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Original Article

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Understanding, oral hygiene practices, behaviors and myths to deal with Toothache in Rural Areas

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ABSTRACT

BACKGROUND & OBJECTIVE: In Pakistan, there is lack of awareness to maintain oral hygiene and cleaning of oral structures. The current study aims to unveil homemade remedies and self-care methods followed by a majority of the rural population to cure dental pain in Sindh, Pakistan.

METHODOLOGY: This cross-sectional descriptive study was conducted at dental OPD of the Secondary Health Care Facility of Sindh, Pakistan, by following a random sample selection approach. Patients from both genders representing oro-dental problems of ages ≥ 5 year were included in the study. Patient's clinical and demographic data was collected, and further descriptive data analysis was done by using Microsoft Excel 2016.

RESULTS: A total of 1627 patients fulfilled the inclusion criteria of the study. The highest number of cases (73.81%) were belonging to the age group 15-49 years, affirming that adults are at greater risk of developing toothache and dental pain. Surprisingly, about 78.97% patients had never visited any physician for seeking the clinical services. Similarly, 37.18 % of patients did not use any cleaning substance while 22.12 % patients preferred miswak for cleaning of their teeth. Only 2.95 % of patients visited dentists for proper care. The results statistically significant as p-value<0.001.

CONCLUSION: Current research report concludes that from all the confirmed toothache cases, 22.13 % of patients sought care from general physicians in parallel with 22.34 % patients were preferring religious spells to manage their dental pain, which further multiplied the disease rate. However, general physicians at primary healthcare settings have limited knowledge and training in managing dental pain.

KEYWORDS: Dentists, Restorative, Toothache, Herbal Medicine, Gingiva.

INTRODUCTION

High poverty and low literacy rate in rural areas and in developing countries like Pakistan predispose people to live their lives with inherent false beliefs, specially towards their oral hygiene methods and behaviors in coping with their dental pain[1]. There is marked inconsistency among the rural population of Pakistan with respect to their oral hygiene habits. Most of them utilize customary methods in their area, with only 36% of adults cleaning their mouth [2]. The decision to seek dental treatment is related to the location, severity, and duration of their tooth pain. People living in rural areas often do not seek care from their dentists for their dental pain[3]and often use self-care and other methods[4] in alleviating their tooth pain until pain intensify and self-care methods are no longer affecting [5]. The best indicator for utilizing dental care among rural people is tooth pain, and overall dental visits were corresponding with the severity of toothache[6].

Patient's knowledge and understanding to maintain dental health is considered a key factor for timely interventions [7]. Dental services in rural areas are mainly focused on pain relief and tooth extraction, while brushing twice a day is a rare phenomenon with most of them do not brush or use other non – brushing methods such as miswak[7].

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Oral health services and dental care is affected by urbanization, gender, socioeconomic, cultural, and religious beliefs. Research reports predicted the resurgence patterns of Oro-dental diseases based on patient exposure and from the prevalence of the disease in the general population. Treatment should be proposed if future disease seems likely in the absence of such intervention[8]. Therefore, the objective of this study was to explore the methods of relieving tooth pain among the residents of the rural population.

METHODOLOGY

Current cross-sectional descriptive study (IERB letter no. BADC/STD/NO. 011) was conducted with random sampling at dental OPD of Secondary Care Health Facility; Rural Health Center (RHC) Nasirabad, Sindh, Pakistan. The study sample consisted of potential patients visiting dental OPD for their Oro – dental problems of either gender or age more than 5 years during the study period of March 2019 to December 2019.

The patients visiting dental OPD and diagnosed with toothpain due to pulpitis, periodontal or other related disorders were included in the study for further clinical evaluations.

Exclusion criteria included patients with age less than 5 years, on follow-up, having referred pain in a tooth from other cause (non - odontogenic pain).

Data was obtained after verbal consent by the patient, history taking, and detailed interview at the dental OPD before their dental examination at a dental chair and were recorded in self-made computer performa which consisted of demographic features, knowledge of the cause of the most common disease of oral cavity, Dental Caries, Oral Hygiene methods, methods of self-care for their dental pain before consultation with dentist. The diagnosis of pain in their oro–dental region was categorized into broad groups caused by Dental Caries, Periodontal Disease, Oral Mucosal Disease, and Others. Age factor was categorized into 5 – 14 years, 15 –49 years & 50 + years from the register by health facility to record data of patients. After collection, data was entered in Microsoft Excel 2016 for descriptive analysis.

RESULTS

During the study period, total of 2023 patients visited the dental clinic of RHC Nasirabad for their Oro-dental problems, 247 were excluded due to their follow–up visits, 21 patients had oro – dental pain due to oral mucosal disease, 128 had non – odontogenic disorders, resulting 1627 new patients which fulfilled the inclusion criteria of the study. There were 613 males (37.67%) and 1014 (62.32%) were females. Among them 134 (8.23%), 1201 (73.81%) and 292 (17.94%) were in 5 – 14, 15 – 49 & 50+ years age group, respectively (Table-I).

Regarding the perception of factors which affect oral health the responses are described in (Table-II). Oral hygiene methods are described in (Table-III). The characteristics and effectiveness of different tooth cleaning methods are shown in (Table-IV). The methods of managing their toothache before visiting the dentist were asked and are described in (Table-V).

Table-I: Demographics:

Characteristic	Frequency	Percentage
Total Patients		
Included	1627	80.42
Excluded	396	19.57
Gender		
Male	613	37.67
Female	1014	62.32
Age Group		
5 – 14 years	134	8.23
15 – 49 years	1201	73.81
50+ years	292	17.94

Table-II: Fundamental Knowledge of Dental Caries.

Characteristics	Yes (%)	No (%)	Don't Know (%)
Improper brushing leads to many dental problems	1203 (73.93)	28 (1.72)	396 (24.33)
Consumption of too many sweets is the cause of Dental Caries	1317 (80.94)	120 (7.37)	190 (11.67)
Not Visiting a Dentist routinely has Impact on Oral Health	0	342 (21.02)	1285 (78.97)
Bacteria is the cause of dental Caries	1317 (80.94)	42 (2.58)	268 (16.47)

Table-III: Oral hygiene methods used by patients.

Oral Hygiene Methods	n (%)
Nothing	605 (37.18)
Brushing	87 (5.34)
Miswak	360 (22.12)
Fingers	227 (13.95)
Brush & Miswak	23 (1.41)
Musag (Dried Bark of Walnut Tree)	325 (19.97)

DISCUSSION

The homemade remedies and usual methods of tooth cleaning are commonly employed by the rural population for managing their toothache as well. The reasons for choosing home remedies and usual methods for treating dental problems include social misconceptions & false opinions due to lack of rational knowledge among rural community [7]. As there are minimal dental care provision facilities available at primary care centers in rural areas of Sindh, Pakistan, Our study is the first to investigate different

Table-IV: Characteristics of different tooth cleaning methods.

Characteristics	Level	Effectiveness		p-value
		Yes(%)	No(%)	
Reason for Using Toothbrush	Better Cleaning	654 (40.19)	65 (3.99)	<0.001
	Freshness in Mouth	432 (26.55)	48 (2.95)	
	Latest Trend	352 (21.63)	76 (4.67)	
Reasons for Using Miswak	Better Cleaning	242 (14.87)	42 (2.58)	<0.001
	Freshness	353 (21.69)	53 (3.25)	
	Traditional	268 (16.47)	65 (3.99)	
	Sunnah	265 (16.28)	61 (3.74)	
	Others	198 (12.16)	80 (4.91)	
Reason for Using Musag (Dried Bark of Walnut Tree)	Better Cleaning	353 (21,69)	53 (3.25)	<0.001
	Freshness	437 (26.85)	65 (3.99)	
	Traditional	345 (21.20)	61 (3.74)	
	Better Cost	233 (14.32)	80 (4.91)	

Table-V: Methods Employed to Deal with Toothache.

Methods to Reduce Dental Pain	n(%)
Consult a Dentist	48 (2.95)
Consult a Medical Physician in my Area	360 (22.13)
OTC Analgesics by Pharmacist or Physician or Self	124 (7.62)
Special Toothpastes by Local Pharmacist	16 (0.98)
Mouthwash Gargles	10 (0.61)
Religious Spells	331(20.34)
Tea Bags Press	29 (1.78)
Burning Cigarette	27(1.66)
Ice Cube	66(4.06)
Liquid of Car Battery over Painful Tooth	35(2.15)
Aspirin Tablet near Tooth	27(1.66)
Clove in Caries Lesion	101(6.21)
Spirit in Cotton over Caries Lesion	33(2.03)
IV/IM Analgesics	200(12.29)
Saltwater Gargles	70(4.30)
Apply Cotton Dipped with Oil of Clove	78(4.79)
Perfume Liquid in Cotton	40(2.46)
Heroin Drug (Abused) in Cavity	32(1.97)

self-dental care methods opted by rural people in dealing with their toothache as it is already shown in the literature [8] that dental pain is the most intense of all pains resulting in disturbances in sleeping, eating & routine activities. The most common reason for dental pain (toothache) is pulp involvement from dental caries & periodontal disease [9].

The results of the present study show that the rural population is reluctant in maintaining their oral hygiene due to; low socio–economic status, lack of education or knowledge regarding oral health, and its impact on general health, which preclude them from managing their oral health satisfactorily by themselves or oral health professionals.

According to the findings of this study, 1203 participants agreed that improper brushing resulted in many dental problems. However, almost everyone rejected the fact that they were using improper brushing themselves and objected to the other causes of dental caries resulting in their dental pain. Some stated, “no matter how many times we brush our teeth, caries does not decrease, and it runs in our family due to the curse from our ancestors”. A 1317 participants confirmed the relationship between sweet products consumption and dental caries (maakori in Rural Sindhi language). However, similar findings were reported by a study led by Singh eta al at Foklyan area, Dharan, Nepal [10].

Around 37% of the patients do not make any effort to maintain their oral hygiene, which is in support with the results of another study[10]which concluded 40% of the population were not using any oral hygiene methods. The implication to this finding is that limitations in patient’s oral hygiene affect the final treatment plan. Common reasons for not brushing were described as; non affordability to buy brushes, busy schedules in fields, nobody in the family maintains oral hygiene, and other local methods for cleaning the mouth, which is unacceptable in our culture.

Good oral hygiene reduces the amount of residual plaque, an initiating factor, and thus helps in reducing the likelihood of further dental caries and improves gingival health and thus, the resulting healthy tissue is more resistant to disease[10]. In our study sample, only 5.34% brushed their teeth with 78.18% described only the freshness they feel after brushing their teeth with commercially available toothpastes. A previous study led by Azhar N et al reported that 89 % of the population used tooth brushing for their teeth cleaning. Whereas another similar study led by Narasimhan D et al acknowledged the use of miswak for teeth cleaning which is consistent with the results of our study [11,12,13].

Musag is a term used in rural Sindhi language to denote dried bark of walnut tree.19.97% of our study population employed this dried herb to clean their teeth after the miswak. The Musag was mostly utilized by females in all age groups in our study. About 51.38% of females prefer the use of Musag for their dental care. That’s the way the role of Musag in dental health should be evaluated further.

Regarding the methods to reduce their dental pain before presenting to a local dentist, results showed that most of them were utilizing Non–dental consultation & non –medical self-care remedies, which supports the literature[13]. 22.13% of participants consulted the physician in their near primary care center due to non-availability of dental care facility in primary care setting for relieve of their pain who prescribed them IV/IM analgesics (12.29%) due to severe pain. 20.34% of patients went to the family priest for religious spells to relieve their dental pain, which provided them relief from their pain for 2 to 6 months, followed by relapse, which also favored another study[14] among the rural population. 7.62% used self-prescribed over the counter analgesics based on

previous experience with dental pain. Some of them also used clove oil for relief of their pain which can be supported by the knowledge[15] that eugenol is present in clove which relieve pain by soothing effect. Some of them used caustic substances to deal with the severe pain of pulpitis, which is also described in studies[16].

CONCLUSION

The current research report concludes that from all the confirmed toothache cases, most of them (22.13 %) seek care from general physicians in parallel with (22.34 %) preferring religious spells to manage their dental pain, which further multiplies the disease rate. However, general physicians at primary healthcare settings have limited knowledge and trainings in managing dental pain.

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Hafiz Mahmood Azam: Patient selection and approval.
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