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Knowledge and awareness about indigenous knowledge system in dental practice - A survey

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ABSTRACT

Indigenous information frameworks structure the fundamental comprehension of conventional culture and aptitudes. These are old ways of thinking created by social orders and networks long accounts back. Nature and mountain encompassed individuals, as a rule, have the nearby clinical information and dealing with and settling on choices which are key in everyday life which is being known by everybody and being drilled. The point of the overview is to examine general information on Indigenous frameworks in Dental practices. Cross-sectional overview utilizing a poll of 12 inquiries which were embraced and changed from past investigations and structured in a less difficult inquiry led among the Undergraduates and Postgraduates of Saveetha Dental College and Hospitals. Among the absolute understudies, the dominant part of them know about the Indigenous Knowledge System (75%) and remaining need some more mindfulness projects and battles in Indigenous Knowledge System. The reports from the review presumed that Indigenous Knowledge Systems have a significant job in Dental practices and from the outcomes we can see that individuals are happy to utilize the customary plants and follow the conventional strategies in a day by day life.

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INTRODUCTION

As per the term given by WHO 'Indigenous Knowledge System' was to be comprehended on the grounds that the aggregate of information, aptitudes and practices situated in hypotheses, convictions and encounters indigenous to various societies that are wont to keep up and improve well being likewise on the forestall, analyze and treat the physical and mental ailment. The WHO includes an unmistakable fascination for archiving the restorative use by native individuals from various pieces of the world (Bessong *et al.*, 2005; Ezhilarasan *et al.*, 2017a). Indigenous information methods for utilizing therapeutic plants for mending human illnesses were anyway in hazard of step by step getting terminated, in light of the fact that this information is passed in orally from age to age without the help of orthography and since numerous customary healers don't keep records in the composed report (Swargiary *et al.*, 2019; Sharma *et al.*, 2019).

There are a few points of interest for individuals in country zones choosing for customary prescriptions: conventional are ordinarily to be found inside moderate closeness to their homes, they're familiar with the patient's way of life and condition and costs identified with those medicines are not worth considering or stressing over (Youssef *et al.*, 2011; Perumalsamy *et al.*, 2018). India includes a rich and living convention of mending. A Huge measure of clinical information has developed India over 1000years through experimentation trade and osmosis between differing societies. A portion of these advanced frameworks is Ayurveda, Unani, Siddha, Yoga and Neuropathy (Mehta *et al.*, 2019; Chinsembu *et al.*, 2019). Ayurveda has existed in India since about 4000BC. Different frameworks additionally backdate to 100 years. Homoeopathy despite the fact that of German inception is moreover broadly drilled in India (Rajeshkumar *et al.*, 2018a; Palgrave *et al.*, 2000). A large number of those frameworks likewise mull over the mental, moral, philosophical and otherworldly prosperity of a person. They energize sound living which lives consonant with nature. These ideas reverberate with WHO's meaning of wellbeing (Karthiga *et al.*, 2018; Fennell *et al.*, 2004). The same is valid about the drug store educational plan in India. Drug specialists are additionally prompting patients about what meds to take. Drug specialists are an indispensable connection between a specialist's solution and patient. In numerous Awareness overviews about meds, various frameworks of drugs and how they work isn't a piece of the educational plan (Rajeshkumar *et al.*, 2018b; Kaido *et al.*, 1997). For, generally speaking, improvement in the patient's consideration, it is basic that information on different frameworks of prescriptions is joined in their educational program. This monologue appears to be somewhat strange originating from a specialist instructor of pharmacology, but the opportunity has arrived to consider new ideas. The world has proceeded onward towards more prominent incorporation of different frameworks of medicine (Gheena and Ezhilarasan, 2019). The point of any wellbeing framework is to give an ideal treatment alternative to patients. We unquestionably can't do it. At the point when we don't have the foggiest idea what the other clinical frameworks of medication bring to the table (Ezhilarasan *et al.*, 2017b; Menon *et al.*, 2018)

MATERIALS AND METHODS

The survey involves the questionnaire of 12 questions conducted among dental students of 100 population in Saveetha Dental College. The questions are adopted and modified from previous studies which are easier in collecting the data. The sampling is from the previous study with sample size 300. Here They used a reference article for a collection of data. The questions were entered in an online survey website 'Google forms' as Yes/No, Multiple choices and True/False questions and shared among each individual separately through an URL link. After collecting the data, they are entered in excel sheet and coded, and they are analysed using SPSS which is software allowing to make statistical tests, and with Chi-square/Pearson correlation the graphs are represented in Bar and Pie Charts.

RESULTS AND DISCUSSION

From the collected data, we can see that the majority of them are aware of the Indigenous knowledge system. Here a graph created from SPSS shows the comparison and awareness of indigenous knowledge. There is, therefore, the need to include the study of Indigenous Knowledge in curriculum and prepare the youngsters for the promotion of herbal medicines so as to prepare them in future to use herbal medicines and to preserve our Indigenous Knowledge. Traditional medicines are diverse health practices, approaches, knowledge and beliefs that incorporate animals in addition to plants.
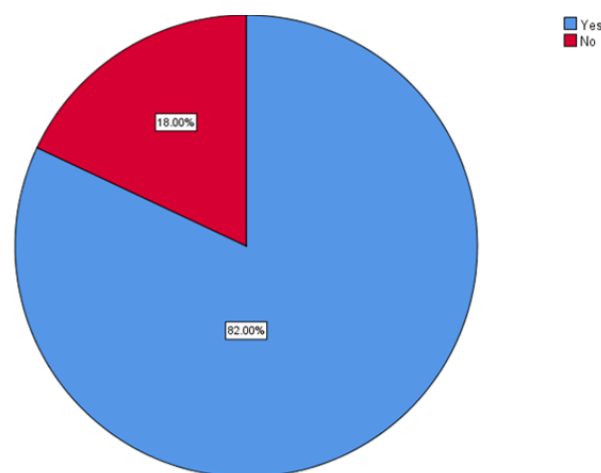

Figure 1: Awareness of Mouthwash from tree extracts.

In the present survey, Males were 51% and females 49%. The traditional healers usually collect the plant in the field dry and crush them before storing plant material in bottles. This is often done to prevent patients from recognizing the plants being used their treatment, which may sometimes be a seemingly ordinary plant growing in their gardens or in the field (Mabogo, 1990). A tree is a woody plant usually with a single stem which can grow to a height of 6m or more (Madikizela *et al.*, 2012). A
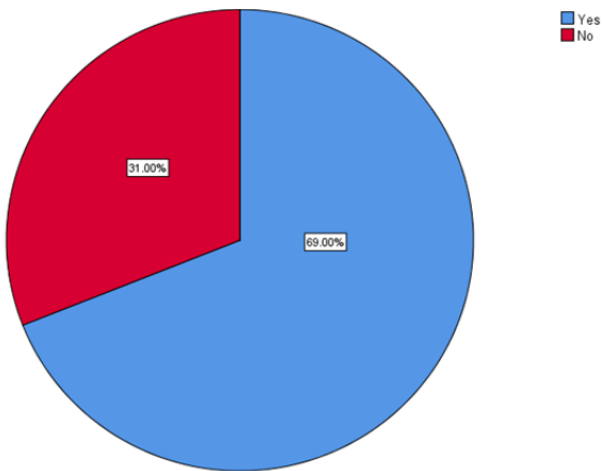
Figure 2: Awareness on Prickly ash which increases saliva flow and relieves toothache.
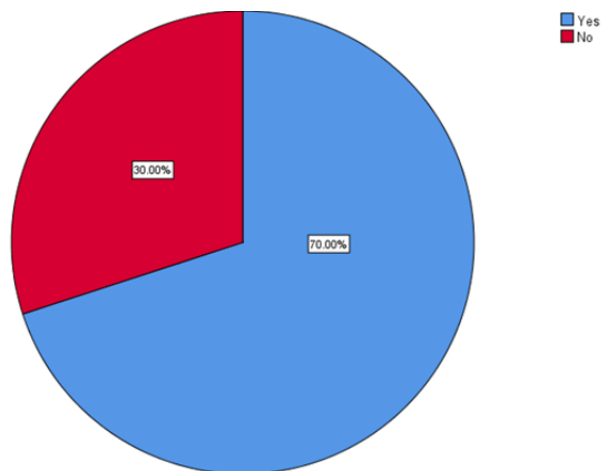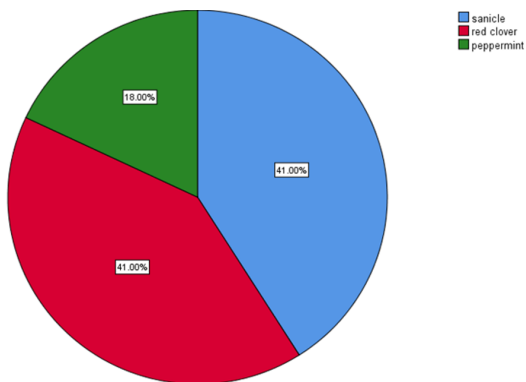

Figure 5: Garlic usage for treatment of scurvy.
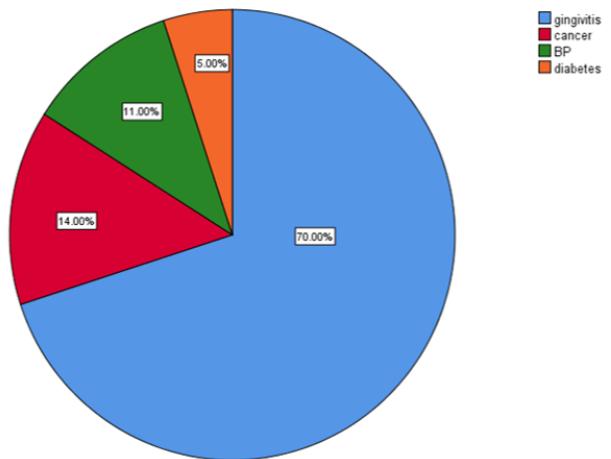

Figure 3: Knowledge on Powerful Indigenous antioxidants.

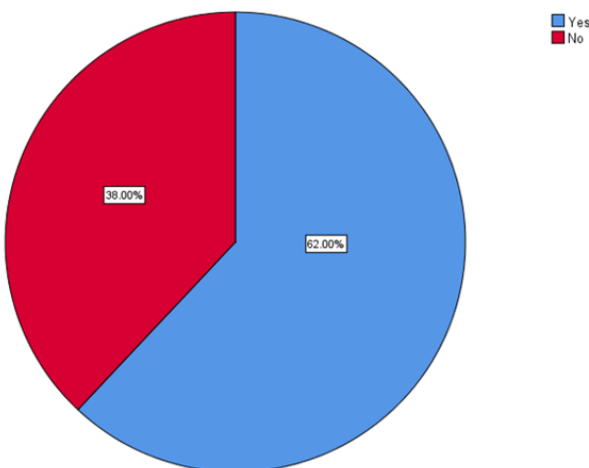**Figure 6: Knowledge on Neem Twigs.**

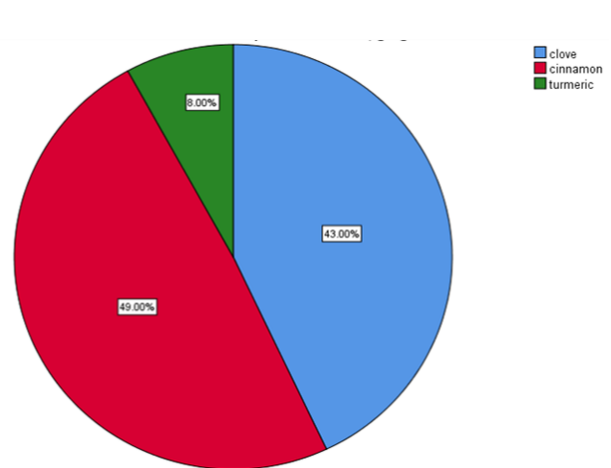**Figure 4: Knowledge on salve made from thymus tree**

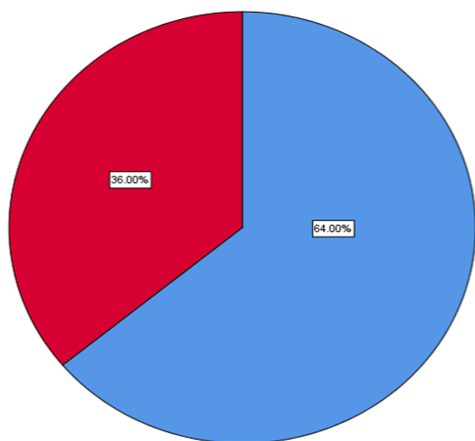**Figure 7: Indigenous knowledge on preventing cavities.**

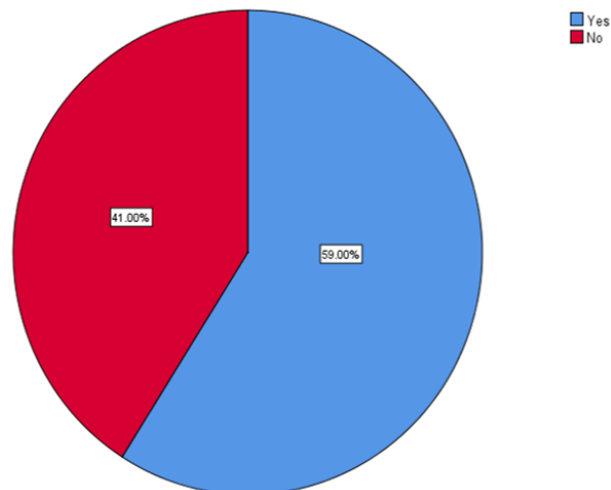**Figure 8: Knowledge on Cranberry.**

Figure 11: Knowledge on Echinacea purpurea plant.
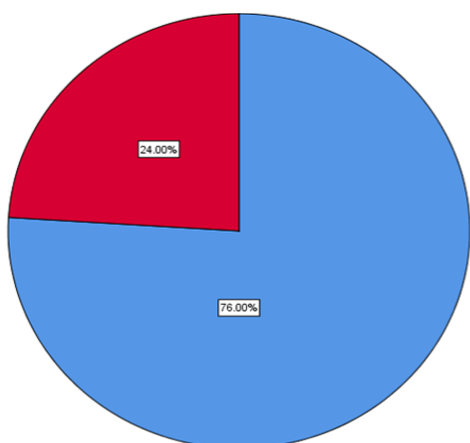

Figure 9: Knowledge on the anti-inflammatory property of aloe vera.
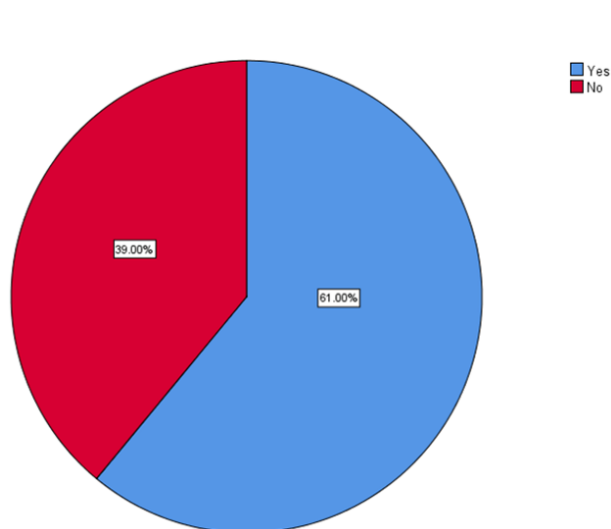

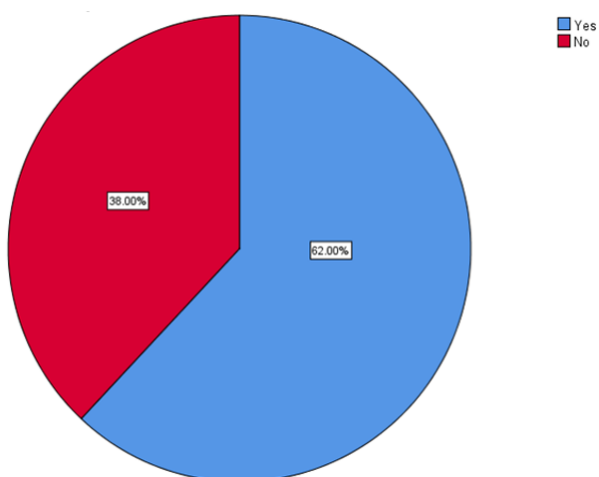**Figure 12: Knowledge on Eucalyptus saligna.**

Figure 10: Knowledge on Ocimum basillicum leaves.
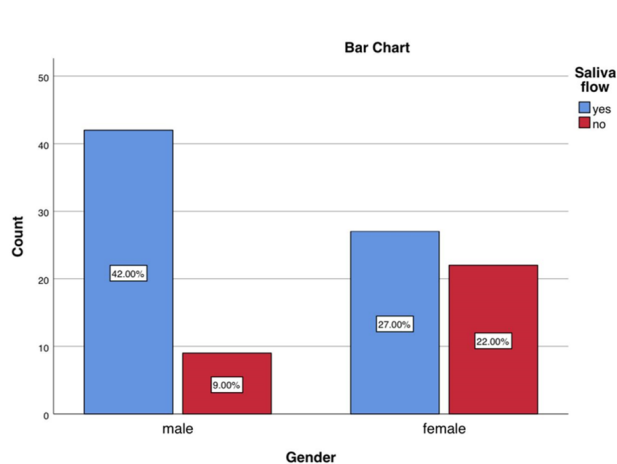

Figure 13: The association between gender and awareness about the prickly ash for increasing saliva flow, relieves toothache.
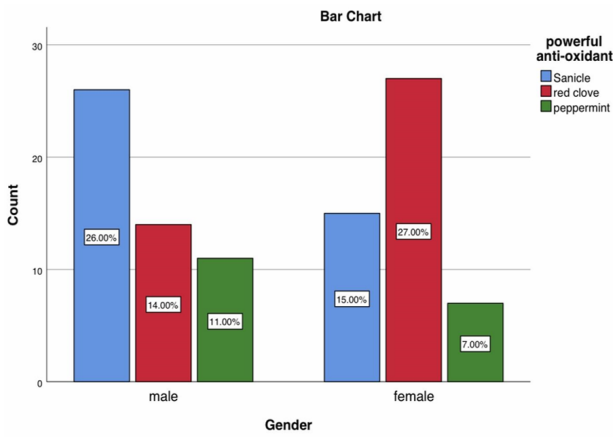
Figure 14: The association between gender and awareness about the powerful Indigenous antioxidants.
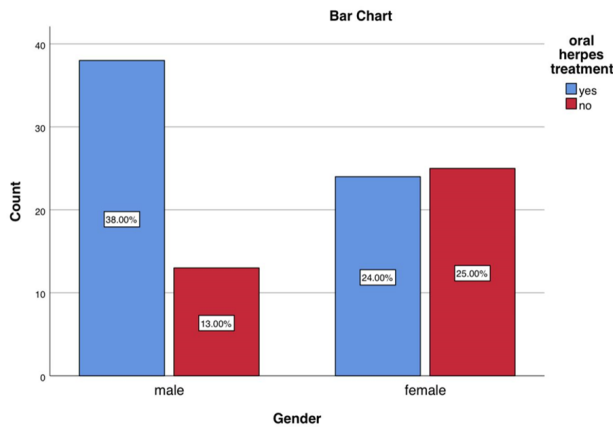

Figure 15: The association between gender and awareness about the indigenous oral herpes treatment.
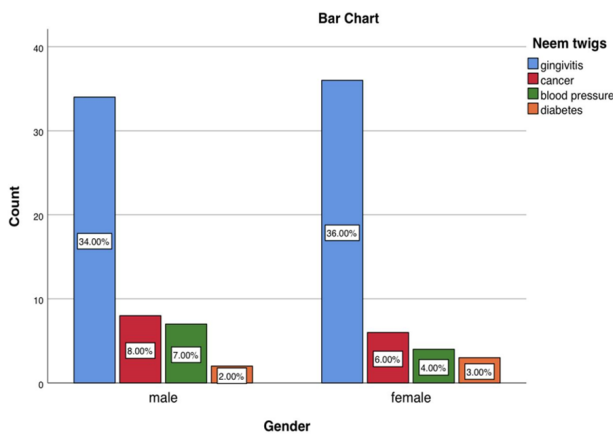

Figure 16: The association between gender and awareness about the Neem twigs.
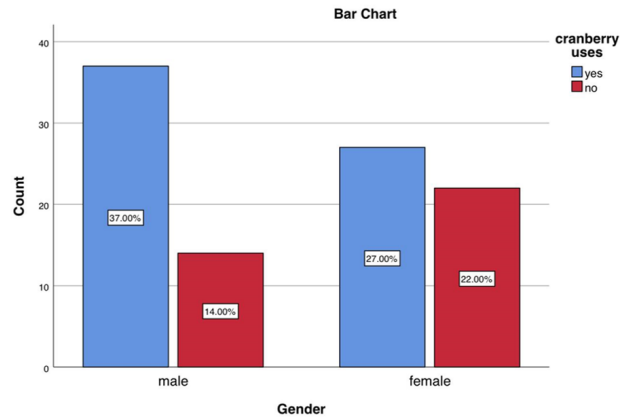

Figure 17: The association between gender and awareness about cranberry uses.

shrub is a woody plant not taller than 2m, but the distinguishing factor is that it has a very short stem with numerous thin branches near the ground and it never grows into a single-stemmed tree (Singo, 1996). A herb is a plant which does not develop persistent woody tissue above ground and either does not develop persistent wood at the end of the growing season or overwinters by means of underground organs (Van Wyk *et al.*, 2008). The plant parts mostly used were the root (44.5%), leaves (25.9%), bark (14.8%), whole plant (11%) and flowers (3.7%). In the present survey the Year of the study of the dental students are 1st year (27%),2nd year (42%), 3rd year (10%), 4th year (10%) and interns & PGs (10%). In Figure 1 showing that 82% of the participants were aware that extracts of trees used for mouth washing and 18% of the were not aware that extracts of trees used for mouth washing. In Figure 2 showing that 69% of the participants know that prickly ash increases saliva flow and decreases toothache and 31% of the participants don't know about the prickly ash used for relieving toothache and increasing saliva flow. In Figure 3, it was showing that 41% of the participants believed that sanicle was a powerful antioxidant for septic wounds and others believed that red clover & peppermint was a powerful antioxidant. In Figure 4 shows that 62% of the participants know that salve made from thymus trees used to treat oral herpes and 38% of the participants don't know about the salve made from thymus trees used to treat oral herpes. In Figure 5 showing that 70% of the participants know that garlic could be used to treat Scurvy and 30% of the participants don't know that garlic could be used to treat scurvy. In Figure 6 showing that 70% of the participants knew that Neem twigs were used to tackle Gingivitis and 30% of the participants answered wrongly believing that neem twigs were used to tackle Cancer, Bp and Diabetes.

((14%) are in red colour, responses for hypertension(11%) are in green colour, responses for diabetes (5%) are in orange colour.) In Figure 7 showing that 49% of the participants knew that cinnamon used to prevent cavities, gingivitis and bad breath on the other side 8% & 43% believed that turmeric and clove were used for preventing cavities, gingivitis and bad breath. (responses for cinnamon (49%) are in red colour, responses for clove (43%) are in blue colour, responses for turmeric (8%) are green colour.) In Figure 8 showing that 64% of the participants knew that cranberry used to prevent Streptococcus mutans which causes periodontal destruction and 36% of the participants don't know that cranberry used to prevent Streptococcus mutans which causes periodontal destruction. Positive responses (64%) are in blue colour, negative responses (36%) are in red colour. In Figure 9 showing that 76% of the participants knew that aloe vera used to control inflammation around dental implants and 26% of the participants didn't know that aloe vera used to control inflammation around dental implants. Positive responses (76%) are in blue colour, negative responses (24%) are in red colour. In Figure 10 showing that 62% of the participants knew that leaves of Ocimum basilicum could be used for treating sinusitis and 38% of the participants didn't know that leaves of Ocimum basilicum could be used for treating sinusitis. Positive responses (62%) are in blue in colour, negative responses (38%) are in red colour. Figure 11 shows that 59% of the participants knew that Echinacea purpurea was used for treating oral cancer and 41% of the participants did not know that Echinacea purpurea was used for treating oral cancer. Positive responses (59%) are in blue colour, negative responses (41%) are in red colour. Figure 12 shows that 61% of the participants knew that leaves of Eucalyptus saligna were used for halitosis and 39% of the participants did not know that leaves of Eucalyptus saligna were used for halitosis. Positive responses (61%) are in blue colour, negative responses (39%) are in red colour. Figure 13 represents the association between gender and knowledge on prickly ash, which was found to be statistically significant (P-value 0.003). The X-axis represents the Gender of the participants and the Y-axis represents the number of participants using prickly ash. Out of 69% of the participants who are aware, 42% of male and 18% constitutes female. Hence males are more aware of the prickly ash for increasing saliva flow than females. Association between gender and awareness about the prickly ash increasing salivary flow was done using the chi-square test. Pearson chi-square value -8.676, df -

1, P-value - 0.003 (<0.05) statistically significant. Figure 14 represents the association between gender and awareness of powerful Indigenous antioxidants, which was found to be statistically significant (P-value 0.019). The X-axis represents the gender of the participants and the Y-axis represents the number of participants using powerful Indigenous antioxidants. Out of 41% of the participants who are aware, 26% of male and 15% constitutes female. Hence males are more aware of the powerful indigenous antioxidants than females. Association between gender and awareness about the powerful indigenous antioxidants was done using the chi-square test. Pearson's Chi-square test: 7.925, df:2, P-value: 0.019 (<0.05). Statistically significant. Figure 15 represents the association between gender and awareness of oral herpes treatment, which was found to be statistically significant (P-value 0.009). The X-axis represents the gender of the participants and Y-axis represents the number of participants aware of indigenous oral herpes treatment. Out of 62% of the participants who are aware, 38% of male and 24% constitutes female. Hence males are more aware of the powerful indigenous antioxidants than females. Association between gender and awareness about the indigenous oral herpes treatment was done using the chi-square test. Pearsons's Chi-square test: 6.914, df:1, P-value: 0.009(<0.05) Statistically significant. Figure 16 represents the association between gender and awareness in neem twigs, which was found to be statistically insignificant (P value 0.724). The X-axis represents the gender of the participants and Y-axis represents the awareness about Neem twigs. Out of 70% of the participants who are aware, 34% of male and 36% constitutes female. Hence females are more aware of the neem twigs than males. Association between gender and awareness about the neem twigs was done using the chi-square test. Pearson's Chi-square test: 1.322, df: 3, P-value: 0.724 (>0.05) statistically not significant. Figure 17 represents the association between gender and awareness of cranberry uses, which was found to be statistically insignificant (P value 0.069). The X-axis represents the gender of the participants and Y-axis represents the number of participants about the awareness about cranberry uses. Out of 64% of the participants who are aware, 37% of male and 27% constitutes female. Hence More Female are more aware of the neem twigs than males. Association between gender and awareness about the neem twigs was done using the chi-square test. Pearson's Chi-square test: 3.302, df:1, P-value: 0.069 (>0.05) statistically not significant.

Medicinal plants are more often used for the treatment of stomach ailments followed by dysmenor-

rhoea, oedema, hematochezia, fever, infertility and haemorrhoid (Ezhilarasan, 2018). While following the complaints, namely pain, immune system deficiencies, diabetes, blood pressure, abnormalities, gonorrhoea, vomiting, diarrhoea, loss of appetite, syncope, swollen penis, need for contraceptives, toothache (Lakshmi *et al.*, 2015). Because the traditional knowledge of healing properties of plants has since time immemorial been transmitted by oral instruction to carefully chosen initiates from one generation to the next (Ashwini *et al.*, 2017), recording and preservation of knowledge in writing have become of vital scientific, cultural importance (Anitha and Ashwini, 2017). This need is further understood by the relatively advanced age of a small number of people with whom the bulk of this knowledge currently resides because the danger exists that they may pass away perhaps without transmitting this unique knowledge to the younger generation (Ezhilarasan *et al.*, 2018).

Limitations

1. Unconventional practices in the majority population

2. Most of the people are aware of the Indigenous Knowledge system and prefer Practicing it.

CONCLUSION

The survey reports concluded about Indigenous Knowledge System and awareness in herbal plants which plays a great role in improving oral health because the majority of them are willing to follow and use the traditional methods if it is recommended by professionals. Instead of relying on the trial and error occasionally by random screening procedures, properly documented traditional knowledge could help scientists to target those plants whose medicinal properties may find new applications for the benefit of all mankind.

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Conflict of Interest

The authors declare that they have no conflict of interest for this study.

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