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Dental tourism from Switzerland to Germany

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 Switzerland

SUMMARY

In recent years the topic of dental tourism has increasingly come into focus of dentists and patients. In the present study an attempt was made to find out, why patients from a restricted region travel to Germany for dental care. In five German dental clinics located in the border area between Switzerland and Germany, 272 women and 236 men ranging in age from 5 to 94 years, who had undergone at least one dental treatment in Germany, were questioned concerning the reasons for their visits. The interviews took place within a period of 6 months and relied on a questionnaire to collect data regarding sociodemo-

graphic features and patient behavior. In comparison to residents of Germany, patients residing in Switzerland took on considerably longer travel distances for the dental visit, in some cases more than 50 km (9.7%). For patients residing in Switzerland the technical equipment of the practice was more important ($p < 0.001$), whereas for residents of Germany the cost-effective treatment was decisive ($p < 0.05$). Almost all patients residing in Switzerland (95.6%) confirmed that dental treatments in Germany were cheaper and that additional family members also came to Germany for dental care (65.0%).

Introduction

Patients take into account several factors when selecting their dentist. The amount of dental treatment costs increasingly affects the choice of the practice, even in Switzerland. Various publications report on dental tourism to Hungary (KOVACS & SZOCSKA 2013, ÖSTERLE ET AL. 2009), the Czech Republic (TURNER 2011), or Poland (HANEFELD ET AL. 2014). Despite possible language difficulties, potential problems regarding warranty claims due to different legal norms abroad, or the frequently insufficient

relationship of trust, this travel behavior persists. Likewise with the goal of cost saving, some domestic dentists offer fixed and/or removable prosthodontics manufactured cost-effectively abroad (KÖBERLEIN & KLINGENBERGER 2011).

In Switzerland (CH) dental treatments have to be paid privately or optionally can be covered by a supplementary dental insurance (art. 31 KVG). In Germany (D) primary dental care for the majority of the population is covered by the health insurance (§ 28 SGB V).

According to a public survey carried out by the Swiss Dental Association in 2010, one fifth of the Swiss had already seen a dentist abroad, mostly in Germany and in France, followed by Hungary and Italy (BRÖNNIMANN 2013). A survey in the Canton of Geneva revealed, among other things, a correlation between the utilization of dental services and the income (GUESSOUS ET AL. 2014). Patients with limited economic capabilities rather focused on price comparisons (TURNER 2009). In the case of a low income, 75% of the respondents even renounced dental treatments (WOLFF ET AL. 2011).

A further reason for dental tourism can also be long waiting periods with local dentists (TURNER 2008, TURNER 2013). Foreign dentists or dental companies advertise via the internet with prompt, competent care at high European standards in international clinics as well as with booking all-inclusive deals (consisting of dental procedures and vacation). A Dutch study named four reasons for patient mobility: availability, affordability, familiarity, and perceived quality of care (GLINOS ET AL. 2010). In the case of nearby neighboring countries without a language barrier, the distance to the practice is a further decision criterion: the stronger the linguistic and cultural affinity and the shorter the distance to the border, the more likely it is that incentives will motivate patients to travel (PALM & GLINOS 2010).

The goal of the present study was to evaluate the reasons of patients residing in Switzerland and Germany to undergo dental treatment in Germany during the survey period. The focus areas of the evaluation were the distance to the practice, the treatment details, the subjective perception of the costs as well as the friendliness and competence of the office personnel.

Materials and Methods

A total of 15 group practices in Germany (D) – from Lottstetten (D) via Jestetten (D) through to Radolfzell on Lake Constance (D) – were asked to participate in the present study. Selection criterion for the practices was the immediate proximity (maximum distance 10 km) to the border between Switzerland and Germany. Five classical family offices from Germany took part in the investigation; none of them was fixated on only one specialty. The evaluation period lasted from July 2014 to February 2015.

A patient questionnaire comprising 24 questions was designed for patients from Germany and Switzerland, who underwent at least one dental treatment in Germany. The questionnaire was conceived in such a way that both single and multiple answers could be given (Tab. I). Data regarding sociodemographic characteristics (age, gender, school-leaving qualification, place of residence, and citizenship) were collected. Likewise questions were asked about the reimbursement of costs by a health insurance, the cause of the treatment and the frequency of dentist visits, the distance from the place of residence to the practice and the means of transport used, as well as about estimates of costs obtained, dental tourism, and foreign dentures. Another three questions concerning the friendliness of the personnel, the cost effectiveness of the treatment, and the newest technical equipment were recorded using a visual analogue scale (VAS).

The last seven of the 24 questions exclusively concerned patients residing in Switzerland. These inquired about the reason for the dentist visit in Germany, the number of treatment years in a German practice, potential previous treatments by a Swiss dentist, as well as treatment years in the actual office. Finally it was asked whether additional family members came to Germa-

ny for dental care and whether the treatment was more affordable than in Switzerland.

Patients could independently take and answer the questionnaires displayed in the waiting rooms. In the case of children the questionnaire was completed with the parents. Thereafter the forms were put in a sealed box which only the project leader was allowed to open. Participation was voluntary and anonymous; an assignment to particular patients and/or a practice was not possible.

The statistical evaluation was made by means of logistic regression. The dependent variable was the place of residence. Independent variables were the distance to the practice, the reimbursement of costs by the health insurance, the reason for the visit, the request for estimates of costs, the importance of the costs and the technical equipment, as well as the friendliness of the personnel (R Core Team 2014). The level of significance was set at 0.05.

For the present study a declaration of no-objection (UBE 15/53) was obtained from the ethical review committee of Northwestern- and Central Switzerland (EKNZ).

Results

In total 509 questionnaires could be evaluated, another 15 questionnaires were incomplete and, therefore, excluded from the evaluation. The number of males (n=236) and females (n=272) was similar (one person did not provide information about gender). The average age of males was about 51.1 years (n=236; 5–94 years, SD 16.3 years) and that of the females about 46.5 years (n=272; 11–89 years, SD 16.2 years). Most patients had finished vocational training (CH 54.1%, D 43.5%), followed by a university/university of applied sciences degree (CH 25.0%, D 17.5%). The majority of the participants indicated Switzerland as the place of residence (n=327, 64.2%), 35.8% named Germany (n=182). The most frequently mentioned citizenship was German (n=229, 45%), followed by Swiss (n=217, 42.6%). In patients with dual citizenship (n=39, 7.7%) the combination Switzerland-Germany (n=14, 2.8%) occurred most often. Among the other nationalities (n=24, 4.7%), Italy was leading (n=6, 1.2%). When comparing places of residence, a reimbursement of costs by a health insurance is more unlikely in Switzerland ($p < 0.001$; Fig. 1).

Both patient groups (residents of Switzerland and of Germany) came on average twice a year to the practice (Fig. 2). The most frequent reasons for treatment in both groups examined were checkups and dental hygiene (n=297; with respect to this issue multiple answers were possible). Persons residing in Switzerland came more often to Germany for root canal treatments (n=46), periodontal treatment (n=17), tooth extractions (n=28), crown (n=44) and implant restorations (n=40; Tab. II).

For their dental visit, patients from Switzerland took on longer travel distances of up to 10 (27.9%), up to 20 (25.4%), up to 30 (17.2%), up to 40 (11.6%), up to 50 (8.2%), and sometimes of even more than 50 km (9.7%). Among the patients residing in Germany the largest group drove a maximum 10 km to the place of treatment (Fig. 3). Both patient groups most frequently used their car driving to the practice (CH 87.4%, D 68.4%); some German patients walked (19.2%).

The recommendation of relatives and friends was the most important reason for seeing a particular dentist (CH 70.9%, D 64.6%), followed by the internet search (CH 22.7%, D 17.7%). Advertising by means of posters and newspaper ads was hardly relevant (CH 0.3%, D 3.9%).

Tab.1 Patient questionnaire

Question	Predefined answer	
1. Gender	Female	<input type="checkbox"/>
	Male	<input type="checkbox"/>
2. Age	-----	
3. What is your last school-leaving qualification?	Primary/secondary school certificate	<input type="checkbox"/>
	Professional education	<input type="checkbox"/>
	University of applied sciences entry qualification	<input type="checkbox"/>
	University/university of applied sciences degree	<input type="checkbox"/>
4. Place of residence	D	<input type="checkbox"/>
	CH	<input type="checkbox"/>
5. Citizenship	CH	<input type="checkbox"/>
	D	<input type="checkbox"/>
	Other: -----	
	Dual citizenship, which ones: -----	
6. Is your treatment reimbursed by the health insurance?	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>
	Partly	<input type="checkbox"/>
7. How often do you see a dentist or a DH (dental hygiene)?	Once a year	<input type="checkbox"/>
	Twice a year	<input type="checkbox"/>
	Several times a year	<input type="checkbox"/>
	Not regularly or only when needed	<input type="checkbox"/>
8. What therapy is carried out in your case? (multiple answers possible)	Checkup, dental hygiene	<input type="checkbox"/>
	Filling	<input type="checkbox"/>
	Root canal treatment	<input type="checkbox"/>
	Periodontal therapy	<input type="checkbox"/>
	Tooth extraction	<input type="checkbox"/>
	Crown	<input type="checkbox"/>
	Bridge	<input type="checkbox"/>
	Denture	<input type="checkbox"/>
	Implant	<input type="checkbox"/>
	Orthodontics	<input type="checkbox"/>
	Pain therapy	<input type="checkbox"/>
Other: -----		
9. How far away from the practice is your place of residence? (one-way)	Up to 10 km	<input type="checkbox"/>
	Up to 20 km	<input type="checkbox"/>
	Up to 30 km	<input type="checkbox"/>
	Up to 40 km	<input type="checkbox"/>
	Up to 50 km	<input type="checkbox"/>
	More than 50 km	<input type="checkbox"/>
10. Using what means of transport do you come to the practice?	On foot	<input type="checkbox"/>
	Bicycle	<input type="checkbox"/>
	Motorcycle	<input type="checkbox"/>
	Train	<input type="checkbox"/>
	Car	<input type="checkbox"/>
	Lift	<input type="checkbox"/>

Tab.1 Patient questionnaire		continued
Question	Predefined answer	
11. How did you become aware of this practice? (multiple answers possible)	Internet search for dentist	<input type="checkbox"/>
	Advertising (posters/newspaper ads)	<input type="checkbox"/>
	Recommendation	<input type="checkbox"/>
	By chance	<input type="checkbox"/>
12. Apart from German dentists do you also see Swiss dentists?	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>
13. Do you also get other therapy proposals/cost estimates for a dental treatment?	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>
14. Did you ever get dental treatments in other countries apart from D/CH (except emergencies)?	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>
15. Do you place value on dental prostheses from D?	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>
16. May they also come from Asia for cost saving?	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>
17. How important is the following for you?		
the friendliness of the personnel	VAS 1–10 (1 = unimportant/10 = very important)	
the most cost-effective treatment	VAS 1–10 (1 = unimportant/10 = very important)	
the newest technical equipment	VAS 1–10 (1 = unimportant/10 = very important)	
All the following questions apply to patients residing in Switzerland:		
18. Why do you visit a practice in Germany?	I rapidly get an appointment	<input type="checkbox"/>
	Competence of the dentists	<input type="checkbox"/>
	Short waiting times in the waiting room	<input type="checkbox"/>
	Good consultation	<input type="checkbox"/>
	Modern technical equipment	<input type="checkbox"/>
	Good cost-benefit ratio	<input type="checkbox"/>
	No reimbursement of costs by my health insurance/cheaper treatment than in CH possible	<input type="checkbox"/>
	Friendliness of the personnel	<input type="checkbox"/>
Reliability and confidence in the personnel (tradition)	<input type="checkbox"/>	
19. For how many years do you visit a practice in Germany?	Years: -----	
20. Have you previously seen another German dentist for treatment?	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>
21. Have you previously seen a Swiss dentist for treatment?	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>
22. For how many years do you come to this practice?	Years: -----	
	New patient	<input type="checkbox"/>
23. Do additional family members come to Germany for dental treatment?	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>
24. Is dental treatment for you cheaper in Germany than in Switzerland?	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>

The majority of patients residing in Switzerland (84.0%) did not visit Swiss dentists apart from German dentists. Only 2.2% of the patients residing in Germany saw Swiss dentists. Most patients from both countries did not request further cost estimates for their dental treatments (CH 73.3%, D 70.6%).

Among the patients residing in Switzerland, 24.7% also got treated in other countries apart from Switzerland and Germany (D 10.1%). Patients from Switzerland rarely placed more importance on dental prostheses from Germany (64.2%, $p < 0.01$), whereas patients residing in Germany preferred dentures from

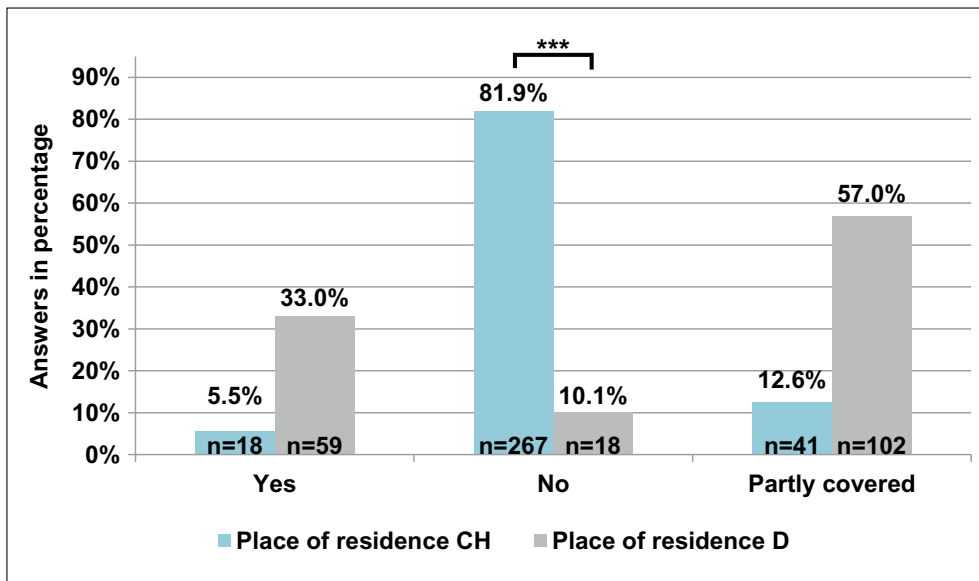


Fig. 1 Cost reimbursement by the health insurance dependent on the place of residence of the respondents (CH = Switzerland, D = Germany); (***) : $p < 0.001$

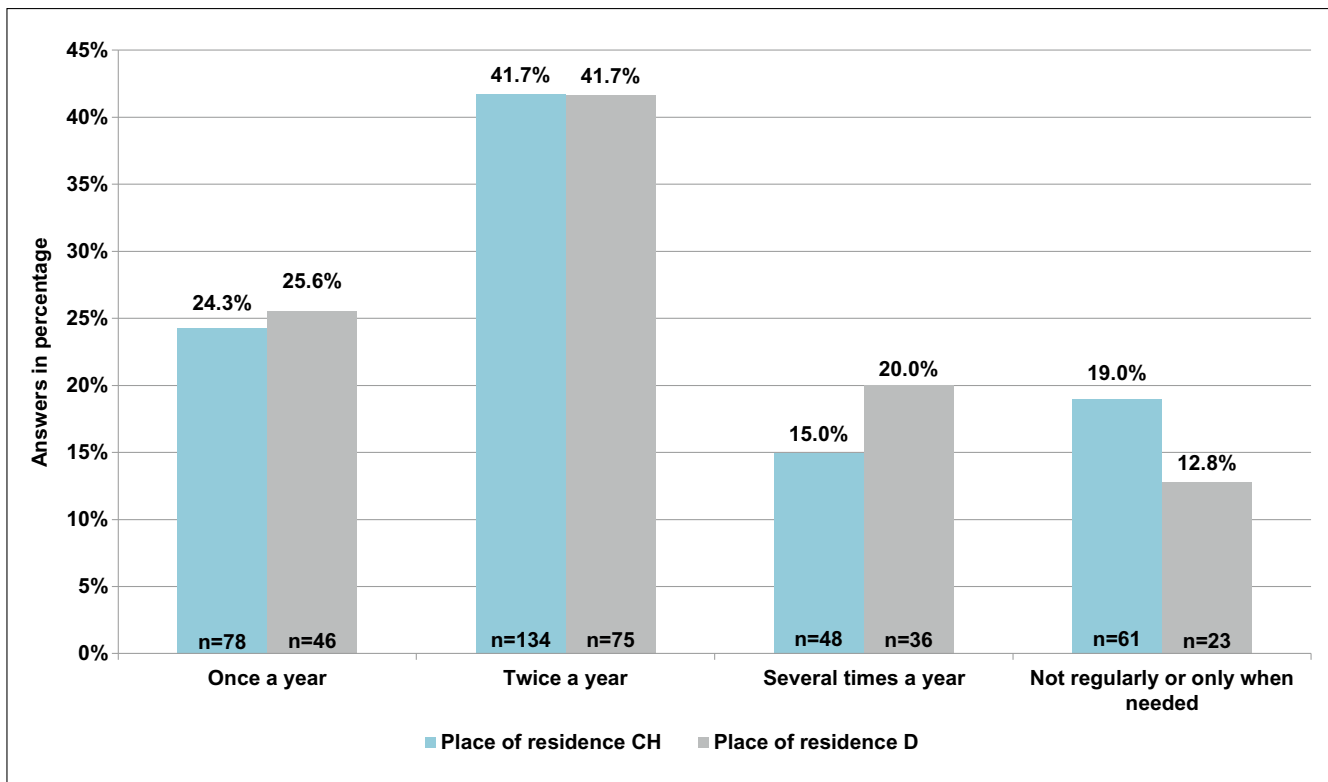


Fig. 2 Yearly frequency of the dentist/DH visit dependent on the place of residence of the respondents (CH = Switzerland, D = Germany)

Tab. II Cause of dental treatment of patients residing in Switzerland (CH) and in Germany (D)

Treatment	CH	D	Treatment	CH	D
Checkup, dental hygiene	37.1%	40.6%	Bridge	3.5%	4.5%
Filling	14.6%	19.1%	Periodontal therapy	3.5%	1.7%
Crown	9.1%	7.3%	Other	3.9%	1.0%
Root canal treatment	9.5%	6.3%	Denture	2.1%	3.8%
Implant	8.2%	6.9%	Pain therapy	1.6%	2.4%
Tooth extraction	5.8%	5.2%	Orthodontics	1.0%	1.0%

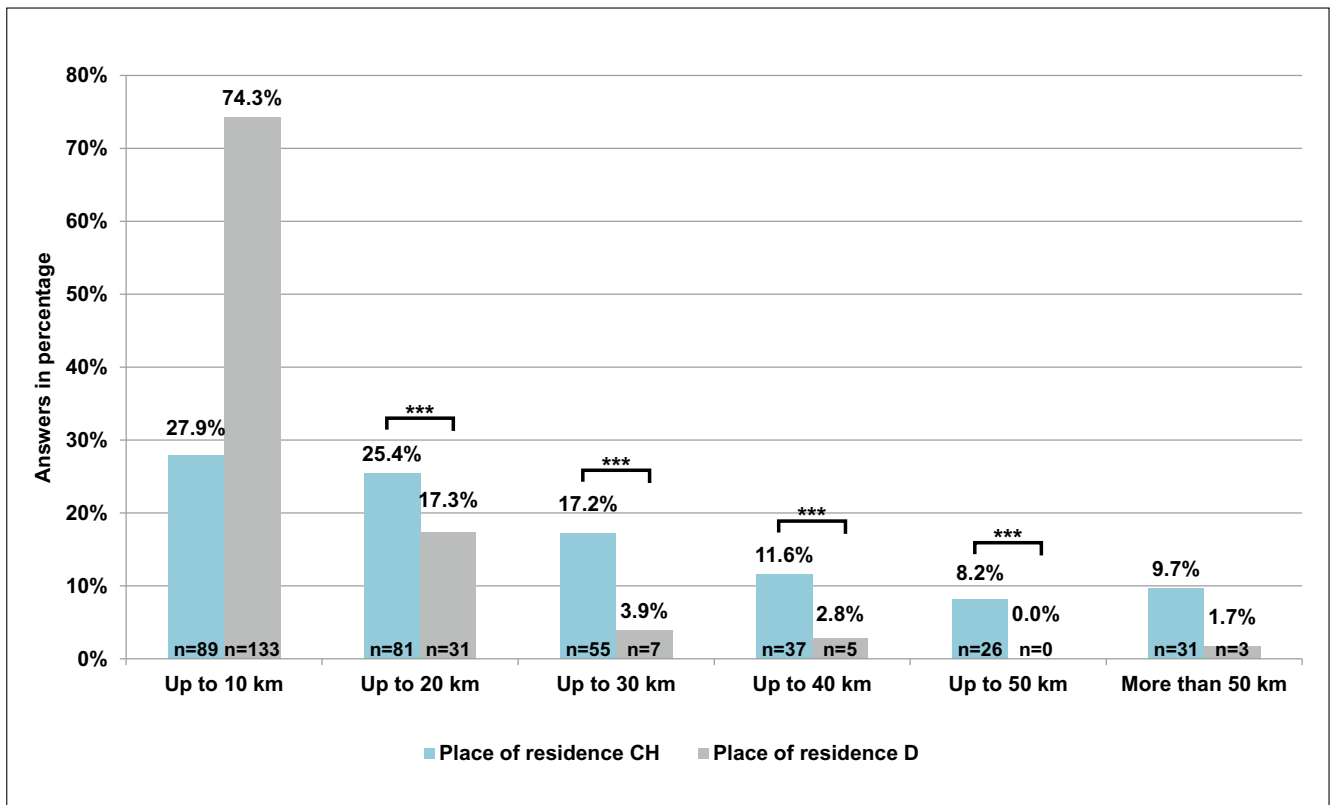


Fig.3 Access route (one-way in km) to the dental practice taken on by patients residing in Switzerland (CH) and in Germany (D); (***) p<0.001

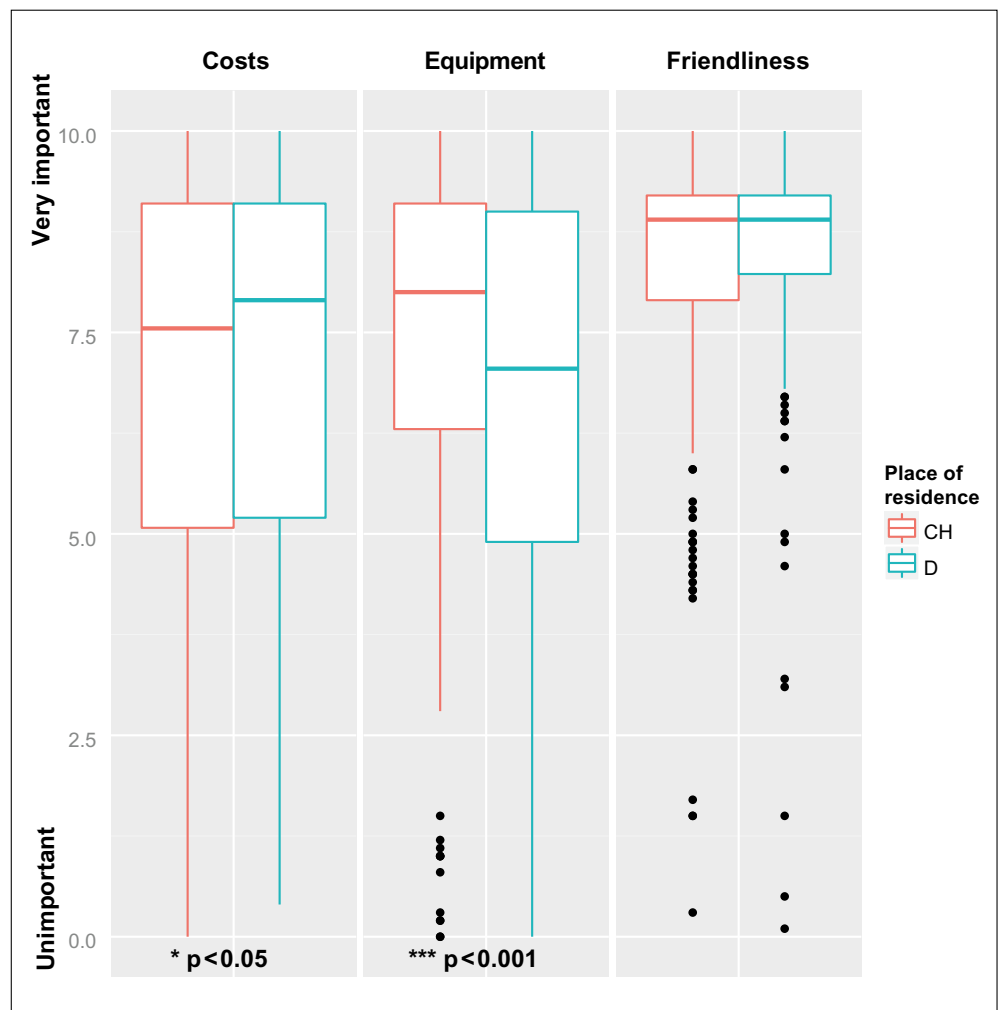


Fig.4 Graphical plot illustrating the relevance of treatment costs, the equipment of the practice and the friendliness of the personnel dependent on the place of residence of the respondents (CH = Switzerland, D = Germany; 0 = unimportant, 10 = very important)

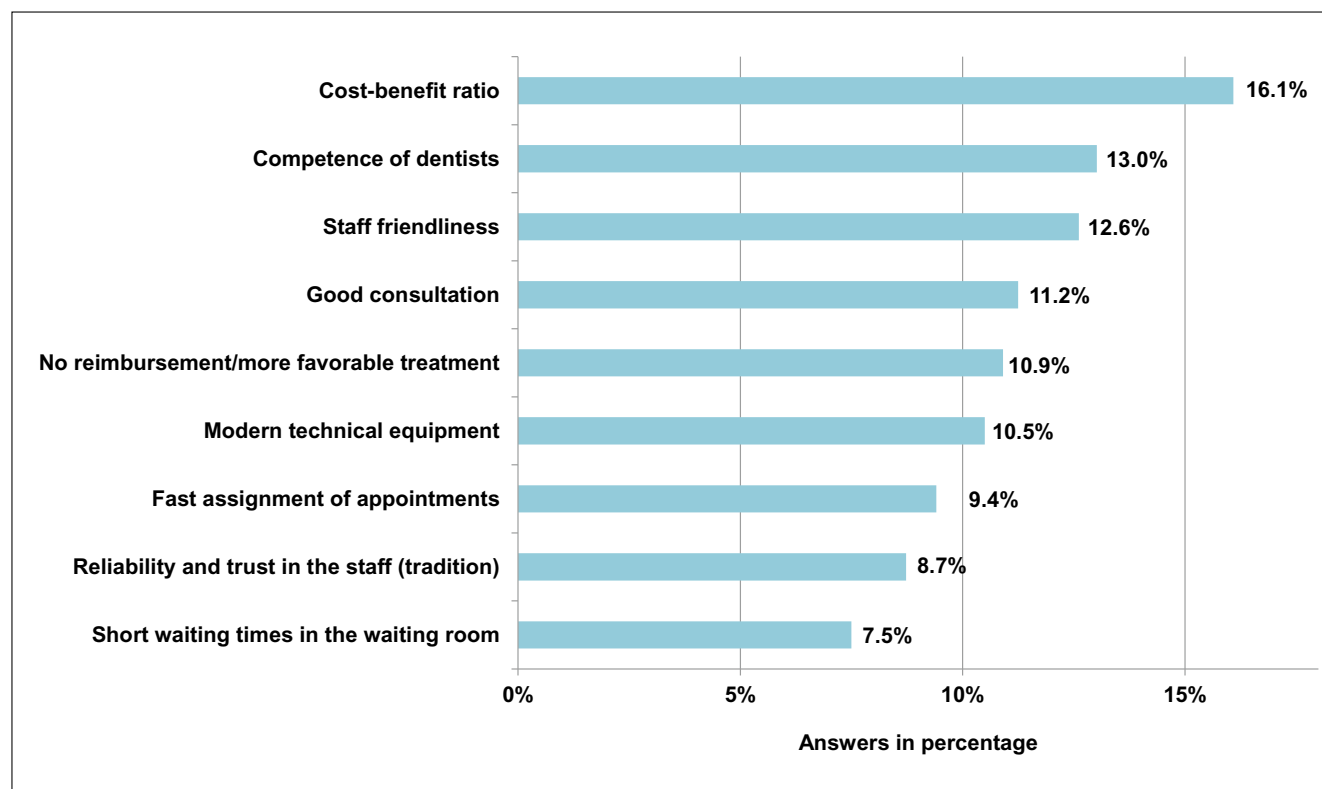


Fig. 5 Reasons of patients residing in Switzerland to visit a practice in Germany (multiple answers possible)

Germany (73.8%). Both groups preponderantly disapproved of dental prostheses from Asia (CH 71.4%, D 70.0%).

Patients residing in Germany were more mindful of the costs than patients residing in Switzerland ($p < 0.05$). To these the technical equipment of the practice was more important ($p < 0.001$). As far as the friendliness of the office personnel was concerned, no significant differences between the groups became evident (Fig. 4).

For the patients from Switzerland the following reasons for the visit of a German practice were decisive: good cost-benefit ratio (16.1%), professional competence of the dentists (13.0%), friendliness of the personnel (12.6%), good consultation (11.2%), missing cost reimbursement by the health insurance (10.9%), modern technical equipment (10.5%), fast assignment of appointments (9.4%), tradition (8.7%), and short waiting times (7.5%; Fig. 5).

On average practices in Germany were visited for 14.3 years (0.3–45 years, SD 9.9 years). To the actual practice, patients came on average since 10.5 years. Among the respondents, 15.6% were new patients ($n=51$), and 39.7% had previously seen another German dentist, while 79.1% in preceding years had been under treatment by a Swiss dentist. The majority of patients indicated that additional relatives came to Germany for dental care (65.0%). Almost all patients residing in Switzerland were of the opinion that dental treatments in Germany were cheaper than in Switzerland (95.6%, $n=285$).

Discussion

The total number of patients from Switzerland, who get dental treatment in Germany, is not known. The number of participants ($n=509$) in the study corresponded to the original expectations within the investigation period (6 months, five practices, 509 patients). The survey shows that for patients residing in

Switzerland economic considerations, i.e. a favorable cost-benefit ratio, play a role in the selection of a German dentist. Among the respondents, 95.6% were of the opinion that dental treatment in Germany is in fact more cost-effective. Patients came predominantly for cost-intensive treatments such as root canal treatments, implant and crown restorations as well as periodontal treatment. They were ready to take on longer travel distances of up to 50 km and more for a one-way journey. This can also indicate that despite higher travel expenses, the costs for dental treatment in Switzerland are higher than in Germany. The question whether income affected the choice of a German practice was not asked in this investigation (GUESSOUS ET AL. 2014). In the case of patients residing in Switzerland additional features of practices come to the fore. These are, for example, newest dental methods, modern techniques, and excellent service with kind personnel. The professional competence of the dentists is similarly important to them as the friendliness of the personnel. A Dutch study could demonstrate that four factors – availability, price structure, familiarity, and perceived quality – are relevant for patient mobility (GLINOS ET AL. 2010).

A possible explanation of the propensity for dental tourism among patients residing in Switzerland is that mostly the costs of their treatments (81.9%) are not refunded by a health insurance. By contrast patients residing in Germany usually obtain a reimbursement by the statutory health insurance (89.9%). There is no meaningful data about the total amount of treatment costs caused by the dental tourism to Germany. 24.7% of the Swiss residents also got treated in other countries – apart from Switzerland and Germany. A public survey of the Swiss Dental Association from 2010 even showed that one fifth of the Swiss had already seen a dentist abroad (BRÖNNIMANN 2013).

In the present investigation the referral of relatives and friends played by far the most important role in the dentist

selection (CH 70.9%, D 64.6%). It is known that social networks help patients with the search for a dentist (WURPTS 2011). The majority of patients confirmed that additional relatives came to Germany for dental care (65.0%). Advertising through posters and newspaper ads was hardly relevant among the patients residing in Switzerland (0.3%, D 3.9%).

A large part (79.1%) of the patients residing in Switzerland, who currently get treated in Germany, had previously seen a Swiss dentist. However, the question whether these patients possibly migrated to Germany for dental care because of negative experiences with domestic dentists was not the subject of the investigation. A positive aspect is certainly the missing language barrier in this border region.

As a rule, residents of Germany had a short way to their dentist, at the maximum 10 km (74.3%), and some walked (19.2%). For these patients the newest technical equipment and the friendliness of the office personnel played a smaller role.

A European survey among German patients who had undergone dental treatment abroad confirms the findings of the present investigation. The main motivation for dental tourism is saving of costs, followed by good experiences with treatments abroad, confidence in a particular dentist from another EU country, and the possibility to combine dental treatment with a vacation (PANTELI ET AL. 2015A). Residents of a border region are rather motivated by a relationship of trust to a specific physician and regularly come for treatment, in particular for dental treatments (PANTELI ET AL. 2015B).

Given the current social, economic, and healthcare system-specific conditions, it cannot be excluded that patient migration to Germany in the border area will still increase. The trend to dental tourism might as well continue (TROXLER 2014).

The present investigation only reflects the motives of a small proportion of patients in the border region between Switzerland and Germany. Due to the number of participating practices, the investigation cannot be representative for the entire border area. Further studies including the entire German-speaking border region between Switzerland, Germany and Austria would be useful to address emerging issues.

Résumé

Le sujet du tourisme dentaire a pris ces dernières années beaucoup d'importance tant du point de vue des patients que celui des praticiens. A ce propos, une enquête a été menée dans cinq cabinets dentaires en Allemagne, dans la région frontalière entre la Suisse et l'Allemagne. L'intention était de découvrir pourquoi les patients d'une région géographique spécifique se rendent en Allemagne. Les personnes dont 274 femmes et 236 hommes âgés entre 5 et 94 ans, ayant tous subi au moins un traitement dentaire en Allemagne, ont répondu à un questionnaire les interrogeant sur les raisons motivant leur choix. Le questionnaire a permis de saisir les caractéristiques sociodémographiques et comportementales des patients, en particulier de ceux vivant en Suisse. En comparaison avec leurs voisins allemands, les patients suisses ont parcouru des distances de jusqu'à 50 km (9,7%) pour se rendre au cabinet dentaire. Pour les patients suisses, l'équipement technique de pointe du cabinet est primordial ($p < 0,001$), tandis que les patients allemands accordent plus d'importance aux tarifs plus avantageux des traitements ($p < 0,05$). Les patients suisses (95,6%) ont presque tous confirmé que le coût des soins dentaires est inférieur en Allemagne et que d'autres membres de leur famille se rendaient aussi en Allemagne pour s'y faire soigner (65,0%).

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