

ASSESSMENT OF KNOWLEDGE AND SELF CARE BEHAVIOUR REGARDING FOOT ULCER IN DIABETIC PATIENTS VISITING TERTIARY CARE HOSPITAL KHYBER PAKHTUNKHWA

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ABSTRACT

OBJECTIVE: To evaluate the knowledge and self care behaviour regarding foot care among the diabetic Patients.

Material & Methods: This cross sectional study was conducted in Lady Reading Hospital Peshawar and 186 diabetic subjects who fulfilled the inclusion criteria were included in the study by using non-probability sampling. The knowledge and behaviour regarding foot care were assessed by a pre-designed Performa and classified as good (>70%), satisfactory (50%--70%) and poor (<50%)

Results: The mean age of the patients was 51 years. About 31.7% respondents had good Knowledge, 26.3% had satisfactory Knowledge and 42.0% had poor Knowledge about foot care. P value was 0.003. In reference to self care behaviour only 26.8% had good practice for foot care, 41.99% had satisfactory behaviour and 42% had poor behaviour. P value was 0.003.

Gender had shown no significant association with knowledge and behaviour (P value: 0.15) .

Conclusion: only few patients had good knowledge as well as behaviour for foot ulcer care. These patients should receive continuous foot-specific patient education.

Key words: Diabetic Foot Ulcer, Knowledge, Behaviour.

INTRODUCTION

Diabetes mellitus is an extremely common disease that can involve almost any organ in a body. Both its incidence and prevalence is increasing around the world. Virtually every physician has a patient who has diabetes. Diabetes is the paradigm of a condition which necessitates multidiscipline approach to its management and treatment.

Diabetic foot is one of the most incapacitating chronic complications as a result of poor disease management.¹ It has an overall impact on the social and economic status of families, health delivery system and leads to substantial economic burden in both de-

veloping and developed countries.² Foot ulceration is one of the major health problems in diabetic patients. It is estimated that 15% to 25% of diabetic people will develop a foot ulcer at some time in their lives.³

Several irreversible and chronically progressive risk factors are involved in the development of foot ulceration. These include peripheral vascular disease, peripheral neuropathy, limited joint mobility and abnormal load distribution on the foot^{4,5}. Approximately 70% of healed foot ulcers recur within a period of five years.^{6,7} Patient education and foot care knowledge is important and more effective in improving ulcer treatment and attention should be paid to those patients who are at high risk for the development of foot ulcers.^{8,9}

In our province, Khyber Pakhtoonkhwa literacy rate is only 53%¹⁰. Majority of people with diabetes are either illiterate or having little knowledge about the disease. They do not inspect their feet over the course of days and most of them never dry between toes after washing their feet. The purpose of this study was to describe and evaluate the knowledge and behaviour of people with diabetes towards foot care.

MATERIAL AND METHODS

The authors conducted descriptive cross sectional study. Non probability consecutive sampling technique was applied and a group of 186 diabetic patients

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with foot ulceration after fulfilling the inclusion criteria of having type 1 or type 2 diabetes and age > 18 were recruited. Subjects were excluded if they had cognitive or communication impairment, mental disorder and had unilateral or bilateral foot amputation. Selected patients were those who visited one of the following settings of Lady Reading Hospital Peshawar: Medical and Endocrinology outpatient department, Medical wards and Endocrinology unit.

Approval from the hospital ethical committee was obtained before collecting data. Informed consent was taken from all the participants and all the principles of confidentiality were strictly followed. Data was collected from January 2014 to December 2014.

In order to collect the data, socio demographic questionnaire and data extraction sheet were used. The first two authors (Z and SSA) collected data using face-to-face interviews. The sociodemographic questionnaire contained information like age, gender, body mass index (BMI), duration of disease, treatment record including oral drugs and insulin, ulcer location and previous record of wound healing. Data extraction sheet comprised of following questions: do you wash your feet daily? Do you dry your feet after washing? Do you keep inter digital space of the feet dry? Do you use emollients for lubrication of feet? Do you change your socks daily? Do you trim nails of your feet straight with care? Do you wear comfortable shoes? Do you check your shoes before wearing it? Do you walk bare foot? Do you consult your doctor, if you feel any change in your feet? Questions were translated in to patients own mother tongue to make understandable.

Foot examination was performed using 10 –g Semmes – Weinstein monofilaments for autonomic, motor and sensory neuropathy and 128 – HZ tuning fork was used for measuring vibratory and tactile sensation as recommended.^{11,12}

Each question in data sheet carried five options. Then each option was marked with following score:

- Always (Daily) -----04
- Most of the times (after a day) -----03
- Sometimes (once in a week) -----02
- Occasionally (once in a month or two)--01
- Never (never in his/ her life) -----00
- Good Knowledge and Behaviour: score >70% Good (>36.5) out of 52.
- Satisfactory Knowledge and Behaviour: Score 50-70% (26--36.4) out of 52.
- Poor Knowledge and Behaviour: <50% Poor (<26) out of 52.

SPSS for windows 15 performed all statistical analysis.

RESULTS

Sociodemographic And Clinical Characteristics

Out Of 186 (100 %) diabetic patients included in the sample, 102 (55 %) were female and 84(45 %) were male. Age distribution among 186 subjects was analysed and found that 26 (14 %) were in age range 31 -40 years, 71 (38%) having age range 31-40 years, 89 (48%) were in age range 51-60 years. Mean age was 51 years with SD ± 1.26

Table 1: Level of knowledge and behaviour about foot care among the subjects.

Scoring (out of 52)	Knowledge	Behavior
>70% Good (>36.5)	59(31.7%)	50(26.8%)
50-70% Satisfactory (26-36.4)	49(26.3%)	78(41.99%)
<50% Poor (<26)	78(42%)	58(31.21%)
Total	186(100%)	186(100%)
Total	53	56

Table 2(a): Relationship of knowledge about foot care with educational status.

Education level	>70%	50-70%	<50%
Illiterate 64(34%)	09(14.1%)	15(23.4%)	40(62.5%)
Undermatric 43(24%)	10 (23.2%)	12(27.9%)	21(48.8%)
Matric 38(20%)	18(47.3%)	10(26.3%)	10(26.3%)
Above Matric 41 (22%)	22(53.6%)	12(29.3%)	07(17.1%)

P Value=0.003

Table.2(b): Relationship of behaviour about foot care with educational status.

Education level	>70%	50-70%	<50%
Illiterate 64(34%)	10(15.6%)	24(37.5%)	30(46.8%)
Undermatric 43(24%)	10(23.3%)	23(53.4%)	10(23.3%)
Matric 38(20%)	10(26.3%)	18(47.3%)	10(26.3%)
Above Matric 41 (22%)	20(48.7%)	13(31.7%)	08(19.5%)

P Value= 0.003

Table3(a) Relationship of knowledge about foot care with Gender.

Gender	>70%	50-70%	<50%
Male	20(23.8%)	35(41.61%)	29(34.5%)
Female	35(34.3%)	42(41.1%)	25(24.5%)

P Value= 0.15

Table 3(b) Relationship of behaviour about foot care with Gender.

Gender	>70%	50-70%	<50%
Males	10(11.9%)	45(53.5%)	29(34.5%)
Females	20(19.6%)	60(58.8%)	22(21.5%)

P Value= 0.15

With respect to duration of diabetes, 186 patients as: 54 % had diabetes ranged from 5-10 years, 35 % were suffering diabetes from 11-20 years. A proportion of the sample population had diabetes for over than 20 years (11%). Mean duration of diabetes was 12 years with SD+/- 2.56.

In the sample 34.2% were totally illiterate, 23.8% had up to eight years of schooling, and 20.7% had passed their Matric (O level), whereas 21.3% had education level up to F.A. and above.

With respect to diabetic management, 76.4% used oral anti-diabetic drugs and 23.6% Insulin.

As for clinical risk for diabetes complications, 75% had hypertension , 40.2% peripheral vascular disease, 24.6% Retinopathy, 20.1% coronary artery disease and 42% cataracts and 43.6% peripheral neuropathy. 42.5% were obese having BMI >30 Kg/m.

FOOTCARE KNOWLEDGE AND BEHAVIOUR

DISCUSSION

Diabetes mellitus is an ongoing health problem and foot ulceration is one of its main complication^{13,14}. This study was carried out to assess foot care Knowledge and behaviour in diabetic patients.

Most patients studied were females (55 %) with male to female ratio of 1:1.2. In a non-randomized study carried out in Brazil, a predominance of women was found.^{15,16} Most of females in our study belong to rural population. Poverty, poor living conditions and walking barefoot in villages accentuate the effect of foot ulceration.

The sample studied was characterized by predominance of type 2 diabetes (90.1 %). One international study identified foot deformities in elderly.¹⁷ Due to poor vision and judgment, decreased mobility and change in social circumstances elderly people may not be able to inspect their feet. Our study reflects the need for special education and care approaches for these

elderly people. In such patients who don't care for their own feet, a family member may be involved.^{18,19}

With reference to Knowledge only 31% had good information (70%) about care. The respondents in this study were characterized by low schooling. 34% were totally illiterate and their score was <50%. Most of them were manual workers. Lack of patient education is one of the major risks for diabetic foot complication in our country. People with low education are not aware of their disease process and have not sufficient information about diet and blood sugar levels.^{20,21} In fact in our society many of these patients present for the first time to health care providers with foot ulcer.

In reference to duration of diabetes, 46% of patients in our study had diabetes for more than 10 yeras, mean 12 years In diabetic patients blood glucose level remains high for a long period of time, foot problems can lead to infection. The longer the duration of diabetes, the more likely patient will develop complications. A Brazilian study demonstrated association between time since diabetes diagnosis and diabetic complications and it was identified that twenty years of diabetes increases the risk of peripheral neuropathy and peripheral vascular disease.²²

With respect to knowledge, only 59(31.7%) patients had good information (70%) about foot care. Satisfactory Knowledge was observed in 49(26.3%) and poor in 78 (42%). In the analysis of foot care behaviour low scores were found in the correct answer, 26.8% had good behaviour, 38% average and 47% had poor behaviour. Our results are very much similar to study conducted at Lahore which demonstrated good knowledge in 29.3% and good practice regarding foot care in only 14% subjects.²³

It is noteworthy that primary physician has an important role in improving knowledge and practice regarding foot care. The main reasons for poor outcome of diabetic foot complications in developing country like us include poor referral for specialist treatment, absence of team work for complicated cases and lack of experience, awareness and attitude of healthcare providers.²⁴ The analysis of foot care in the United Kingdom and United States indicate the patients who had suitable and sufficient information and knowledge about their disease and had previous experience about foot care and dressing methods can provide a better care about foot ulceration.²⁵

It is hence recommended that physicians should take part in continuous professional education in order to obtain skills to access patients in taking up positive self care behaviour. In our province KPK diabetic people who are at risk of foot problems need simple and practical advice which include to feel for hotspots, feel for sharp toe nail, look for discoloration or swelling, look for ingrown nails and to look between toes for soggy skin

CONCLUSION

Diabetic foot ulceration cause utmost burden on individuals as well as primary and secondary health care system. Major damage can be avoided if people know how to recognize a problem and who to contact for support. In this regard more and better quality trials are required. Education programs and projects and different preventive measures must be stressed and implemented. The role of media in the form of posters, pamphlets and video demonstrations about proper foot care techniques is very important in developing public awareness of diabetes and its complications.

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