"Knowledge And Attitude on Self Monitoring of Blood Glucose (Smbg) Among Diabetic Patients Belongs to Waghodia Taluka"

Mr.Ravindra Hnhod[1], Mr. Kevin S. Christian[2,] Ms.Pooja.G[3,] Mr.Prem.R[4,] Ms.Priyal.J[5,] Mr.Rajat.A[6,] Ms.Riya.R[7]

[1]Department Of MSN Nursing Sumandeep Nursing College Piparia, Waghodia, Vadodara
[2]Assistant Professor Department Of Medical Surgical Nursing, Sumandeep Nursing College, Piparia, Vadodara.
[3]Final Year B.Sc. Nursing Student Sumandeep Nursing College Piparia, Waghodia, Vadodara
[4]Final Year B.Sc. Nursing Student Sumandeep Nursing College Piparia, Waghodia, Vadodara
[5]Final Year B.Sc. Nursing Student Sumandeep Nursing College Piparia, Waghodia, Vadodara
[6]Final Year B.Sc. Nursing Student Sumandeep Nursing College Piparia, Waghodia, Vadodara
[7]Final Year B.Sc. Nursing Student Sumandeep Nursing College Piparia, Waghodia, Vadodara

Abstract:
Background: *Self-monitoring of blood glucose (SMBG) has been accepted as an important instrument that empowers people with diabetes to achieve and maintain therapeutic goalsThis study is*
Aims &Objective: *1] To assess the level of knowledge on self-monitoring of blood glucose (SMBG) among of diabetic patients. 2] Assess the Attitude on self-monitoring of blood glucose (SMBG) among of diabetic patients. 3] Find out the Correlation between level of Knowledge and Attitude on self-monitoring of blood glucose (SMBG) among diabetic patients. 4] Find out the association between levels of knowledge with selected demographic variables of diabetes mellitus patients. 5] Find out the association between attitudes with selected demographic variables of diabetes mellitus patients in WaghodiaTaluka.*
Methods: *The interventional study was conducted &sample consisted of 200 patients of selected area of WaghodiaTaluka.The tools used for data collection was a set demographic variables. Interview scale will be used to assess the knowledge&Likert scale will be used to assess the Attitude on SMBG. A planned teaching program on knowledge and attitude on SMBG among diabetic patients belongs to waghodiataluka was the intervention of the study. Content validity of the tool was ensured by verifying it with experts from the field of medicine and nursing.In the data gathering process, a pre-test was administered to assess the knowledge level of sample on the same day was conducted. After 7th day post test was administered using the same set of questionnaire to assess the knowledge.*
Interpretation: *The result showed that negative correlation between knowledge and attitude on SMBG in among diabetic patient belong to WaghodiaTaluka.*
Conclusion*: The motivated the diabetic patient about knowledge and attitude on SMBG in diabetic patient. It has given a new avenue to the researcher to widen the horizon on move research aspect of knowledge and attitude on SMBG in diabetic patient.*
Keywords: *Assess, Effectiveness, Knowledge and attitude, SMBG, DM patient,*

I.   Introduction

Diabetes mellitus is a chronic multi system disease related to the abnormal insulin production, impaired utilization of insulin or both. Diabetes mellitus is a serious health problem in the world and its prevalence is increasing rapidly.Self-monitoring of blood glucose (SMBG) has been accepted as an important instrument that empowers people with diabetes to achieve and maintain therapeutic goals. The WHO estimates 177 million people with diabetes worldwide. In India, there are nearly 35 million diabetic patients and the number would go unto 80 million by 2030. If unchecked the diabetes can cause disease related to kidney, heart and nerve system at later stage.

II.   Need For Study

The WHO estimated 30 million people worldwide had diabetes mellitus in 1985. A decade later, the global burden of diabetes mellitus was estimated to be 135 million. In the year 2006 it was 246 million. This is likely to increase at least 366 million by 2030. Around 3.2 million deaths every year are attributable to complications of diabetes; six deaths every minute. The top 10 countries, in numbers of sufferers are India, China, USA, Indonesia, Japan, Pakistan, Russia, Brazil, Italy, and Bangladesh. At present in India 41 million patients suffering with diabetes mellitus and this number will reach 79.4 million by 2030.

III. Statement Of The Study

Objectives Of The Study

1) To assess the level of knowledge on self-monitoring of blood glucose (SMBG) among of diabetic patients of WaghodiaTaluka.
2) Assess the Attitude on self-monitoring of blood glucose (SMBG) among of diabetic patients of WaghodiaTaluka.
3) Find out the Correlation between level of Knowledge and Attitude on self-monitoring of blood glucose (SMBG) among diabetic patients belongs to WaghodiaTaluka.
4) Find out the association between levels of knowledge with selected demographic variables of diabetes mellitus patients in WaghodiaTaluka.
5) Find out the association between attitudes with selected demographic variables of diabetes mellitus patients in WaghodiaTaluka.

Hypothesis

⇒ **H$_1$:** There was significant association between existing level of knowledge score on SMBG with their socio-demographic variables
⇒ **H$_2$:** There was significant correlation between Knowledge and Attitude score on SMBG.

Assumptions

* Community people may have limited knowledge on SMBG.
* DM patients may have positive or negative attitude on SMBG.

Operational Definition

⇒ **Knowledge:** It refers to level of understanding regarding self-monitoring of blood glucose (SMBG) among diabetic patients belongs to waghodiataluka.
⇒ **Attitude**: It is considered predisposition or a tendency to respond positively or negatively towards SMBG by diabetes mellitus patients.
⇒ **SMBG:** Self-monitoring of blood glucose is a blood test monitor by self with a specialized device.
⇒ **Diabetes patients**: Person suffering from diabetes mellitus type2 regarding at geographical area of waghodiataluka.

IV. Research Methodology

Methodology of research indicates the general pattern of organizing the procedure for the empirical study together with the method of obtaining valid and reliable data for problem under investigation.

Research Approach:-A Quantitative Research Approach Is Adopted For The Study.
Research Design:-Non Experimental Descriptive Design
Research Variables
Dependent variable
⇒ Knowledge on SMBG of patients with diabetes mellitus.
⇒ Attitude onSMBG of patients with diabetes mellitus.

Socio-Demographic variable

Age, gender, marital status, education qualification, occupational status, monthly income demographic area, BMI, duration of the DM, previous source of health information, family history, abdominal girth.

SETTING OF THE STUDY: The study will be conducted in the rural area of Waghodiataluka.

Target Population: Diabetic Patients.
Sample Size: 209 Diabetic Patients.(N=209)
Sampling Technique: Non Probability Convenient Sampling

Method Of Data Collection
Self-Structured & Administered Interview Scale And Self Modified Likert Scale

Sampling Criteria
Sampling criteria is the list of characteristics essential for inclusion or exclusion in the target population.

Inclusion Criteria
1. Diabetic Patients from a Waghodiataluka.
2. Those who are willing to participate in the study.
3. Those who know Gujarati, Hindi or English Language.

Exclusion Criteria
1. The Diabetic Patients who are not available at the time of data Collection.
2. The Diabetic Patients who are not willing to participate in the Study.

Pilot Study
Small scale version or a trial run done in preparation for a major study. The tool was used for pilot study to test feasibility and practicability. 20 Diabetic Patients were selected from the Piparia village Vadodara. The convenient sampling technique was used to select samples. The findings showed that the study is feasible and practical.

Development And Description Of Tool
An instrument selected in a research should be as far as possible, the vehicle that would best obtain data for drawing conclusion, which were pertinent to the study.
⇒ **Section A Socio demographic variables:** Age in years, gender, marital status, educational qualification, occupational status, monthly income of family (rupees), family history of diabetes, duration of diabetes mellitus in years, and previous sources of health information
⇒ **Section B Knowledge interview scale:** This section consists of 15statements to assess the level of Knowledge self-monitoring of blood glucose (SMBG) among diabetic patients.
- Inadequate knowledge: score less than 50%
- Moderately adequate knowledge: score 50% -75%
- Adequate knowledge: score more than 75%

⇒ **Section C Attitude Scale:** This section consist of 10 items to assess the Attitude on self-monitoring of blood glucose (SMBG) using 3 point likert scale such as "Strongly Agree", "Agree", "Disagree". The maximum score is 30.

V.   Result

Table 1:frequency and percentage distribution of diabetic patient according to demographic variables
N=209

Sr. no	Demographic variables	Characteristics	Frequency	Percentage (%)
1	Age in years	30-40 years	22	10.5
		41-50 years	43	20.6
		51-60 years	123	58.9
		60 and above	21	10.0
2	Gender	Male	127	60.8
		Female	82	39.2
3	Marital status	Single	200	95.7
		Married	2	1.0
		Divorced	7	3.3
		Separated/widowed	00	00
4	Educational Qualification	Illiterate	43	20.6
		Primary	88	42.1
		Higher Secondary	62	29.7
		Graduate & above	16	7.7
5	Occupational Status	Private employee	133	63.6
		Business	49	23.4
		Government employee	6	2.9
		Self-employee	21	10.0
		Retired	00	00
6	Monthly Income of Family (Rupees)	2500-5000	49	23.4
		5001-10000	130	62.2
		10001-20000	24	11.5
		20000 and above	6	2.9
7	Family History of diabetes	Present	19	9.1
		Not Present	190	90.9
8	Duration of diabetes mellitus in years	0-5 years	164	78.5
		5-10 years	34	16.3
		10-15 years	8	3.8

		15 years & above	3	1.4
9	**Previous sources of health information**	TV/Radio/ Posters	00	00
		Friends	00	00
		Health personal	170	81.3
		Family members	39	18.7

Analysis Of Knowledge And Attitude

A) Assessment of knowledge on self-monitoring of blood glucose (SMBG) among diabetic patients

Table 2: Mean, SD, and mean% score for the test knowledge level

SCALE	MAX SCORE	MEAN	SD	MEAN%
KNOWLEDGE	15	10.10	2.07	67.33%

Table 2: illustrates that overall knowledge score was found to have a mean of 10.10, standard deviation of 2.07 and mean% of 67.33%.
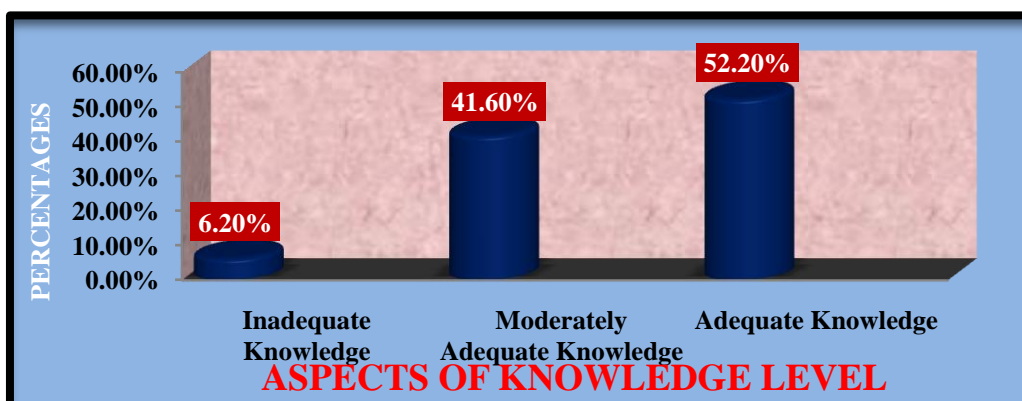

Figure 1: Bar graph represents that 52.2% is having adequate knowledge, 41.6% is having moderately adequate knowledge and 6.2% having inadequate knowledge.

B) Assessment of Attitude on self-monitoring of blood glucose (SMBG) among diabetic patients

Table 3: Mean, SD and mean% of attitude scale

SCALE	MAX SCORE	MEAN	SD	MEAN%
ATTITUDE	30	18.35	2.77	61.16

Table 3:illustrates that overall attitude score was found to have a mean of 18.35, standard deviation of 2.77 and mean% of 61.16%.
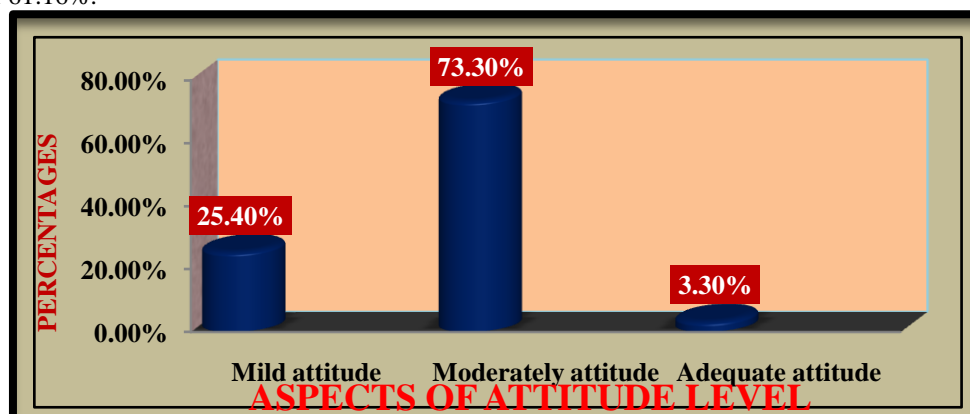

Figure 2: Bar graph representsthat majority 73.3%% is having moderately attitude, 25.4% is having mild attitude and 3.3% having adequate attitude.

Table 4: relationship between knowledge and attitude on self-monitoring of blood glucose (smbg) among diabetic patients

	Items	Mean	Mean%	SD	Correlation between knowledge and attitude	REMARKS
Knowledge	15	10.10	67.33%	2.07	-0.153	Negative Correlation
Attitude	30	18.35	61.16%	2.77		

Table 4: illustrates that the correlation between knowledge and attitude is r=-0.153 is found moderate negative correlation.

Table 5: Association of socio demographic variables with knowledge

Sno	Variables	IA	MA	A	Total	X^2	Df	Level Of Significance
1	**Age (In Years)**							
	30-40 years	5	17	0	22	3.80	6	(3.80<12.59) NS
	41-50 years	11	30	2	43			
	51-60 years	29	89	5	123			
	60 and above	8	13	0	21			
2	**Gender**							
	Male	33	90	4	127	0.09	2	(0.09<5.99) NS
	Female	20	59	3	82			
3	**Marital status**							
	Single	50	143	7	200	2.10	4	(2.10<9.48)NS
	Married	0	2	0	2			
	Divorced	3	4	0	7			
4	**Educational Qualification**							
	Illiterate	9	34	0	43	20.25	6	(20.25>12.59) S
	Primary	15	70	3	88			
	Higher Secondary	19	39	4	62			
	Graduate & above	10	6	0	16			
5	**Occupational Status**							
	Private employee	31	98	4	133	20.67	6	(20.67>12.59) S
	Business	16	32	1	49			
	Government employee	2	2	2	6			
	Self-employee	4	17	0	21			
6	**Monthly Income of Family (Rupees)**							
	2500-5000	10	36	3	49	8.43	6	(8.43<12.59)NS
	5001-10000	30	97	3	130			
	10001-20000	11	12	1	24			
	20000 and above	10	36	3	49			
7	**Family History of diabetes**							
	Present	4	15	0	19	1.02	2	(1.02<5.99)NS
	Not Present	49	134	7	190			
8	**Duration of diabetes mellitus in years**							
	0-5 years	37	121	6	164	5.12	6	(5.12<12.59)NS
	5-10 years	11	22	1	34			
	10-15 years	3	5	0	8			
	15 years & above							
9	**Previous sources of health information**							
	Health personal	42	122	6	170	0.27	2	(0.27<5.99)NS
	Family members	11	27	1	39			

KEY= ^S is significant, ^{NS} is not significant. DF= Degree of freedom

> **H₂:** Therewas significant association between existing level of knowledge score on SMBG with their socio-demographic variables. So here to test the hypothesis, chi-square test has been used. Data have been analyzed with the use of SPSS version 20.0 and the outputs are depicted in the above table. The table reveals that there is no significant association between pre- test knowledge score and selected demographic variables with 0.05 level of significant except educational qualification, and occupational status of sample's P calculated value is greater than 0.05 level of significance

VI.   Discssion & Conclusion

This chapter includes conclusion, implication, limitations and recommendations. The following conclusions were drawn from the finding of the present study.The research approach adopted in the present study is quantitative research approach & design was Non Experimental Descriptive design. The motivated the diabetic patient about knowledge and attitude on SMBG in diabetic patient. It has given a new avenue to the

researcher to widen the horizon on move research aspect of knowledge and attitude on SMBG in diabetic patient**.**

References

[1]. Diagnosis and classification of diabetes Mellitus. 2009 Jan 1 [cited 2016 Mar 28];32(Suppl Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2613584/.
[2]. Susddarth and Brunner " Text book of medical surgical Nursing" Mew York. J.B. Lippicott company 2000.
[3]. Medscapelogin.[cited2016mar28].availablefrom:http://www.medscape.org/viewarticle/709187.
[4]. Ahmed am. History of diabetes mellitus.saudi medical journal. 2013 sep 27 2016mar25;23(4):373–8.
[5]. Ozulik f yiginer o, arsolan e, serdar ma, assoc between glycemic control and level of knowledge and awareness of type-2 diabetes, pol arch med wemn 2010; oct;120(10); 399-406.
[6]. Lippincott basic nursing research, 9 thedition, page no-910-11.