Estimating Type 2 Diabetes and Hypertension Costs in Slovenia

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PRESENTED AT:

OBJECTIVE

Type 2 diabetes (T2D) cost assessment from 2012 estimated total yearly direct medical costs of T2D in Slovenia to €99,120,419 with annual per capita costs of €834.70[1]. A similar study for arterial hypertension (AH) has not been done in Slovenia yet.

In this retrospective study, we tried to estimate costs for a sample of patients with type 2 diabetes, hypertension or both, aged 65 or more, using bottom-up approach. The direct medical costs were estimated from the perpective of health insurance as well as out-of-pocket payments, in 2019.

Moreover, we wanted to identify the differences in costs according to gender as well as the differences among patients living in urban and rural areas.

[1]Nerat, T., & Kos, M. (2012). Burden of Type 2 Diabetes from the Healthcare Payer Perspective in Slovenia. Zdrav Var, 52, pp. 162-180.

METHODOLOGY

A convenience sample of 287 patients aged 65 year or more was selected from Community Health centre in Ljubljana (urban) and Community Health Centre Ravne na Koroškem (rural). All the direct costs connected to T2D and/or AH were copied from the medical records of participant patients.

At the same time, a survey of the same patients was conducted about their out-of-pocket expenditures connected to the same diseases. The definitions of out-of-pocket expenditure categories were based on the previously conducted focus groups with the patients.

For the presentation of the costs, descriptive analysis was used.

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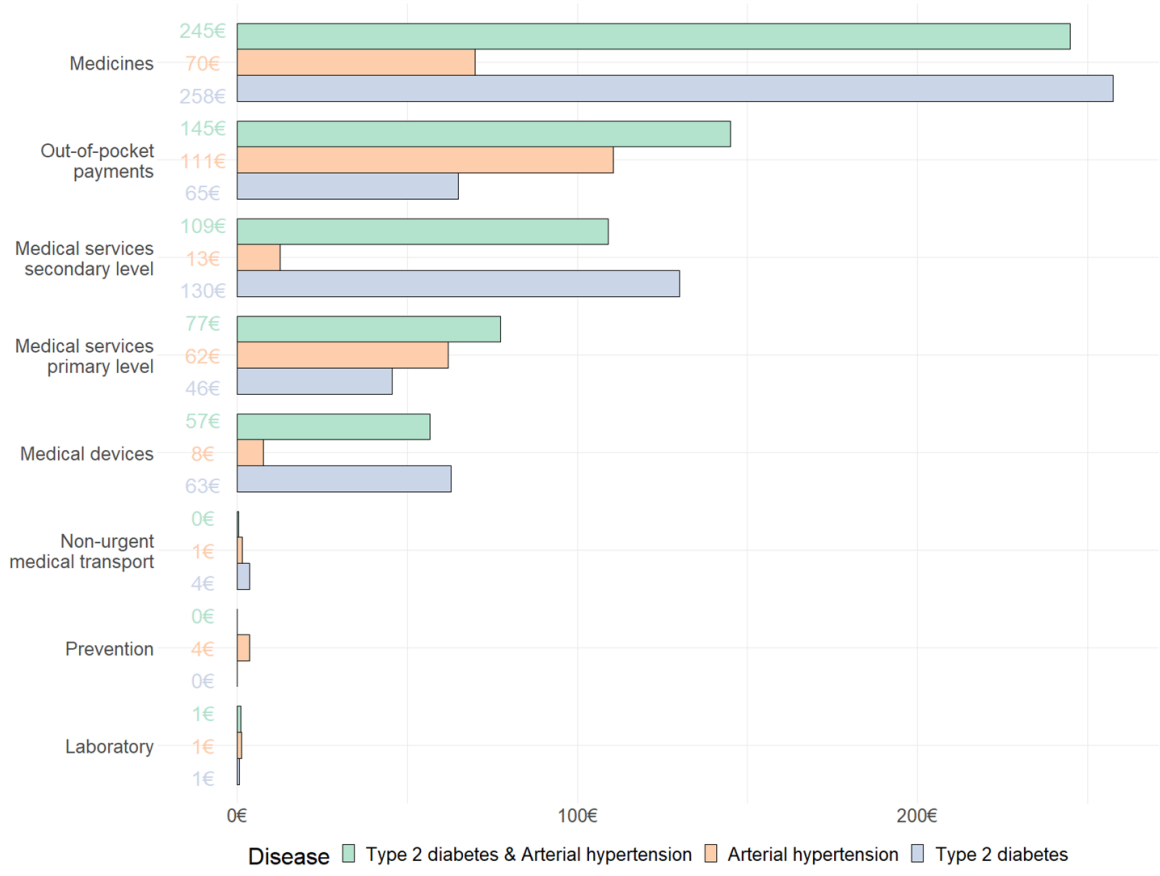
RESULTS

The average total costs of T2D per patient amounted to €565.40. 45.6% of the total costs were represented by the medicines, 11.1% by medical devices, 8.1% for services at the primary and 23.9% at the secondary level, 0.6% by non-urgent transport services and 0.0% for preventive services (education and training). Out-of-pocket costs represented 11.5% of costs in patients with T2D.

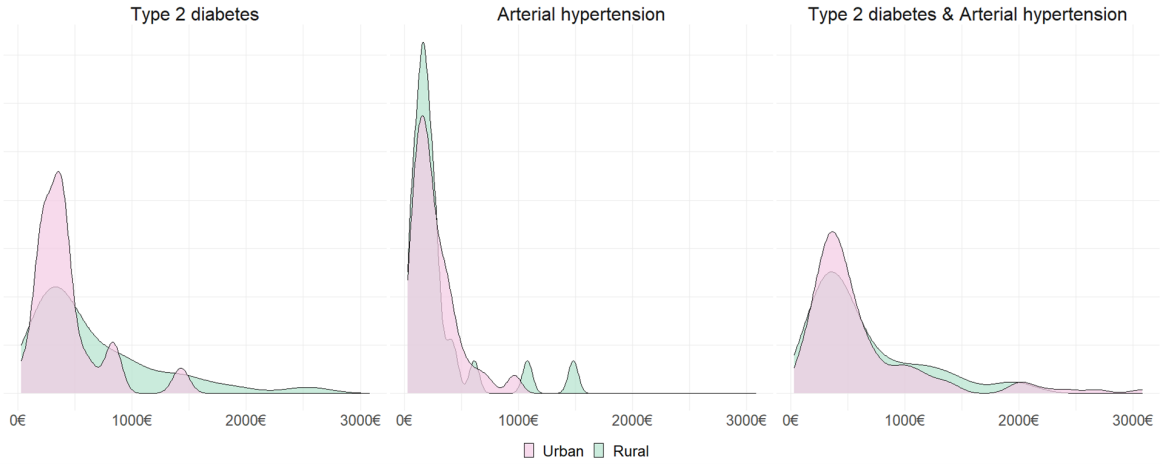
Figure 1: Costs per capita for selected chronic diseases (T2D/AH/T2D and AH), by categories, 2019



The total per capita costs of patients with AH amounted to €269.00. The highest share was used for medicines (38.6%%), followed by services at the secondary level (17.2%), services at the primary (12.2%), and medical devices (8.9%). Out-of-pocket costs represented 22.8% of the total costs. All the other categories together amounted to less than 1% of the costs (transport, laboratory, prevention and education).

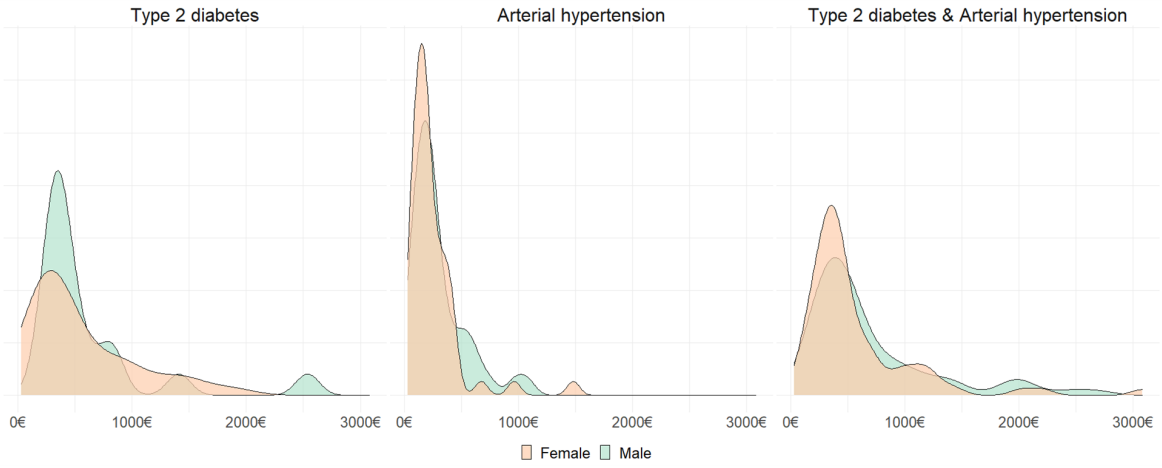
The average costs per patient in T2D amounted to €661.90 (median €445.31) in rural and to €445.31 (median €359.42) in urban area. The difference in costs between rural and urban area is significant ($p=0.05$). In AH, the average costs per patient in rural area amounted to €283.13 (median €178.30) and to €263.39 (median €202.65) in urban area. The difference is not significant ($p>0.05$).

Figure 2: Distribution of costs per capita for selected chronic diseases (T2D/AH/T2D+AH), rural and urban area, 2019



Furthemore, the difference in costs according to gender were checked. The costs in all three groups were higher for male, however, the difference was not significant ($p>0.05$).

Figure 3: Average costs per capita for selected chronic diseases (T2D/AH/T2D+AH), male and female, 2019



CONCLUSIONS

The costs of treating chronic diseases are high; most of the funding is spent on medicines. Only a very small share is spent on the education for better self-care and management of the disease by patients. Out-of-pocket costs represent a small share in T2D patients, but high share (22.8%) in AH patients.

There are significant differences in costs observed between urban and rural area in T2D patient group. Finally, no significant differences in costs were observed between female and male in any of the patient groups.

DISCUSSION AND PRACTICAL IMPLICATIONS

Conducting costing studies for type 2 diabetes and arterial hypertension at macro level is difficult as multiple complications and cost components need to be considered alongside costs, incidence and prevalence information. Such data are not readily available and consequently, costs need to be estimated also based on the data from the literature. Micro studies, using bottom-up approach, offer insight into the relations between different cost categories, costs of disease in different areas and costs of disease for different gender. These ratios can be applied and used in macro studies.

Also, micro studies can be useful in seeing the discrepancies in treatment protocols between physicians, regions and patients with different social and demographic variables. They help to identify the big spender categories and can offer suggestions for further research by payers.