Social Aspects to Postpone Orthodontic Treatment

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Abstract

Orthodontic care insurance is designed to help parents make them accessible for orthodontic care of their children. In many countries, there are traditions in its funding. This establishes frameworks that are perceived by parents as the attitude of the state to their children's oral health. It is accepted that orthodontic treatment is primarily a search for aesthetics and restoration of function. The main focus, which is actually the treatment itself, remains hardly accessible to much of the population due to financial reasons and lack of information. In a comparative analysis of orthodontic health insurance for children, less than 18 years of age in Europe were looked good practices that can be applied to the Bulgarian reality.

Key Words: Orthodontic treatment, Financial coverage, Social aspects

Introduction

In recent years orthodontics has become a highly sophisticated health care service. The discussion of the issue stresses on the excellent treatment of malocclusion and facial deformity. The problem is based on the premise that this treatment should be given by well educated, skilled and experienced specialists. Therefore, adequately qualified manpower is the key to providing the best possible service to the population.

Aim

The aim of the study is to present the current situation of orthodontic coverage and the necessity of this service by children in many EU countries.

Material and Method

A documentary method for assessing and comparing data is used. An internet search in PubMed, Scopus, Science Direct and Web of Science was conducted. A manual search was made for the reference lists of studies which can be identified as potentially eligible and close to the main objective, in addition. No other specific criteria for exception or inclusion for this study are applied. The data gathered allow determining whether awareness is changing under the influence of family, school, dental practitioner and what health policy will be adopted to improve the oral health of the children. For the purpose of the paper, EU data on the number of dental practitioners allocated to relevant practices and centers.

Results and Methods

In Austria, the patient has to pay the entire orthodontist fee by reimbursing a small part of the insurance company. The payment depends on the orthodontist and from the severity of each case. Probably the patient can get a small amount refunded by the public insurance company after the treatment.

Belgian sickness insurance is mandatory. But not all dental plans cover braces. Some financial plans that solve this problem pay around 50% of the cost for fixed appliances. In the event of serious anomalies, the amount recovered is approximately € 600.

In Bulgaria, health insurance is mandatory, and patients pay the value of orthodontic treatment themselves. NHIF assumes only the value of a targeted orthodontic examination by a specialist if the child has been assigned a direction by the general practitioner dentist. The treatment with fixed appliances is very expensive and they cannot really afford it. The most common mistake is that the patient has been referred to the orthodontist after the age in which they can be treated with removable appliances. Most of the GP's don't know that the age for the first orthodontics examination is 7 years [1,2].

There are two opportunities for orthodontic treatment in the UK-private or on the NHS. The treatment is free if the patient is under 18 years of age and has a clear health need for treatment. The use of the Index of Orthodontic Treatment need is used to prove the access to the treatment. NHS treatment plan is available for grade 4 and 5 malocclusions.

In other cases, there are schemes in the United Kingdom where the patient receives an interest-free loan, payable for two or three year's orthodontic treatment. The orthodontist receives full payment at the beginning of treatment, but a percentage of the fee is borne by insurers. The fee can range from 2000£ to 6000£.

In Germany, health insurance is mandatory. Reimbursement is 80%. The remaining 20% is also returned to the patient after successful treatment. There is no cover for mild cases.

In Greece, orthodontic treatment is provided in the state and private sectors. There is no State control over fees. Health insurance is obligatory for all persons living in Greece and their families, who have the right to choose in different health insurance funds. In most cases, reimbursements for orthodontic treatment are up to € 1,000.

In Denmark, orthodontic treatment is free if the malocclusion complies with criteria set by the Danish National Health Board (Danish National Health Board). Orthodontic treatment is not subject to public health insurance because it is more perceived as improving aesthetics.

The Estonian Health Insurance Fund covers all costs of orthodontic treatment for persons under the age of 19 if severe tooth decay and anomalies are diagnosed.

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Orthodontic treatment in Ireland is provided by the state and the private sector. In the public sector, the provision of orthodontic services is extremely limited. There is no state control over fees in the private sector. There are no private funds whose insurance cover orthodontic treatment [3-6].

There is no insurance coverage for standard orthodontic services in Italy, and universities are treating heavy cases. Similar is the situation in Spain.

The Cyprus Ministry of Social Affairs grants € 2600 for fixed orthodontic treatment only to people receiving other government assistance.

The National Insurance Fund in Luxembourg is the La Caisse Nationale de Sécurité Sociale (CNS). Any treatment of cases with a slit of the palate is free for the patient. Health insurance does not include adults' orthodontic treatment.

In Poland, an insurance system is based on compulsory health insurance for all citizens. Orthodontic services are free of charge for insured patients under limited circumstances. There is no known health insurance for orthodontic services in Portugal. A very small part of the insurance companies in Portugal includes orthodontic services in their health insurance programs [7-9].

In Slovenia, public health insurance covers orthodontic treatment of children under 18 years of age with APIA. Costs for other treatments (aesthetic corrections) and over 18 years of age are paid by the patient [10].

Patients up to 18 years old in Finland with severe malocclusions are treated free of charge in municipal health centers.

For children in France who are disadvantaged and less than 16 years, the amounts in the orthodontic treatment are reimbursed, depending on the regions of France and the reputation of the orthodontist.

Refunds in the Netherlands range from 0% to 100% coverage for both children and adults.

Every citizen of the Czech Republic is a mandatory health insurance. The orthodontic treatment fee for the removable device is fully paid by the health insurance company. The value of the FDA is paid by the patient. Gaps and congenital deformities are paid to the patient up to 100% [10].

For Sweden, ALL under the age of 20 is free if performed by municipal dental centers (Folktandvården) and with a corresponding burden of distortion [11,12].

Unfortunately, not everywhere in Europe there is equal access and opportunity for children to be treated, as illustrated in *Table 1*

Based on the literature review, when the treatment is private a huge difference between the minimum and maximum payment is available in some EU countries [10]. The results are available in *Table 2*

Table 2 presented the cost of the treatment and the patient's satisfaction for some selected countries in Europe. The range from 800 € to 9319 € shows a big difference in the payment between them. Because the cost is a pure objective factor it should be interesting to follow the patient's expectation based and evaluated with one subjective factor (scale) such as Visual Analogue Scale (VAS).

Table 1. *Orthodontic insurance of children in Europe*

Country	WOI	OHOI	VHOI	Other	Age	Severe cases	Ordinary cases
Austria		+	+				
Bulgaria	+						
Belgium		+	+		22	€ 660+	€ 660+
Cyprus		+*		+		500 €	500 €
Czech Republic		+	+		18	100%	50-80%
Denmark		+			18	100%	65-100% ***
Estonia		+			19	100%	100%
Finland		+			18	100%	100%
France		+	+		16	20-40%	20-40%
Germany		+	+			100%	100%****
Greece		+	+**				<1000 €
Ireland		+				100%***	100%***
Italy		+				100%	partially*
Netherland		+	+		18	± 75%	75%
Poland		+			12/13/18/21	100%	partially ****
Portugal			+				partially *****
Slovakia		+			18	100%	partially *
Spain		+					partially *
Sweden			+		20	100%***	100%***
United Kingdom		+	+			100%	10%****
Croatia		+			18	100%	100%
Iceland		+			21	50%	€ 880
Norway		+			18	75-100 %	40%
Switzerland		+	+			100%	30-50%****

WOI- without orthodontic health insurance, OHOI-obligatory health orthodontic insurance, VHOI-voluntary health orthodontic insurance. *The coverage of orthodontic expenses if the patient receives social benefits from the government. **Only in the event of a crash. ***Depends on the type of treatment. ****If preliminary criteria are met. *****In the case of voluntary (private) insurance

In this study, a VAS presents the average in the patient's satisfaction. The patient rated his satisfaction by making a choice from 0 to 10. The exact question was "How you evaluate the beauty of your smile choosing a number from 0 to 10?" The range shows results from 6.8 to 9.1.

There is a functional and statistical significance between both factors-who makes choice for orthodontic treatment in the family (x) and how the child understands his/her own dental vision (y), ($P<0.00$). Whether there are balance and

tranquility in the psychosocial perceptions of one's own vision, and how the child is accepted in society (amongst his classmates) is very important in raising the child's question. If he likes the way he looks, he will be at peace with himself and he will succeed because nothing can change his confidence.

Table 2. Comparison and cost-benefit analyses for the satisfaction of the orthodontic patients in some European countries

Country (n of cases)	Cost of treatment in €	Range of cost in € (minimum to maximum)	Patient's satisfaction with VAS*(0-10)
Austria	1500	1320-5400	7.5
Bulgaria	2500	1500-4500	7
Czech Republic	1664	1117-2053	6.8
Germany	3773	1647-6549	8.3
Italy	4912	1515-6876	8.1
Latvia	1689	1013-3027	8.5
Republic of Macedonia	3000	2300-4200	8.7
Netherlands	1750	1500-4100	8.0
Poland	1200	800-4300	6.9
Slovenia	4762	2414-9319	8.3
Switzerland	4030	2200-7000	9.1

The obtained results are encouraging for the personal confidence of the child who participated in the study. The statement "I want to be treated" is a part of personal (internal) motivation and in this group, the child who is self-with a "good vision" has the highest relative share of. The results are visualized in *Figure 1*.

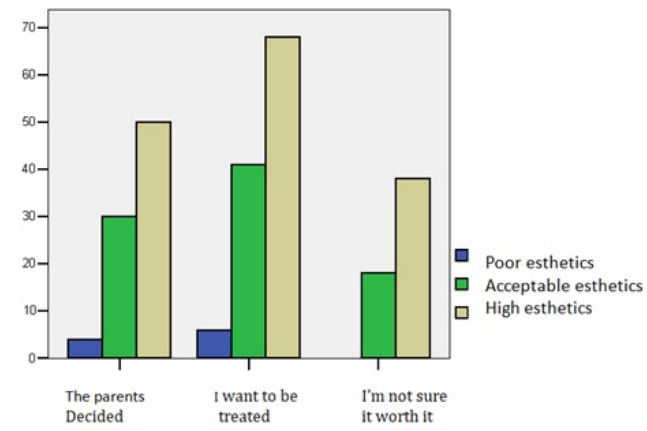

Figure 1. *Children's opinion for the choice of orthodontic treatment and self-estimated facial vision by VAS.*

The relative part of children who identify themselves with high dental and facial esthetics (26.67 ± 2.77%) is highest. They are followed by those who believe have an acceptable esthetics (19.61 ± 2.49%) and the lowest share of children, in their own opinion, with a "bad vision" (14.90 ± 2.23%). According to them (the opinion repeats the clinicians one):

• It is easier to wear braces when you are a child -rxy = -0.55+0.85

The result is interesting for the study because it presents high levels of awareness among children because of their personal future realization in society.

Conclusion

The orthodontic treatment is payable almost anywhere in Europe. Depending on the standard and the means that some families have a good monthly earning, the child's oral health funding may be relative. It means that the funds that some families pay are too small for their capabilities, but the institutions have decided that this approach is scholastic. It provokes not only the highest levels of the motivation but also related to the responsibility of each patient and ensures better physician-patient relationships based on trust. This is the way to educate and further develop the patient's health culture not only for a certain period of time (orthodontic treatment) but for whole life.

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