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Religious, cultural, and ethical dilemmas in orthodontics

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Abstract

There are potential religious, cultural and ethical dilemmas facing patients who are undergoing orthodontic treatment. Opinions were collected from religious and cultural leaders, as well as from non-religious groups who take an ethical standpoint on certain medical or dental treatment. Factors relating to ingredients in orthodontic products, timing of orthodontic appointments, and the effects of religious fasting are all discussed. It is important to recognize all patients' opinions and beliefs when planning and undertaking orthodontic treatment.

Index words: Cultural beliefs, ethics, religion.

Introduction

There is widespread comment in the literature about cultural, ethical, or religious variables affecting uptake of general dental treatment.[1,2] However, there is a paucity of literature on how these factors may affect orthodontic treatment. This paper aims to consider potential religious, cultural, and ethical dilemmas facing patients who are undergoing orthodontic treatment.

There is evidence that there may be problems in the uptake of orthodontic treatment due to cultural language barriers.[3] However, within similar socio-economic groups religion is not seen to affect orthodontic uptake of treatment; rather it is the dental attendance pattern of the parent that is seen to be a significant factor.[4] Most orthodontic patients are referred from primary providers of dental care, and are from motivated families who prioritize dental health and attractiveness.[5] However, any patient may potentially hold cultural and religious beliefs that could affect their orthodontic treatment. Patients without strong religious views may still hold ethical and moral opinions that could affect their compliance and satisfaction with orthodontic treatment.

Religious and cultural views are very difficult to interpret. Frequently, the view of a specific religious or cultural group may differ depending on denomination or sect, or indeed the particular leader in an area. It is therefore hard to lay down rules for such opinions and this paper does not attempt to do more than highlight the potential dilemma for some patients, and stimulate debate within the profession. Throughout this text it is assumed that the patient is practising their faith, although it must be remembered that the level of devotion and adherence to cultural or religious practice will vary between patients. Comments made within the text are, therefore, generalizations and should be interpreted as such.

Method

A questionnaire was sent to 50 UK religious and cultural leaders asking them if they had religious, cultural, or ethical concerns regarding a list of potential ingredients found in orthodontic products. The list of the ingredients and religious groups are detailed in Table 1. The questionnaire also asked about concerns regarding oral procedures, or timing of procedures and appointments. Comments were also solicited from non-religious groups who take an ethical standpoint on the use of some medicines, e.g. vegans.

Results

The responses received are considered under the following headings:

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Table 1 Religious and cultural groups who expressed a concern about specific ingredients in orthodontic products (indicated by X)

Religion	Timing	Fluoride	Alcohol	Animal derivatives in general	Porcine derivatives	Bovine derivatives	Other specific animal derivatives	Vegetable derivatives	Genetically modified derivatives	Synthetic derivatives	Salt	Saccharine
Roman catholic	X	0	0	0	0	0	0	0	X	0	0	0
Catholic	X	0	0	0	0	0	0	0	X	0	0	0
Christian Scientist	0	0	0	0	0	0	0	0	0	0	0	0
Anglican	0	0	0	X	0	0	0	0	X	0	0	0
Islam	X	0	X	X	X	X	X	0	X	X	0	0
Buddhist	0	0	0	0	0	0	0	0	0	0	0	0
Jewish	X	X	X	X	X	X	X	0	0	X	0	0
Hindu	X	0	X	X	X	X	X	X	0	0	0	0
Sikh	0	0	0	0	0	X	0	0	0	0	0	0

- Ingredients in orthodontic products (animal, vegetable, alcohol, or other derivatives; see Table 1).
- Timing of orthodontic procedures.
- Timing of orthodontic appointments.

Ingredients in orthodontic products

Such products could include fluoride mouthwashes, anti-plaque mouthwashes, prophypaste, alginate, waxes, etc.

Animal derivatives. Many Christian groups commented that animal products are acceptable, but are of religious concern if cruelty to animals had played a part in their development. The final decision is one of conscience as to whether the patient wishes to use the product. Hindus would prefer to avoid gelatine-containing products. The reverence for life 'Ahimsa' is a Hindu principle; consequently, many Hindus are vegetarian and would wish to avoid any animal derivatives. Islamic respondents expressed concern over the use of porcine and bovine derivatives, and would wish to avoid any other animal derivatives that had not been prepared according to Islamic law (Halal). Muslim respondents expressed specific concern over E numbers derived from porcine products and emulsifiers derived from animals. Jewish patients would wish to avoid products derived not only from pork, but also products from any animal that had not been slaughtered according to Jewish law (Kosher). Sikhs would wish to avoid beef and its derivatives.

Vegetable derivatives. The Jain sect of Hindus are very strict vegetarians, and will not eat any root vegetable, which may preclude some E numbers used as colourants, e.g. carotene E160a.

Alcohol derivatives. Several religions expressed concern with the use of alcohol in mouthwashes. This was of particular concern to Islamic and Hindu respondents. Jewish respondents felt that alcohol in a mouthwash would be acceptable, although devout Jews would probably wish to refrain.

Other ingredients of concern. Jehovah's witnesses would not be able to use any food and presumably orthodontic products that may be swallowed, if they contained blood or blood derivatives. Catholic leaders expressed concern regarding the use of genetically modified (GM) derivatives and those that had been developed in any way by

foetal experimentation. Genetically-modified derivatives were also of concern to some Hindu and Muslim respondents.

Many religions encourage patients to make their own ethical decisions, for example specific Christian and Buddhist respondents had concern regarding animal and GM products, but stressed individual choice. A considerable proportion of patients hold no particularly strong religious views, but still take specific ethical standpoints related to their own ethical and moral concerns. For example, vegetarians and vegans express concern about the use of animal derivative in an orthodontic product, while other individuals may object to products with GM derivatives. Patients and their families adopting specific 'healthy living' strategies may object to the presence of certain chemicals, even the use of fluoride.

Timing of the use of orthodontic products

Devotional fasts. For several religions fasting forms an important part of devotion. This may simply involve abstinence from food, or it may prohibit the passage of any food or liquid (even water) into the mouth. One Muslim respondent stated that during fasting 'a drop must not pass the throat'.

For many religions, fasting presents minimal problems. For example, practising Catholics only fast on Ash Wednesday and Good Friday, and throughout the year 1 hour before communion. Hindus fast for 1 day for the festival of Janmashtami, in August. However, other faiths may undergo more rigorous fasts, for example, the Muslim festival of Ramadan. This takes place in the ninth month of the Islamic calendar and observants fast strictly from sunrise to sunset. The date of this festival varies throughout the year and so daily fasts would be shorter for Northern Europeans in the winter, than Southern Europeans in the summer. The fast times are published locally during Ramadan. Patients experiencing pain from their appliance may be able to take oral painkillers and use wax for 'health' reasons, but some patients may wish to avoid even this. Some Islamic leaders were against the oral use of any substance during a fast. There are a number of single-day festivals within the Jewish calendar that involve fasting: Gedaliah, Yom Kippur, Teves, Esther, Tammy, or Av. The stricter of these (Yom Kippur and Av) would forbid a patient to take anything into their mouth. If oral analgesics are taken, it may not be permissible to take them with water. Some Jewish and Muslim respondents allowed more discretion on the patient's part, taking into consideration health benefit and level of patient discomfort.

Timing of orthodontic appointments

Travel. The fully observant Jew is not allowed to travel on the Sabbath (or Shabt), which commences at sunset on Friday and finishes on Saturday evening. During this time a fully observant Jew is not permitted to work. Work is defined as a creative act or acts, which change one condition into another. This could affect the wear of headgear and part-time appliances.

Festivals or fasting. A practising Jew would also be unable to attend for an orthodontic appointment on a festival day. The dates of these vary from year to year following the Judaic calendar, but are known well in advance. Muslims may wish to avoid appointments during Ramadan. The day after the last fasting day is the festival of Eid–ul-Fitr (festival of breaking fast). The exact date of this is determined astrologically and is published close to the end of the Ramadan.

General ethical considerations

Patients with or without religious conviction may have ethical, moral, or religious views about any animal experimentation that may have been undertaken during the development of appliances. Although beyond the scope of this article other ethical considerations may affect a patient's choice of type and provider of orthodontic treatment. There has been much comment in the literature about the re-use or re-cycling of orthodontic materials between patients. This may be of concern to some patients

Discussion

Ingredients in orthodontic products

Concerns regarding animal products are problematical. For example, types of toothpaste may contain 'glycerine'. This can be manufactured synthetically or can be derived from animal fat, and this may not be clear from the labelling. The majority of dental products are licensed in the UK as 'cosmetics', e.g. Macleans® toothpastes. Others are marketed as pharmacological products, e.g. Corsodyl® mouthwash. Although cosmetic products are not so rigorously tested as pharmacological products, they must still be labelled with all

active and inactive ingredients. However, it is very often difficult to ascertain exactly what is in the preparations we recommend. Patients may be concerned to learn that colourants for mouthwashes may be animal derivatives and may in the future be derived from GM sources. Product labelling is a complex subject and a potential minefield! Although a full list of E numbers and their generic names can be obtained on the UK government website,[6] labelling is not standardized internationally.

It is likely that very few orthodontists check the additives in their clinical orthodontic products, which have after all been subject to medical/dental or pharmacological testing and licensing. It may be impossible to ascertain exactly what is in a product, for example, prophypaste is quite often brightly coloured and flavoured, but information supplied with the product may simply state 'permitted flavouring and colours'. We tend to assume that our waxes are made of vegetable wax, but supplied information may simply state 'oils', without reference to their origin. Product data sheets listing all ingredients should be available for all licensed products from the original manufacturer. However, they too can appear incomplete. For example, the composition of an alginate may be described 'a pink powder with an aroma of cinnamon', but with no mention of colour or flavourings in the ingredients list.

Alcohol in mouthwashes caused considerable concern to many respondents. It has been shown that mouthwashes can be equally effective at controlling plaque and gingivitis with and without alcohol.[7,8] It would, therefore, be sensible to be aware of whether one's recommended mouthwashes contain alcohol and adjust practice accordingly.

Many of the religious leaders commented that a degree of personal choice affects whether or not a patient could use products containing undesirable ingredients. This may depend upon the health gain to be achieved, the level of discomfort a patient was experiencing, the quantity of the undesirable ingredient within the product, and the degree of devotion of the patient. As busy clinicians, it can be difficult to keep abreast of clinical science, let alone read the minutiae on packaging or chase up elusive data sheets. There is a trend in the food market to label food as applicable to certain groups, Kosher, Halal, 'suitable for vegans', etc. Perhaps more of the onus should be placed on the manufacturers of orthodontic products to improve labelling.

Timing of orthodontic appointments

Respect should be shown to patients with regard to appointment times and a patient's inability to attend due to religious observation. Although many festival times are known well in advance by the patient, the end of Ramadan is not decided precisely until Ramadan itself. This should be borne in mind when timing multiple appointments, for example, placing of quad helices or critical appointments that require extractions to have been carried out by a specific time. Bond-ups and adjustments of appliances can cause discomfort. Strict Jewish and Muslim fasts could preclude the use of oral painkillers, or allow them only to be taken without water, rendering the patients unable to take oral analgesics. New patients may be unaware of the degree of discomfort ahead and it may be prudent to ensure they fully understand the implications of treatment during periods of fasting.

Although not specifically investigated in the questionnaire, patients may have ethical or cultural concerns regarding the recycling of orthodontic materials. Although beyond the scope of this article, patients have a right to know if products are being re-used, cross-infection procedures, the sterilization methods being used, and the quality of water used in procedures. In fact, some orthodontic Internet sites designed for patients, publish 'questionnaires' with which to interview a prospective patient's orthodontist, and often raise such questions.[9]

Conclusion

Religious, cultural, and ethical views can be subject to tremendous and heated interpretation. This article in no way attempts to lay down definitive guidelines or give any theological guidance, but merely aims to highlight the potential problems that may be encountered by patients. Modern health care delivery demands that the patients' opinions and beliefs are to be considered as a priority and as such clinicians should be aware of some of the difficulties that may be encountered by patients who hold beliefs that are dissimilar to their own. Clinicians should try to be aware of some of the dilemmas faced by our patients regarding timing of orthodontic appointment times and compliance with treatment if this is in conflict with religious devotions. With respect to ingredients in orthodontic products, information on licensed products can be obtained through the original manufacturer's data sheets or their telephone help lines.

It may be prudent for the orthodontist to attempt to ascertain the origin of components of orthodontic products (alginate, prophypaste, wax, and mouthwashes) particularly if they are likely to be of concern to their own patient population group. For clear guidance it may be helpful for patients to consult their own religious or cultural leader. Manufacturers must also take some responsibility for the patients' dilemma and it is hoped that labelling will become clearer in the future.

Modern health care delivery demands that the patients' religious, cultural, and ethical beliefs be considered as a part of the overall treatment plan and these factors should, therefore, always be taken into account during contemporary orthodontic treatment.

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