BACKGROUND & AIMS

Although type 2 diabetes (T2DM) has been globally recognised as a major public health issue with substantial economic implications, its qualitative impact in some geographical regions is not well documented. Growing evidence from developing countries emphasises the major burden in terms of healthcare resource use (HRU) and costs of diabetes care. Previously published data in 2009 from the International Diabetes Management Practice Study (IDMPS) study showed the high resource consumption among patients with T2DM from Asia, Latin America, the Middle East and Africa.[1]

This study aimed to describe the health care resource utilisation (HCRU) associated with T2DM in Africa, Middle East, South Asia, Eurasia and Turkey in 2011-2012.

METHODS

The IDMPS is an ongoing international, multicentre, observational study, which has been conducted annually for the past six years (one wave per year) in non-Western countries. Objectives of the study included the assessment of the therapeutic management, date of initiation, characteristics and management of insulin therapy and the assessment of the health economic impact of T2DM and its complications. Cross-sectional data from 8,156 patients recruited across four geographical regions (18 countries) was collected as part of the 5th wave of the IDMPS (2011 – 2012). Participating countries by regions included Georgia, Kazakhstan, Russia, Ukraine and Uzbekistan from Eurasia; Algeria, Cameroon, Egypt, Morocco, Senegal and Tunisia from Africa; Jordan, Saudi Arabia, Lebanon and United Arab Emirates from the Middle East; India and Pakistan from South Asia. Mean (SD) annual levels of different types of HCRU were estimated and negative binomial regression was undertaken to identify drivers of HCRU by region and country.

RESULTS

• Patient demographics and clinical characteristics (Table 1) were comparable across the different regions; The prevalence of micro- and macro-vascular complications was highest in Eurasia with 87% and 47% respectively.

• 76% to 94% of patients were on oral antidiabetic drugs (OAD); 23% to 50% were on insulin (Figure 1).

• The mean number of annual hospitalisations due to diabetes varied between 0.3 (Middle East) and 1.7 (Eurasia); most emergency room visits were reported in Turkey – mean of 0.9 annually (Figure 2).

• Highest levels of absenteeism were observed in Eurasia – 10% unemployement due to diabetes and an average of 17.5 days of sick leave due to diabetes annually (Figures 4-5).

• Presence of macrovascular complications was a key driver of incidence of hospitalisations [Incidence Rate Ratio - IRR (CI 95%)] in South Asia [3.4 (1.4 – 8.5)], Eurasia [1.4 (1.1 – 1.8)], Africa [3.9 (2.1 – 7.3)], Middle East [8.9 (4.6 – 15.7)] and Turkey [2.9 (1.8 – 4.0)].

• Microvascular complications were associated with increased risk of hospitalisations in all regions with IRRs (CI 95%) of 3.5 (1.8 – 7.0), 3.4 (2.2 – 5.1), 3.7 (2.2 – 5.1), 1.7 (1.0 – 2.9) and 3.4 (2.2 – 5.1) respectively.

Table 1. Demographics and clinical characteristics of type 2 diabetic patients analysed in the IDMPS Wave 5 by region

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>N</th>
<th>Mean (SD), age (years)</th>
<th>% Female</th>
<th>Mean (SD) diabetes duration (years)</th>
<th>% Screened for diabetes-related complications</th>
<th>% With microvascular complications</th>
<th>% With macrovascular complications</th>
<th>% With hypertension</th>
<th>% With dyslipidaemia</th>
<th>% With Hba1c &lt; 7%</th>
<th>% Employed (full or part-time)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eurasia</td>
<td>1,834</td>
<td>58.8 (9.6)</td>
<td>60</td>
<td>8.7 (7.1)</td>
<td>98</td>
<td>87</td>
<td>47</td>
<td>84</td>
<td>64</td>
<td>57</td>
<td>38</td>
</tr>
<tr>
<td>Africa</td>
<td>2,220</td>
<td>57.4 (10.8)</td>
<td>57</td>
<td>8.6 (7.2)</td>
<td>93</td>
<td>41</td>
<td>35</td>
<td>41</td>
<td>41</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Middle East</td>
<td>2,065</td>
<td>55.8 (11.5)</td>
<td>48</td>
<td>8.3 (7.2)</td>
<td>96</td>
<td>35</td>
<td>15</td>
<td>74</td>
<td>44</td>
<td>47</td>
<td>45</td>
</tr>
<tr>
<td>South Asia</td>
<td>1,195</td>
<td>53.7 (10.6)</td>
<td>67</td>
<td>9.0 (6.7)</td>
<td>91</td>
<td>41</td>
<td>35</td>
<td>15</td>
<td>35</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Turkey</td>
<td>842</td>
<td>56.9 (11.4)</td>
<td>56</td>
<td>8.7 (6.8)</td>
<td>97</td>
<td>42</td>
<td>20</td>
<td>74</td>
<td>44</td>
<td>47</td>
<td>47</td>
</tr>
</tbody>
</table>

Figure 1. Treatments of patients in the IDMPS wave 5 by region

Figure 2. Mean annual quantities of diabetes-related resource use by region

Figure 3. Mean number of annual hospital inpatient days by region

Figure 4. Unemployment due to diabetes by region

Figure 5. Mean number of annual sick days due to diabetes by region

CONCLUSIONS

Results of this study demonstrate that in South Asia, Eurasia, Africa, Middle East and Turkey, development of micro and macrovascular complications are key drivers for the economic burden of T2DM.

REFERENCES


ACKNOWLEDGEMENT

This study was funded by Sanofi