DIABETES AWARENESS AMONG PATIENT'S ATTENDANT VISITING IN TEACHING HOSPITAL OF EASTERN NEPAL

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ABSTRACT

Introduction
Diabetes is a prevalent non-communicable disease. It has increasing global trend. In Nepal, the prevalence of diabetes is also increasing. Awareness is vital to prevent and early diagnosis of diabetes.

Objectives
The objective of study was to assess the awareness of diabetes and its related factors.

Methodology
This was a hospital based cross sectional study. Total of 503 patient’s attendant visiting teaching hospital of eastern Nepal from 1st September to 30th October 2016 were enrolled by using convenient sampling methods. Informed voluntary consent was obtained from each participant prior to data collection. The collected data was entered into Microsoft Excel and analysed by statistical package for social sciences (SPSS).

Results
Among 503 participants, six out of 10 said that diabetes have complications related to kidney, heart and eyes. Seven out of 10 said diabetes should go for regular check-up of kidney, heart and eyes. Similar findings were reported on diabetes having higher chances of developing hypertension or dyslipidaemia. Literate participants had more awareness on diabetes and its associated factors than illiterate participants ($p<0.001$). There was no significant association found on diabetes and its factors awareness with gender in all components except female participants were more aware about diabetes related complications than male.

Conclusions
Literate participants were aware on diabetes complication and its associated factors. However, participants were less aware on behaviour modification.

KEYWORDS
Awareness, Diabetes Mellitus, Teaching Hospital, Nepal
INTRODUCTION

Type 2 diabetes mellitus and pre-diabetes condition is increasing rapidly among middle-aged and older adults. Among all the diseases measured in years lived with disability, type 2 diabetes mellitus has increased the most from 1990 to 2013. About 50% of those with diabetes remain undiagnosed. Community awareness on diabetes is the key step for early detection and prevention of diabetes and its complication. Type 2 diabetes can be prevented when people with increased risk for diabetes have their lifestyle modification. Increasing public awareness on diabetes could improve overall health of the society and reduce the risk of developing diabetes. For preventing type 2 diabetes, it is important to develop tools and strategies so that individuals at high risk could make lifestyle changes. This study was conducted to assess the diabetes awareness among patient’s attendant visiting a teaching hospital in eastern Nepal.

METHODOLOGY

A hospital based cross-sectional study was conducted at Birat Medical College & Teaching Hospital from 1st September to 30th October 2016. The participants were explained about the aim of the study. Participation was voluntary and those who were not willing to participate could withdraw anytime from the study. Only the patient’s attendant willing to give a written consent were included for the study. Questions were pretested prior to data collection and necessary correction was made. The data were collected from 503 participants (patients’ attendant) using pretested semi-structured questionnaires. Collected data were entered in Microsoft excel and analysed by statistical package for social sciences (SPSS), version 16. Data were presented in frequency, percentage, mean and standard deviation and Chi square test was used to find the association between variables.

RESULTS

A hospital based cross sectional study was conducted among 503 patient’s attendant visiting teaching hospital of eastern Nepal. Among them both gender had equal proportion. The age of the participants was in the range from 15 to 83 years, with mean and standard deviation of 42.3±16 years. Table 1 shows the basic socio-demography of study participants.

Table 1: Socio-demography of study population (n=503)

<table>
<thead>
<tr>
<th>Demographic profile</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (Mean ± SD)</td>
<td>43.8±15.92 years</td>
<td>40.6±15.94 years</td>
</tr>
<tr>
<td>Literate/illiterate</td>
<td>114/138 (45.2%/54.8%)</td>
<td>137/114 (54.6%/45.4%)</td>
</tr>
</tbody>
</table>

As shown in table 2, among the participants, 57.5% cited diabetes could lead to heart, eyes and kidney diseases. Almost 70% answered that people suffering from diabetes should go for regular check-up of kidney, heart and eyes. About 70% participants said that diabetic people could have higher chances of getting hypertension or dyslipidaemia than normal person. Among the participants, 39.8% were not aware about normal salt intake in their diet and 43.9% were not aware on normal amount of fat intake in their diet. Only 3% participants were aware that regular daily exercise helps to prevent diabetes.

Table 2: Awareness on diabetes and related factors among the participants (n=503)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Yes (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes have complications related to kidney, heart and eyes</td>
<td>57.5</td>
</tr>
<tr>
<td>Diabetic should get regular check-up of kidney, heart and eyes</td>
<td>69.4</td>
</tr>
<tr>
<td>Diabetic having higher chances of developing hypertension or dyslipidaemia</td>
<td>69.2</td>
</tr>
<tr>
<td>Aware on normal salt intake in their diet</td>
<td>39.8</td>
</tr>
<tr>
<td>Aware on normal fat intake in their diet</td>
<td>43.9</td>
</tr>
<tr>
<td>Aware on regular exercise</td>
<td>3.0</td>
</tr>
</tbody>
</table>

As shown in table 3, among 251 literate people, 97.6% responded diabetes have complications related to kidney, heart and eyes, whereas among 252 illiterate people only 17.5% were aware of its complications. Literate participants were more aware on diabetes than illiterate and it was statistically significant (p<0.001). Regarding whether diabetic should get regular check-up of kidney, heart and eyes, among 251 literate 98% and among 252 illiterate 40.9% correctly responded which was statistically significant.

Table 3: Association between diabetes related awareness with literacy status.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Literate</th>
<th>Illiterate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes have complications related to kidney, heart and eyes</td>
<td>Aware (97.6%)</td>
<td>Not aware (2.4%)</td>
</tr>
<tr>
<td>Diabetic should get regular check-up of kidney, heart and eyes</td>
<td>Aware (98%)</td>
<td>Not aware (2.0%)</td>
</tr>
<tr>
<td>Diabetic having higher chances of developing hypertension or dyslipidaemia</td>
<td>Aware (97.6%)</td>
<td>Not aware (2.4%)</td>
</tr>
</tbody>
</table>

*Significant
people need regular kidney, heart and eyes check-up compared to illiterate. Higher number of females cited that diabetes could lead to kidney, eyes and heart complications. This finding is supported by a study where participants with no formal education were found to have less awareness about diabetes and its associated factors compared with the educated group.\textsuperscript{13} Similarly, in a study, it was found that diabetes awareness was low especially in participants with low education but in contrast to this study diabetes awareness was found to be low in women.\textsuperscript{14} In this study, it may be possible that literate people have heard about diabetes related complications from friends or have read in newspaper or any information booklets leading to higher level of knowledge about disease related problems. In this study, almost four out of 10 participants were aware on normal salt intake in their diet and similar number of people were aware on normal fat intake in their diet. Only three out of 100 participants were aware on regular exercise. According to World Health Organisation, by eliminating common risk factors, such as tobacco use, harmful use of alcohol, high salt intake, unhealthy diet, high sugar intake and physical inactivity, around 80% of heart disease, stroke, and type 2 diabetes and over a third of cancers could be prevented.\textsuperscript{15} As suggested by World Health Organisation, we need intervention earlier in common risk factors because this study found high risk behaviour for diabetes occurrence. It is possible to achieve significant reduction in high blood pressure; diabetes related complications such as stroke and cardiovascular disease by reducing salt intake in people with and without hypertension.\textsuperscript{16,17}

**CONCLUSIONS**

This study gives general outline about people's awareness on diabetes and its associated factors. Literate people had significantly more awareness on diabetes and its associated factors. Therefore, we could say that literacy have role in awareness on diabetes. Gender difference have no role in awareness in diabetes and its factors. However, risk behaviour for diabetes was high in all participants.
RECOMMENDATION
As literate participants had more awareness on diabetes and its factors than illiterate participants, we recommend more health awareness program to public.

LIMITATIONS OF THE STUDY
Information bias may hamper the generalisation of study findings. We recommend conducting educational intervention study to find the effect of health awareness on prevention of chronic disease like diabetes.

ACKNOWLEDGEMENT
We would like to thank all the participants for their invaluable information during the study.

CONFLICT OF INTEREST
We declare no conflict of interest in this study.

REFERENCE