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Review Article

Quackery

Quackery: The appalling parallel of dentistry- an Indian perspective

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"Quack" has been defined by Random House Dictionary as "a fraudulent or ignorant person who pretends professionally or publically to have skill, knowledge or qualifications he or she does not possess."[1] This unethical and unauthorised practice has roots as deep as unemployment and poverty run in a developing country like India. Few factors like the exponential population growth further exacerbate these problems rendering inadequacy to many essential schemes and services. This paper tries to trace back the menace of dental quackery to the grass-root level suggesting the remedies to curb it successfully. It also highlights the detrimental effect of this unhygienic and crude practice on oral health. It describes few prognostic indicators for the supporting teeth involving quack prosthesis through the eyes of a prosthodontist.

Keywords: Dental ethics, Dental quacks, Quack dentistry, Street dentistry, Unethical dental practice

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Introduction

Dental quackery has been a problem in India for decades. More prevalent in the rural and suburban areas, quackery is increasing at an alarming rate in urban areas. The question is, how is this unlawful and unethical practice growing and flourishing? The answer to this lies in the fact that the majority of the Indian population (70%) is residing in rural areas, and a majority of the people are below the poverty line. Along with the unequal distribution of people, in India, the dentist: population ratio is 1:10,000 in urban areas while it is as low as 1:2,50,000 in rural areas.[2]. The population is one of the leading causes for the inadequacy of dental services. In India, every year, 12,000 dentists graduate from colleges with a dentist to population ratio of 1:15,713, while the World Health Organization (WHO) recommends a dentist to population ratio of 1:7,500.[3].

The procedures performed by the quacks are highly crude, and they use unsterilised equipment for this malpractice. This lack of knowledge and required expertise often leads to many complications sooner or later, a few of which, like space infections, might cause permanent impairment. In contrast, other infections like HIV, hepatitis B, etc., might go unnoticed and lead to fulminant disease in later years of life.[4] In some parts of India, especially in rural parts of Western Uttar Pradesh, it is seen that quacks visit villages on a bicycle with instruments like screwdrivers, dividers, used syringes, pliers etc. This form of quackery is known as 'street dentistry'. [3].

Discussion

Dental quackery: Reasons and Remedies: There are many reasons for the growth and flourishing of dental quackery, 'poverty' being at the epicentre. The need for dental treatment is often neglected until the advanced stages when the pain becomes unbearable. The immediate dental attention at low costs or lack of knowledge and awareness coupled with inaccessibility to dentists leads to the growing demand for dental quackery catering, especially the medium-low socioeconomic strata. The peers' misguidance as "the permanent and fix solution to all dental problems" further develops a sense of trust in the dental quacks. Naidu et al. reported that as high as 67% of the people in need of dental treatment visit dental quacks.[5].

Dental quackery can be curbed only if the Government of India, the Dental Council of India, the dental professionals and the educated people join hands and work together in an organised manner. A survey needs to be carried out for knowing the exact reasons as to why people in a particular geographical area are inclined towards this mockery. On finding the underlying causes, the local government authority can take the necessary measures to eradicate if effectively. Table 1 describes the reasons for the growth of dental quackery along with the recommended measures that can be taken to curb it respectively.

The medical council discusses many policies of formally training and absorbing quacks to ensure basic facilities to the villages as the qualified doctors are not willing to migrate to villages. On the dental side, this possibility needs to be scrutinised, keeping in mind that the dental profession should not be undermined. Care needs to be taken not to motivate quack dentistry by making it legalised.[3]. World Health Organization (WHO) recommends training dental licentiate, dental aid, frontier auxiliaries to promote dental treatment in rural areas.[6].

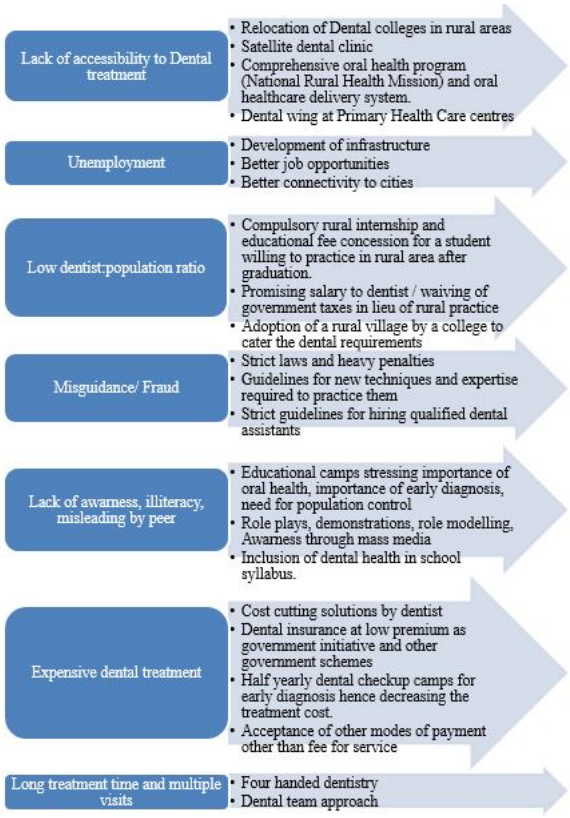

Table 1. Quack dentistry: Reasons(*on the left*) respective remedies(*on the right*)

Government regulations: Jain has classified the oral healthcare providers in India into five categories.[7]. The auxiliaries such as lab technicians, dental assistants, etc., who are unauthorised and yet unlawfully practice dental procedures also have been designated as 'dental quacks'. Professional medical practitioners are also reported to practising dental procedures, which is out of the scope of their expertise.[7].

Section 49 (1) of the Dentist Act of India (1948) are the standards by which an individual can be designated as a dental quack.[4] Quacks unauthorised and untrained have inherited the art of dentistry from their ancestors while partially trained dental assistants and lab technicians acquire formal education and learn the techniques by observing the dental surgeon, later on starting their practice at low costs.[7]. Chapter V, Section 49 of the Dentist Act of 1948 in India, entails all dentists, dental mechanics, and dental hygienists to be licensed. Therefore, under this act, these quacks have succumbed to imprisonment and penalty.[4].

Clinical presentation of quackery through the eyes of prosthodontists: With the hope of getting an easy and quick remedy for their dental problems, many people often end up with botched procedures that are painful as well as destructive, causing irreversible damage.[8]. Not only are the restorative procedures attempted by quacks, but also advanced procedures like teeth whitening and alignment of teeth are being practised. Chaudhary et al. reported a case of pulp exposure caused by 57% hydrogen peroxide given by quack to remove stains.[9]. Another case was reported by Chalakka et al. in which, to treat the proclamation, two healthy anterior teeth of a child were capped by the metal crown.[10].

The malpractices carried out by quacks are crude, unhygienic and unethical that do more harm than good to the person. In India, many partially edentulous patients who visit quacks for getting fixed artificial teeth can be commonly seen with wires abruptly wound around the adjacent natural teeth. These 'fix dentures' cause a lot of trauma to the periodontium and produce a lot of undue stresses leading to bone loss and eventually loss of the supporting teeth. No consideration is given for the length of the edentulous span. Frequently the wires are displaced subgingivally, which act as a fertile ground for the growth

Of micro-organisms and food accumulation, leading to gingivitis which, if not treated, may lead to periodontitis. Another way of fixing artificial teeth is seen in-ring plating, i.e. inserting acrylic in between the natural teeth.[8]. (*Fig 1*)

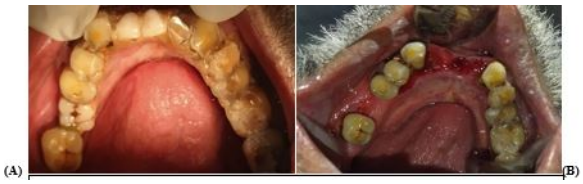

Figure 1. A, Quack prosthesis with acrylic teeth (36, 31, 32) and acrylic inserted in the interdental region;B, The amount of destruction and loss of 42 due to poor periodontal support.

Quacks most commonly use Self-cure acrylic resin for fixed artificial teeth and restorative material in cavities on vital teeth irrespective of their dimensions. Self-cure acrylic used directly in the oral cavity leach out a lot of monomers which is a known carcinogen.[8]. Self-cure acrylic resin sets by the exothermic reaction, which may cause irreversible pulpitis if used as restorative material on vital teeth.[1]. These attempted restorations violate many principles in dentistry, leading to eventual failure.

In completely edentulous patients, it is common malpractice to use the suction disc incomplete maxillary denture as means of added retention.[8] Usually placed in the anterior region of the hard palate, the use of suction creates negative pressure and not only causes bone resorption followed by perforation of the hard palate but also may lead to malignancy.[1]. (Fig 2)

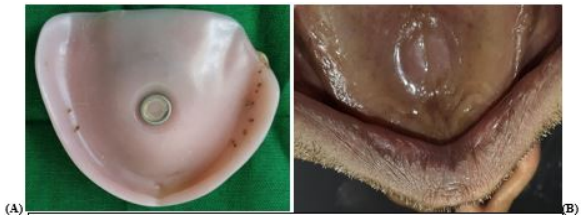

Figure 2. A, Maxillary complete denture with suction disc; B, The circular lesion seen in the form of bone loss and soft tissue.

In the wake of the Covid-19 crisis, many people have suffered financially. With many dentists only catering the emergency dental treatments, the dental quacks have seized the opportunity of attracting even the educated people

To seek a dental remedy and have even attempted to complete the ongoing prosthodontic treatment.

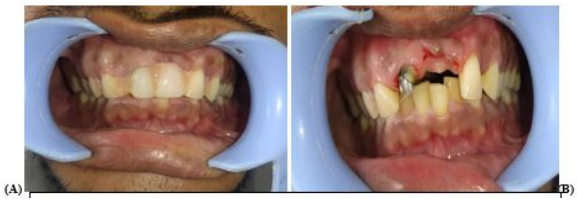

Figure 3. A, Quack prosthesis with respect to 11,21; B, Ongoing prosthodontic treatment with post and core with respect to 11 and single tooth dental implant with respect to 21.

All these manifestations of injury, inflammation of oral mucosa, mobility of teeth, gingival recession and bone loss, caries make the treatment plan cumbersome for the patient needing the attention of various dental specialities. It becomes a cumbersome procedure for the dentist to undo the wrong work done by the quack, often requiring a team effort of multiple dental things.

Prognostic indicators for abutment teeth supporting a faulty prosthesis: Dental quackery not only undermines one's oral health but also violates fundamental normative principles like non-maleficence, beneficence and justice. This baneful practice in many shapes and forms annihilates the periodontium and weakens the tooth engaged by such an evil prosthesis. It is therefore essential to gauge the amount of trauma the teeth are subjected to and make necessary amends for an excellent dental prosthesis. The prognostic indicator is a simplified index that combines the clinical and radiographic findings introduced to categorise the amount of trauma borne by the individual tooth and the management of such trauma towards delivering a comfortable and long-lasting prosthesis.

A prognostic indicator is a tri-level approach comprising of

A) Bleeding on probing (BOP)- Gingival indicator

B) Clinical attachment loss (CAL)- Periodontal indicator

C) Radiographic indicator- Restorative indicator

Each of these three indicators is to be used individually to score the values about the traumatised teeth, the single highest score amongst which is to be considered and interpreted. The highest single score out of the three categories Should be considered. When in doubt, assign a higher score.

A) Bleeding on probing (BOP)- Gingival indicator

The amount of trauma caused by the faulty prosthesis varies and depends on several factors of which 'oral hygiene practices' and 'time' play an important role. With less time elapsed, the trauma caused may be limited to the gingiva alone. The gingival indicator reveals the health of gingival tissue and can be evaluated by careful inspection and bleeding

On probing. For checking bleeding on probing, use the periodontal probe and walk through the sulcus. Avoid excessive pressure to prevent deliberate injury to the sulcular epithelium and bleeding as a result of it.

Score	Stage	Description
0	Healthy gingiva	Gingiva with well contoured and orange peel appearance
1	Mild gingivitis	Localised colour change, oedematous marginal gingiva yet BOP absent
2	Moderate gingivitis	Red oedematous gingiva with bleeding on pressure
3	Severe gingivitis	Marked redness, ulceration, hypertrophy due to chronic irritation along with the tendency of spontaneous bleeding

(Source: H Loe. The gingival index, the plaque index and the retention index systems J Periodontol 1967;38:610-616).

B) Clinical attachment loss (CAL)- Periodontal indicator

The progression of gingivitis into periodontitis is a common occurrence endured by the teeth engaged by the faulty prosthesis. Clinical attachment loss is the distance between the comento-enamel junction (CEJ) and the bottom of the gingival sulcus, which is calculated as the difference between the probing depth (PPD) and the distance between the CEJ and the free gingival margin. CAL measures the incidence as well as the prevalence of the amount of destruction caused to the periodontal ligament as well as the alveolar bone.

Score	Stage	Description
4	Mild periodontitis	< 1-2mm Clinical attachment loss
5	Moderate periodontitis	3-4mm Clinical attachment loss
6	Severe periodontitis	≥ 5mm Clinical attachment loss

(Source: Flemming T.F. Periodontitis. Ann Periodontol 1999;4:32-37).

C) Radiographic indicator- Restorative indicator

Food accumulation coupled with limited oral hygiene in inaccessible parts of a faulty prosthesis leaves fertile ground for the growth of cariogenic micro-organisms resulting in irreversible damage, sometimes rendering the tooth nonrestorable. Caries due to defective prostheses is most commonly seen on the surfaces of teeth underlying the prosthesis. Sometimes the vital teeth are sectioned abruptly and over which a faulty prosthesis is made. For the longevity of the prosthesis, it is essential that the abutment teeth sufficiently resist occlusal forces.

Score	Radiographic Description
3	Radiolucency involving enamel or enamel and dentin
4	Radiolucency approaching or involving the pulp
5	Periapical changes suggestive of loss of vitality of the tooth
6	Coronal or radicular, proximal, cavitated caries rendering the tooth nonrestorable

A score of 1-3 mild destruction of the abutment tooth structure and supporting gingiva indicative of restorative and oral prophylaxis followed by prosthodontic treatment

A score of 4-5: Moderate destruction needing a root canal and periodontal flap surgery with or without bone grafting following a minimum of 2 weeks healing period before commencement of prosthodontic treatment. Splinting might be required.

Score 6: Severe destruction of the tooth structure and periodontium, rendering the tooth unfit to be considered an abutment tooth for a prosthesis.

Conclusion

Dental quackery is an unconventional, unhygienic and unethical means of treating dental conditions, which for the betterment of people, need to be curbed. It is essential to know why quackery in a particular region is prevalent to establish measures to uproot it from our society once and for all. The use and reuse of unsterilised equipment, lack of aseptic conditions predispose people to many cross infections, some of which, e.g. HIV, Hepatitis B etc, can be incurable or lethal. If not stopped, it is just a matter of time when these malpractices undermine the national heath.

Dentistry as a profession has come a long way to be considered as one of

The most respected professions. It is our responsibility to protect this hard-earned reputation. This is a long battle that needs to be fought on many fronts simultaneously, with the Government of India and The Dental Council of India being at the forefront formulating and executing a solid policy to culminate this unethical practice. Along with stringent laws, their unbiased execution is essential. Ethical dentists should strive hard to break this symbiotic association of quacks over qualified practitioners.

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