Impact of Socioeconomic Status on the Prevalence of Complications in Type 2 Diabetes in Indian Population: a Systematic Review

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INTRODUCTION

- Type 2 diabetes mellitus (T2DM) is a global burden: about 382 million people have diabetes in the world.¹
- India has about 65.1 million diagnosed diabetics.¹
- India is set to become the diabetic capital of the world: The WHO projects that India will have about 80 million diabetics – the highest in the world – by 2030.⁷
- Complications of uncontrolled DM include conditions involving almost all body systems, specially cardiovascular, ocular, neurological and renal systems.
- Diabetes is a costly condition: it is estimated that in India, on an average, 1/4th of the total family income is allocated to the patient care in a low-income family with one diabetic adult.¹

OBJECTIVE

- To determine the association between socioeconomic status (SES) and complications associated with Type 2 Diabetes Mellitus in India.

MATERIALS AND METHODS

- Literature search was conducted in databases such as PubMed, EMBASE and the Cochrane library without any restrictions.
- References of the included studies were screened for additional studies.
- Observational studies focusing on association between SES and T2DM patients were included.
- The quality of the studies was assessed using the Newcastle-Ottawa scale.¹
- Two authors independently performed the study selection, data extraction and the quality assessment process.
- A third author reviewed the output and adjudicated discussions in case of disagreement.

RESULTS

<table>
<thead>
<tr>
<th>No.</th>
<th>Study</th>
<th>SE Status</th>
<th>Complication and Association</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rani PK et al, 2012¹</td>
<td>Low</td>
<td>Visual impairment: Higher risk</td>
<td>• OR: 2.91 95% CI: 1.34-6.85</td>
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<tr>
<td>2</td>
<td>Bansal D et al, 2014b²</td>
<td>Low</td>
<td>Diabetic Peripheral Neuropathy: Higher % prevalence</td>
<td>• Low SES: 48.4%  Upper SES: 10.2%</td>
</tr>
<tr>
<td>3</td>
<td>Rani PK et al, 2010³</td>
<td>Low</td>
<td>Cataract: Higher risk</td>
<td>• OR: 1.67 95% CI: 1.00-2.54</td>
</tr>
<tr>
<td>4</td>
<td>Bansal D et al, 2014b²</td>
<td>All</td>
<td>Microvascular complications: no association</td>
<td>No significant differences between SES groups in the occurrence of any form of microvascular complications</td>
</tr>
</tbody>
</table>

DISCUSSION

- Diabetes is an expensive condition.
- In USA, it is estimated that the annual cost of diabetes is 91.8 billion dollars.⁸
- This includes 49% direct and 51% indirect costs.⁹
- In 2009, each person with diabetes in the US spent $11,700 compared to $4,400 spent by each person without diabetes.¹⁰
- In the West Pacific Region, WHO has reported that around 16% of all hospital costs are related to diabetes.¹¹
- Diabetes is a chronic condition which requires lifelong medication.¹²
- Thus, people with lower socio-economic status who cannot afford the expenses associated with diabetes can be expected to be under-treated.
- With this idea, the present study was performed to assess whether diabetics from lower socio-economic status are associated with a higher burden of diabetes related complications.

CONCLUSIONS

- We found very limited evidence regarding the association between socioeconomic status and diabetes complications.
- There is a need for educating patients with low SES to prevent long term complications in Indian T2DM patients.
- More observational studies are required to be conducted in the future in this context.

REFERENCES