Evaluation of Nursing Services Technique for patients with Diabetes Mellitus

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Abstract

Evaluation of nursing services technique for patients with diabetes mellitus was carried out on diabetic patients in Najaf hospitals (Al Sadder –teaching hospital and Al Hakeem general hospital) to evaluate the nursing services technique for diabetic patients, and to identify the relationship between these services and nurses demographic characteristics. A descriptive study was conducted in special center for diabetes mellitus (D.M), in (August 1st to December 20th) 2010. The sample was selected randomly for 30 nurses (21 males and 9 females), at the diabetes mellitus units. The data was randomly collected through interviewing and questionnaire format. The questionnaire consisted of two parts: Part one:- includes 5 items focused on the socio-demographic data (age, gender, level of education, years of nurses experiences and training sessions), while Part two:- includes nursing services data with 35 items as an observational tools and techniques. The sample data was computed and analyzed through the inferential statistics method (chi-square, degree of freedom and p-value). The present results revealed that a significant association wasn't there between the nursing services and their socio-demographic characteristics, but highly significant relationships was there between the level of nurses education and the nursing services for patients with diabetes mellitus (P. Value= 0.0014).

ألخلاصة

تم إجراء دراسة وصفية لتقييم ألخدمات ألتمريضية ألمقدمة لمرضى ألسكري في مستشفى ألصدر ألتعليمي و مستشفى ألحكيم ألعام في ألنجف. تهدف ألدراسة إلى تقييم معلومات ألممرضات والممرضين ألعاملين في مركزي داء ألسكري (في مستشفى ألحكيم و مستشفى ألصدر)، و لمعرفة ألعلاقة بين ألخدمات ألمقدمة لهؤلاء ألمرضى و ألخصائص ألديموغرافية للتمريضيين في مراكز داء ألسكري. جمعت عينة ألبحث بطريقة عشوائية، بالمقابلة و ألاستبيان مع 30 (21 ممرض و 9 ممرضات)، للفترة من (1 آب لغاية 20 كانون أول) 2010. صممت ورقة ألاستبيان من جزأين: ألجزء ألأول يتكون من 5 فقرات للخصائص ألاجتماعية-ألديموغرافية (ألعمر، ألجنس، ألمستوى ألثقافي، سنوات ألخبرة، دورات ألتدريب)، أما ألجزء ألثاني: يشمل ألخدمات ألتمريضية وتتكون من 35 فقرة للملاحظات و ألأساليب. جمعت ألمعلومات و حللت بطريقة إحصائية (مربع كأي x، درجة df ، و قيمة P). نتائج ألبحث تشير إلى عدم وجود علاقة معنوية بين ألخدمات ألتمريضية و ألخصائص ألاجتماعية-ألديموغرافية، بينما تكون ألعلاقة بين ألمستوى ألثقافي للممرضين و ألخدمات ألتمريضية ألمقدمة لمرضى داء ألسكري ذات فرق معنوي عالي (P. Value= 0.0014).

Introduction

Diabetes mellitus affects about 15 million peoples, 5 million of them are undiagnosed. In United States, approximately 650.000 new cases of diabetes are diagnosed yearly. Diabetes is especially prevalent in the elderly, with up to 50% of people older than 65 suffering some degree of glucose intolerance.[1] Hispanics, African, Americans, and some native Americans have a higher rate of diabetes than white population.[2] The Pima, a native American tribe, have adult diabetes rates of 20% to 50%. The far reaching and devastating physical, social and economic consequences of diabetes include: In the United States, diabetes is the leading cause of new blindness among 25 to 74 year old, and the leading cause of

no traumatic amputations. Thirty percent 30% of patients starting dialysis each year have diabetes.[3] Diabetes is the third leading cause of death by disease, mostly because of high rate of coronary artery disease among people with diabetes. Hospitalization rates for people with diabetes are 2 to 4 times greater for adults, and 3 to 5 times greater for children than for general population.[4] The economic cost of diabetes continues to rise because of increasing health care cost and an aging population. Half of all people with diabetes older than 65 are hospitalized each year, severe and life-threatening complications often contributed to the increased rates of hospitalization, costs related to diabetes are estimated to be almost $99 billion annually including direct medical care expenses and indirect costs irrefutable to disability and a premature death.[1] Infants of insulin-dependent diabetic mothers have up to a 22% incidence of cardiac, renal, gastrointestinal, CNS, and skeletal malformations.[3] Diabetes affects 2% to 3% of all pregnancies. Of those, approximately 90% are cases of gestational diabetes.[4] Treatment plans for patients with diabetes have as their primary goals control of blood glucose levels and prevention of acute and long-terms complications thus, the nurse who cares for these patients must assist the patient to develop self-care management skills.[5,6,7]

Objectives

To evaluate nursing services for diabetic patients, and to identify the association between nursing services and the socio-demographic characteristics (Age, Gender, Level of education, years of experience and Training session).

Patients and methods

A descriptive study design was applied on a non –purposive sample of thirty nurses (21 males and 9 females), had been taken from Al-Najaf teaching hospital and Al-Hakeem general hospital in Najaf province at 2010 (August, 1st to December, 20th).

Criteria of the study: Nurses at ages (20-49) years, consuming patients with chronic diabetes mellitus (D.M).

Data collection: questionnaire format and interview for 30 nurses dealing with D.M. patient's were interviewed to collect the relevant data. The questionnaire format has two parts: Part I involved the socio-demographic data (Age, Gender, Level of education, years of experience and Training session). While, part II involved nursing services (Disease process, planning, medication, monitoring blood glucose, exercise, diet and other guidelines).

Data analysis: The collected data were computerized and analyzed through the application of a descriptive method (frequencies n, and percentages %) and inferential method (chi- square, degree of freedom and p-value); nursing services were categorized into three groups. Group one nursing services: A-(disease process): Identify to patients an introduction about the pancreas and insulin effects; and the relationship between the insulin and glucose. B-(Menu of planning): Educate the Patient on the importance of a well balanced diet as part of diabetes management plan; explain the impact of carbohydrate on the glycemic index and blood glucose; medication compliance; ensure that Patient. is well educated on the proper use of insulin and oral agent; wash hand thoroughly; always inspect insulin bottle before using it; make sure that is of proper type and concentration; select proper injection site and inject following procedure for any subcutaneous; inject commercial insulin needles at go degree

angle; hold alcohol pad in place for few second but do not message; destroy and dispose of single use-syringe safety; and discuss all side effect and safety tissues regarding medication. D- (Monitoring blood glucose): Teach how to correct monitor blood glucose level; risk of reduction; stress on the importance of proper foot care; regular eye examination; inform the patients about the effect of blood glucose. Group Two:-A- (Blood glucose): Monitor your blood glucose at home and record result; Take your insulin or medication as prescribe. B- (Exercise): Learn about the benefits of the exercise on the blood glucose; begin medically supervised exercise program. C- (Diet): Have an individualized meal plan created by a dietitian; follow your diet eating regular meals at regular time; eat slowly and chew food thoroughly. Group three:- (Other guidelines): Choose foods with low saturated fats; obtain annual urine test for protein; wear comfort, well - fitting shoes to prevent foot injury; know the symptoms of hypoglycemia and hyperglycemia; don't walk bare foot; and don't use oil lotion between your toes.

Results

Table: 1

The association between gender and sample groups

Nursing services categories	Male	%	Female	%	Total	%
	No.		No.			
Group 1	7	70	3	30	10	100
Group 2	11	68.75	5	31.25	16	100
Group 3	3	75	1	25	4	100

Groups (Nursing Services):
Chi-Square (×2)= 0.06
Degree of freedom (DF) = 2
P-Value = 0.97044553
There is no significant association between gender and nursing services for patients with diabetes mellitus in Al Najaf hospital technique.

Table: 2
The association between level of education and samples of groups

Level of education	Nursing services			Total
	Group 1	Group 2	Group 3	
Nursing school	0	1	0	1
Secondary school	10	4	1	15
Institute	0	11	2	13
College	0	0	1	1
Total	10	16	4	30

Chi-Square = 21.635
Degree of freedom = 6
P- Value = 0.0014
There is significant between level of education and nursing services for diabetes mellitus patients.

Table: 3
The association between years of experience and samples of groups

Years of experience	Nursing services			Total
	Group 1	Group 2	Group 3	
1-3	3	4	2	9
4-7	4	6	1	11
> 7	3	6	1	10
Total	10	16	4	30

Chi-Square = 1.048
Degree of freedom = 4
P- Value = 0.90243236
There is no significant association between years of experience and nursing services for patients with diabetes mellitus.

Table: 4
The association between training session and samples of groups

Training session	Nursing services			Total
	Group 1	Group 2	Group 3	
1-3	4	6	2	12
4-7	3	9	2	14
> 7	3	1	0	4
Total	10	16	4	30

Chi- Square = 4.263
Degree of freedom = 4
P-Value = 0.3715812
There is no significant association between training session and nursing services for D.M patients.

Discussion

Demonstration the association of nurses gender and the sample groups in frequencies and percentage this shows that male gender was increased in three groups (1, 2, 3) mostly in groups 2 with (II) males (52,3), and females only (5) out of (16) nurses, chi-square (x2)=0.06; degree of freedom (df)=2; P. Value (p. v) = 0.97044553. Results reveals that nursing services groups were non significant with nurses gender in diabetes mellitus technique at Al -Hakeem hospital D.M. ward. Explanation of the association between level of nurses education and groups samples, shows a significant relationship between the level of nursing education and nursing services techniques for patients with D.M., x2 =21.635; df= 6; P. value=0.0014. Years of nurses experience were non significantly associated with nursing services technique toward DM. patients, x2=1.048; df= 4; p. value = 0.90243236. While, the relationship between nurses training sessions and nursing services according to their groups wasn't significant, x2= 4.263; df = 4; P-Value = 0.3715812.

Conclusion

The study revealed that a non significant association between nursing services techniques on diabetes mellitus patients and each of variables: gender, years of experience, training session as well as Jennifer and Johe, 2003 (1). But, the association was significant between level of nurses education and nursing services for D.M patient. This result was supported by the result of Power, 2005 (5) and Lewis, 2007 (7). Whereas, years of nurses experience and training sessions were non significant with nursing services techniques toward patients with diabetes mellitus, this found agreement with finding of Ramont, 2008 (8).

Recommendations

Increasing of nursing staff in D.M unit; introducing of special training program for nurses in D.M. center; and encourage for advance study for nurses during their employment.

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