

THE IMPACT OF LIFE STYLE AND TREATMENT PATTERNS ON DIABETIC PATIENTS IN MUSLIM COMMUNITY- A CASE STUDY OF NINTAVUR IN THE AMPARA DISTRICT

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Abstract

Non-communicable diseases are being tremendously increasing in the recent past in Sri Lanka. Though the Ministry of Health implements advanced treatment and provides better healthcare service especially for the diabetic patients, more than 25% of the population are being affected by diabetic diseases, (Health ministry, 2014). The Ministry of Health has implemented efficient preventive and curative measures. However, the diabetic disease rate increases instead of reduction or eradication in Sri Lanka. The same situation of diabetic status is observed in the Research Area. Apart from sex and age, the patients have mentally, physically and biologically been affected due to Diabetes, though they had been medically treated. This research was carried out on medical ground in sociological perspective. The methodology used is mixed approach. The primary data was collected through questionnaire, interview and observation and experimental methods from 200 diabetic patients. The finding of the research reveal that practices followed in the life style and treatment pattern of the diabetic patients impact them severely. If the health care institutions of this area take a collective effort and responsibility to reduce diabetic disease, this can have positive impact to save the future generation of our society.

Introduction:

Diabetic mellitus is a non communicable disease commonly seen in this country and also massively affects without any gender differences or age. Diabetic mellitus is a major cause of morbidity and mortality in the world. 25% of total population of Sri Lanka is affected by the diabetic mellitus. It is predicted that diabetic patients will be doubled by 2050. Every year 500 to 600 people are affected by this disease. In it 40% are town area and 19% are rural area people (Health ministry Report-2014-march). Sri Lanka is at the 26th place in the world, affected by diabetic (medical journal

2013). Research reviews that, each person loses his leg for every one second in the world today (www.melparuai.com2013).

So, diabetic affects not only temporary but also permanent damages the lives of the people. It affects them mentally, physically and behaviorally, further individually and family also. Now diabetic is rapidly increasing in Srilanka, though it is a non communicable disease, the damage caused by it. The researches carried out in this field were discussed through clinical aspects providing scientific suggestions to cure it

rather than providing permanent solutions. So, it depends not only in the physical condition, it influences on life style, food habits, socio economic, cultural and environmental policies etc. In the Medical Sociological view, this research assists to provide some evidence.

Aims and objectives of this study

Identify how life style and treatment patterns influence on diabetic mellitus patients.

Specific objectives

To identify how life style and treatment patterns the diabetic mellitus patients in this area.

To identify the impact of life style and treatment pattern.

To provide suggestions for Preventing and reducing the diabetics

Literature view

A research conducted in the United Kingdom reveals that food pattern, the amount of food consumptions and exercise reduce the diabetic rate ranging from 0% to 58% of type 2 diabetic (Knowler et.al, 2002). Another research conducted in Asia (Ramachandran, 2006) reveals that the present diabetic rate is very high in India though diabetic is a common problem from the ancient time. A research on diabetic prevention in India found that the drugs given to patients alone can not reduce the diabetic. But changing of life pattern is more effective than drugs.

The above research findings were practiced and succeeded to reduce the number of diabetic affected patients in the past six years.

Significance of the study

The aim of the study is to find the followings, according to the statistics from the health department, the diabetic statistic increases tremendously for the last 8 years. Though there were studies related to diabetics, there were no researches carried out particularly on the life style and treatment pattern influencing on diabetic mellitus. Though the medical facilities are freely available for diabetic mellitus in the area, the reason for the incensement of the diabetic mellitus is not identified. Though the diabetic mellitus directly affects the patient's kidney, eye and the whole nervous system. This disease it affects physically, psychologically and sociologically in many ways. This psychological effect reflects on the family life and it indirectly effects the whole family. This study aims to suggest some alternative solutions in order to overcome the above issues by bring them to normal life. Diabetic mellitus is not a disease but a deficiency. Therefore, it cannot be cure completely with medicine but can be managed and controlled for certain level. This research will find the reasons for influence of other factors and find alternative solutions to recover from the sufferings and also this research will help in reducing affected patients and it will help in preventing diabetics.

This research has to be looked on the social view since it affects society in numerous ways. The previous studies on diabetic are in the view of clinical aspects but this study is done on the social aspects in order to find a suitable solution since it is considered as a world disease. This study in addition to the clinical aspects looks at behavioral patterns, social anthropological cultural pattern through providing awareness to reduce the number of diabetic patients and affective management of the diabetic mellitus through proper alternative solution. This research will definitely help in finding alternative solution.

Research area

To examine the hypothesis, this research is based in Nintavur where are covered more in Ampara district. 200 Sample were selected among 35 to 55 aged male and female diabetic patients.

Methodology of the study

The methodology used is mixed approach .This study is based on primary and secondary data. Collection of data was done by interview, participation observation, clinical test and, group discussion. 200 diabetic patients (100 males and 100 females) were selected by snowball sampling , aged group between 35 to 55. 100 people were involved in Personal interviews on the basis of structured interview schedule . Clinical test was continually observed from three months. Sample were divided into four groups including 50 patients in each group.

Group01- Those who have normal life style without following any controlling system.

Group02- Those who have changed only their life styles.

Group-03- Those who have changed their treatment patterns.

Group-04- those who have changed both their life style and treatment pattern.

Secondary data were collected from the government officials such as DPDHS Kalmunai, Nintavur Divisional Secretariat , medical health office report , report of previous research and other relevant documents.

Data processing and analyzing were done by Excel and summarized data were presented through appropriate charts and table.

Data Analysis

Two method were used to analyse data. The data of the Questioneir was analyzed by using excel. Results of the experiment was also analyzed using descriptive statistics.

Table 1.1 General Information of Nintavur

Divisional Secretariat.
Details Population of Nintavur

Year	Total population	Male	%	FeMale	%
2007	29307	14584	49.76	14723	50.24
2008	29565	14749	49.89	14820	50.13
2009	30143	15095	50.08	15048	49.92
2010	30756	15324	49.82	15432	50.18
2011	31474	15661	49.76	15810	50.23

source: Planning branch, divisional secretariat, Nintavur-2014

Employment category

Employment	2007	2008	2009	2010	2011
Government sector	864	886	964	972	1005
Private sector	321	323	347	415	434
co-operatives/ board	151	153	175	180	182
Self Empl oyment	1246	1201	1754	1862	1937
Other	202	5622	5950	6100	6210
Total	2784	8185	9190	9529	9768

source : Planning branch, divisional secretariat, Nintavur-2014

Table 1.2 Details of comers to monthly clinic

Year	September		October		November		December	
	Male	Female	Male	Female	Male	Female	Male	Female
2008	254	206	274	216	280	242	282	308
2009	240	235	305	320	321	298	325	295
2010	280	313	328	314	340	336	340	345
2011	230	233	360	220	365	315	320	364
2012	325	355	301	317	350	320	351	333
2013	300	308	332	310	354	336	354	345

Source: Planning unit, District hospital, Nintavur, 2014.

According to the data collected to the current research, the following findings were identified.

1. Life Style patterns of the diabetic patients

Dietary habits

When analyzing of food habits, among them 60% were under good diet control, 13.33% were under moderate control and 26.66% were under poor control. It shows that good diet control does not reduce the diabetics but under poor diet control increases the effectiveness of severity of the disease.

Knowledge on weight and disease

Lack of knowledge has been seen among them regarding the body weight and disease condition. 80% have poor knowledge, 20 % have medium level knowledge .

Food calorie usage and Knowledge

There were only 6.66% who have adequate knowledge on behalf of this calorie management and other 93.33% have very few knowledge regarding calorie management calculation system and related knowledge .

Work and time spending

When analyzing their working ability and time management, 86.66% patients were doing easy work and only 13.33% were doing hardworking, but due to their working ability it does not control the limitation of the calorie/energy of the body, though working continuously for a long time, was not considered as hard work.

Leisure

When studying their leisure time, 66.66% were watching television, 13.33% spend their free time on reading news papers, 20% were chatting with their friends, according to this situation, most of patients willing to watch T.V and reading news papers. This time they have more opportunities to eat more and more fast foods. This causes for increasing the body weight and became obese which causes for become diabetic.

Physical exercise

Most of them are not interest on doing physical exercise, 86.66% were not doing exercise, and only 13.33% were interested on doing exercise. Although they know the

importance of exercise, people have lot of financial difficulties, they concentrate on their jobs most of the time it leads to severe stress situation, and it may be the cause for lack of physical activity.

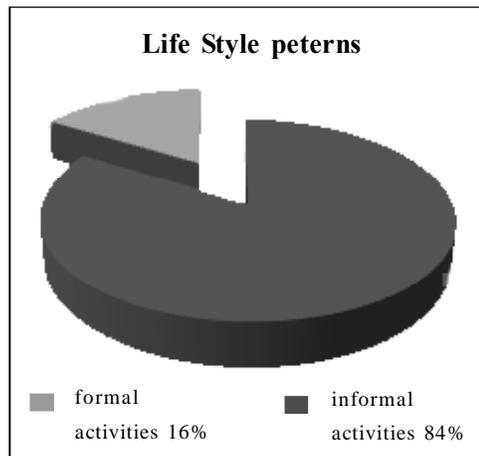
Create relax mind-Sleeping and time

When analyzing their time spend on sleep, 60 were spending few time and 46.66% were spending normal hours of eight.

Family, Neighbors relationship and stress mood

After diagnosing the patients, due to the fluctuation of blood sugar level, they were seen anxiety, worries, lethargy and loss of interesting in life. 93.33% have high worries on behalf of their disease, only 6.66% are normal . Due to these conditions, they have lack of interest to show their happy life and to participate in any other recreational activities.

Chart - 1.1



Most of the diabetic patients (84%) do not follow formal activities to reduce their sickness. The only 16% of diabetic patients follow formal activities.

2. Treatment patterns of diabetic patients

When analyzing their treatment patterns, it is observed that most of them have very few knowledge and they are not interested to study more. 53.33% were interested to search and study about this disease and contain lack of knowledge.33.33% were with no knowledge about this disease. Hence 13.33% have enough knowledge but not interest to practice in a proper way to control this disease condition.

Further they have myths and fault beliefs regarding of this disease. 26.66% have myths and fault beliefs. 46.66% do not believe any thing, 26.66% have mixed ideas.

Type of treatment

In treatment pattern, 66.66% are using both Ayurvedic and western treatment.13.33% didn't take any treatment, 20% depend only on western medicine.

Treatment condition

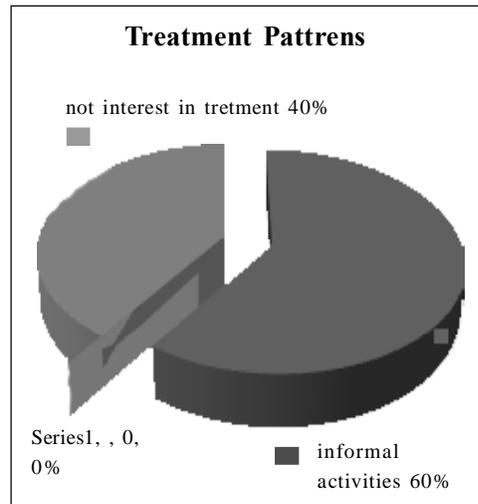
When we analyze treatment condition, 74% were regular clinic follow ups, 13% often take treatment 13% rarely taken treatment.

Doctor's suggestions

Most of them were interested to take medical advice, but practically they did not follow.

Usage of medicine

When study their usage of drugs, 92% use on tablets 18% injection insulin. Among these tablets intake patients, 92% patients of 80% were taking drugs regularly. Insulin dependent patients inject regularly with prescribed units.



60% of Diabetic patients take interests in treatment patterns. Though they did not get the enough improvement in their health conditions.

Experiment

Free Group

Table 2.1 Descriptive statistics

Variable	Minimum	Maximum	Mean	Standard Deviation	Confidence Interval for mean (5%)
Test1	43	245	146.00	48.23	[132.29,159.71]
Test2	98	210	157.14	26.81	[149.52,164.76]
Test3	95	201	138.90	27.25	[131.16,146.64]

Table 2.2 Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Free1	146.00	50	48.232	6.821
Free2	157.14	50	26.805	3.791

In the Paired Samples Statistics Box, the mean for the free 1 is 146.00. The mean for free 2 is 157.14. The standard deviation for the free 1 is 48.232 and for the free 2 are 26.805. The number of participants in each condition (N) is 50.

Table 2.3 Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Free1 Free2	-11.140	56.631	8.009	-27.234	4.954	-1.391	49	0.171

This value will tell if the two condition Means are statistically different. Often times, this value will be referred to as the p value, the Sig (2-Tailed) value is 0.171. We can conclude that there is no statistically significant difference between two conditions. The Sig. (2-Tailed) value is 0.171. This value is greater than .05. Because of this, we can conclude that there is no statistically significant difference between the mean for the Free 1 and Free 2 conditions

Table 2.4 Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Free1	146.00	50	48.232	6.821
Free2	138.90	50	27.247	3.853

In the Paired Samples Statistics Box, the mean for the free 1 is 146.00. The mean for free 2 is 138.90. The standard deviation for the free 1 is 48.232 and for the free 2 are 27.247. The number of participants in each condition (N) is 50.

Table 2.5 Paired Samples Test

	Paired Differences				t	df	Sig. (2-tailed)	
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower				Upper
Pair 1 Free1 Free2	7,100	55.839	7.897	-8.769	22.969	0.899	49	0.373

According to the paired test, there is no statistical evidence that test1 and test2 are not different (p- value=0.171). Also, test1 and test3 are not different (p- value=0.373)

there is no statistically significant difference between the mean for the Free 1 and Free 2 conditions.

The test indicates the badly maintained life style and treatment pattern increase the effects if diabetics. This value will tell if the two condition Means are statistically different. Often times, this value will be referred to as the p value, the Sig (2-Tailed) value is 0.373.

Life style modification group

Table 3.1 Descriptive statistics

Variable	Minimum	Maximum	Mean	Standard Deviation	Confidence Interval for mean (5%)
Test1	60	258	140.76	45.72	[127.76,153.76]
Test2	79	200	127.66	31.55	[118.69,136.63]
Test3	82	165	117.84	20.98	[118.88,123.80]

We can conclude that there is no statistically significant difference between two conditions. The Sig. (2-Tailed) value in our example is 0.373. This value is greater than .05. Because of this, we can conclude that

Table 3.2 Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Free1	140.76	50	45.726	6.467
Free2	127.66	50	31.553	4.462

In the Paired Samples Statistics Box, the mean for the free 1 is 146.76 The mean for free 2 is 127.66 The standard deviation for the free 1 is 45.726and for the free 2 are 31.553The number of participants in each condition (N) is 50.

Table 3.3 Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Free1 Free2	13.100	25.810	3.650	5.765	20.435	3.589	49	0.001

This value will tell if the two condition Means are statistically different. Often times, this value will be referred to as the p value, the Sig (2-Tailed) value is 0.001.

We can conclude that there is statistically

significant difference between two conditions. The Sig. (2-Tailed) value is 0.001. This value is less than .05. Because of this, we can conclude that there is statistically significant difference between the mean for the Free 1 and Free 2 conditions.

Table 3.4 Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Free1	140.76	50	45.726	6.467
Free3				

In the Paired Samples Statistics Box, the mean for the free 1 is 140.76. The mean for free 2 is 117.84. The standard deviation for the free 1 is 45.726 and for the free 2 are 20.988 The number of participants in each condition (N) is 50.

Table 3.5 Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Free1 Free2	22.920	32.961	4.661	13.553	32.287	4.917	49	.000

According to the paired test, there is statistical evidence that test1 and test 2 are different (p- value=0.001). Also, test1 and test3 are different (p- value=0.000).P-value < 0.05 is significant

This value will tell if the two condition Means are statistically different. Often times, this value will be referred to as the p

value, the Sig (2-Tailed) value is 0.000. We can conclude that there is statistically significant difference between two conditions. The Sig. (2-Tailed) value is 0.000. This value is less than .05. Because of this, we can conclude that there is statistically significant difference between the mean for the Free 1 and Free 2 conditions.

Treatment pattern Modification group

Table 4.1 Descriptive statistics

Variable	Minimum	Maximum	Mean	Standard Deviation	Confidence Interval for mean (5%)
Test1	49	284	154.28	56.00	[138.36,170.20]
Test2	96	200	129.28	27.07	[121.58,136.98]
Test3	65	175	125.56	21.90	[119.33,131.79]

Table 4.2 Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Free1	154.28	50	56.001	7.920
Free2	129.28	50	27.079	3.830

In the Paired Samples Statistics Box, the mean for the free 1 is 154.28. The mean for free 2 is 129.28. The standard deviation for the free 1 is 56.001and for the free 2 are 27.079. The number of participants in each condition (N) is 50.

Table 4.3 Paired Samples Test

	Paired Differences				t	df	Sig. (2-tailed)	
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower				Upper
Pair 1 Free1 Free2	25.000	40.886	5.782	13.380	36.620	4.324	49	.000

This value will tell if the two condition Means are statistically different. Often times, this value will be referred to as the p value, the Sig (2-Tailed) value is 0.000.

We can conclude that there is statistically significant difference between two

conditions. The Sig. (2-Tailed) value is 0.000. This value is less than .05. Because of this, we can conclude that there is statistically significant difference between the mean for the Free 1 and Free 2 conditions.

4.4 Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Free1	154.28	50	56.001	7.920
Free2	125.56	50	21.904	3.098

In the Paired Samples Statistics Box, the mean for the free 1 is 154.28. The mean for free 2 is 125.56. The standard deviation for the free 1 is 56.001 and for the free 2 are 21.904. The number of participants in each condition (N) is 50.

Table 4.5 Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Free1 Free2	28.720	48.501	6.859	14.936	42.504	4.187	49	.000

According to the paired test, there is statistical evidence that test1 and test2 are different (p- value=0.001). Also, test1 and test3 are different (p- value=0.000)

This value will tell if the two condition Means are statistically different. Often times, this value will be referred to as the p

value, the Sig (2-Tailed) value is 0.000. We can conclude that there is statistically significant difference between two conditions. The Sig. (2-Tailed) value is 0.000. This value is less than .05. Because of this, we can conclude that there is statistically significant difference between the mean for the Free 1 and Free 2 conditions.

Life Style Modification & Treatment pattern modification group

Table 5.1 Descriptive statistics

Variable	Minimum	Maximum	Mean	Standard Deviation	Confidence Interval for mean (5%)
Test1	49	255	149.98	47.88	[163.59,136.37]
Test2	60	207	121.02	27.54	[113.19,128.85]
Test3	75	200	119.14	21.61	[113.0,125.28]

Table 5.2 Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Free1	149.98	50	47.888	6.772
Free2	121.02	50	27.546	3.896

In the Paired Samples Statistics Box, the mean for the free 1 is 149.98. The mean for free 2 is 121.02. The standard deviation for the free 1 is 47.888and for the free 2 are 27.546. The number of participants in each condition (N) is 50.

Table 5.3 Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Free1 Free2	28.960	28.589	4.043	20.835	37.085	7.163	49	.000

This value will tell if the two condition Means are statistically different. Often times, this value will be referred to as the p value, the Sig (2-Tailed) value is 0.000. We can conclude that there is statistically significant difference between two conditions. The Sig. (2-Tailed) value is 0.000. This value is less than .05. Because of this, we can conclude that there is statistically significant difference between the mean for the Free 1 and Free 2 conditions.

Table 5.4 Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Free1	149.98	50	47.888	6.772
Free2	119.14	50	21.615	3.057

Table 5.5 Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Free1 Free2	30.840	33.240	4.701	21.393	4.287	6.560	49	.000

According to the paired test, there is statistical evidence that test1 and test2 are different (p- value=0.001). Also, test1 and test3 are different (p- value=0.000)

This value will tell if the two condition Means are statistically different. Often times, this value will be referred to as the p value, the Sig (2-Tailed) value is 0.000. We can conclude that there is statistically

significant difference between two conditions. The Sig. (2-Tailed) value is 0.000. This value is less than .05. Because of this, we can conclude that there is statistically significant difference between the mean for the Free 1 and Free 2 conditions.

The date in the tabulation indicate that in the diabetic patients has a stronger influence on the lifestyle modification rather than treatment

modification. However, the combination of the life style modification and treatment pattern modification can have a significant influence in reducing the glucose level of diabetic patients. That the result of the clinical study reveals the badly maintained life style and treatment pattern increase the effects if diabetics. The effects caused by each variable individually considering with the effects caused by both variables together, it reduces the impact of diabetic.

Findings

The finding of the research reveal that practices followed in the life style and treatment pattern of the diabetic patients impact them severely. When comparing the any other factors that influence in controlling the diabetics, it is found that life style and treatment pattern are the most effective factors. Also it is found that changing the life pattern and the following the proper treatments are the most beneficial factors. It was found that diabetic becomes more dangerous due to their negligence (life style) and improper treatment.

So the life style becomes in a correct pathway when following the correct treatment on regular basis, free from effectiveness of diabetic mellitus. I clearly observe in this area that the failure in following the forgoing practice correctly by these participants of research increases the effectiveness of this disease.

Conclusion and Recommendation

The above research findings encourage the nursing personals to update their knowledge on how life style pattern influences on diabetic mellitus. Further, the research findings enlighten that not only the drugs influence on controlling the diabetes mellitus, but also the life style pattern mainly

influences on controlling the diabetes mellitus. Proper life pattern and proper treatment are very important to get relieve from this suffering and the complication.

This research provides the other directions to conduct a new research. That will help to improve nursing in future. Diabetes mellitus affected patients from this area are poor in knowledge regarding this disease is one of the finding of the research.

The research finding strongly recommend that awareness programme to improve the knowledge regarding controlling the diabetes mellitus should be organized. At the mean time, the public should be educated by giving some attractive visual aids such as leaflets, banners, Posters, street drama and hand books.

Also health education demonstrations must be strictly provided for half an hour for the gatherings in the monthly clinic centers and non communicable disease centers.

In addition to the Health education programme, a model Centre to launch and practice the modifications of their life pattern must be established adjoining to the clinic centers and non communicable disease centers enabling to prepare the diabetic mellitus patients to modify their life style on free of charge to avoid the economical burdens.

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