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ATTITUDE OF NURSING STAFF TOWARDS DIABETES IN A SECONDARY HEALTH FACILITY

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Abstract
This study was designed to determine the attitude of nurses in Central Hospital Benin towards diabetes mellitus. The third version of the diabetes attitude scale (DAS-3) which is a reliable and valid measure of attitudes towards diabetes was used. This instrument consists of a 33 item questionnaire addressing attitudes towards diabetes on 5 domains using a 5 point Likert response scale (1=strongly disagree to 5= strongly agree). The domains include; the seriousness of type 2 diabetes, the need for nurses to undergo training, the value of tight control, the psychosocial impact of diabetes and the need for patient autonomy. A total of 145 questionnaires were distributed to practicing nurses in Central hospital Benin City and 114 were retrieved giving a response rate of 78.62%. Most respondents were females 98(86%), and midwives 30(26.3%). The mean age of the nurses was 35.74 years and they cut across all cadres of nursing. Overall, the nurses showed a positive attitude to all the 5 domains of the study. Mean positive response was 3.37 ± 0.8846 with the highest score being in the subscale of the need for special training (4.18 ±0.580). However, there was a much lower positive attitude on the psychosocial impact of diabetes on the patients. Nurses in the study showed a good attitude towards diabetes but expressed a strong desire for special training in diabetes.

Keywords: Attitude, diabetes, nursing care

INTRODUCTION

Diabetes mellitus is one of the most serious and probably the most common of multi system diseases (George *et al.*, 2001). Although primarily a disorder of carbohydrate metabolism, the metabolic problems in treated diabetes are not usually troublesome and are relatively easy to control, but if not adequately managed diabetes can result in a wide range of complications that have clinical, social and economic implications (Kruger *et al.*, 2008 and Davis *et al.*, 2005). Diabetes mellitus is a disease that is wide spread amongst the population of various countries of the world (Wild *et al.*, 2004 and WHO, 2003). In spite of the prevalence and knowledge of the disease, morbidity and mortality arising from the disease especially complications is increasing.

The knowledge, view and hence the attitude of health professionals about the disease and its management is very crucial since this will go a long way in achieving optimum therapeutic goal in patients with diabetes. The goal of good diabetes care is to ensure improved quality and quantity of life of the patient through adequate control of blood sugar (tight glucose control). (Egede and Yvonne, 2002, Shulman *et al.*, 2007).

Nurses occupy a unique position to facilitate the improvement of health and quality of life outcomes of patients with diabetes. Perception of nurses can influence the delivery of care to patients with diabetes. Nurses, as

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primary care givers have the greatest access to patients and teaching opportunities. In non specialist clinical settings, nurses provide diabetes self management education to patients, therefore nurses' knowledge and skill in giving diabetes care is very important.

Lack of knowledge among nursing staff has contributed to diabetes patients receiving inadequate healthcare instruction. In a study of nurses' perceived and actual level of knowledge of diabetes mellitus in Hong Kong, it was discovered that there was poor knowledge of diabetes and its care by the various categories of nurses, it then became imperative that "Tailor made" education programme should be designed to meet the learning needs of different sub groups in the nursing profession (Chan and Zang, 2007). Another study showed that nursing care is critical for successful management of diabetes mellitus and that the key elements include patient knowledge and awareness of the disease and learning self care with teaching at appropriate times, which is aimed at patient empowerment (Beers *et al.*, 2005).

Diabetes care *vis á vis* other chronic diseases had traditionally been handled by physicians and studies have shown that their attitude and care have not been optimal due to lack of adequate time to interact and teach patients (Egede and Yvonne, 2002): studies have also shown the invaluable services and care the nurses give to the patients and because of the dearth of other health professionals like the pharmacists in this country, nurses have been involved in virtually all aspects of healthcare delivery from the primary to the tertiary level.

There is an alarming rate of increase in diabetes cases being diagnosed so much so that there is fear of diabetes epidemic in some countries like New Zealand, (Anderson *et al.*, 1991). It becomes imperative therefore that attitude of nurses towards diabetes and its control be assessed.

Of particular interest is the attitude of nurses towards patients' participation in decision making process in their care (patient autonomy) and the need for nurses to undergo specific diabetes care training and training that will equip them with the necessary technique and skill to educate patients on self-care/management.

The positive outcome of any chronic disease management is based on the principle of incorporating the patient in the decision making process.

A negative attitude towards patient autonomy can impede patient-health care provider (Nurses) collaboration and this particularly is essential in the management of type 2 diabetes (Egede and Yvonne, 2002).

The main objective of this study was to determine the attitude of nurses in Central Hospital Benin towards diabetes particularly type 2 diabetes.

The specific objectives were to determine:

- The willingness of Nurses to allow and ensure patient autonomy and participation in the decision making process about the patient's daily diabetes care
- The need and willingness of nurses to undergo special training in communication and techniques in behavioural change to enhance the quality of diabetes care they provide.
- The awareness of and the value placed on tight glucose control
- The nurses' attitude towards the psychosocial impact of diabetes on the patient.

- The nurses' knowledge and appreciation of the seriousness of type 2 diabetes.

METHODS

The study was conducted among nurses in Central Hospital Benin City. It covered nurses in different practice areas in the hospital; some had specialty training in different fields of nursing.

The sample size consisted of 114 nurses who responded through a questionnaire-based survey of health professionals' attitude towards diabetes.

SETTING

This study was carried out in Central Hospital Benin City, a secondary health care facility which caters for the general and some specialist health needs of the people of Edo state and the surrounding states. The hospital has a population of 270 nurses.

DATA COLLECTION

Copies of the (Diabetes attitude scale version 3) DAS-3 questionnaire were distributed to all available and willing nurses in the various wards in the hospital. They were to be returned by the participants to specific locations/wards closest to their offices within the hospital.

INSTRUMENT

The third version of the Diabetes attitude scale (DAS-3) was used. It is a scale developed by the Michigan Diabetes Research Training Centre (MDRTC) to measure diabetes related attitudes which is a valid and reliable measure of attitude towards diabetes. The scale was standardized on a large sample of 1,814 Physicians, Nurses, Dieticians and patients with diabetes. Mean scores for each sub scale had been previously established. The instrument is composed of 33 items which are worded either positively or negatively measured on a 5 point Likert scale weighted as 1,2,3,4,5 reflecting Strongly disagree, Disagree, Neutral, Agree and Strongly agree respectively. The negatively worded questions were transposed to have a flow of positive attitude score at the end. High scores, 5 being the maximum indicate agreement with the items that make up the subscale. The DAS-3 describes the perceptions of healthcare providers on the need for

special training, the seriousness of type 2 diabetes, the value of tight control, the psychosocial impact of diabetes, and the need for patient autonomy.

This instrument was used with kind permission from MDRTC.

DATA ANALYSIS

The raw data was entered into Microsoft Excel Spreadsheet, cleaned and sorted. Demographic variables were presented as percentages while attitude of respondents toward the questionnaire items were calculated as Mean ± SD using the statistical package for social science (SPSS) version 11

RESULTS

A total of 145 questionnaires were distributed and 114 copies were returned and useable giving a response rate of 78.6%. The responses were anonymous.

The mean age of respondents was 35.7years, range 18-59. Most of the respondents were females 98 (86%)
The respondents came from different practice areas with midwifery ranking highest 30 (26%). Forty-eight (42.1%) did not indicate their area of specialty.

TABLE 1. Respondents Demographics

S/N	Variable	Frequency ('
i	**Age range (years)**	
	18-28	23 (20.2)
	29-39	51 (44.7)
	40-49	32 (28.1)
	50-59	6 (5.3)
	Did not indicate	2(1.7)
ii	**Sex**	
	Female	98 (86.0)
	Male	13 (11.4)
	Did not indicate	3 (2.6)
iii	**Area Specialty**	
	Nil	48 (42.1)
	Accident & Emergency Nursing	14 (12.3)
	Burns Plastic	1 (0.9)
	Gynaecology	1 (0.9)
	Internal Medicine	1 (0.9)
	Midwifery	30 (26.3)
	Ophthalmic Nursing	3 (2.6)
	Orthopedic Nursing	1 (0.9)
	Paediatric Nursing	2 (1.8)
	Peri-Operative Nursing	4 (3.5)
	Psychiatric Nursing	6 (5.3)
	Public Health Nursing	3 (2.6)
Iv	**Additional Qualification**	
	Accident & Emergency (A/E)	1 (0.9)
	BSc Nursing (General Nursing)	1 (0.9)
	Diploma in Traumatology	2 (1.8)
	Diploma in Public Health	1 (0.9)
	Health education	2 (1.8)
	Human kinetics	3 (2.6)
	Ophthalmic Nursing	1 (0.9)
	Psychiatric Nursing	1 (0.9)
	Nil	96 (84.2)
v	**Rank**	
	Assistant Chief Nursing Officer	3 (2.6)
	Assistant Director of Nursing Services	1 (0.9)
	Chief Nursing Officer	23 (20.2)
	Senior Nursing Officer	24 (21.1)
	Principal Nursing Officer	5 (4.)
	Nursing Officer 2	33 (28.9)
	Nursing Officer 1	23 (20.2)
	Did not indicate	1 (0.9)

The average years of post qualification was 12.5 $\pm$ 8.8years with a maximum of 30 years. The respondents cut across all the cadres of nursing in the hospital. However, majority of the nurses 33 (28.9%) were of the nursing officer 2 rank. A total of 18 (15.8%) of the respondents had an additional qualification, of this number 6 (5.3%) had the Bachelor of nursing degree others are as shown in Table 1. This study revealed a positive attitude of nurses to the entire five domains (3.67$\pm$ 0.846) Table 7. The nurses recorded the highest score on the need for special training subscale (4.18 $\pm$0.65) table 2. While the poorest attitude score (3.00 $\pm$ 0.98) was in the psychosocial impact of Diabetes mellitus subscale (Table 5). Other mean scores were 3.59$\pm$ 0.91 for Seriousness of NIDDM subscale, (Table 3) 3.94$\pm$ 0.79 for Value of tight control subscale (Table 4) and 3.63$\pm$0.95 for Patient autonomy subscale (Table 6)

Table 2: Need for Special Training (N=114)

S/N	ITEM	RESPONSES					Mean Score	Standard Deviation
		Strongly Disagree n(%)	Disagree n(%)	Neutral n(%)	Agree n(%)	Strongly Agree n(%)		
1	health care professionals who treat people with diabetes should be trained to communicate well with their patients	-	1(0.9)	2(1.8)	59(51.8)	52(45.6)	4.42	0.578
2	Health care professionals should be taught how daily diabetes care affects patients' lives.	1(0.9)	3(2.6)	-	90(78.9)	20(17.5)	4.10	0.95
3	It is important for the nurses and dietitians who teach people with diabetes to learn couseling skills.	1(0.9)	2(1.8)	1(0.9)	79(69.3)	30(26.3)	4.19	0.625
4	Health care professionals should learn how to set goals with patients, not just tell them what to do.	1(0.9)	-	-	93(81.6)	19(16.7)	4.14	0.479
5	To do a good job, diabetes educators should learn a lot about being teachers.	-	5(4.4)	4(3.5)	84(73.7)	20(17.5)	4.05	0.625
	Mean Total						4.18	0.651

Table 3: Seriousness of NIDDM

	ITEM	RESPONSES					Mean Score	Standard Deviation
		Strongly Disagree n(%)	Disagree n(%)	Neutral n(%)	Agree n(%)	Strongly Agree n(%)		
1.	People who do not need to take insulin to treat their diabetes have a pretty mild disease.		26(22.8)	2(18)	78(68.4)	4(3.5)	3.46	0.997
2.	Older people with Type 2 diabetes do no t usually get complications.	-	12(10.5)	3(2.6)	84(73.7)	14(12.3)	3.88	0.753
3.	People whose diabetes is treaed by just a diet do not have to worry about getting many long-term complications.	3(2.6)	15(13.2)	3(2.6)	84(73.7)	8(7.0)	3.70	0.885
4.	Blood sugar testing is not needed for people with Type2 diabetes.	6(5.3)	3(2.6)	3(2.6)	58(50.9)	43(37.7)	4.14	0.990
5.	Type 2 diabetes is a very serious disease.	3(2.6)	77(67.5)	5(4.4)	19(16.7)	7(6.1)	2.55	1.016
6.	Type 2 is as serious as Type 1 diabetes.	4(3.5)	23(20.2)	11(9.60	72(63.2)	4(3.5)	3.43	0.968
7.	People who take diabetes pills should be as concerned about their blood sugar as people who take insulin.	2(1.8)	7(6.1)	2(1.8)	82(71.9)	21(18.4)	3.99	0.781
	Total						3.59	0.912

Table 4: Value of Tight Control

ITEM	RESPONSES					Mean Score	Standard Deviation
	Strongly Disagree n(%)	Disagree n(%)	Neutral n(%)	Agree n(%)	Strongly agree n(%)		
1. There is not much use in trying to have good blood sugar control because the complications of diabetes will happen anyway.	3(2.6)	7(6.1)	2(1.8)	69(60.5)	32(28.1)	4.06	0.889
2. Keeping the blood sugar close to normal can Help to prevent the complications of diabetes.	-	3(2.6)	1(0.9)	47(41.2)	63(57.0)	4.49	0.655
3. Almost everyone with diabetes should do Whatever it takes to keep their blood sugar close to normal.	1(0.9)	2(1.8)	-	46(40.4)	65(57.0)	4.51	.682
4. Low blood sugar reactions make tight control too risky for most people.	6(5.3)	24(21.1)	10(8.8)	72(63.2)	2(1.8)	3.35	1.004
5. People with Type 2 diabetes will probably not get much pay off from tight control of their blood sugar.	4(3.5)	11(9.6)	11(9.6)	78(68.4)	5(4.4)	3.63	0.868
6. Maintaining tight control of blood glucose is too much work.	2(1.8)	14(12.3)	4(3.5)	88(77.2)	6(5.3)	3.72	0.815
7. Tight control of blood sugar makes sense for only people with Type 1 diabetes.	-	8(7.0)	5(4.4)	91(79.8)	8(7.0)	3.88	0.626
Total						3.94	0.791

Table 5: Psychosocial Impact of DM

	RESPONSES					Mean Score	Standard Deviation
	Strongly Disagree n(%)	Disagree n(%)	Neutral n(%)	Agree n(%)	Strongly Agree n(%)		
Diabetes affects almost every part of a diabetic pe ITEM	12(10.5)	63(55.3)	4(3.5)	20(17.5)	15(13.2)	2.68	1.259
The emotional effects of diabetes are pretty small.	-	43(37.7)	9(7.9)	53(46.5)	9(7.9)	3.25	1.052
Diabetes is hard becuase you never get a break on it.	7(6.1)	78(68.4)	6(5.3)	16(14.0)	6(5.3)	2.43	0.990
Having diabetes changes a person's outlook on life.	10(88)	71(62.3)	2(1.8)	22(19.3)	9(7.9)	2.55	1.127
It is frustrating for people with diabetes to take care of their disease.	6(5.3)	83(72.8)	5(4.4)	15(13.2)	4(3.5)	2.36	0.907
Support from family and friends are important in dealing with diabetes.	1(0.9)	1(0.9)	-	23(20.2)	89(78.1)	4.74	0.596
	TOTAL					3.00	0.988

DISCUSSION

The results of this study suggest that nurses in Central Hospital Benin represent a heterogeneous population with respect to the five subscales of the attitude of nurses to diabetes care.

From the study, nurses clearly acknowledge their deficiencies in the management of diabetes mellitus and the need to improve on it by their strong support for their need for special training. A similar attitude has been noted by other studies. (Anderson *et al.*, 1991, Van Zyl and Rheeder, 2008). This means that nurses in the study are willing to acquire knowledge and skill to improve on the quality of diabetes care they give. Studies have shown the poor diabetes knowledge of practicing nurses (Nugent, 2003, Findlow and McDowell, 2002, and Spotllet, 2006) and its resultant inadequate care in patients with diabetes (Chan and Zang, 2007). A

situation where a good number of nurses feel that there is not much use trying to have good blood sugar levels because the complications will happen anyway, shows real deficiency and deficiency in the knowledge of the disease. Nurses have unique access to the patient and as such a good training programme that will equip them to educate the patients and their family members will be good investment.

The overall mean response score for seriousness of diabetes domain shows that nurses in Central hospital Benin recognize the seriousness of Type 2 diabetes, however, though there was a positive attitude to seriousness of type 2 diabetes and the importance of tight glucose control domains. (Tables 3 and 4), it was observed that responses to certain items in these domains were discouraging. Majority of the respondents opined that Type 2 diabetes is not a serious disease and were also ignorant of the benefit of tight blood glucose control. This latter response particularly, shows

Table 6: Patient Autonomy

S/N	ITEM	RESPONSES					Mean Score	Standard Deviation
		Strongly Disagree n(%)	Disagree n(%)	Neutral n(%)	Agree n(%)	Strongly Agree N(%)		
1	The importance decisions regarding daily diabetes care should be made by the person with diabetes.	6(5.3)	50(49.1)	3(2.6)	44(38.6)	5(4.4)	2.88	1.122
2	Health care professionals should help patients make informed chioces about their care plans.	-	3(2.6)	1(0.9)	86(75.4)	24(21.1)	4.15	0.552
3	People with diabetes should have the final say in setting their blood glucose goals.	10(88)	69(60.5)	6(5.3)	18(15.8)	11(9.6)	2.57	1.152
4	The person with diabetes is the most important member of the diabetes care team.	4(3.5)	2(1.8)	4(3.5)	34(29.8)	70(61.4)	4.44	0.922
5	People with diabetes should learn a lot about the disease so that they can be in charge of their own diabetes care.	2(1.8)	1(0.9)	2(1.8)	34(29.8)	74(64.9)	4.57	0.743
6	What the patient does has more effect on the outcome of diabetes care than anything a health professional does.	3(2.6)	9(7.9)	4(3.5)	70(61.4)	27(23.7)	3.98	0.931
7	People with diabetes have a right to decide how hard they will work to control their blood sugar.	6(5.3)	23(20.2)	5(4.4)	69(60.5)	11(9.6)	3.49	1.083
8	People with diabetes have the right not to take good care of their diabetes .	13(11.4)	37(32.5)	7(6.1)	55(48.2)	2(1.8)	2.96	1.159
	Total						3.63	0.958

Table 7: Mean Total Attitude Score/Comparision of subscale mean score N(114)

	Mean Score	Standard Deviation
Need for special training	4.18	0.651
Seriousness of NIDDM	3.59	0.912
Value of Tight glucose control	3.94	0.791
Psychosocial Impact of DM	3.00	0.988
Patient Autonomy	3.63	0.958
Mean total	3.67	0.86

impediment to achieving one of the goals of diabetes management. Poor glycaemic control has been shown to be a major risk factor for complications in both Types 1 and 2 diabetes (DCCT Research Group, 1993, Engelgau *et al.*, and UKPDS Group, 1998). Also from table 2 the fact that a large number of respondents see tight glucose control as too much work and the opinion that tight control of blood sugar makes sense only for

people with Type 1 diabetes calls for concern. It must be noted that less than optimum responses to these two items signify danger in arresting the consequent complications associated with both Type 1 and Type 2 diabetes. This attitude confirms once more that the majority of nurses lack adequate knowledge of the disease, its progression, complications, management and care. The response of the nurses to the psychosocial impact of Diabetes mellitus was less than satisfactory. This indicates that the nurses are not fully convinced that the patient's willingness to achieve tight glucose control can decrease any psychological and social frustration that could arise from diabetes such as hospitalization resulting from ketoacidosis and other associated complications like, stroke, heart failure etc. It also means that some nurses are not aware of how frustrating it can be for patients to take care of the disease. Even though they agreed that the emotional effect of diabetes is much and it affects the patient's outlook on life thus affecting every part of his life (Table 5).

Of all the attitudes of nurses to diabetes care, patient autonomy should rank first, it is the pillar on which good quality diabetes care hangs. The score of 3.63± 0.95 in this domain indicates a positive attitude towards allowing patient autonomy however, this is less than satisfactory considering the crucial role the patient has to play in the management of diabetes. Therapeutic goals will be difficult to achieve especially in chronic diseases such as diabetes if there is no collaboration between the health professional and patient in the management of the disease. A study has shown that even if the responses of nurses to the other domains (subscales) were to be negative, recognizing the importance of patient autonomy and allowing patients greater inputs in setting goals, can still result in tight control being achieved (Egede *et al.*, 2002). "The core philosophy of modern diabetes care puts emphasis on patient autonomy and optimal utilization of health care professionals' different specialties (Chen *et al.*, 2004). If the patient is not incorporated in the decision making process regarding his daily diabetes self care, all the efforts of care givers will be met with frustration.

CONCLUSION

This study revealed good attitude of nurses to the five subscale responses. However, there are areas of deficiencies in knowledge as well as negative attitudes towards diabetes that require a change. Nurses in this study show a strong willingness to undergo special training with regard to diabetes care.

Knowing the important role and position the nurses occupy in the health care system especially in a developing society like ours. It becomes pertinent to design a "tailor made" training programme for nurses so that they can affect the patient and therapeutic outcome positively.

In all, though there was positive attitude in all the five domains of attitude studied. The scores were not optimal which means there is still room for improvement. Changing these attitudes by means of education could contribute to improving the quality of care and life for people with diabetes and will decrease the cost of the disease. This study has brought to the fore the need for collaboration between the diabetic patient and the health care providers (Nurses) in order to improve treatment outcome among patients with diabetes. We advise a greater commitment and attention to the psychological impact of the disease on the patient and an improvement in the communication between the people with diabetes and nursing care providers.

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