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An Analytic Study of Oral Healthcare System in Some EU Countries

SUMMARY

The aim of this article was to present different models of oral healthcare systems in the EU countries and to analyze the mean national DMFT in 12-year olds and oral health expenditures in representative countries correlated with the model of oral healthcare system. Actually, this analytic study shows the relation of oral healthcare systems to one segment of oral health status. 6 countries were encompassed: Germany, Denmark, Netherlands, United Kingdom, Greece and Slovenia (as representatives of each model of oral healthcare system). Classification of EU/EEA members given by Widstrom and Eaton (2004) was used in this study.

For every country it is very important to follow up the oral health status of the population, control the expenditures and try to make them lower, which is possible only with combination of the preventive activities and the coverage in health insurance.

Keywords: Oral Healthcare System; Expenditures; DMFT

Julijana Nikolovska

University "St. Kiril and Metodij"
Faculty of Dentistry
Department of Fixed Prosthodontics
Skopje, FYROM

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Introduction

One of the basic principles of the European Union (EU) is that there should be free movement of goods, labour, products and services. For that purpose, provision of essential standards in oral health services is to be broadly comparable in all countries within Europe.

Within the EU provision and financing of healthcare has been, and is, a responsibility of individual member states and is not coordinated centrally by the European Commission (EC)[14,15]. Systems for the finance and organization of oral healthcare in EU/EEA countries have their own national, historical, political and socio-economical traditions. Nevertheless, healthcare decision makers make efforts to find some indicators which can be used for comparative analyses between the oral healthcare systems among the countries[2,17].

This study analyzes the mean number of DMFT for 12-year olds which is the main indicator for oral health status of population and expenditures on oral health, both as outcomes of different systems of oral healthcare.

Material and Method

The EU/EEA Member States have different models of provision oral health care. In this article oral healthcare systems were analyzed in 6 countries (as representatives of each model of oral healthcare system): Germany, United Kingdom, Denmark, Greece, Netherlands and Slovenia, using the broad classification between EU/EEA members given by Widstrom and Eaton[26]. The main characteristics of each model of oral healthcare system was briefly discussed, finance in oral health, and finally the outcome of appropriate systems analyzing the mean national DMFT level in 12-year olds, as major recommended indicator for dental caries[4,20].

The data for percentage of national GNP spent on oral health care in 2000 and mean national DMFT in 12 year olds children were reported to the CECDO (Council of European Chief Dental Officers) in 2003, and after that they were taken from an original article by Windstrom and Eaton[26].

Existing Oral Healthcare Systems in European Countries

In the most member states, oral healthcare system is financed through general taxation or social insurance and the role of private services is significant[1,3,24,29].

According to Widstrom and Eaton[26], oral healthcare systems in EU/EEA countries can be categorized under 6 broad headings. These are the Nordic, Bismarkian, Beveridgian, Southern European, Hybrid and Transitional models.

Nordic System (Denmark, Finland, Norway, Sweden and, in some aspects, Iceland)

There is a large public dental service, which is financed by general or local taxation[10]. The system is characterized by a universal access to free public oral healthcare for children and the facilitated access for adults. Oral health care data is collected by the governments and consequently the system is monitored for effectiveness and costs. There is also a private sector that may be subsidized by a public health insurance.

Bismarkian System (Austria, Belgium, France, Germany, Luxemburg)

It is based on the principle of obligatory social insurance that reimburses some or all of the costs of oral healthcare and it is financed by employers and employees[7]. Payment for oral health care are made by national and regional sick funds according to the negotiations with dental associations about fees.

Beveridgian System (United Kingdom)

General dental care is mostly provided by independent dentists in contracts with the National Health Service (NHS)[8,9]. Free care is provided for children and subsidized care for adults. In the last years growing proportion of oral healthcare has been provided outside the NHS under private contracts.

Southern European System (Cyprus, Greece, Italy, Portugal, Spain)

The system is predominantly private without governmental involvement. Limited insurance schemes, organized by the employers, are available for some groups. Most of the patients have to pay dentists directly. Public services may be available to provide some treatment for children and to treat dental emergences[11].

Hybrid (Netherland, Malta, Ireland)

The system is a mixture of the Bismarkian and or Beveridgian system with a private system. The Netherlands has privatized the provision of oral health care for adults, whilst retaining a predominantly "Nordic model" for children[16].

Transitional - East European countries (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia)

In these countries highly centralized public co-ordination has been moved to small privately funded practices[12,13]. Some countries are already working with, or have plans for insurance based oral health care.

Discussion

Summarized Data on Oral Healthcare Expenditures

Many countries represent the estimate spent on oral health because it is very difficult to ascertain exactly how much is spent in private sector. The data for expenditures on oral health in 2000 in the analyzed countries represent oral health spending in both public and private sectors except data for Slovenia, which is only from private sector.

In 2000, the percentage of GNP spent on oral health care (public and private) in the analyzed countries varied from 0.33% in Denmark to 1.10% in Greece (Tab. 1; Fig. 1). This data cannot show the real proportion of expenditures on oral health between the countries because of their different values for GNP. Although the range is relatively narrow (from 0.33% to 1.10%), when this percentage is applied to the figures *per capita* GNP (in purchasing power parities – PPP), the range for actual spend *per capita* becomes far wider (from USA $50 in Slovenia to USA $234 in Germany - Fig. 2). The difference is more than 4 times[19]. The higher cost on oral healthcare in Germany reflects insurance covers the prosthetic treatment of all members of their population irrespective of age[18].

*Table 1. Gross National Product*** and Expenditure on Oral Healthcare in 2000 and DMFT levels in 12-year olds in analyzed EU countries*

Member state EU/EEA	Per capita National GNP $USA	Estimate % Spent on oral health	Estimate Spent per *capita	DMFT levels in 12 year olds
Denmark	27,250	0.33	99	0.9 (2002)
Germany	24,920	0.94	234	1.2 (2001)
Greece	16,860	1.10	184	2.2 (1998)
Netherlands	25,850	0.37	94	0.6 (1996)
UK	23,550	0.39	92	0.9 (2002)
Slovenia	17,310	0.62	50**	1.7 (2003)

* Total spend public plus private
** Public only
*** Expressed in Purchasing Power Parities

Source: *Widstrom E, Eaton KA.* Oral Healthcare systems in the extended European Union. *Oral Health Prev Dent*, 2004; 2:155-194.

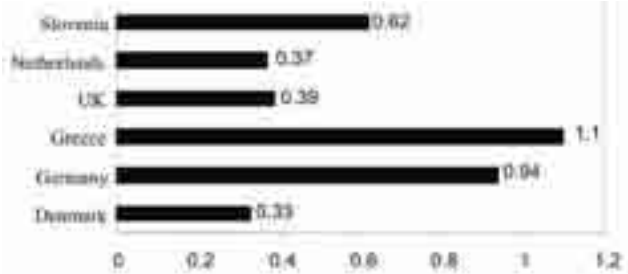

Figure 1. Estimate % Spent on Oral Health

Figure 2. Estimated Spent on Oral Health Per capita

The variation in percentage of GNP spend on oral healthcare does not seem to be related to the purchasing power standards. The model of oral healthcare system is not strictly in correlation with the expenditures on oral health. It seems that the countries which follow the Bismarkian and Southern European model, as Germany and Greece, pay a higher proportion of GNP for oral healthcare than those which follow the other models[6].

In Germany (Bismarkian model), there are financial problems because health insurance funds offer wide population coverage, comprehensive treatment and benefits connected with frequent dental visits.

In the Southern European countries little is known of the total cost of oral health care provision, as the provision of oral healthcare is mostly in the private sector, out of insurance schemes[25]. In the countries where private dentistry dominates, the estimates on the total costs of the oral health care may not be very reliable[27,28].

Caries Prevalence in 12-Year Olds

Data for mean DMFT for 12-year olds were reported to the CECDO in 2003 (Tab. 1; Fig. 3) but they do not originate from the same year. A wide range of criteria for the diagnosis of caries and sampling techniques are used in different 'national' studies. That means that the results are not comparable between the countries[5].

Figure 3. DMFT levels in 12-year olds in the analyzed countries

Each description in this paper is focused on the most important database in every country and can be claimed to be more informative than strictly standardized.

So, we can find out that a high proportion of GNP spent on oral health does not necessarily mean better oral health if this is reflected by carious teeth in 12-year old children (Tab. 1). Although Greece and Germany spend the highest amount per capita for oral health, the DMFT levels for 12 year olds are not the smallest ones[21,23]. Netherlands with rather low level of oral health expenditures has the lowest level of mean number of DMFT in 12-year olds. This country belongs to Hybrid System model, which means that it creates its own best way to improve oral health status among the population without high expenditure for that purpose.

According to Nomura et al[22], mean number of DMFT at 12 years in National Health Services model (NHS) countries was well below that in Social Health Insurance model (SHI) or Private Health Insurance model (PHI) countries, and only NHS countries showed low levels of both DMFT and dental expenditures.

From this study we can find out that the model of oral healthcare system is not strictly in correlation with the oral health status, following the example on DMFT level for 12-year olds in representative EU countries.

Conclusions

1. Data on oral health status, used of services, and treatment results and costs should be collected in all countries in a way that makes comparisons reliable.

2. The oral health expenditures are very important for the oral health status of the population, as it has been shown on DMFT in 12-year olds, but it is not crucial.

3. The model of oral healthcare system is not strictly in correlation with the expenditures on oral health, or with the oral health status.

4. For every country it is very important to follow up the oral health status among the population, control the expenditures and try to make them lower, which is possible with combination of the preventive activities and the coverage in health insurance.

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Correspondence and request for off prints:

Dr. Julijana Nikolovska
Naroden front 3/3 – 5
Skopje. Republic of Macedonia
e-mail: julijananikolovska@yahoo.com