



## Self-Care Practice for Management of Type 2 Diabetes Mellitus Among Diabetes Patients at Alka Hospital (P.) Ltd. Jawalakhel, Lalitpur

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### Abstract

**Introduction:** A collection of metabolic disorders is known as diabetes mellitus. It is characterized by ongoing hyperglycemia as caused by issues with insulin action, insulin secretion, or both improper secretion and faulty secretion combined action. Diabetes mellitus can be of two major types: Diabetes type I is brought on by autoimmune destruction of the pancreatic islets-cells because a lack of enough insulin leads to type 2 diabetes secretion and resistance to insulin's effects. Diabetes self-care has been described as an evolutionary process of knowledge or awareness development through learning to cope with the complicated nature of the disease in a social environment. Because individuals and/or families manage the vast bulk of daily diabetic treatment. There is a critical need for trustworthy and effective diabetic self-management tools.

**Methodology:** A cross-sectional descriptive study was quantitative and descriptive in nature and was used to assess self-care practice for the management of type 2 diabetes mellitus patients at Alka Hospital (P.) Ltd. Jawalakhel, Lalitpur. Data were collected using the interview method. Regarding Self-Management Questionnaire (DSMQ) was used to collect data regarding self-care practice for the management of type 2 diabetes mellitus patients. A total of 146 respondents were selected from a patients of Alka hospital with probability sampling techniques (simple random sampling). Data were analyzed using descriptive statistics for level of self-care management.

**Results:** Based on the findings of the study, it is concluded that the majority of respondents have good self-care practice (i.e 74.7%). Only 10.3% of people exercise daily, and 79.5% of people exercise for 30 minutes or more. 33.6% of people have a physical examination every three months. Frequency of blood glucose testing: once per week 32.2%. In "Respondents level of self-care management across different practice areas" most practice area was in Blood glucose monitoring (i.e  $\mu$  2.7329) and least practice area is in physical activity (i.e  $\mu$  1.4589). Self-care level and age (in years), showing that the age group 55–65 accounts for the majority of poor self-care levels (45.9%). Crosstabulation of self-care level data by gender, demonstrating that male account for the majority of good self-care levels (58.7%). "A crosstabulation of the respondent's education level and level of self-care" Poor self-care is attributed to 40.5% of respondents (no formal education). Families with a monthly family income of at least Rs. 50,000 are considered to have good self-care at a rate of 67.0%. There is a significant association with the knowledge of participants (i.e  $p = 0.000$ ).

**Conclusion:** Research shows that Type 2 diabetes mellitus can be prevented by lifestyle changes, nutrition control, and managing overweight and obesity. The majority of respondents have good self-care practices, with the most common area being blood glucose monitoring. Males account for the majority of good self-care levels. Significant association found between participant knowledge and Practices level. Regular research can significantly improve patient outcomes.

**Keywords:** Type 2 Diabetes Mellitus Patients; Knowledge and practice; Level of self-care management; Self-Care Practice.



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The evolution of experimental medicine and the history of diabetes in modern times are related. The identification of the role played by the liver in glycogenesis and the creation of novel therapies to address the theory that diabetes is caused by the overproduction of glucose (Ahmed, 2002). Diabetes has been widely recognized for years. Type 2 diabetes may be quickly and readily diagnosed thanks to modern technologies. Diabetes was challenging for doctors to understand due to unusual symptoms and unclear glucose metabolism (Gutteridge & Fvco, 1999). Susruta, Charaka, and Vaghabata documented the pleasant taste of urine in polyuric patients in Sanskrit literature, naming the disease Madhumeha. The urine was described as honey-like, sticky, and drawing ants. Aetius of Cappadocia initially used "diabetes," while Thomas Willis introduced mellitus in 1675 (Nazamuddin et al., 2014). In advance of World Diabetes Day, the International Diabetes Federation (IDF) reports that 537 million persons worldwide have diabetes. The prevalence of diabetes among people worldwide is one in ten (10.5%). 81% of diabetics live in low- and middle-income countries, with 6.7 million deaths predicted in 2021 due to diabetes or its consequences (Sun et al., 2021). CDC reports 27% of diabetes patients went undiagnosed in 2012 (*Centers for Disease Control and Prevention: National*, 2014).

Recent studies show that in India, Sri Lanka, and Nepal, diabetes now affects a startling 10-16% of the urban population and 5-8% of the rural population (Wild et al., 2004). The estimated number of diabetes cases was Nepal has 506,727 (Mohan et al., 2016). On a continuum ranging from at-home actions including good food, exercise, and medication adherence to usage of preventive care, diabetes self-care was inadequate (Chaurasia et al., 2015). Diabetes management in Nepal faces challenges like high treatment costs, limited healthcare facilities, and patients' lack of awareness, with no established protocol for prevention and management (Gyawali et al., 2016). NCD burden rises rapidly, increasing global fatalities by 15% between 2010-2020 (Of & Mellitus, 2014). Additionally, it was found that self-care includes both engaging in these activities and observing how they interact with one another (Shrivastava et al., 2013). Diabetes self-care requires dietary and lifestyle changes, healthcare professionals' support, and self-confidence to achieve successful behavior changes (Shobhana et al., 1999).

Diabetes education is essential for patients, but it should be integrated into self-care activities like diet, exercise, blood sugar monitoring, and foot care for optimal benefits (Glasgow & medicine, 2000). Regular physical exercise has been proven to be linked to better health outcomes in diabetics, regardless of weight reduction (Herman et al., 2017; Wysham & care, 2011). The National Institutes of Health (Buchner, 2014) and the American College of Sports Medicine advocate frequent physical activity for all individuals, including those with diabetes (Haskell et al., 2007). While there is currently no known cure for diabetes, we can help our clients adapt to their condition and way of life more successfully (Elissen et al., 2013). Individuals must understand illness, collaborate with healthcare professionals, develop care plans, engage in activities, monitor symptoms, and manage impact on interpersonal relationships and physical and emotional functioning (Coyle et al., 2013). After turning 40, the prevalence significantly increased (9.6% prevalence among people 40 to 54 years old). Men were more likely than women to have diabetes (6.3% vs. 5.3%). Adults in metropolitan/sub-metropolitan areas are more likely to have elevated blood sugar, with Province 2 having the highest prevalence (Dhimal M, Bista B, Bhattarai S, Hyder MKA, Agarwal N, Rani M, 2019). The study aims to identify the self-care practice for management of type 2 diabetes mellitus patients.



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### Methodology

Cross-sectional study design was used to find out the Study of self-care practice for management of type 2 Diabetes Mellitus patient. The research was conducted in Alka Hospital (P.) Ltd. Jawalakhel, Lalitpur. Study site was selected by Probability sampling technique (Simple random sampling). Alka Hospital is special treatment center for Diabetes, thyroid and hormonal disease. According to Steps Survey 2019 the Raised blood sugar was more common as people aged. After turning 40, the prevalence significantly increased (9.6% prevalence among people 40 to 54 years old). So, the required sample size of the study were 146 participants. Data collection was done in selected hospital at Lalitpur district. Self-administered questionnaire was used for assessing the Type 2 Diabetes Mellitus patients. And it was conducted through face-to-face interview method. The Diabetes Self-Management Questionnaire (DSMQ) was created to evaluate self-care practices that can predict glycemic management. 'Glucose Management' (GM), 'Dietary Control' (DC), 'Physical Activity' (PA), 'Health-Care Use' (HU), and a 'Sum Scale' (SS) as a general indicator of self-care were the four subscales that were developed. This study offers preliminary proof that the DSMQ is a trustworthy and valid tool that makes it possible to measure self-care behaviors linked to glycemic management quickly and effectively. The questionnaire ought to be useful for both therapeutic use with type 2 diabetes patients and for research analysis (Schmitt et al., 2013).

Data was collected, and then it was examined to make sure it was correct and thorough Statistical Package for Social Sciences software was used to encrypt, import, and analyze the data. As required, data was modified, coded, categorized, and tabulated. Data interpretation involved using descriptive statistics. It was done using both univariate and bivariate analysis. Frequencies and percentages were computed for categorical data in univariate analysis, while mean score, standard deviations were computed for continuous data. Use the T-test for categorical data in bivariate analysis. Additionally, a p value less than 0.05 with a 95% confidence interval (CI) was taken into account as a statistically significant value. The questionnaire was pretested among diabetes patients at Alka Hospital (P.) Ltd. Jawalakhel, Lalitpur (10% of the total sample, or 15 samples). Cronbach's alpha was used to examine the tool's reliability; its value was 0.78. To implement, the necessary modifications were made. Approval was taken from the public health department of Kantipur Academy of Health Science Tinkune, Kathmandu. Authorization for data collection was obtained from Alka Hospital (P.) Ltd. Jawalakhel, Lalitpur. Each responder was made aware of the study's objectives and given the assurance that it was conducted only for academic purposes. Written informed consent was taken from the study participants before data collection.

### Results

#### Descriptive Analysis of respondents

There were total 146 respondents. Among 146 respondents there were 55.5% (81) male and 44.5% (65) female respondents and 23.3% (34) respondents were in the age group (45-55 years), 41.8% (61) were in the age group (55-65 years) and 34.9 (51) were in the age group (65 above years).



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The mean age (SD) was 2.1164 (0.75667) years. Majority of the respondents were Janajati that is 35.6% (52) followed by Brahmin 33.6% (49) then Chhettri that is 28.8% (42). Majority of the respondent were Hindu that is 81.5% (119). Among the total 146 respondent maximum respondent were married 92.5% (135) and 7.5% (11) respondent were Widow/widower. Most of the respondent belonged from Joint family that is 85.6% (125). Most of the respondent were of “no formal education” that is 44.5% (65). 34.2% (50) of respondents, which is the highest percentage, work for private or nonprofit organizations. Majority of the respondent had monthly income more than 50,000 that is 64.4% (94) (Table 1).

Table 1: Socio-Demographic and Economic variables of the study population

Variables	Frequency (N = 146)	percentage
<b>Age (In Years)</b>		
45-55	34	23.3
55-65	61	41.8
65 above	51	34.9
Mean age $\pm$ SD = 2.1164 $\pm$ 0.75667		
<b>Gender</b>		
Male	81	55.5
Female	65	44.5
<b>Ethnicity</b>		
Brahmin	49	33.6
Chhetri	42	28.8
Janajati	52	35.6
Madhesi	3	2.1
<b>Religion</b>		
Hindu	119	81.5
Buddhist	27	18.5
<b>Marital status</b>		
Married	135	92.5
Widow/widower	11	7.5
<b>Type of family</b>		
Nuclear	21	14.4
Joint	125	85.6
<b>Education level</b>		
No formal education	65	44.5
Primary (1-5)	45	30.8
Higher secondary (6 to +2)	20	13.7
Bachelor and above	16	11.0
<b>Occupation</b>		
Government Office	10	6.8
NGO/Private	50	34.2
Farmer	40	27.4
Businessman	33	22.6
Labour	13	8.9
<b>Monthly family income</b>		
15,000 to 30,000	6	4.1
30,000 to 50,000	46	31.5
50,000 and more	94	64.4



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Table 2: Knowledge about diabetes mellitus

S.N	Variables	Frequency (N = 146)	percent-age
1.	Do you know about diabetes mellitus?		
	No	5	3.4
	Yes	141	96.6
2.	Types of Diabetes mellitus		
	No	131	89.7
	Yes	15	10.3
3.	About Type 2 DM		
	No	131	89.7
	Yes	15	10.3
4.	Major Cause of DM		
	No	21	14.4
	Yes	125	85.6
5.	Clinical feature of DM		
	Yes	146	100.0
6.	Preventive methods		
	No	6	4.1
	Yes	140	95.9
7.	Complications of DM		
	No	45	30.8
	Yes	101	69.2
8.	Diabetes, if not treated, will cause heart disease		
	No	9	6.2
	Yes	137	93.8
9.	most accurate method of monitoring diabetes		
	No	3	2.1
	Yes	143	97.9
10.	a diabetic patient, high blood pressure can worsen the disease		
	No	7	4.8
	Yes	139	95.2
11.	should measure his or her blood pressure		
	Yes	146	100.0
12.	lifestyle modification required for diabetic patients		
	No	1	.7
	Yes	145	99.3
13.	should have eyes checked every year		
	No	20	13.7
	Yes	126	86.3
14.	Regular urine tests will help		
	No	20	13.7
	Yes	126	86.3
15.	Important factor that helps in controlling blood sugar		
	No	5	3.4
	Yes	141	96.6
16.	Regular exercise regimen will help in glucose control		
	Yes	146	100.0
17.	A well-balanced diet includes		
	No	61	41.8
	Yes	85	58.2



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The knowledge level of respondent is  $13.81 \pm 2.020 (\mu \pm SD)$  with 95% confidence interval 13.48 – 14.14. there is significant association on knowledge of participants (i.e  $p < 0.001$ ). (Table 3)

Table 3: Association between knowledge and practices level of respondents

	N	Mean	Std. Deviation	t-value(df)	P-value	CI	
						low	higher
Knowledge level of Respondent	146	13.8151	2.02060	82.613(145)	0.001	13.4846	14.1456
Practices level of respondents	146	1.3767	.62301	26.701(145)	0.001	1.2748	1.4786

The practices that are follow by the respondents. The results show that respondents' daily food consumption is 88.4%. Only 10.3% of people exercise daily, and 79.5% of people exercise for 30 minutes or more. 33.6% of people have a physical examination every three months. Frequency of blood glucose testing: once per week 32.2%. (Table 4)

Variables	Frequency (N = 146)	percentage
<b>Food intake per day</b>		
Three times	17	11.6
Four times	129	88.4
<b>Exercise Frequency</b>		
Daily	15	10.3
Two to three days in a week	31	21.2
Four to five days in a week	100	68.5
<b>Exercise duration</b>		
20 minutes	20	13.7
30 minutes	116	79.5
60 minutes	10	6.8
<b>Physical checkup frequency</b>		
Once in 3 months	49	33.6
In 6 months	64	43.8
Once in a year	33	22.6
<b>Blood glucose test frequency</b>		
once in a week	47	32.2
Once in a month	58	39.7
Once in 3 months	27	18.5
Half yearly	14	9.6



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The level of self-care management of respondents. 25.3% of people practiced poor self-care compared to 74.7% of people who practiced good self-care. (Table 5)

Table 5: Level of Self-Care Management of respondents

Self-care level	Frequency (n = 146)	percentage
Good self-care	109	74.7
Poor self-care	37	25.3

Table 6 displays, Respondents' level of self-care management across different practice areas. 47.3% of respondents reported engaging in healthy self-care activities. Diet Good Self Care 56.8% and Poor Self Care 43.2%. Good Self Care accounts for 97.9% of Blood Glucose and Poor Self Care for 2.1%. Medication Good Self Care Rates 95.2%, Poor Self Care Rates 4.8%.

Table 6: Respondents' level of self-care management across different practice areas

Level	Frequency (n = 146)	percentage
<b>Physical activity</b>		
Good self-care	69	47.3
Poor self-care	77	52.7
<b>Diet</b>		
Good self-care	83	56.8
Poor self-care	63	43.2
<b>Blood Glucose</b>		
Good self-care	143	97.9
Poor self-care	3	2.1
<b>Medication</b>		
Good self-care	139	95.2
Poor self-care	7	4.8

In “respondents level of self-care management across different practice areas” most practice area was in Blood glucose monitoring (i.e  $\mu$  2.7329) and least practice area is in Physical activity (i.e  $\mu$  1.4589). Where Physical activity level of respondent is  $1.4589 \pm 79764 (\mu \pm SD)$  with 95% confidence interval 1.33 – 1.58. there is significant association on Physical activity of participants (i.e  $p = 0.0001$ ). Diet level of respondent is  $1.61 \pm 0.69 (\mu \pm SD)$  with 95% confidence interval ( $p$  value = 0.0001). Blood glucose monitoring level of respondent is  $0.54 \pm 0.54 (\mu \pm SD)$  with 95% confidence interval ( $p$  value = 0.0001). Medication level of respondent is  $1.95 \pm 0.21 (\mu \pm SD)$  with 95% confidence interval ( $p$  value = 0.0001). Foot care level of respondent is  $2.00 \pm 0.00 (\mu \pm SD)$  with 95% confidence interval ( $p$  value = 0.0001). (Table 7)



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Table 7: Scoring between the DSMQ component

DSMQ component	N	Mean	Std. Deviation	t-value(df)	P-value	CI	
						low	higher
Physical activity	146	1.4589	.79764	22.100 (145)	0.0001	1.3284	1.5894
Diet	146	1.6096	.69850	27.843 (145)	0.0001	1.4953	1.7238
Blood glucose monitoring	146	2.7329	.54191	60.935 (145)	0.0001	2.6442	2.8215
Medication	146	1.9521	.21439	110.020 (145)	0.0001	1.9170	1.9871
Foot care	146	2.0000	.00000				

Foot care, t cannot be computed because the standard deviation is 0. Foot care is constant. It has been omitted.

The crosstabulation of self-care level and age (in years), showing that the age group 55–65 accounts for the majority of poor self-care levels (45.9%) and good self-care levels (40.4%), respectively. (Table 8)

Table 8: Crosstabulation between self-care level age (in years) of participants

self-care level	Age (years)						Total	
	45-55		55-65		65 above		f	p
	f	p	f	p	f	p		
Poor self-care	8	21.6	17	45.9	12	32.4	37	25.3
Good self-care	26	23.9	44	40.4	39	35.8	109	74.7
Total	34	23.3	61	41.8	51	34.9	146	100.0

Notation: f=frequency, p=percentage

The crosstabulation of self-care level data by gender, demonstrating that male account for the majority of good self-care levels (58.7%), and females account for poor self-care levels (54.1%), respectively. (Table 9)

Table 9: Crosstabulation between self-care level and gender

Self-care level	Male		Female		Total	
	f	p	f	p	f	p
Poor self-care	17	45.9	20	54.1	37	25.3
Good self-care	64	58.7	45	41.3	109	74.7

Notation: f=frequency, p=percentage

Table 10 shows a crosstabulation of the self-care level and family type. Joint families account for the majority of cases of poor self-care (i.e 86.5%)





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Table 10: self-care level \* Type of family Crosstabulation

Self-care level	Nuclear		Joint		Total	
	f	p	f	p	f	p
Poor self-care	5	13.5	32	86.5	37	25.3
Good self-care	16	14.7	93	85.3	109	74.7
Total	21	14.4	125	85.6	146	100

Notation: f=frequency, p=percentage

The crosstabulation of the respondent's education level and level of self-care. Poor self-care is attributed to 40.5% of respondents (no formal education). (Table 11)

Table 11: Self-care level \* education level of respondent crosstabulation

self-care level	Education level of respondent								Total	
	No formal education		Primary (1-5)		Higher secondary (+2)		Bachelor and above		f	p
	f	p	f	p	f	p	f	p		
Poor self-care	15	40.5	14	37.8	3	8.1	5	13.5	37	25.3
Good self-care	50	45.9	31	28.4	17	15.6	11	10.1	109	74.7
Total	65	44.5	45	30.8	20	13.7	16	11.0	146	100

Notation: f=frequency, p=percentage

The study reveals the crosstabulation self-care level and monthly family income. Families with a monthly family income of at least Rs. 50,000 are considered to have Good Self Care at a rate (i.e 67.0%). (Table 12)

Self-care level	Monthly family income						Total	
	15,000 to 30,000		30,000 to 50,000		50,000 and more		f	p
	f	p	f	p	f	p		
Poor self-care	2	5.4	14	37.8	21	56.8	37	25.3
Good self-care	4	3.7	32	29.4	73	67.0	109	74.7
Total	6	4.1	46	31.5	94	64.4	146	100



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### Discussion

A cross-sectional study was quantitative and descriptive in nature was used to assess “self-care practice for management of type 2 diabetes mellitus patients at Alka Hospital (P.) Ltd. Jawalakhel, Lalitpur”. Data were collected using interview method. Diabetes self-management questionnaire were used to collect data regarding self-care practice for management of type 2 diabetes mellitus patients. Total 146 respondents were selected from a Patients of Alka Hospital with probability sampling techniques (simple random sampling). Among 146 respondents there were 55.5% (81) male and 44.5% (65) female respondents and 23.3% (34) respondents were in the age group (45-55 years), 41.8% (61) were in the age group (55-65 years) and 34.9% were in the age group (65 above years). The mean age (SD) was 2.1164 (0.75667) years. Majority of the respondents were Janajati that is 35.6% (52) followed by Brahmin 33.6% (49) then Chhettri that is 28.8%. Majority of the respondent were Hindu that is 81.5%. Among the total 146 respondent maximum respondent were married 92.5% (135) and 7.5% (11) respondent were Widow/widower. Most of the respondent belonged from Joint family that is 85.6% (125). Most of the respondent were of “no formal education” that is 44.5% (65). 34.2% (50) of respondents, which is the highest percentage, work for private or nonprofit organizations. Majority of the respondent had monthly income more than 50,000 that is 64.4%.

The burden of NCDs will rise quickly and that between 2010 and 2020, NCD fatalities would increase by 15% worldwide (Of & Mellitus, 2014). Compared to high-income countries, prevalence has been increasing more quickly in low- and middle-income nations (WHO fact sheet, 2019). According to Steps Survey Nepal 2019, Raised blood sugar was more common as people aged after turning 40, the prevalence significantly increased (9.6% prevalence among people 40 to 54 years old). Men were more likely than women to have diabetes (6.3% vs. 5.3%). Research has revealed that a crosstabulation of self-care level data by gender, demonstrating that male account for the majority of good self-care levels (58.7%), and females account for poor self-care levels (54.1%), respectively. The results demonstrate that a crosstabulation of self-care level and age (in years), showing that the age group 55–65 accounts for the majority of poor self-care levels (45.9%) and good self-care levels (40.4%), respectively.

As one's degree of education rose, the prevalence of high blood sugar fell. Raised blood sugar levels were seen in 6.2% of people with "no education/less than primary education" and 4.1% of adults with more than secondary education. Raising household wealth was directly correlated with an increase in the prevalence of elevated blood sugar. 2.7% of the population in the poorest category and 8.7% in the richest group (American Association of Diabetes Educators, 2008). Respondents' degree of knowledge regarding diabetes mellitus, with 96.6% of respondents knowing about the condition, 3.4% unaware of it, and awareness regarding the kind of diabetes mellitus, 10.3% of respondents had no idea what type of diabetes they had, compared to 89.7% who knew about Type 2 DM. 10.3% and 89.7% of respondents reported having no understanding about type 2 diabetes or the main causes of the disease. Respondents' awareness of the major causes of diabetes and its clinical features is 85.6% and respectively 100%, 95.9% of respondents are aware of the precautions to take, 86.3% of respondents are aware that they should have their eyes checked annually, and 100% are aware that regular exercise will help them control their blood sugar. 58.2% of survey participants are knowledgeable of a balanced diet. Only 108 people (56.25%) claimed to be aware of diabetes mellitus, and only 11 of them (10.18%) knew the different kinds of the disease. Over 151 diabetic patients had knowledge of self-care, with 38 (25.16%) knowledgeable about hand, foot, health checks, and exercise (Agurs Tanya D. et al., 1997).



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Knowledge level of respondent is  $13.81 \pm 2.020 (\mu \pm SD)$  with 95% confidence interval 13.48 – 14.14. There is significant association on knowledge of participants (i.e.  $p = 0.000$ ). No difference in knowledge level was found to be statistically significant ( $p = 0.171$ ) (Gautam et al., 2015). Result show that Families with a monthly family income of at least Rs. 50,000 are considered to have Good Self Care at a rate of 67.0%. Diabetes self-care necessitates extensive dietary and lifestyle changes, in addition to the supportive role of healthcare professionals, enabling the patient to retain a greater degree of self-confidence, leading to a successful behavior change (Shobhana et al., 1999). The results show that respondents' daily food consumption is 88.4%. Only 10.3% of people exercise daily, and 79.5% of people exercise for 30 minutes or more. 33.6% of people have a physical examination every three months. Frequency of blood glucose testing: once per week 32.2%. Because individuals and/or families manage the vast bulk of daily diabetic treatment (Etzwiler, 1997). There is a critical need for trustworthy and effective diabetic self-management tools (Etzwiler, 1997). Result displays a crosstabulation of the respondent's education level and level of self-care. Poor self-care is attributed to 40.5% of respondents (no formal education). Among 146 respondents there were 25.3% of people practiced poor self-care compared to 74.7% of people who practiced good self-care.

In persons with diabetes, there are seven critical self-care practices that are associated with positive results. These include following a balanced diet, getting enough exercise, checking blood sugar levels, taking medications as prescribed, having effective problem-solving and coping mechanisms, and engaging in risk-reducing activities (American Association of Diabetes Educators, 2008) The findings indicate that Respondents' level of self-care management across different practice areas. 47.3% of respondents reported engaging in healthy self-care activities. Diet good self-care 56.8% and poor self-care 43.2%. Good self-care accounts for 97.9% of blood glucose and poor self-care for 2.1%. Medication Good Self Care Rates 95.2%, Poor Self Care Rates 4.8%. Result show that Scoring between the DSMQ components. In “Respondents level of self-care management across different practice areas” most practice area was in Blood glucose monitoring (i.e.  $\mu$  2.7329) and least practice area is in Physical activity (i.e.  $\mu$  1.4589). Where Physical activity level of respondent is  $1.4589 \pm 0.79764 (\mu \pm SD)$  with 95% confidence interval 1.33 – 1.58. there is significant association on Physical activity of participants (i.e.  $p = 0.000$ ). Diet level of respondent is  $1.61 \pm 0.69 (\mu \pm SD)$  with 95% confidence interval ( $p$  value = 0.000). Blood glucose monitoring level of respondent is  $0.54 \pm 0.54 (\mu \pm SD)$  with 95% confidence interval ( $p$  value = 0.000). Medication level of respondent is  $1.95 \pm 0.21 (\mu \pm SD)$  with 95% confidence interval ( $p$  value = 0.000). Foot care level of respondent is  $2.00 \pm 0.00 (\mu \pm SD)$  with 95% confidence interval ( $p$  value = 0.000).

The ultimate goal of diabetic self-management may be lowering the patient's level of glycosylated hemoglobin, but it cannot be the main goal in their treatment. Self-care activity changes should also be assessed for behavioral change progress (Glasgow & medicine, 2000). Result shows the level of self-care and the type of family. Crosstabulation showing that Joint family accounts for the majority of low levels of self-care (86.5%). South Asians, the country's biggest visible minority group, are more likely than the overall population to get diabetes as the frequency of the disease rises in Canada. Diabetes Self-Management education (DSME) therapies for South Asians with type 2 diabetes (T2DM) have been studied, however their cultural suitability has not been examined. Only one trial found that blood glucose management had significantly improved (NEVIN NAVODIA, RN, B.Sc.N., 2016).



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### Conclusion

Type 2 diabetes mellitus is a metabolic condition that can be avoided by altering one's lifestyle, controlling one's nutrition, and managing overweight and obesity. A type 2 DM patient's quality of life should be improved through management (26). The World Health Organization forecasts that the burden of NCDs will rise quickly and that between 2010 and 2020, NCD fatalities would increase by 15% worldwide (10). According to Steps Survey Nepal 2019, Raised blood sugar was more common as people aged after turning 40. Men were more likely than women to have diabetes (6.3% vs. 5.3%). As one's degree of education rose, the prevalence of high blood sugar fell. Raised blood sugar levels were seen in 6.2% of people with "no education/less than primary education" and 4.1% of adults with more than secondary education. Raising household wealth was directly correlated with an increase in the prevalence of elevated blood sugar.

Based on the findings of the study, it is concluded that majority of respondents have good self-care practice (i.e 74.7%). "Practices that are follow by the respondents" results show that respondents' daily food consumption is 88.4%. Only 10.3% of people exercise daily, and 79.5% of people exercise for 30 minutes or more. 33.6% of people have a physical examination every three months. Frequency of blood glucose testing: once per week 32.2%. In "Respondents level of self-care management across different practice areas" most practice area was in Blood glucose monitoring (i.e  $\mu$  2.7329) and least practice area is in Physical activity (i.e  $\mu$  1.4589). Self-care level and age (in years), showing that the age group 55–65 accounts for the majority of poor self-care levels (45.9%). Crosstabulation of self-care level data by gender, demonstrating that male account for the majority of good self-care levels (58.7%). "A crosstabulation of the respondent's education level and level of self-care" Poor self-care is attributed to 40.5% of respondents (no formal education). Families with a monthly family income of at least Rs. 50,000 are considered to have good self-care at a rate of 67.0%. There is significant association on knowledge of participants (i.e  $p = 0.000$ ). Regular research can genuinely alter the circumstances in any location.

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