million by 2030 [5, 6]. In Ethiopia, the prevalence of diabetes was 3.5% in 2011, and the extrapolated prevalence in 2013 was 4.36%. It is also known that a large number of people remain undiagnosed, with an estimated number of undiagnosed cases reported to be 1.39 million people in 2013 [1-11].

## METHODOLOGY

### Research design

The design selected for this study was a comparative study design.

### Setting of the study

The study was conducted at Nandhivaram rural area.

### Population

The study population comprised of only diabetic mellitus client aged above 30 years target population.

### Sample size

The sample size consists of 20 diabetic mellitus patient living in Nandhivaram rural area at the age group of above 30 years.

### Sampling technique

Simple random sampling technique.

### Inclusion criteria

Willing to participate, able to speak & write Tamil, who available on the day of study, & age limit above 30years.

### Exclusion criteria

Patient with other symptoms, & not interested.

### Data collection procedure

The data was conducted between 10 am to 12 pm from the diabetic patient. Who are living in the rural area in Nandhivaram, guduvanchery, questionnaires were

distributed and the subjects were requested to fill the questionnaire in front of the investigator. One hour time was given to fill the questionnaires and after completion all questionnaires were duly collected. They provided all the facilities, so study went on comfortably. This also gave an opportunity for the investigator to assess the knowledge about the control of blood sugar and complication of un-control blood sugar.

### RESULTS

- Show that 4% of samples belong below 30 yrs. and 96% belongs to above 30 yrs.
- Regarding qualification inlet rate people 8% illiterate 2% have completed in higher education 88% have completed higher secondary 2% have completed graduation.
- 20% of samples in male and 80% of samples collected in female.
- Show that 90% people income is 5,000/month ,8% people income 5,000-10,000/monthly and 2% people salary is above 10,000/monthly.
- 2% of people to take the vegetarian and 98% of people take the non-vegetarian (Table 1).

**Table 1: Frequency and percentage distribution of selected demographic variable of the samples.**

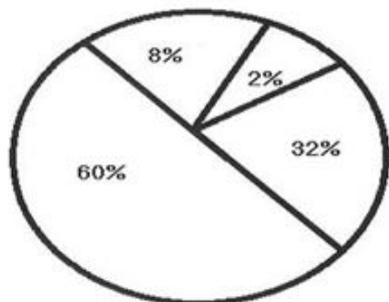
Demographic Data	Frequency	Percentage
Age		
Below 30 yrs.	2	4%
Above 30 yrs.	18	96%
Education		
Illiterate	6	8%
High school	2	2%
High secondary	8	88%
Graduate	4	2%
Sex		
Male	6	20%
Female	14	80%
Income		
5,000	10	90%
5,000-10,000	6	8%
10,000 above	4	2%
Nutrition		
Vegetarian	4	2%
Non-vegetarian	16	98%

Shows that none have very poor knowledge on control of blood sugar, and complication un control blood sugar 4% of people below average level and 16% of people adequate level 80% people very good level (Tables 2 and Figure 1). Table 3 shows that none have very poor knowledge on control of blood sugar, and complication

un control blood sugar 4% of people below average level and 16% of people adequate level 80% people very good level.

**Table 2: Percentage distribution on level of pre-test knowledge scores.**

Knowledge	Frequency	Percentage
0-5	1	2%
5-10	10	60%
10-15	7	32%
15-20	2	8%



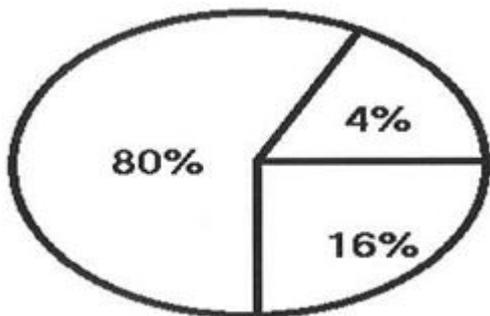
**Figure 1: Percentage distribution on level of pre-test knowledge scores on control of blood sugar complication of un-control blood sugar among diabetic patient.**

**Table 3: Percentage distribution on level of post-test knowledge scores.**

Knowledge	Frequency	Percentage
0-5	-	0%
5-10	2	4%
10-15	8	16%
15-20	10	80%

Figure 2 reveals that in the post, 80% of the samples had acquired very good knowledge and 16% adequate knowledge 4% had average knowledge about control of sugar and complication of un-control blood sugar.

Table 4 Show that on comparing pre-test and post-test knowledge score the knowledge level was improved from very good 2 to 10 adequate from 7 to 8 and below average from 10 to 2, very poor from 1 to nil.



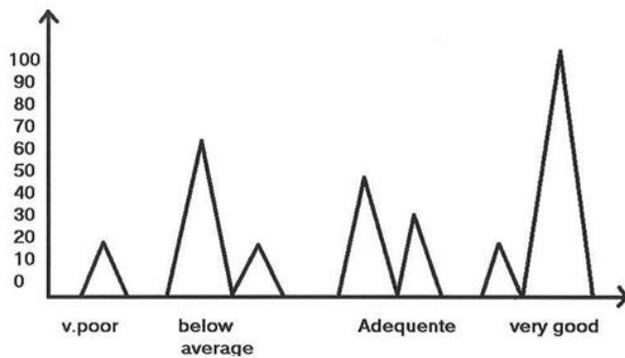
**Figure 2: Percentage distribution level of post-test knowledge score of diabetic patient on control of blood sugar, and complication of un-control blood sugar.**

**Table 4: Comparing pre-test and post-test knowledge on control of blood sugar and complication of un-control blood sugar.**

Knowledge	Pre-test frequency	%	Post-test frequency	%
Very poor (0-5)	1	2%	Nil	Nil
Below average (5-10)	10	60%	2	4%
Adequate (10-15)	7	32%	8	16%
Very good (15-20)	2	8%	10	80%

Figure 3 show that comparing of pre-test and post-test knowledge for the study samples after structure teaching

program the knowledge of the samples had increased from 8% to 80% (very good).



**Figure 3: Comparing pre-test and post-test knowledge of control of blood sugar and complication of un-control blood sugar among diabetic patient.**

### DISCUSSION

Before the structured teaching program pre-test conducted for diabetic patient, data analysis showed that (60%) have a poor knowledge for complication of un-control blood sugar. After the structured teaching program a post-test data analysis showed that non have adequate knowledge on un-control blood sugar.(16%) of people got adequate levels of knowledge and (80%) of people moderate levels of knowledge.

### CONCLUSION

To prevent diabetes related morbidity and mortality, there is an immense need of dedicated self-care behaviours in multiple domains, including food choices, physical activity, proper medications intake and blood glucose monitoring from the patients. Though multiple demographic, socio-economic and social support factors can be considered as positive contributors in facilitating self-care activities in diabetic patients, role of clinicians in promoting self-care is vital and has to be emphasized. Realizing the multi-faceted nature of the problem, a systematic, multi-pronged and an integrated approach is required for promoting self-care practices among diabetic patients to avert any long-term complications.

### FUNDING

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### ETHICAL APPROVAL

The study was approved by the Institutional Ethics Committee.

### CONFLICT OF INTEREST

The authors declare no conflict of interest.

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### REFERENCES

1. Black JM, Jacobs EM. Medical surgical nursing. 5th Edn. Philadelphia; WB. Saunders Company 1997.
2. Burns N, Grove SK. Understanding nursing research. 2nd Edn. Philadelphia; WB. Saunders Company 1999.
3. Davidson. Principles and practice of medicine. 19th Edn. New York; Churchill Livingstone publishers 2002.
4. Golwalla, Bernardini, et al. Medicine for students. 16th Edn. India printing house 2004.
5. Gupta S, Anson P. Statistical method. 32nd Edn. New Delhi; Sulthanehand and sons Education publishers 2002.
6. Holloway NM. Medical surgical care planning. 3rd Edn. Pennsylvania: springhouse publishers 2009.
7. Ignastsvicius DD, Linda, Srinivasa, et al. Text book of Medical surgical nursing. (6th edition). Philadelphia; WB. Saunders Company 2011.
8. Kahn PA. Diabetes. (1st edition). Delhi. Orient paperbacks 2011.
9. Lewis SL, Bucher L, Heitkemper MM, et al. Medical-surgical nursing-E-Book: Assessment and management of clinical problems, single volume. Elsevier Health Sciences 2016.
10. Luckmann J. Manual of nursing care. 3rd Edn, Philadelphia; WB. Saunders Company 2007.
11. Alligood MR. Nursing theory-E-book: Utilization & application. Elsevier Health Sciences 2013.