



Psycho-Demographic Factors as Predictors of Depression Among Person With Diabete Mellitus

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ABSTRACT

The study examined psycho-demographic factors as predictors of depression among persons with diabetes mellitus in Ibadan metropolis. A cross-sectional survey method was adopted to collect data from two hundred and thirty eight respondents with one hundred and fifteen (48.3%) males; and one hundred and twenty-three (51.7%) females and age ranging from 17 – 74 years with mean (\bar{x}) 44.3 years and standard deviation (SD) 12.1. The result of regression analysis suggested that hopelessness, life purpose, and gender were significant independent predictors of depression, while the variables jointly predicted depression; $R = .44$; $F(7, 237) = 8.12$; $P < .005$. Also, the variables jointly accounted for 17% ($Adj. R^2 = .174$) variance on the depression. Low life purpose has a significant influence on depression ($t = 3.48$; $P < .05$). In conclusion, the study found that the above psycho-demographic variable has significant influence on depression. Therefore, it was recommended that government, and non-governmental organizations should create more public awareness on the possible effect of those variables that was found to have negative influence on depression in our society.

Key Words: Diabetes, Depression, Life purpose, Hopelessness.

1. INTRODUCTION

Diabetes mellitus is a worldwide health problem and one of the main chronic syndromes currently affecting humankind, regardless of socioeconomic status and geographical location. Currently, more than 250 million people in the world have diabetes and it is predicted that this number will double in a little over 20 years (Wild et al. 2004). The epidemic is not evenly distributed around the world. While the world-wide prevalence of diabetes is 3–4%, several countries and regions experience a prevalence rate of diabetes of well over 10%. Africa is a large continent, but the health care systems of African countries face similar challenges in the delivery of health care. Resources are limited and systems are strained (Whiting et al. 2003).

According to The International Diabetes Federation (IDF, 2013) financial estimate of Africa indicate that at least USD 2.8 billion was spent on health care due to diabetes alone in 2011 and this is expected to rise by 61% in 2030. Nigeria has the highest number of people living with diabetes in Africa (3.9 million) and about 1.8 million cases are undiagnosed. An estimated 522,600 people in the Africa died from diabetes-related

causes in 2013; 105, 091 of these occurred in Nigeria. However, Nigeria has the highest burden of diabetes in Africa, followed by South Africa with 2.6 million cases, Ethiopia 1.9 million, and Tanzania 1.7 million. In view of this high prevalence and rate of long-term complications, there is going to be a drastic increase of the burden of diabetes on health care systems of African countries (Sobngwi et al. 2004).

Worldwide estimates of depression prevalence among people with diabetes appear to vary by diabetes type and among rich and poor nations. Studies have shown that people with diabetes are more likely to have depression than individuals who do not have diabetes. However, the mechanisms linking these conditions are not entirely clear. A review of studies found that depression was associated with a 60% increase of type 2 diabetes while type 2 diabetes which accounted for 90% of all cases of diabetes was only associated with moderate (15%) increase in risk of depression (Mezuk et al. 2008). Healthcare costs are higher for people with diabetes and coexisting depression in the USA, people with diabetes and depression had higher diabetes related medical costs (\$ 3,264) than those with diabetes alone \$ 1,297 (Le et al. 2006).

Asagba (2007) found that existential frustration often leads to feelings of inner emptiness and states of boredom and apathy. Similarly, Shek (2003) found that meaning in life and its related dimensions are indeed linked to symptoms of psychopathology such as general psychiatric symptoms, somatic problems, state and trait anxiety, and depressive symptoms.

Beck et al. (2006) discovered that patients who ultimately committed suicide scored significantly higher on both the Beck Hopelessness scale and the Beck Depression inventory than patients who did not commit suicide. In a Nigeria study, Agbir et al. (2010) found that depression was significantly correlated with sex with a female to male ratio of 3:1 and no significant association was found between depression and respondents age. Contrarily Cleland et al. (2007) found that one in five participants reported depressive symptoms and one in three reported anxiety, age and high level of symptoms were independently predictor of anxiety and depression in their study.

Psycho-demographic research in diabetes has evolved through several stages over the last half century. Early clinical studies focused on stress events and personality characteristics (Peyrot and McMyrry, 1985). However, the previous studies failed to look at some psycho-demographical variables that may likely precipitate psychopathologies that could result after the diagnosis of diabetes, which is the major focus of this study.

Base on this, the hypotheses for the study were that (i) will hopelessness, life purpose, age, and gender independently and jointly predict depression among persons with diabetes mellitus. (ii) Will diabetic patients with low perceived life purpose significantly depressed than those with high perceived life purpose. (iii) Will older diabetic patients significantly experience depression than younger diabetic patients.

Therefore, the findings of this study to theories and practice cannot be overemphasized, because the outcome will help the Health care providers (HCP), government and non-governmental organizations in understanding people with diabetes mellitus better.

2. MATERIALS AND METHOD

2.1 Design and Setting:

This was a hospital-based cross-sectional study conducted among persons with diabetes mellitus in two hospitals in Ibadan metropolis, Oyo State Nigeria between June-August, 2010.

2.2 Participants and Research Procedure:

A total sample of two hundred and thirty eight (N = 238) clinically diagnosed diabetic patients was used. The sample comprised of 115 (48.3%) males and 123 (51.7%) females, while, 37 (15.5%) were single, 178 (74.8%) were married, and 23 (9.7%) were others. Christians were 140 (58.8%), Muslims were 98 (41.2%), while African Traditionalist worshipers and others were not indicated. They fall under two age categories;

younger and older adults, between 18-44years (younger adults) and 45 & above (older adults). Their age range was between seventeen (17) and seventy four (74) years and their mean age ($X = 44.6$). **2.3**

Instruments:

Structured questionnaires made up of four sections are used for this study with all sections written in English Language. Section A: tap information regarding socio-demographic variables.

Section B: Life Purpose Questionnaire was measure with standardized 20 items. The scale was developed by Hablas and Hutzell (1982), the authors reported coefficient alpha of $r = .90$ and validity coefficient alpha of $r = .75$. A reliability coefficient alpha of 0.64 was established for the scale in this study.

Section C: Hopelessness Scale was developed by Heimberg (1984), the 20 items scale have a true (1) or false (2) response format. This scale was found to have a reliability coefficient of $r = .82$, also total correlation coefficients range from .37 to .75. A reliability coefficient alpha of 0.61 was established for the scale in this study.

Section D: The scale was developed by Beck (1972), the author reported a reliability coefficient alpha of $r = .87$ and validity coefficient of $r = .72$. A reliability coefficient alpha of 0.87 was established for this study.

2.4 Statistical analysis:

Multiple regression analysis were used to test hypothesis one. This is because of the different variables involved and their joint and independent influence on depression was of interest. The t-test for independent measures was used to test hypothesis two and three. This is because significant different between the variables was of interest. The usable data were subjected to statistical analysis using SPSS statistical package for social science software version 12.0

3. RESULT:

Table 1: Showing the Regression of Depression on Psychosocial Variables.

Variables	R	R ²	F	B	T	Sig
Hopelessness	.44	.17	8.12	.258	4.151	.001
Life purpose				.277	4.25	.003
Gender				.368	11.75	.000
Age				.058	.828	.409

Hypothesis one which stated that hopelessness, life purpose, age, and gender will independently and jointly predict depression among persons with diabetes mellitus was supported; $R = .44$; $F(7, 237) = 8.12$; $P < .005$. Also, the variables jointly accounted for 17% ($Adj. R^2 = .174$) variance on the depression among diabetic patients. Also, the above table shows the independent influence of the variables on depression; hopelessness ($\beta = .258$; $t = 4.151$; $P = .001$); life purpose ($\beta = .277$; $t = 4.25$; $P = .003$), gender also predicted depression ($\beta = .368$; $t = 11.75$; $P = .000$).

Table 2: Summary of t-test for Independent measure showing significant difference between Low and High perceived Life Purpose on Depression.

Variables	Perceived life purpose	N	Mean	SD	DF	T	P
Depression	Low	35	25.0	10.86	236	3.48	.011
	High	203	21.8	11.92			

Hypothesis two which stated that diabetic patients with low perceived life purpose will experience depression than those with high perceived life purpose was also confirmed; $t(236) = 3.48$; $P < .05$. Therefore, low perceived life purpose was found to significantly predict depression among diabetic patients ($X = 25.0$) than high perceived life purpose ($X = 21.8$). The above result show that the higher the depression the lower the participants perceived life purpose and meaning in life.

Table 3: Summary of t-test for Independent measure showing significant difference between Younger and Older participants on Depression

Variables	Age group	N	Mean	SD	DF	T	P
Depression	Younger	139	22.8	11.82	236	.817	.415
	Older	99	21.5	11.80			

Hypothesis three which stated that older diabetic patients will significantly experience depression than younger diabetic patients was therefore rejected; $t(236) = .817$; $P > .05$. The result of the analysis shows that there is no significant difference between younger and older participants on depression. This means younger and older participants was the same on depression based on their mean scores, younger (22.8) and older (21.5).

4. DISCUSSION:

In the first hypotheses, three out of four variables contributed significantly. It was observed that gender stands as a major predictor than others. However, this goes in line with the study of Agbir et al. (2010) that depression was significantly correlated with sex but disagree with the finding that no significant association was found between depression and the respondent's age. However, this index study disagreed with the finding of Cleland et al. (2007) that found age and high level of symptoms to be a predictor of depression. Participants perceived life purpose was a significant predictor of depression among diabetic patients as it was found in this study and this was in agreement with Shek (2003) that meaning in life and its related dimensions are indeed linked to symptoms of psychopathology.

Furthermore, in the second hypothesis a statistical significant difference was observed between low and high perceived life purpose on depression. Diabetic patients with low perceived life purpose score higher than those with high perceived life purpose. This study concurred with the finding of Shek (2003) that found meaning in life to be related or linked to symptoms of psychopathologies.

In the third hypothesis, age does not have a significant influence on depression. This index study agrees with Agbir et al. (2010) finding that no significant association between depression and respondents age. Therefore, age was found not to have any significant influence on depression in this study.

5. CONCLUSION

This study has been able to establish that psycho-demographic variables such as gender, hopelessness and perceived life purpose has a significant influence in predicting depression among person's with diabetes mellitus. Effective management of people with diabetes and depression requires a multidisciplinary approach. In many clinical settings, care for the persons with diabetes is fragmented and requires referral to practitioners in the different disciplines. Coordinated clinical care requires the implementation of effective strategies to increase the recognition of depression, the adoption of evidence-based intervention and the integration of quality measures for the management of depression into diabetes clinical guidelines.

6. RECOMMENDATION

In line with the findings of this study, it is recommended that the HCP, government and non-governmental organizations should familiarize themselves with some psychological and demographic variables that were found to be responsible for high rates of depression among diabetic patients in order to proffer solution to it. In addition, this study also recommended that government and non-governmental organizations such as "International Diabetes Federation" should organize more conferences, workshops on the variables that were found to have a significant influence on depression among diabetic patients. Also, female patients should be encouraged to consult clinical psychologist of the clinics often for necessary psychotherapy/psycho-education.

8. LIMITATION

The major problem encountered was language barrier; this is because most of the participants were from Yoruba speaking area. In order to encourage them, the researchers have to be interpreting those questions that could not be understood. Therefore, sample from other part of the country should be selected and compared in the future study of this type.

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