

Bamboo Mouth Mirror with Probe: A Sustainable Innovation in Oral Diagnostics

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Abstract

OBJECTIVE: This innovation is made to ease the work of the dentist in terms of extraoral examination and restrict the risk of infection.

MATERIAL AND METHOD: The tool that is used for providing indirect vision for easy viewing of patient's teeth. Use of bamboo is a new initiative as it is eco-friendly and restricts the risk of infection.

RESULT: The bamboo mouth mirror is eco-friendly, cost efficient and has no side effects. Bamboo mouth mirror with probe can be used as an effective product by dentist.

CONCLUSION: The prototype of bamboo mouth mirror with probe which is made by bamboo, probe and mirror has been created using natural product.

KEYWORDS: Bamboo mouth mirror with probe, indirect vision, mechanical process, eco-friendly.

INTRODUCTION:

Improvements of health degree is important in everyday life to get a healthy generation. Health problems that occur in Indonesia are increasing, especially dental and oral health. One of the dental and oral diseases that ranks highest in oral cavity is dental caries and cavities.¹ Dental caries, otherwise known as tooth decay, is one of the most prevalent chronic diseases of people worldwide, it occurs in 95% of world population.^{2,3} Individuals are susceptible to this disease throughout their lifetime.² Dental caries is an infectious disease and a progressive demineralization process on the hard surface of the crown and root of the tooth that can be prevented.⁴ Improvements of health degree is important in everyday life to get a healthy generation. Health problems that occur in Indonesia are increasing, especially dental and oral health. One of the dental and oral diseases that ranks highest in oral cavity is dental caries and cavities.¹ Dental caries, otherwise known as tooth decay, is one of the most prevalent chronic diseases of people worldwide, it occurs in 95% of world population.^{2,3} Individuals are susceptible to this disease throughout their lifetime.² Dental caries is an infectious disease and a progressive demineralization process on the hard surface of the crown and root of the tooth that can be prevented.⁴

In order to get rather live a healthy life improvement in our health degree is very crucial. Health related problems that occur now a days are increasing in rapid manner, especially if we see the dental or the oral health. The most common and highest ranked dental disease in the oral cavity is that of Dental Caries. Dental caries also commonly known as **tooth decay**, is one of the most enduring diseases of people worldwide. Dental Caries are the most common noncommunicable disease worldwide. Severe dental caries affects general health and often causes pain and infection, which may result in tooth extraction.

Data from WHO says that globally, it is estimated that 2 billion people suffer from caries of permanent teeth and 520 million children suffer from caries of primary teeth. In most low and middle income countries, the prevalence of oral diseases continues to increase with growing urbanization and changes in living. Treatment for dental caries are carried out to reduce the bacterial activity and prevent the rapid spread by doing conservative treatments that are supported by the use of the oral diagnostic instrument i.e.; Mouth mirror, probe. Mouth Mirror and Probe are one of the most crucial oral diagnostic instruments used in dentistry, especially by the dentists to see inside the patient's oral cavity.

PRIMEVAL USE OF BAMBOO:

The earliest evidence of bamboo usage dates back to ancient China, where it was used to make weapons, musical instruments, and writing materials. Bamboo was also used for medicinal purposes in traditional Chinese medicine. Bamboos are the fast-growing woody grass plants; it has indisputable potential as a sustainable resource for a wide range of utilizations. Bamboo is a raw material has a beautiful aesthetic, good mechanical strength and harvested in short rotation periods. They are found to contain vitamins and minerals like selenium(an antioxidant), and potassium, a healthy heart mineral in amounts that would sustain a healthy human body. From olden times to the modern day, bamboo has been a staple material for people around the world.

FIGURE:1



Bamboo is used in traditional medicine in many cultures. It is believed to have healing properties and is used to treat various ailments, such as respiratory issues, digestive problems, and skin conditions.

BAMBOO MOUTH MIRROR WITH PROBE:

It is important for maintaining the health of your smile as well as your overall health. Unaddressed tooth decay or any gum disease can lead to infections. Here in today's scenario let's see how bamboo acts in dentistry as a product.

The most commonly used diagnostic instrument is the Mouth Mirror and the Probe. It is used to have an indirect vision, retraction, reflection, tissue protection of oral cavity, checking for periodontal pockets, gingival bleeding. Usage of bamboo doesn't involve any mechanical process in production of mouth mirror with probe. Although plastic is also used in place of wood or steel yet bamboo is a natural product having merit with respect to hygienic and eco-friendly.

FIGURE:1



Cost of bamboo is very less as compared to steel which is presently used in the process of producing mouth mirror. Very less investment required for preparation of mouth mirror inducing usage of steel or plastic.

MAKING OF BAMBOO MOUTH MIRROR WITH PROBE:

Firstly, the Bamboo were broken and cut into pieces of the desired sizes. It was then peeled in order to remove the pointed spikes.

FIGURE:4(A)



After giving the desired size to the handle of the mouth mirror with probe, then the shank was made. Then all the parts were joined together using an adhesive. As shown in figure:4(B)

FIGURE:4(B)



After joining all using the adhesive the **BAMBOO MOUTH MIRROR WITH PROBE** is made. As shown in the next figure4(C).

FIGURE:4(C)



IMPORTANCE OF BAMBOO MOUTH MIRROR WITH PROBE:

As an attempt as BAMBOO MOUTH MIRROR WITH PROBE, it is used to have an indirect vision, retraction, reflection, tissue protection of oral cavity. It is biodegradable thus eco-friendly for the environment. It is cost efficient; doesn't rust. Apart from that it has many medical uses like it can be used as an abortifacient for kidney troubles patients.

FIGURE:5(A)



FIGURE:5(B)



VISION FOR THE FUTURE:

INVESTMENT: Cost of bamboo is very less as compared to steel which is presently used in the process of producing mouth mirror. Very less investment required for preparation and too the waste product is less.

EMPLOYMENT: This product will provide a better employment facilities for many, as currently the unemployment rate in INDIA is 3.2%.

ENVIROMENT SAFTY: It best supports in environmental conservation, reducing plastic waste and promoting renewable resources in order to protect natural habitats. It is biodegradable thus eco-friendly for the environment It will trend towards a greener, healthier practice in oral healthcare sector.

CONCLUSION:

To sum up, the bamboo mouth mirror with probe provides a sustainable and environmentally friendly alternative to plastic and steel dental instruments.

The use of this product also supports environmental conservation, reducing plastic waste and promoting renewable resources in order to protect natural habitats. While maintaining the required functionality and durability for dental procedures, bamboo-mouth mirror with probes is in line with a trend towards greener, healthier practices in healthcare.

As the dental profession continues its transformation into an industry that follows sustainability principles wholeheartedly, one thing is clear: bamboo-mouth mirrors with probe will be a key player.

REFERENCES:

1. <https://en.wikipedia.org/wiki/Bamboo>
2. <https://blog.foreverbamboo.com/history-of-bamboo/>
3. <https://www.intechopen.com/chapters/61253>
4. https://www.researchgate.net/publication/340895232_Three_in_one_dental_mirror_inovation_of_or_al_diagnostic_instrument