

# Factors Associated with Feelings of Unwellness in Diabetes Mellitus Sufferers in Ukwuani Local Government Area, Delta State: Implications for Health Education

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## ABSTRACT

*This study adopts Ex-post-facto research design to find out those factors in diabetes mellitus that contribute to feelings of unwellness among the sufferers. Four hypotheses are formulated to guide the study. Self structured questionnaire is used for data collection. Eighty diabetes mellitus sufferers formed the sample size of the study. Simple random sampling with balloting is used to pick the eighty respondents. The surface and content validity of the instrument was ascertained. A reliability co-efficient of 0.86 was obtained through test-retest process. Simple percentage was used to analyze the data collected for the study while Chi-square statistics was used to test the hypotheses. The results show that fear of rise in blood sugar level, dietary placement, feeling of lethargy and diabetes coma are factors associated with constant feeling of unwellness in diabetes mellitus sufferers. Based on these findings the researcher recommends programs which enhance wellness, health moves, with emphases on low-impact aerobic activity, minimal strength training and stretching and should not allow emotion to becloud their reasoning to the level of living in fear through one's life.*

**Keywords:** *Unwellness, Diabetes Mellitus and Health Education*

## INTRODUCTION

A good number of individuals assumed that eating quality and large quantity of any diet as at when due with sedentary life style is healthy living. Others who are involved in considerable hardwork are seen as suffering and not enjoying life. However, in a nutshell, people in the offices or stationed in a place are prone to diabetes mellitus, obesity and hypertension (Gordon, 2007). The quantity of calories ingested is not fully utilized because oxidation is low and excess of glucose is stored in the muscles and the liver as glycogen (Gordon, 2007). People who attempt to do more tedious work, involve in constant exercise have every avenue to exhaust more calories ingested food and glucose, and clear glucose in the blood stream for energy. Accumulated glucose in the blood stream as a result of failure of insulin to perform its functions to high blood sugar level known as diabetes mellitus.

Diabetes mellitus live with individual for good number of years unknowingly unless diagnosed through clinical investigations. According to Mbah, Salami, Akeredolu and Busari (2012), a lot of people walking on the streets may be diabetic and not even aware of it. Some hear the word diabetes and they only assume its complications and its danger. Some remember a friend or a family member who lost sight, limb or died of diabetes and just lament but forget within a short while and will never bother to check for sugar blood

level or control the risks. Diabetes mellitus is a condition where the body cannot produce enough insulin (hormone). Insulin is an endocrine hormone secreted in the body to control the level of sugar. Starch and other carbohydrate are converted into glucose stored in the muscles, liver as glycogen and serve as energy for daily need. Pancreas is the gland which secretes and releases the insulin; which maintain normal blood sugar level in the body. The range of blood sugar level is as follows 60-120 normal, 125-250 moderate, 250 to 500mg/ml and above severe (hyper) while 60 below is low (hypo). Test to detect high blood sugar level is FBS, RBS and general urinalysis with clinitest (Drew, 2011). Diabetic condition is termed hyperglycemia when the blood sugar level is 250mg/ml and above, which may lead to hyperglycemic shock while below 50 can lead to hypoglycemia shock (Davis, 2009). Common investigations carried on diabetes is FBS, RBS and urinalysis the blood sugar level is normal when it ranges from 70mg/ml of blood to 120mg/ml it is considered low ranges from 60mg/ml of blood below it is high from the range of 30mg/ml of blood to 350 and above (Robert, 2013). He further states that individuals can easily enter coma as from 500mg/ml of blood. Low values are found 30-45mg of 100ml of blood after large doses of insulin have been given or in the rare condition of hyperinsulinism resulting in hypoglycemia shock (Davis, 2009).

According to Gordon (2007), there are two types of diabetes. Type 1 and type 2. Type 1: insulin dependent diabetes mellitus: the body stops producing insulin or produces insufficient insulin that the body cannot regulate its blood sugar level on its own. Mbah, Salami, Akeredolu and Busari (2012) state that about 10% of total cases in the world are type 1 diabetes. This type is most commonly identified during childhood, often referred to as juvenile – onset diabetes mellitus. Type 1 diabetes can also occur in adult and older individuals as well. Individuals with type 1 diabetes require daily insulin to be healthy (Mbah, 2003, 2008). Type 2: is non insulin dependent diabetes mellitus. The pancreas secretes insulin as expected and at the proper levels but the body cannot process the insulin completely (Mbah, Salami, Akeredolu and Busari, 2012). Type 2 diabetes tends to run in the family with adult onset; in most cases with family having history of overweight. A good number of people having diabetes belong to this group (Brennian, 2013).

Facts Sheet on Diabetes (2013) states other types of diabetes as follows but less common form are gestational diabetes occurring in pregnancy, genetic syndromes surgery, drugs, malnutrition and other illness. Saddath (2009), Mbah, Salami Akeredolu and Busari (2012) state that diabetes is caused by genetic factors, infections to the pancreas, individual life styles such as eating late and lack of exercises and drinking of alcohol. It appears that diabetes mellitus is dangerous because of its complications such as cataracts with blurry vision, retinopathy diabetic ulcer (unhealed ulcer). Diabetes affect the kidney, and the nerves; both motor and sensory nerves. Other signs and symptom associated with diabetes are frequent urination (polyuria) thirsty polyphagia, drinking of excessive water, hunger, weight loss, muscles waist tingling sensation and numbness in the extremities, weak and tired hypoglycemic shock and hyperglycemic shock are notable conditions in diabetes people (Brennian and Kruger, 2013). Sufferers of diabetes have feeling of unwellness (Mbah, Salami Akeredolu and Busari (2012). They have fear of rise in blood sugar level;

and as a result they lose interest on most of the drugs given to them (Okudaye, 2012). According to Brennian and Kruger (2013), high blood sugar eminent even when the prescribed drugs are taken according to the prescription, diabetic patient abuse because of non-permanent control of blood sugar level, dietary regulation has a psychological dampening of the sufferer; the diet is regulated. As a result, sufferers do not get satisfied with the quantity, the quality and the types of meal given to them, simply because of change in feeding pattern. They always have it in mind that they are eating as sick persons. And when you introduce the diabetes sufferers to new diet free from carbohydrate, it gives them sense of unwellness, fear of hypoglycemia shock. A good number of sufferers do not engage in serious physical activity like exercise and sports. Even domestic work is affected.

Mean while known farmers abandon their work because of hypo and hyperglycemia shock. Feeling of lost of interest enveloped many sufferers partaking in social activities become a permanent problem. Mbah (2005) states that diabetes are chronic metabolic errors and lifestyle diseases which, fully established, after several years confers severe consequences. Diabetes mellitus is dangerous because it is associated with physical and psychological trauma. It affects generally all part of the body. Individual physical activities are also affected. Saddath (2009) states that diabetes reborn individuals, normal activities are readjusted such as feeding pattern, drinking, energy and calories spent is highly minimized which automatically affect physical fitness and wellness. Individuals input and output is comparatively reduced. High blood sugar level exists within the individual unnoticed unless clinical investigation is carried out.

Robert (2013) highlights more problems associated with type 2 diabetes to include numbness which starts as a tingling in the hands, fingers, legs and feet as early symptoms caused by increased blood sugar level restricting blood vessel extremities and damage to nerve fibres. Diabetes is life threatening because of its complications such as slow healing of ulcer, neurosis and muscles waist. It affects the retina of the eye leading to blindness (Mabeze, 2000). According to Mbah, Salami Akeredolu and Busari (2012), there is gang rane of the foot, the lower extremities blood vessels are occluded leading to deprivation of oxygen and nutrient, resulting to diabetic ulcer (Robert, 2013). Amputation is eminent, physical, psychological and social life of individual is affected, and finance is not ruled out. With these many other problems, the researcher investigates factors associated with feelings of unwellness in diabetes mellitus sufferers. Specifically, to find out if fear of rise in blood sugar level, dietary placement, feeling of lethargy, and fear of diabetic Coma contributes to feeling of unwellness. The purpose of this study is to determine the factors associated with feeling of unwellness in diabetes mellitus sufferers in Ukwuani Local Government Area, Delta State. The findings of the study will be very important to diabetes sufferers undergoing treatment; it will help the dietician, caterians in planning menu for diabetes sufferers. It will also help the health educators, nurses, public health educators to form basis of their teaching curriculum; and policies planners will be guided in planning and designing health strategies to curb diabetes problems. The following hypotheses were formulated to guide the study:

H<sub>0</sub>1. Fear of rise in blood sugar level does not significantly contribute to feeling of unwellness in diabetes mellitus sufferers.

- H<sub>0</sub>2. Dietary placement does not significantly contribute to feeling of unwellness in diabetes mellitus sufferers in Ukwuani Local Government Area.
- H<sub>0</sub>3. Feeling of lethargy does not significantly contribute to feeling of unwellness in diabetes mellitus sufferers in Ukwuani Local Government Area.
- H<sub>0</sub>4. Fear of diabetic coma does not significantly contribute to feeling of unwellness in diabetes mellitus sufferers in Ukwuani Local Government Area.

## **METHOD**

The descriptive research design with expo factor was used for the study. The population of the study comprises all the diabetes sufferers undergoing treatment in hospitals and clinics in Ukwuani Local Government Area of Delta State, Nigeria. It was pretty difficult to get all diabetes sufferers assemble in the hospitals and clinics in a day because the hospitals and clinics in Ukwuani do not operate a day for diabetes sufferers, therefore, random sampling technique was used to select 80 diabetes sufferers who were at the hospitals at the time questionnaire was being distributed. The questionnaire has two sections, A and B. Section A contains demographic variables and Section B contains items of the variables using modified likert format: strongly agree = 4, agree = 3, strongly disagree = 2, disagree = 1.

The instrument was distributed with the assistance of nurses. The retrieval rate of the instrument was 100%. Validity of the instrument was ascertained by lecturers in the field of Physical and Health Education in Delta State University, Abraka. The reliability of the instrument was ascertained using test-retest method, data generated were analyzed using Pearson Product Moment Correlation Co-efficient and was reliable at 0.82. Simple percentage was also used in analysing the data while chi-square was used to test the hypotheses formulated for the study at 0.05 level of significance.

## **RESULTS AND DISCUSSION**

Table 1 shows that 40% of the male respondents agreed, while 12.5% disagreed. On the other hand, 37.5% of the female agreed while 10% disagreed to the fact that rise in blood sugar level can affect the wellness of diabetes sufferers. In other words, a total of 77.5% of both males and females respondents agreed that fear of rise in blood sugar level resulted to feeling of unwellness in diabetes mellitus sufferers while 22.5% disagreed. Conclusion can be drawn that fear of rise in blood sugar level contributes to feeling of unwellness in diabetes mellitus sufferers. Table 2 indicates that 43.75% of the respondents agreed 18.75% disagreed, while 25% of the female respondents agreed, 12.5% disagreed to the fact that dietary placement contributes to feeling of unwellness in diabetes mellitus sufferers. On the whole, 68.75% agreed that dietary placement had resulted to filling of unwellness in diabetes sufferers while 31.25% disagreed. Hence, it can be concluded that dietary placement contributes to feelings of unwellness in diabetes mellitus sufferers. Table 3 shows that a total of 40 (50%) of male respondents agreed that feeling of lethargy resulted to feelings of unwellness in diabetes sufferers while 20 (25%) disagreed. Still on the point, 15 (18.75) of

the female respondents agreed while 5 (6.25) disagreed. This shows that a total of 60 (75%) male respondents agreed while 20 (25%) of the female respondents disagreed. In conclusion therefore the fear of diabetic coma contributes to feeling of unwellness in diabetic sufferers. Table 4 shows that 35 (43.75%) of the male respondents agreed while 15 (18.75) disagreed. Also 20 (25%) of the female respondents agreed, while 10 (12.5%) disagreed to the fact that fear of diabetic coma result to feeling of unwellness in diabetes sufferers. In other words a total of 55 (68.75%) of both male and female respondents agreed that fear of diabetic coma contributes to feeling of unwellness in diabetes sufferers.

From table 5, it is observed that the calculated chi-square value of 103.630 is greater than critical value of 8.211. This indicates that there is a significance association with fear of rise in blood sugar level contributing to feelings of unwellness in diabetes sufferers. This means that fear of rise in blood sugar level contribute to the feelings of unwellness in diabetes mellitus sufferers. The finding from the analysis of table 6 above shows a calculated value of 105.201 against the critical value of 5.776 at 0.05 alpha chi-square significance with the degree of freedom of 2. Since the calculated value was lesser than the critical value, the above hypothesis is hereby accepted. This means that dietary placement contributes to feelings of unwellness in diabetes sufferer. Since  $152.200 > 7.200$  at 0.05 level of significance (table 7), the null hypothesis which states that feeling of lethargy does not significantly contribute to feelings of unwellness in diabetes mellitus was rejected. Therefore, feeling of lethargy contributes to feelings of unwellness in diabetes mellitus sufferers.

Table 8 showed that the calculated chi-square value of 170.480 is greater than the critical chi-square value of 6.75, established at 0.05 level of significance. This means that fear of diabetic coma contributes to feelings of unwellness in diabetes mellitus sufferers. The findings in this study from table 5 has shown that fear of what the result of blood sugar level test will be makes diabetes sufferers to be having feeling of being sick continually, immediately they are diagnosed. This is in line with Drew (2011) who states that fear of the unknown affects the physical performance, lower urge and interest of carrying out daily activity. This belief was also supported by Mabeze (2000) that fear of blood sugar test result affect sufferers in going to regular Blood Sugar Level (BSL) test.

Table 6 indicates that dietary placement had affected diabetes sufferers. Simply because an individual has been removed from his normal feeding pattern. He felt disorganized and represent the feeding pattern of sickness and term the dietary placement as sick food. As they remain on the dietary plans, it is assumed they are sick. This is in line with Mark, Debinu and Gilbert (2001) who assert that dietary control in diabetes is major treatment, hence diabetes patients feel psychologically traumatized. The finding on table 7 has shown that diabetes patients has partial interest in most of the activities around them, even at social gatherings, feeding and drinking elude them because they are out of their menu. This is in line with Okudaye (2012) who opines that lethargy feeling affect productivity and interpersonal relationship in replace of work and immediate environment. On table 8 result shows that diabetes sufferers live in fear of diabetic coma. A good number of diabetes sufferers invest interest on how to protect diabetic coma. The worry is highly associated

with starvation and increase blood sugar level. This is in line with Ross (2002) who asserts that diabetic coma leads to psychiatric disorder because the part of brain cells is affected. As a result, diabetes sufferers train cautiously in order to abate this crisis. The study observes that fear of rise in blood sugar level was a significant factor contributing to feelings of unwellness in diabetes mellitus sufferers. Dietary placement was a significant factor contributing to feeling of unwellness in diabetes mellitus sufferers. Feelings of lethargy were a significant factor associated with feeling of unwellness in diabetes mellitus sufferers. Fear of diabetic coma was a significant factor associated with the feelings of unwellness in diabetic mellitus sufferers.

**Table 1:** Percentage analysis of rise in blood sugar level

Variable	Gender	Agreed	%	Disagreed	%	Total	%
Rise in blood Sugar level	Male	32	40	10	12.5	42	52.5
	Female	30	37.5	8	10	38	47.5
Total		62	77.5	18	22.5	80	100

**Source:** Survey, 2013

**Table 2:** Percentage analysis of dietary placement

Variables	Gender	Agreed	%	Disagreed	%	Total	%
Dietary Placement	Male	35	43.75	15	18.75	50	62.5
	Female	20	25	10	12.5	30	37.5
Total		55	68.75	25	31.25	80	100

**Source:** Survey, 2013

**Table 3:** Percentage analysis on feeling of lethargy

Variable	Gender	Agreed	%	Disagreed	%	Total	%
Feeling of lethargy	Male	40	50	20	25	60	75
	Female	15	18.75	5	6.25	20	25
Total		55	68.75	25	31.25	80	100

**Source:** Survey, 2013

**Table 4:** Percentage analysis of fear of diabetic coma resulting to feeling of unwellness in diabetes sufferers

Variable	Gender	Agreed	%	Disagreed	%	Total	%
Fear of diabetes coma	Male	35	43.75	15	18.75	50	67.5
	Female	20	25	10	12.5	30	37.5
Total		55	68.75	25	31.25	80	100

**Source:** Survey, 2013

**Table 5:** Chi-square analysis on fear of rise in blood sugar level contributing to feeling of unwellness in diabetes mellitus sufferers

Variable	A	D	N	X <sup>2</sup> Cal.	DF	Crit. value	p	Remarks
Fear in rise in blood sugar	60(75%)	20(25%)	80	103.630	2	8.211	0.05	Significant

**Source:** Survey, 2013 S = significant result

X<sup>2</sup> = 103.630 DF = 2, critical value = 8.211 at 0.05 significance.

**Table 6:** Chi-square analysis on dietary placement as a contributing factor to feeling of unwellness in diabetes sufferers

Variables	A	D	N	X <sup>2</sup> Cal.	DF	Criti-value	p
Remark							
Dietary placement as contributor	55(68.75%)	25(31.25%)	80	105.201	2	5.776	0.05

Significant

**Source:** Survey, 2013

**Table 7:** Chi-square analysis on feeling of lethargy contributing to feeling of unwellness in diabetes mellitus sufferers

Variable	A	D	N	X <sup>2</sup> Cal.	DF	critical	p	Remark
Feeling of lethargy	50 (62.5%)	30 (37.5%)	80	152.200	2	7.200	0.05	Significant

**Source:** Survey, 2013

**Table 8:** Chi-square analysis on diabetic coma.

Variables	A	D	N	X <sup>2</sup> Cal.	DF	Crit. value	F	Remark
Fear of diabetic coma	64	80%	1620%	80	170.480	2	6.75	0.05

Significant

**Source:** Survey, 2013

Calculate X<sup>2</sup> value = 170.450 > critical X<sup>2</sup> value = 6.75, DF 2, P > 0.05.

## CONCLUSION AND RECOMMENDATIONS

Based on the findings of this study, diabetes sufferers continually live in fear of what will possibly be the outcome of their condition, especially from medical record, where a good number of sufferers had registered terrible complications such as blindness, difficulty in hearing and amputation of lower limbs. Individual lifestyle is also a major source of worry in diabetes condition, conclusively, feeding in absence of pathological disorder of the body organs is a major concern and an area of interest in diabetes mellitus which must be controlled.

Based on the findings of this study, the following recommendations are made:

- i. Diabetes sufferers should not allow emotion to govern them, to the level of living in fear throughout their life.
- ii. Diabetes sufferers should be mindful of their diet; especially eating late is one of the major causes of diabetes and much sugar source of diet.
- iii. One full meal should be taken in small quantities at reasonable time intervals other than taking the full meal all at a time.
- iv. Physical exercise is highly encouraged to ensure complete utility of ingested calories.
- v. Nibbling in between meals should be avoided.
- vi. Conditions prone to obesity and cardiovascular disorder should be avoided.
7. Health education dealing with nutrition education should be highlighted such as diet rich in vitamins, roughage and other diet containing CHO, proteins and fat should be taken in small quantity. Ensure you are hungry before taking food.

8. Doctors should be able to handle patient psychologically since it is not curable but controllable. Patients' literacy is very eminent in this situation on area of choice of meal, exercise, drugs and constant blood sugar level test.
9. Constant seminar on nutrition education, on pattern of feeding, kinds of diet, high residue diet should be avoided.

## REFERENCES

- Brennan, A. and Kruger J.** (2013). The cost of Type 1 diabetes mellitus in the United Kingdom: A review of cost-of-illness studies. *European Journal of Health Economics*, 14(6), 887-899.
- Brennan, A.** (2013). Assessing the cost-effectiveness of type 1 diabetes interventions: the Sheffield type 1 diabetes policy model. *Diabet Medicine*, 31(4), 477-486.
- Crate, J. and Sanabna, S.** (2013). Diabetes and wellness: Retrieved May 11, 2014 from [www.wchealth.org](http://www.wchealth.org).
- Davis, I. N. T.** (2009). Diabetes and endocrine disorder medical-surgical nursing
- Drew, W. G.** (2011). Facts about diabetes mellitus. *British Medical Journal*, 14, 44-65.
- Fact Sheet on Diabetes** (2013). Medi-resource health. [Healthcannada.com/channel](http://Healthcannada.com/channel). Condition info-details- id 244.
- Gordon, R.** (2007). *Diabetes mellitus: In essentials of human physiology*. USA: Year Book Medical Publisher, Inc.
- Mabeze, J. O.** (2000). Health in community sector: A systematic review on diabetes findings. *Nigeria Medical Journal*, 12, 250-268.
- Mark A. C., Debinu, R. Q. and Gilbert, P.** (2001). Diabetes and associated factors. *Federal Medical Research Centre*, 10, 19-32.
- Mbah, P. E.** (2003). *Outlines of dietary management in diseases of cardiovascular system science teaches proceedings of 44th annual conferences*. Ibadan: Heinemam Educational Books Nigeria Plc (pp. 237-240).
- Mbah, P. E.** (2005). The relevance of regulation of blood glucose and carbohydrate metabolism in the body. *Journal of Business and Educational Policies*, 1(1), 97-206.
- Mbah, P. E.** (2008). Nutrition in relation to family health. *Akoko Journal of Vocational Education*, 6(3), 8-14.
- Mbah, P. E., Salami, L. I., Akeredolu, I. A. and Busari, O.** (2012). Advocacy and dietary management: A tool for curbing diabetes and obesity among households. *Journal of Nutrition Society of Nigeria*, 44, 49-58.
- Okudaye, I. N.** (2012). Asthma and sport performance implication for health education. *Journal of Sport Psychology of Nigeria*, 6, 20-25.
- Robert, C.** (2013). 10 symptoms of diabetes mellitus. Retrieved June 7, 2013 from [concoursemedia.actiocbeat.com](http://concoursemedia.actiocbeat.com).
- Saddatt, K. P.** (2013). Diabetes prevention. Retrieved from [www.diabetes.orgwellnessproposals.com](http://www.diabetes.orgwellnessproposals.com)