Assessment of self reported foot care practices among diabetic clients

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Abstract
A non-experimental, descriptive, cross sectional study was conducted on 120 diabetic clients. Data was obtained using a structured Foot observation checklist and a Likert scale on self reported practices on foot care. Findings revealed that, 93 (77.5%) were more than 50 years age, 68 (56.7%) were suffering with diabetes for more than 6 years and 10 (8.33%) for >15 years and 66 (55%) were suffering with diabetes associated health problems in which hypertension was predominant. Mean fasting blood sugar level was 161.02 mg% and hba1c is 8.25. Self reported foot care practices revealed that, 46(38.3%) checked their feet for crack, sore, cut and callus, 71 (59.2%) wear foot ware whenever they were outside the house, 42(14.2%) never applied moisturizer /oil to maintain softness of foot skin. Chi square test showed no association of self reported foot care practices with demographic variables. The authors concluded that, findings on over all foot care practices was not enough and left broad scope for educating the diabetic clients.

Keywords: foot care practices, diabetic foot ulcer

Introduction
Diabetes is a silent disease and a major health care problem in India. It is a serious chronic disease with significant morbidity and mortality. Treatment of diabetes is challenging owing to several problems including socio-cultural factors, inappropriate health care facilities, poor monitoring, lack of awareness about the disease, noncompliance towards treatment and diet advice [1].

The increasing global trend in prevalence of diabetes brings concomitant increase in complications of the disease. Diabetic foot is the most devastating in the long list of complications and is the most common causes of hospitalization [2, 3, 4]. Diabetic foot is an associated complication of diabetes mellitus results from combination of microvascular and neuropathic complications that place the patient at risk for injury and serious infection leading to loss of limb [3, 5].

Development of diabetic foot is multi-factorial. People in India, especially in the rural area and sometimes in the low income group, have an affinity to walk in bare foot and even when wearing footwear they prefer using open shoes and rarely use socks, making them vulnerable to foot injuries leading to diabetic foot [6].

An increase in number of diabetic foot ulcer has been observed in recent period that might probably be because of negligence by both the client and the care providers. Sometimes, diabetic clients themselves are unaware about the presence of foot ulcer until the physician advises them. Educating the diabetic client is one of the very important roles of nurse. Nurse plays a vital role in promoting self care behavior among diabetic clients. Diabetic clients are expected to follow a set of behavioral action on daily basis for risk reduction. It is imperative to assess that, the knowledge is fully transferred to action or self care activities in order to benefit the diabetic clients to its fullest extent [7].

Use of appropriate foot ware is considered important for prevention of foot ulcer among diabetics [8].

Education regarding foot care strategies should be emphasized and empowered within the diabetic Population [9]. Many a times diabetic patients are at denial for the disease and do not take interest in managing the ulcer. During the regular clinical supervisory rounds in general medical surgical wards it was observed that, frequently admitted clients with diabetic foot were young women and men ranging between age group of 31years to 54 years. Thus the researchers considered to take an attempt to study the practices related to foot care among the diabetic clients.
**Statement of Problem:** An descriptive study to assess the self-reported foot care practices among diabetes clients attending OPDs of selected multispecialty hospitals in Pune city.

**Objectives**
1. To assess the foot care practices among the diabetic clients attending the outpatient departments of selected multispeciality hospital in Pune city.
2. To associate foot care practices with selected demographic variables.

**Operational definition**

**Foot care practices:** Capability of a diabetic client to perform Self-care activities in order to keep his/her feet healthy.

**Diabetic foot ulcer:** Non-traumatic lesion of various extent and depth developed at the foot of diabetic clients

**Methodology**

**Approach:** non experimental

**Research design:** descriptive cross sectional design

**Ethical considerations:** Proposal was approved by institutional Ethical committee.

**Population:** All patients diagnosed with diabetes and attending regular follow up clinic of the selected multispeciality hospital.

**Sampling technique:** Non-probability convenient sampling was used.

**Sample size:** 120 which was determined using power analysis:

**Inclusion criteria:**
1. Patients diagnosed with diabetes mellitus at least for 3 years
2. Diabetic patients attending the regular follow up clinic.

**Exclusion criteria:**

Diabetic patients with traumatic ulcer were excluded from the study.

**Tool:** The tool was developed after reviewing various research articles and developed tool was translated in Local language (Marathi) by language expert. The tool had three main parts.

**Section I:**

**Demographic variables:** Age, Sex, Religion, Education, Marital Status, Occupation, Type of work, Monthly income and source of Information regarding diabetes mellitus.

**Section II:**

- Self-reported practices on foot care having 10 items on a 5 point scale [Always = Every day at least once; Often = Once in every alternate day; Sometimes = At least once in 2 to 3 days; Rarely = At least once in a week; Never = On no occasion]

**Validity:** The tool was validated by three experts in the field of nursing.

**Reliability:** Reliability of the tool was done by test-retest method, Pearson’s co-relation coefficient test 0.87.

**Pilot study:** Conducted on 15 diabetic clients from a different setting. Samples of pilot study were not included in the main study.

**Findings**

Data was checked manually for its completeness. Data was analyzed by using descriptive and inferential statistics. Frequency, percentage, mean, standard deviation, and chi-square test were done. Data was analysed under following sections

**Sections**

**Section I: Demographic characteristics of the samples:**
Analysis of samples in the present study revealed that, out of total 120 (100%) subjects 60 (50%) were females, 93 (77.5%) were more than 50 years of age, 112 ( 93.3%) were Hindu by religion, 99 (82.5%) were educated till secondary level, 111(92.5%) were married. There were 58(48.33%) diabetic clients were from working class and 47 (39.17%) were housewives and 15 (12.5%) were retired from job; 77 (64.17%) were NIDDM and 43 (35.83%) were IDDM, 68 (56.7%) were suffering with diabetes for more than 6 years and another 10(8.33%) were suffering from DM for >15 years. 66 (55%) were with diabetes associated health problems. Hypertension 44(36.6%) was predominant among them.

**Assessment of clinical parameters revealed that, these patients had a mean blood sugar level of 161.02 mg% and HbA1C 8.25 with corresponding standard deviation 38 and 2.6. Mean Hb level 11.3g/100ml (SD=1.7) and average BMI 24.4 (SD=3.4) and Systolic BP 131.4 mm Hg (SD=11.3) and diastolic 81.6 mm Hg (SD=8.7).**

**Section II: Assessment of self-reported foot care practices among diabetic clients**

**Table 1:** Frequency and percentage distribution of diabetic clients based on Self-reported foot care practices (n=120)

<table>
<thead>
<tr>
<th>S No.</th>
<th>Statement for foot care practices</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>1</td>
<td>I check my feet for crack, sore, cut, callus, infection etc.</td>
<td>46</td>
<td>38.3</td>
<td>11</td>
<td>14</td>
<td>21</td>
</tr>
<tr>
<td>2</td>
<td>I examine my toe spaces daily</td>
<td>11</td>
<td>9.2</td>
<td>13</td>
<td>10.8</td>
<td>44</td>
</tr>
<tr>
<td>3</td>
<td>I clean my feet with soap and water whenever back to home from outside</td>
<td>12</td>
<td>10</td>
<td>8</td>
<td>6.7</td>
<td>67</td>
</tr>
<tr>
<td>4</td>
<td>I keep my feet dry after washing.</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>7.5</td>
<td>71</td>
</tr>
<tr>
<td>5</td>
<td>I cut my toe nails straight across</td>
<td>18</td>
<td>15</td>
<td>18</td>
<td>15</td>
<td>49</td>
</tr>
<tr>
<td>6</td>
<td>I wear my footwear at all times whenever I am out of the house</td>
<td>71</td>
<td>59.2</td>
<td>14</td>
<td>11.7</td>
<td>21</td>
</tr>
<tr>
<td>7</td>
<td>I apply moisturizer/oil to maintain softness of foot skin</td>
<td>4</td>
<td>3.3</td>
<td>5</td>
<td>4.2</td>
<td>56</td>
</tr>
<tr>
<td>8</td>
<td>I check my shoes for tear or foreign objects before wearing</td>
<td>4</td>
<td>3.3</td>
<td>5</td>
<td>4.2</td>
<td>90</td>
</tr>
<tr>
<td>9</td>
<td>I use diabetic shoes whenever out from home.</td>
<td>6</td>
<td>5</td>
<td>8</td>
<td>6.7</td>
<td>65</td>
</tr>
<tr>
<td>10</td>
<td>I wear shoes/chappal in which I feel comfortable</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>1.7</td>
<td>78</td>
</tr>
</tbody>
</table>
Findings on self reported assessment of foot care practices revealed that most of the diabetic clients 46(38.3%) reported that, they always check their feet for crack, sore, cut, callus, infection etc.; Though, 44(36.7%) reported that they sometimes examined the toe spaces, a good number i.e. 38 (31.7%) of clients reported never and only 11 (9.2%) reported to check toe spaces daily. Reportedly always washed their feet with soap and water whenever came back from outside, majority of the patients i.e. 67 (55.83%) followed this practice sometime. None (0%) of them reported to dry their feet always after washing. However, 71 (59.2%) claimed to follow the practice sometimes, 49 (40.8%) claimed to sometimes cut their toe nails straight across. Most of the clients 71(59.2%) reported to wear foot ware whenever they were outside the house. Only 4(3.3%) always applied moisturizer/oil to maintain softness of foot skin. 4(3.3%) checked their shoes for tear or foreign objects before wearing. 65(53.85%) of the clients only used diabetic shoes always whenever out of home. 17(14.2%) of patients never wore shoes/ chappals in which they feel comfortable.

Chi-square test was applied to test the association of self reported foot care practices with demographic variables. No association has been found with foot care practices among diabetic clients and demographic variables.

Discussion
Present study revealed that, though most of the foot care practices were known to the participants, yet these not performed by them as regular practice. 44(36.7%) of the clients reported that, they check their toe spaces sometimes and 14 (11.7%) did it rarely and 38(1.7%) never checked their toe spaces which though simple but very vital for early detection and prevention of foot ulcer. The supported findings revealed that 42.5% of diabetic clients did not know that it is important to dry up spaces in between toes when self-care knowledge was assessed among type II diabetic patients [9].

Conclusion
The study concluded that, findings on overall self-reported foot care practices of diabetes clients are not acceptable enough and leaves scope for client education on diabetes foot care. Nurses can educate their clients and their families about appropriate foot care, screening at risk patients for early detection of foot ulcer, encourage them for regular follow up visits.

Recommendations
The study recommended wide range of educational strategies those are needed to assist diabetic clients in reducing their risk for developing foot ulcer.

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Conflict of interest: nil.

References