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Cognition of Risk Factors in the Occurrence of Type 11 Diabetes Among Rural Resident Parents in Awka Anambra-State

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ABSTRACT

The study was aimed at ascertaining cognition of risk factors in the occurrence of type 11 diabetes among rural parents in Awka Community of Anambra-State. In line with the objectives of the study three research questions and two null hypotheses were postulated. Related literature was reviewed and summarized. Cross sectional survey research design was adopted for the study. The sample for the study consisted 200 male and female adults were drawn by multi-stage sampling procedure. Data were gathered by means of structured interview protocol. Data obtained were analyzed using descriptive statistics of frequency and percentages as well as inferential statistics of chi-square. The findings among others showed that many adults were not cognizant of physical, social and emotional risk factors of type 11 diabetes. Gender and age were significant factors that influence cognition of risk factors to type 11 diabetes by the respondents. Based on the findings recommendations were made pertinent among which is designing intervention programme in the form of diabetes education by health educators for the rural populace in Anambra-State.

Kewords: Cognition, Risk Factors, Type 11 Diabetes, Rural Resident Parents

INTRODUCTION

Sudden death either by slumping or brief illness has reached an alarming proportion in our society today. Post moten reports on victims of sudden death link most of the death to diabetes and hypertension complications American Diabetes Associate (ADA, 2007). Many individuals who develop type II diabetes also develop hypertension for years without knowing. They only realize this when the disease has damaged the vital organs like kidney and heart. These may result in a sudden death if not well managed.

Type II diabetes is a disease characterized by impairment of the body's normal ability to metabolizer or utilized food (Huxley et al., 2005; Leh & Lee, 2022; Zhang et al., 2023). This defect is manifested by increased amounts of sugar in the blood and subsequently by the excretion of sugar into the urine(Hu et al., 2001; Naz et al., 2023; Rajput et al., 2022). The abnormality is largely dependent upon an actual or relative deficiency of insulin resulting from a disturbance in the function of the islet of langehans of the pancreas interference with the action of the insulin in the tissues (Carpenito, 2005). It involves faulty storage of sugar in the liver, the over production of sugar in the liver and possibly adminished utilization of sugar by the tissues.

Type II diabetes is an intermediate stage of autoimmune destruction in which the capacity to produce insulin is sufficient to prevent ketoacidosis but not to maintain normal blood glucose level (Koopmanschap, 2002; Mustapha et al., 2021; Williams et al., 2002). This variant likely occurs when the autoimmune process begins at an older age and progresses more slowly than usual.

Abanobi (1999) suggested that type II or non-insulin dependent diabetes is rather the inability of the pancreatic cells to produce insulin. The problem is non-insulin dependent diabetes

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is one of a reduced sensitivity of body cells to the effects of insulin. This condition is called insulin resistance.

Type II diabetes usually begins in middle life or later. The typical patient is overweight. Over weight is the most common cause of insulin resistance and it is associated with decreased receptor number ADA (Silverstein & Rollins, 1999)

Center for Disease Control (CDC) (2002) explained that type II diabetes is associated with a slow progressive glucose intolerance. The onset of type II diabetes may go undicated for many years. If symptoms are experienced, they are frequently mild and may include fatigue, irritability, polyuria, polydipsia, skin ulcers that heal poorly, vaginal infections and blurred visions, if glucose level are high.

CDC (2002) has attributed the increase in the rate of type II diabetes among elderly adults to ignorance, availability of starchy food, affordability of starchy foods, expensive nature of proteinous foods, sedentary life styles, increase rate of smoking and alcohol intake among others. Because of the rising from type II diabetes, increasing death rate and cost of managing a diabetic patient the researcher felt it is time to ascertain the level of cognition of the rural populace on the risk factors in the occurrence of type II diabetes. Also the increasing case of sudden deaths due to slumping and brief illness has become a thing of great concern to many in the society, and most of such sudden deaths have link with complications of diabetes and cardiovascular diseases.

According to Smeltzer and Baze (2000), type II diabetes is the leading cause of non traumatic amputations and blindness among working age adults and the third leading cause of death by diseases primarily because of the high rates of cardiovascular involvement. Against this background therefore, the researchers decided to find out the level of cognition of risk factors in the occurrence of type II diabetes among rural resident parents in Awka Community of Anambra-State.

The following research questions were posited to guide the study:

1. What is the Cognition of physical risk factors in the occurrence of type II diabetes among rural resident parents in Awka Community?
2. What is the Cognition of emotional risk factors in the occurrence of type II diabetes among rural resident parents in Awka Community?
3. What is the Cognition of social health risk factors in the occurrence of type II diabetes among rural resident parents in Awka Community?

Hypotheses:

1. There is no significant relationship in the respondents cognition of risk factors to type II diabetes according to gender.

There is no significant relationship in the respondents cognition of risk factors to type II diabetes based on their ages.

The cross-sectional survey research design was used for the study. This design was considered appropriate for the study because it involved a fraction of the population that has the same characteristic. The appropriateness of this research design could be adduced from the use in similar studies by previous researcher including CDC (2002). The accessible population for the study consisted of all adults aged 45years and above estimated at 2000 from which samples of 200 were drawn by multi-stage sampling procedure.

The main instrument used for data collection was structured interview protocol which was self developed by the researcher following review of related literature and personal experience. It consisted of four sections. Section "A" contained three questions on personal data of the respondents Section "B" contained seven questions on cognition of physical risk factors, Section "C" contained two questions on emotional risk factors while Section "D" contained three questions on cognition social risk factors. All the questions were close ended. Face and content validity of the instrument was established through the judgement of three experts in Health Education from two Nigeria Universities. All their corrections were adequately effected in restructuring the instrument.

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The split-half method was used to establish the reliability of the instrument. This method required the administration of the instrument to a group outside the sample once. The instrument was administered on twenty adults from the villages that were not sampled. Pearson product moment correlation coefficient was utilized to compare the reliability coefficient. The process yielded a high positive correlation score of .83. All the 200 (100%) copies of the instrument were collected and used for data analysis.

The obtained data were tallied and cross tabulation of dependent and independent variables made. Data were analyzed using descriptive statistics of frequency and percentages as well as inferential statistics of chi-square (X2). Research questions were answered using percentages while two null hypotheses were tested using chi-square. The level of significance was set at 0.05.

RESULT AND DISCUSSION

Table 1: Frequency distribution of respondents Cognition of physical risk factors in the occurrence of type II diabetes (N=200)

Physical Risk Factors	Cognition	Responses
Lifestyle	156 (78%)	44 (22%)
Hypertension	92 (46%)	108 (54%)
Obesity	132 (66%)	68 (34%)
Lack of exercise	66 (33%)	134 (67%)
Heredity	118(59%)	82 (41%)
Having ababy 7/9/b/4kg	52 (26%)	148 (74%)
HIV/AIDS & Psychiatry drugs	52 (26%)	148 (74%)
Grand Total	668	732
Grand Average	95 (47.5%)	105 (52.5%)

Table 1 indicates that 156 (78%) of the respondents were cognizant that lifestyle is a risk factor to type II diabetes while 44 (22%) were not cognizant. Ninety-two (46%) of the respondents were cognizant that hypertension is a risk factor while 108 (54%) were not cognizant. One hundred and thirty-two (66%) respondents were cognizant that obesity is a risk factor while 68 (34%) were not cognizant.

Lack of exercise were recognized by 66(33%) respondents as a risk factor but 134(67%) did not. Heredity as a risk factor were recognized by 118(59%) and only 82 (41%) did not Fifty-two (26%) respondents were cognizant that drugs used for treating HIV/AIDS and Psychiatric cases are risk factors to the occurrence of type II diabetes, while 148(74%) respondents were not cognizant.

Table 2: Frequency distribution of respondents cognition of emotional risk factors in the occurrence of type II diabetes (N=200)

Emotional Risk Factors	Cognition	Not Cognizant
Chronic Stress	70 (35%)	130 (65%)
Worry	86 (43%)	116 (58%)
Insomnia/Sleeplessness	72 (36%)	126 (63%)
Total	228	372
Average	76 (38%)	124(62%)

Table 2 reveals that 70 (35%) respondents were cognizant that chronic stress is emotional risk factors in the occurrence of type II diabetes while 130 (65%) were not cognizant eight-six

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(43%) respondents were cognizant that worry is an emotional risk factor while 116 (58%) were not cognizant. Similarly, 72(36%) respondents knew that insomnia/sleeplessness is a risk factor in the occurrence of type II diabetes while 126(63%) did not know.

Table 3: Frequency distribution of respondents' cognition of social risk factors in the occurrence of type II diabetes (N=200)

Social Risk Factors	Cognition	Responses
Smoking	68 (34%)	32 (66%)
Alcohol	154 (77%)	46 (23%)
Insomnia/Sleepless ness	72 (36%)	126 (63%)
Grand Total	222	177
Grand Average	111 (55.5%)	89 (44.5%)

Table 3 reveals that 68 (34%) respondents were cognizant that smoking is a risk factor to type II diabetes while 132 (66%) were not cognizant. One hundred and fifty four (77%) respondents were cognizant that consumption of alcohol is a risk factors in the occurrence of type II diabetes, while 46(23%) were not cognizant.

Table 4: Relationship between male and female respondent's cognition of risk factors to type II diabetes (N = 200)

Gender	Cognizant	Not Cognizant	Total
Male	64(32%)	36(18%)	100(50%)
Female	92(46%)	8(4%)	100(80%)
Total	156(78%)	44(22%)	200(100%)

X^2 cal. = 22.8, $X^2$0.05 =3.841, df=l, P<.05. Since X^2 calculated of 22.8 is greater than X^2 table value of 3.841, the null hypothesis is rejected and conclusion drawn that there is significant relationship between male and female rural resident parents in Awka Community in their Cognition of risk factors to type II diabetes. The table further reveals that out of 100(50%) respondents that are males, 64(32%) knew about risk factors in their occurrence of type II diabetes, while 36(18%) did not know. Out of 100(50%) respondents that are females 92(46%) were cognizant of the risk factors while 8(4%) were not cognizant of the risk factors.

Table 5: Cognition of risk factors to type II diabetes among the respondents by their ages (N = 200)

Social Risk Factors	Cognition Cognizant	Responses Not Cognizant	Total
45-55 years	56(285)	6(3%)	62(36%)
56-65 years	40(20%)	16(18%)	56(28%)
66-75 years	38(19%)	20(10%)	58(29%)
76 years & above	22(11%)	2(1%)	24(12%)
Total	156(78%)	44(22%)	200(100%)

X^2 cal. =13.76, X^2 0.05 =7.815, df=3, P<0.5. Since X^2 calculated of 13.76 at 0.05 level of significance and df of 3 is greater than the X^2 table value of 7.815, the null hypothesis is rejected. Hence there is a significant relationship among rural resident parents of various age group in Awka Community in their cognition of risk factors to type II diabetes. The table also reveals that parents aged 45-55years disclosed highest cognizant while those aged 76 years and above revealed lowest cognizant.

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Research question one sought to ascertain the level of cognition of physical risk factors in the occurrence of type II diabetes among parents in Awka Community. Result of the study revealed that level of cognizant among the respondents was low from the table 47.5% of the respondents possessed cognizant of physical risk factors to type II diabetes while 52%.5% possessed not cognizant. Related literature confirmed low cognizant of physical risk factors to type II diabetes. American Diabetes Association (2007) was of the view that type II diabetes had a strong hereditary component. Also environmental factors like inactive lifestyle and poor diet may act as predisposing factors to for some genetic tendency towards type II diabetes. The result is expected because IMwanga (2003) had observed that some diabetes are ignorant of the risk factors until they become victims. On the emotional risk factors, 35% of the respondents were cognizant that chronic stress is a risk factor, while (65%) were not forty-six percent of the respondents were cognizant that worry is a risk factor while (58%) were not. Similarly (36%) knew that insomnia/sleeplessness are risk factors while (63%) did not know. From the above, greater percentage (62%) of the respondents were not cognizant of the emotional risk factors in the occurrence of type II diabetes. The reason may be that they lack information of the relationship between the emotional factors (chronic stress, worry and insomnia with diabetes. Abanobi suggested that attain factors do not directly cause diabetes but make the individual prone to diabetes. Such factors could be emotional factors.

The result also revealed that 66% were not cognizant that smoking is a social risk factors to type II diabetes while 23% were not cognizant that alcohol consumption is a social risk factor in the occurrence of type II diabetes. These results are expected because some people believe that alcohol and smoking have no part to play in causation of type II diabetes. Regrettably, Bebecs 0' Donnell M. (2004) submitted that smoking and alcohol intake may not directly cause diabetes but because of their association with obesity, poor dietary patterns and stress experiences, they may predispose the development of type II diabetes among habitual smokers and alcoholics. The studies also revealed that women (46%) were more cognizant of the risk factors to type II diabetes than men (32%) also reveals that there is significant relationship between male and female rural resident parents in Awka Community in their cognition of risk factors in the occurrence of type II diabetes.

Results of the study (table 5) showed that respondents between the ages of 45-55 years were cognizant while those 76 years and above were not cognizant of the risk factors. This finding was not expected because people aged 70 years and above are more prone to diabetes and therefore should be more cognizant of the risk factors than those aged 45-55years. WHO (2008) pointed out that variable like age is one of the parameters employed in establishment of risk profiles. Diseases show clustering with regards to age variables. The variable of age has a part to play in disease manifestation as it affects individual's lifestyle (Smeltzer et al., 2000)

CONCLUSION

Based on the findings, the following conclusions were drawn: The study revealed many (52.5%) respondents were not cognizant of physical risk factors in the occurrence of type II diabetes. Many of the respondents (62%) were not cognizant of emotional risk factors in the occurrence of type II diabetes. There was significant relationship between male and female respondents in their cognition of risk factors in the occurrence of type II diabetes. Female respondents were more cognizant than their male counterpart. Respondents 45-55 years revealed highest cognizant response while those 76 years are above disclosed lowest cognizant response.

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