

Fake Braces by Quacks in Malaysia: An Expert Opinion

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KEYWORDS

Fake braces, Quack dentist, Orthodontic, Social media advertising

ABSTRACT

Dental quackery has been a problem for decades and is becoming a major concern in many countries, including Malaysia. Recent development of a new service offered by quacks in Malaysia is “fake braces”, which alarmed dental professionals. The fake braces appear similar to the professionally fitted orthodontic appliances comprising of archwires that are secured on brackets by coloured ligatures except they are fitted by unqualified individuals who have no formal clinical training. In addition, the orthodontic materials and dental equipment used for this illegal service were substandard and unregulated. Therefore, such fitted appliances are harmful to the teeth and oral health. Efforts to record the extent of fake braces practice and its oral health consequences have been challenging as they are marketed through the social media, and the victims were either reluctant to come forward or did not know the appropriate channel to file a complaint to the health authority. This is an expert opinion paper with the aims to highlight typical presentation of fake braces, modus operandi of fake braces providers, the harmful effects of fake braces on the patient’s oral health, the role of social media advertising in promoting fake braces, and the impacts to the illegal providers.

INTRODUCTION

Based on the Oxford English dictionary, a quack is defined as “a person who dishonestly claims to have medical knowledge or skills” [1]. Dental quackery has been a problem for decades and is becoming a major concern in many countries, including Malaysia. In previous decade, the most common complaints about quack services in Malaysia were often on procedures like extractions,

restorations and dentures [2]. Similar problems reported in India and the reasons for the uptake of dental treatments from quacks were reported due to the lack of awareness, poor accessibility to dental clinics, and high cost of professional dental treatment [3,4]. In recent years, quack services have expanded to other dental procedures perceived to improve dental aesthetics such as teeth whitening and fake braces. Recent developments with regards to illegal orthodontics, which include fake braces and do-it-yourself (DIY) braces in Malaysia have alarmed dental professionals and there is on-going battle to curb this problem.

To date, there is no scientific literature about the origin of fake braces. The earliest media coverage on fake braces had been reported in Thailand in 2006 [5]. Then, the fake braces phenomenon

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spread to other regions in South East Asia, including Malaysia, Indonesia and Philippines [6,7]. Fake braces practice was also reported in China and the Middle East [8]. In 2016, a published case report highlighted that the fake braces issue is also common in Brazil [9].

In Malaysia, there is an increasing demand for orthodontic treatment. This was evident from the 3-5 years of waiting time for orthodontic treatment at government dental clinics [10]. Provision of orthodontic treatment under the government subsidized clinics mainly focuses on school children below 18 years old with strict case selection criteria. At dental clinics in the university settings, subsidized orthodontic treatment are provided to include adults, but the universities offering orthodontic treatment are limited. Since the cost of orthodontic treatment at private dental clinics is high, those who wear braces are regarded to come from higher social classes who can afford the treatment.

Long waiting list for orthodontic treatment at government dental clinics, higher treatment cost at private dental clinics, high demand for treatment, and poor public awareness of the risks associated with fixed appliances have made wearing braces as a symbol of social status, wealth and style [11]. This inadvertently created a demand for orthodontic fixed appliances among vulnerable young adults, either for social reasons or actual need for treatment. Since the platform for marketing has become easy through social media, where the young generations spend a lot of time on, the illegal providers took advantage of their vulnerability to supply for such demand.

Amongst these providers are a line of cosmetic suppliers who fit fake braces without having proper dental qualifications. The fitted braces have similar appearance to the actual fixed orthodontic appliances fitted by qualified practitioners. Initially, the fitted fake braces were removable or known as "click-on fake braces". However, over the years, there have been cases where these fake braces are attached to the surface of the teeth and cannot be removed at home, which consequently can compromise the oral and dental health.

The activities of fake braces providers are often difficult to trace by the authorities. Thus, the extent of the effect of their activities to the public had not been well documented until recently. In 2017, Malaysia was shocked with the news of a 19-year-old fake dentist who gave herself in to the authorities by making a police report of two

customers who did not pay for the services that she provided [12]. The significance of this news alluded to the fact that there was poor public awareness of the law-breaking act of providing dental treatment to the public by non-qualified individuals. It is believed that such case is not isolated. However, reports of fake braces have not been well documented in particular for the scientific audience. In response to better understanding of the situation, the problem of fake braces need some attention in scientific literature. Therefore, the purpose of this expert opinion article is to highlight the typical presentation of fake braces, modus operandi of the fake braces providers, the key problems to oral health from the use of fake braces, and the implications of such practices to the illegal providers.

PRESENTATION OF FAKE BRACES

The fake braces were often fitted from a premolar on one side to the contralateral premolar on the other side, however, some were fitted to extend up to the first permanent molars (Figure 1). Generally, fake braces were fitted without orthodontic/molar band (Figure 2). The brackets or tubes were usually not accurately positioned with majority being placed in the middle or upper third of the teeth, while the brackets positions on displaced teeth were adjusted such that all brackets are arranged in a straight line for easy engagement of the archwires (Figures 1 and 3). The clinical photos (Figures 1 to 3) were taken during personal encounter of fake braces cases by the authors at their practice. In some other cases, the braces had small dimensioned round archwires, which can be assumed were selected to facilitate easy engagement to the bracket slots. The archwires were held onto the brackets with elastomeric modules or powerchains in various colours. Other article has reported on the use of cyanoacrylate resin (plumbing adhesive) to fix the brackets onto the tooth surface [9].



Figure 1: Fitted fake braces from left to right first molars but had inaccurate bracket positions.



Figure 2: Fitted fake braces with no orthodontic/ molar band and inaccurate position of orthodontic brackets.



Figure 3: Fitted fake braces that had excluded the first permanent molars.

FAKE BRACES PROVIDERS, THEIR MODUS OPERANDI AND SOCIAL MEDIA ADVERTISING

Fake braces providers are ordinary individuals who are neither properly qualified nor professionally trained. It is believed that their source of training is mainly from the internet such as YouTube videos, social media, and DIY tutorials [9,11]. Such teaching tools are often sourced from websites of dental professionals and manufacturers of dental products. Though initially intended for sharing clinical knowledge, the ease to access the hands-on videos has led to the potential misuse of such materials by irresponsible individuals.

Access to global online purchasing and e-commerce have also contributed to the ease of obtaining dental materials at low prices [13]. There is limited action by authorities to hold manufacturers responsible for selling healthcare products to non-authorized vendors.

In Malaysia, fake braces providers advertise their business through social media such as Instagram

(Facebook Inc, San Francisco, California, United States), Facebook (Facebook Inc, Menlo Park, California, United States) and WhatsApp (Facebook Inc, Mountain View, California, United States) applications. For example in Malaysia, potential clients can easily search for the service on social media using hashtags (#) such as “#bracesmurah” or “#cheapbraces”. A summary of selected posts from hashtags search on Instagram (up to 9th August 2020) is presented in Table 1.

Table 1. Summary of selected posts from hashtags search on Instagram

Instagram account	Posts	Followers
bracesmurahmurah	267	22, 000
gigi_braces	680	20, 000
bracesmurah_bybabyy	19	5,558
bracesmurahkedah	468	3, 934
fake.braces	1,034	2,111
bracesmurahtaiping	873	1, 898
bracesmurahbanting	191	1, 689
bracesmurahshahalam	888	971
bracesmurahseremban	822	709

* Translations: *gigi* (teeth); *murah* (cheap); Kedah/ Taiping/ Banting/Shah Alam/ Seremban (names of location)

The examples of social media page (public account) of fake braces providers are presented in Figures 4 and 5. The social media business platform is used to influence the public by posting photos of their ‘self-claimed successful cases’, ‘positive patients’ reviews’, immediate treatment, and most importantly the low cost of fitting the appliances. To avoid arrests, they shift the locations of their activities frequently and move from one place to another. They also tend to erase their social media accounts together with their contact numbers after fitting a number of fake braces, and create a new account to engage on a new patient pool (i.e. new Instagram account notification in Figure 5a). Their operational hours vary from weekdays to public holidays and extended hours including midnight (Figure 5b). The fake braces are often fitted at homes (Figure 6), in hotel rooms or at beauty salons with poor infection control that may expose clients to infections such as Hepatitis B, Hepatitis C, and HIV. Infections can be directly transmitted via oral fluids, blood, contaminated instruments, and surfaces or via the respiratory system [14,15]. People also claimed that fake braces providers often use beds, pillows, and nail clippers to fit the fake braces instead of using the dental chair and dental instruments [16]. The inappropriate instrumentation and non-sterile environment

without a proper suction system while fitting the braces may lead to injury and chemical burning of the soft tissues caused by acid etching and bonding materials.

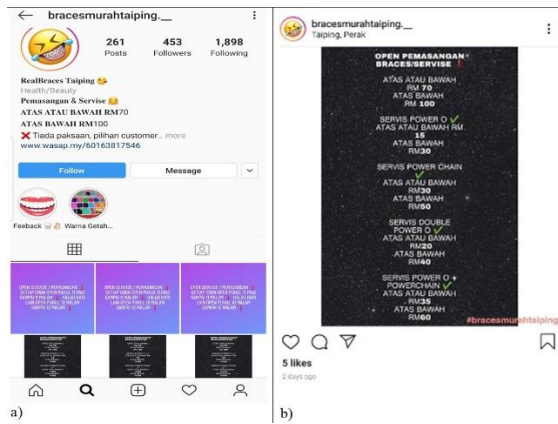


Figure 4: a) A screenshot of Instagram page of a fake braces provider from hashtags (#) search; b) The advertisement includes services offered and price list for fitting the appliances. (source: access from Instagram public account).

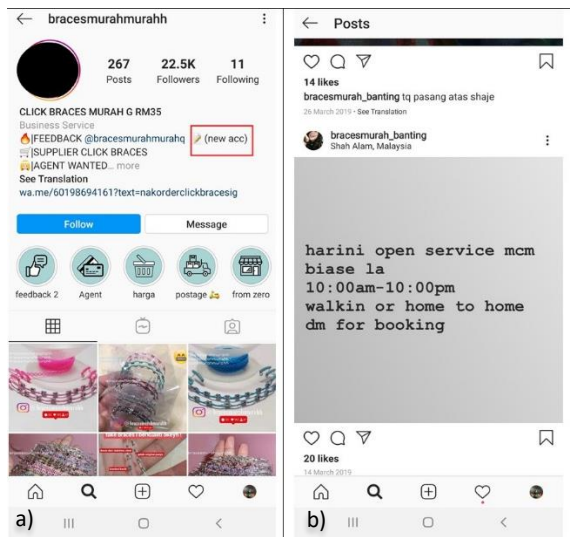


Figure 5: a) An example of Instagram post about click braces with new account notification; b) An example of Instagram post about fake braces service operation hours (source: access from Instagram public account).



Figure 6: An example of Instagram post about fake braces installation service at home (source: access from Instagram public account).

COMPLICATIONS OF FAKE BRACES

Orthodontic treatment has many benefits in terms of functional, dental health, and improvement of self-esteem. Nevertheless, orthodontic appliances may cause complications if adequate care is not taken during the course of the treatment [17]. It is important for the patient to be aware of the potential risks to oral health for undergoing orthodontic treatment. If the braces are fitted by a qualified dental practitioner, this risk can be minimized or avoided completely. Fake braces fitted by unqualified individuals may lead to many complications and have no clinical benefits to the patients. For example, in media reports, fake braces have been reported to use elastic modules (or also known as o-rings) that are of varying shapes that

appear to resemble animals and cartoons [6], which may hinder the cleaning process. Plaque may accumulate and induce the development of gingivitis. In addition, the presence of poor oral hygiene and pre-existing untreated periodontal disorders can contribute to significant and permanent periodontal damage [18].

Fake braces providers usually fit the braces without clinical investigations and records such as radiographs and study models. Thus, the braces are placed without proper planning and accurate diagnosis. The placement of braces with an active wire in a moderate to severe crowding cases may induce recession of the gingiva because teeth tend to move into the area of least resistance. The uncontrolled movement of teeth away from the physiological boundaries, and using high forces may move the teeth out of the bone simultaneously causing loss of vitality of the teeth [19,20]. The placement of brackets in fake braces usually does not follow the correct position of individual teeth. The effect, when used with active archwires or elastomerics, may cause uncontrolled movement of the teeth. For example, intrusion of teeth which concentrates forces to the apex of the root may induce root resorption [21].

Fake braces fitted using metal brackets in some patients may induce allergic reactions because the materials may not be tested and certified safe for use in the oral environment. Certain metals may contain nickel which is a common allergen [22]. Nickel-induced contact dermatitis is a Type IV delayed hypersensitivity immune response that can trigger within 24 hours after exposure [23]. However, more severe reactions in the form of eczema and urticaria may occur in a few individuals that could be fatal [22]. There have been fatality cases reported in Thailand where the cause of death of two teenagers was attributed to the use of fashion braces [6, 24]. The laboratory analysis by Thailand authorities showed that the fake braces used were made from materials of poor quality which contained toxic heavy metals such as cadmium [24].

A local laboratory analyses of fake braces showed that many fake braces have design flaws in relation to the brackets and structures [25]. In terms of bracket designs, although they resemble the actual orthodontic bracket, the designs were inconsistent and substandard. The authors reported that the quality of fake braces brackets was poor, with evidence of crack lines and cavitation when observed under scanning electron microscope. In addition, the irregular and unpolished texture of

the bracket surface made them prone to breakages, thus increasing the risk of traumatic ulcers to soft tissue as well as swallowing fractured bracket [25].

IMPLICATIONS FOR THE PROVISION OF TREATMENT

Similar to most countries, under the Malaysian law, the practice of fitting fake braces is illegal. To practice dentistry, a person must possess a recognized dental qualification of Bachelor of Dental Surgery from an approved training institution. In addition, he must be registered with the Malaysian Dental Council and the local council where he works, and practice dentistry at registered and safe premises [26, 27].

The implications of fake braces extend beyond the patients' oral health as they have no legal rights for damages in the event of an injury or health-related issues arising from wearing fake braces. However, patients and the public have the right to complain about this malpractice to the authorities for further action.

The provision of fake braces violates the Dental Act 1971 (Act 51) [26], Dental Act 2018 (Act 804) [27] and the Private Healthcare Facilities and Services Act (PHFSA) (Section 27) 1998 [28]. A number of fake braces providers in Malaysia have been charged under Section 4(1) of the Private Healthcare Facilities and Services Act 1998, which provides a fine up to RM300,000, or a maximum jail sentence of six years, or both if found guilty [7]. Similar penalty enforcement was reported by Thailand authorities who imposed steep fines and prison sentence to unqualified individuals who fitted fake braces on Thai teenagers [24]. Hopefully, with this enforcement in place, there will be a downward trend in fake braces activities. Continuous efforts are needed to increase public awareness towards orthodontic treatment and service provision in Malaysia.

In addition, policies and regulations for dental advertising vary between countries from very strict to very lenient [29]. The public is at risk of being misled by false advertising claims. In today's era of advanced computer and internet technology, many dental professionals and irresponsible individuals advertise their treatment through websites, social media, and mobile applications. To counter the fake braces social media advertising, the dental authority can adopt a similar approach by means of social marketing [30]. In this case, social marketing strategies can be used to educate the public against

the dangers of fake braces and persuade the public from using these illegal services.

ROLE OF COMMUNITY IN COMBATING FAKE BRACES

Many efforts have been done by the Malaysian health authorities to educate the community about the danger of fake braces. However, the success to combat this illegal orthodontics also rely on the community's cooperation. The public are encouraged to be responsible in choosing clinicians and do not support illegal orthodontic practice [31]. For example, some of the social media accounts of fake braces providers clearly stated that they were not qualified dentists and the treatment was provided in a non-clinical environment. However, many individuals were still willing to use their services as the price was relatively cheaper. The public should be aware that it would cost them a lot more to correct the detrimental effect of poorly fitted braces [31, 32]. The community should play an active role and work together with healthcare professionals to curb this problem and should not be afraid to come forward to lodge a report to the authorities for any suspicious activity of illegal dentistry.

CONCLUSION

This paper highlights the typical presentation of fake braces and their harmful effects on oral health. Social media advertising, the promise of immediate treatment, low treatment cost, and convenient practice location are the contributing factors for individuals with lack of awareness to seek orthodontic treatment from unqualified individuals. Therefore, it is important for health authorities to combat against this illegal practice for the safety of the patients and to educate the public against the danger of fake braces. The public also play a crucial role to curb this problem by lodging complaint to the authorities and not support illegal orthodontic services.

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The authors report no conflicts of interest. The authors alone are responsible with the content of this article.

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