

Original Research

COVID-19 lockdown- A psychological burden for rima oris- A questionnaire study

Megha Bahal¹, Vishal Choudhary²

¹Post graduate student, ²Senior lecturer

Department of Oral Medicine and Radiology, Triveni Institute of Dental Sciences, Hospital and Research Centre, Bilaspur, Chhattisgarh India

ABSTRACT:

Introduction: Oral cavity is the mirror of the body and amid this pandemic the psychological despair is at its toll. Stress, anxiety and distress has been the most common cause of the vast number of suicides these days. So as to study the effect of this on the oral cavity a study was conducted via digital platform to evaluate the prevalence of oral psychosomatic disorders in COVID-19 Lockdown. **Aims and Objectives:** To study the prevalence of oral psychosomatic disorders in patients during the COVID-19 lockdown and the comparison of it between males and females. **Materials and Methods:** A general questionnaire was prepared on Google Forms asking about their general information along with psychological test and oral cavity conditions. The questionnaire prepared was spread through various social medias to the population. The data was collected and recorded for statistical analysis. **Statistical analysis used:** For statistical analysis, SPSS (version 20.0; SPSS Inc., Chicago, IL, USA) software was used. Comparisons of proportions (percentages) between MALE and FEMALE were carried out with Chi square (χ^2) test. $P \leq 0.05$ was considered as statistically significant. **Results:** Gender inequality has been seen and males has been more affected mentally and psychologically based on the statistical analysis. More than half of the participants in the survey study are suffering from stress and anxiety in some or the other way. **Conclusion:** This survey conducted at a Pan India level has shown that this contagious virus has served to be the cause of stress, anxiety and depression among people affecting both Genders at some or the other level causing high prevalence of oral psychosomatic disorders.

Keywords: COVID 19, pandemic, lockdown, stress, psychosomatic disorder, prevalence.

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Corresponding author: Megha Bahal, Post graduate student, Department of Oral Medicine and Radiology, Triveni Institute of Dental Sciences, Hospital and Research Centre, Bilaspur, Chhattisgarh 495220, India

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INTRODUCTION

Several pandemics struck the earth since long times, but the dooms year 2020 as proven to be has been the year of COVID-19. Basically a pandemic is a disease outbreak which spreads over a vast area occupying countries but COVID-19 has proven to be a pandemic to spread across all over the world not leaving a single place corona virus free. COVID-19 has served as a pandemic of new diseases with a large magnificent spectrum of clinical presentations and influencing timings of strict governmental policy implementation and public risk perception.¹

The United Nations (UN) and the World Health Organization (WHO) have praised India's response to the pandemic as 'comprehensive, robust and quick decision making,' terming the lockdown restrictions as 'aggressive but vital' for containment of the spread,

building necessary healthcare infrastructure and arranging for personal protective equipments for the health care workers. The Oxford COVID-19 government response tracker (OxCGRT) noted the Modi government's swift and strict actions, emergency policy-making, emergency shut down, emergency investment in health care, fiscal stimulus and investment in vaccine and drug. It gave India a score of 100 for the strict response.^{2,3,4}

On 22 March, India observed a 14-hour voluntary public curfew at the instinct of the Prime Minister Narendra Modi. It was followed by mandatory lockdowns in COVID-19 hotspots and all major cities. Further, on 24 March, the Prime Minister ordered a nationwide lockdown for 21 days, affecting the entire 1.3 billion population of India. On 14th April, India extended the nationwide lockdown till 3rd

May which was followed by two-week extensions starting 3rd and 17th May with substantial relaxations. From 1st June, the government started "unlocking" the country (barring "containment zones") in three unlock phases.^{5,6,7}

A lockdown is a requirement for people to stay where they are, usually due to specific risks to themselves or to others if they move freely. India, a home for 1.3 billion population is a country with developing industrial base, well developed in agriculture and rising economy since the past decade, still serves to be the 3rd most poor country in the world. As far as to go with the lockdown it has served to be the reason of depression and distress for a vast number of population to overcome fulfilling the daily needs of family without daily wages for work. Being Aatm Nirbhar and making the 'Local', 'Vocal' for the needs, this lockdown has served to be a major crack for the economy of India though it has made India a country with just 2.8% case fatality rate due to COVID-19.

A wildlife and seafood market in Wuhan city of China was found to be the reservoir of the cryptic SARS-CoV2. The novel corona virus spread aggressively to a vast population across 187 countries in the world affecting majority of population with the severe acute respiratory syndrome causing death of mankind.^{8,12} First reported in WHO in China on 30th December 2019, this novel corona virus disease was termed to be COVID-19. It was declared as a public health emergency of international concern by the WHO on 30th January 2020. More dangerous and substantially harmful than its ancestors, SARS CoV 2003 and MERS CoV 2015, causing fatal respiratory symptoms, having no vaccines and drugs, this corona virus SARS CoV 2 has served to be a cause of severe panic and distress among people.⁸ This rapid and unprecedented pandemic has created significant mental health problems such as stress, anxiety and, depression for both medical professionals and the general population alike.⁹

Oral cavity is the mirror of our whole body.^{10,13} It serves to be the line of control for various foreign infectious invaders. It also serves to be warning system showing us various sentinel signs as predisposing factors to prevent the occurrence of any fatal disorder in human machinery.^{11,14} Health is a state of complete social, mental, and physical well being. Oral psychosomatic disorder is one such manifestation. Psychosomatic disorder means a combination of body and mind. Body and mind function hand in hand as a single unit. What tends to run in our mind tends to effect our body and oral cavity and the mirror reflects its presence in the most beautiful way.¹⁵ Stress, anxiety and depression during the COVID-19 lockdown has shown the prevalence of several oral issues. Specifically hypothesized under this universal lockdown, COVID-19 has served to be the major cause of distress, loss and panic among population.¹⁶

MATERIAL AND METHODS:

AIM of the study

To study the prevalence of oral psychosomatic disorders in patients during the COVID-19 lockdown.

- Prevalence of psychosocial impact on population.
- Incidence of ORAL PSYCHOSOMATIC DISORDERS in population.
- Comparative analysis among male and female.

METHOD OF THE STUDY AND COLLECTING DATA

In the Pan India *ad hoc* survey carried out to gather sociodemographic data of the participants, which adopted a closed answer format, the participants were asked about name, sex, age, province, date of completion of the questionnaire and whether or not they had a chronic illness. Subsequently, the participants were categorized into male and female. A study sample size collected was of 403. An online questionnaire prepared collected data on three phase record.

Personal data

Psychological status data

Oral cavity status data

Online response was collected and on the basis of the data FREE ONLINE CONSULTATION was given if oral psychosomatic disease was suspected.

INCLUSION CRITERIA

- Candidates of age 12-65 years
- Mentally sound

EXCLUSION CRITERIA

- Candidates over 65 years
- Highly medically compromised
- Medicolegal cases

STATISTICAL ANALYSIS

The data collected was divided among males and females and comparative analysis was done. Statistical analysis was performed on the

- Cause of stress in the lockdown among the population.
- Prevalence of psychosocial impact on population
- Prevalence of the oral psychosomatic disorders in population
- Comparative analysis of the cause of stress and oral psychosomatic disorders among males and females.

PROCEDURE

The first step to secure permission from the institutional ethics committee to carry out this study was done. The approval of the Ethics Committee of the Institution was obtained. All the people participated on a voluntary basis, received information about the procedure of the investigation and gave their

consent before participating in the study. The sample was recruited by random sampling. Once the Google Forms questionnaire was created, it was disseminated through virtual platforms, social networks, and through corporate emails. The purpose of the study was explained to the sample and consent was obtained. The database was collected and was analyzed using the Excel program, an analysis of the response items was carried out and a pattern of complete responses was collected and penned. A total of 403 responses was collected. For statistical analysis, SPSS (version 20.0; SPSS Inc., Chicago, IL, USA) software was used. Comparisons of proportions (percentages) between MALE and FEMALE were carried out with Chi square (χ^2) test. $P \leq 0.05$ was considered as statistically significant.

SAMPLE

A total of 403 responses were collected out of which there were 248 females and 155 males. They were explained the purpose of the study to approve consent and asked to fill the questionnaire. They were asked Name, Age, Sex, Profession, City and State of residence, Contact number, and Travel History since the beginning of 2020 and Medical History as general Demographic data.

There were 32.5% of people who had travel history since the beginning of 2020. there were 22.6% of the sample who had Medical History.

RESULTS

The data collected from 403 respondents (male=38.5% and female=61.5%) was analysed and presented in Tables and Figures.

On the basis of the psychological questionnaire there were 51% of the sample enjoying the lockdown and 49% of the sample not enjoying the lockdown. 80% of the sample were stressed due to some or the other cause and 20% of the sample not stressed as shown in the Figure 1.

On asking the basic cause of stress among the sample, 31% of population was stressed due to financial burden, 21% due to some other causes, 7% due to love and relationship matters, 4% due to health issues, 3% due to peer pressure, 4% due to family matters and 28% of the sample had no stress at all. As shown in the Figure 3.

There was 74% of the population who was Panic hearing the death toll due to COVID 19. There was 9% of the people who were on medications and 6% of the sample who were on medications for stress and anxiety. On throwing light over the Habit History of the people there was 27% of the people engaged in some or the other deleterious oral habits which was dangerous and resulted in severe oral disorders as shown in Figure 3.

COMPARISON OF RESPONSES AMONG MALES AND FEMALES

Table 3 shows difference between the responses of the psychology questionnaire among males and females. The Chi Square Test was performed, the P value recorded was compared with 0.05. The values obtained lesser than this was proven to be a statistically significant difference among the males and females.

TABLE 1: SHOWING THE PREVALENCE OF STRESS AMONG THE POPULATION

DO YOU EVER FEEL STRESSED IN THE LOCKDOWN?	YES	321
	NO	82
WHERE ARE YOU IN THE LOCKDOWN?	WITH FAMILY	352
	WITHOUT FAMILY	51
DO YOU EVER FEEL LONELY IN THE LOCKDOWN?	YES	224
	NO	179
DO YOU EVER GET SUICIDAL THOUGHTS DURING THE COVID-19 LOCKDOWN?	YES	31
	NO	372
WHAT IS THE REASON OF YOUR STRESS?	NO STRESS	114
	LOVE AND RELATIONSHIP	28
	FAMILY MATTERS	15
	PEER PRESSURE	11
	HEALTH ISSUE	26
	FINANCIAL BURDEN	126
	ANY OTHER	83
DO YOU EVER PANIC HEARING ABOUT THE DEATH TOLL DUE TO COVID-19?	YES	300
	NO	103
DO YOU TAKE ANY MEDICATIONS FOR ANY DISEASE?	YES	92
	NO	311
DO YOU TAKE ANY MEDICATIONS FOR STRESS AND ANXIETY?	YES	24
	NO	379

TABLE 2 : Response showing the prevalence of ORAL PSYCHOSOMATIC DISORDERS

DO YOU EVER HAVE BURNING SENSATIONS IN THE MOUTH?	YES	117
	NO	286
DO YOU HAVE ULCERS IN THE MOUTH?	YES	144
	NO	259
DO YOU HAVE ANY WHITE PATCHES IN THE MOUTH?	YES	58
	NO	345
DO YOU HAVE ANY REDDISH DISCOLORATIONS IN THE MOUTH?	YES	38
	NO	365
DO YOU SUFFER FROM PAIN IN THE JAW JOINT REGION IN FRONT OF THE EARS?	YES	101
	NO	302
DO YOU SUFFER FROM SENSITIVITY IN YOUR TEETH?	YES	166
	NO	237
DO YOU HAVE LOSS OF TASTE SENSATION IN YOUR MOUTH?	YES	65
	NO	338
DO YOU SUFFER FROM PAIN IN THE FACE AND OTHER ASSOCIATED STRUCTURES?	YES	74
	NO	329
HAVE YOU EVER HAD DRYNESS OF THE MOUTH AND BAD BREATH?	YES	83
	NO	320
DO YOU EVER CLENCH YOUR JAWS OR GRIND YOUR TEETH SINCE THE LOCKDOWN BEGAN?	YES	80
	NO	323
DO YOU HAVE BLEEDING GUMS SINCE THE LOCKDOWN BEGAN?	YES	131
	NO	272

TABLE 3. COMPARISON OF THE RESPONSES TO THE PSYCHOLOGICAL TEST QUESTIONNAIRE BETWEEN MALE AND FEMALE:

QUESTIONS	RESPONSES	MALE		FEMALE		χ^2	P
		n	%	n	%		
1. Have you been quarantined by state or central government for being a suspect?	Yes	9	5.8	16	6.45	0.068	0.794
	No	146	94.2	232	93.5		
2. Have you been tested for COVID-19?	Yes	9	5.8	18	7.2	0.322	0.571
	No	146	94.2	230	92.8		
3. Are you enjoying the lockdown?	Yes	63	40.6	141	56.9	10.027	0.002*
	No	92	59.4	107	43.1		
4. How long do you sleep in a day in lockdown?	<6 hours	11	7.1	17	6.9	1.389	0.708
	6-7 hours	85	54.8	128	51.6		
	10-12 hours	51	32.9	94	37.9		
	>12 hours	8	5.2	9	3.6		
5. Do you practice your hobbies in the lockdown?	Yes	81	52.3	177	71.4	15.127	0.000*
	No	74	47.7	71	28.6		
6. Have you cultivated new hobbies in the lockdown?	Yes	53	34.2	127	51.2	11.175	0.001*
	No	102	65.8	121	48.8		
7. Do you ever feel stressed in the lockdown?	Yes	120	77.4	201	81.1	0.775	0.379
	No	35	22.6	47	18.9		
8. Where are you in the lockdown?	With family	130	83.9	222	89.5	2.75	0.097
	Without family	25	16.1	26	10.5		
9. Do you ever feel lonely in the lockdown?	Yes	90	58.1	134	54.1	0.628	0.428
	No	65	41.9	114	45.9		
10. Do you ever get suicidal thoughts during the COVID-19 lockdown?	Yes	13	8.4	18	7.3	0.325	0.569
	No	142	91.6	230	92.7		
11. What is the reason of your stress?	No stress	41	26.5	73	29.4	56.706	0.000*
	Love and relationship	13	8.2	15	6.1		
	Family matters	3	1.9	12	4.8		
	Peer pressure	2	1.3	9	3.6		
	Health issue	3	1.9	23	9.3		
	Financial burden	79	50.9	47	18.9		
12. Do you ever panic hearing about the death toll due to COVID-19?	Yes	115	74.2	185	74.6	0.008	0.928
	No	40	25.8	63	25.4		
13. Do you take any medications for any disease?	Yes	30	19.4	62	25	1.725	0.189
	No	125	80.6	186	75		
14. Do you take any medications for stress and anxiety?	Yes	13	8.4	11	4.4	4.258	0.039*
	No	142	91.6	237	95.6		

TABLE 4: COMPARISON OF THE ORAL STATUS BETWEEN MALE AND FEMALE

QUESTIONS	RESPONSE S	MALE		FEMALE		χ^2	P
		n	%	n	%		
1. Do you have any other habits?	Smoking	22	14.2	19	7.6	57.728	0.000*
	Pan/gutkha chewing	29	18.7	2	0.8		
	Alcoholism	10	6.4	14	5.6		
	Any other habit	6	3.9	11	4.4		
	No such habit	88	56.8	222	89.5		
2. Do you ever have burning sensations in the mouth?	Yes	70	45.2	47	18.9	31.802	0.000*
	No	85	54.8	201	81.1		
3. Do you have ulcers in the mouth?	Yes	74	47.7	70	28.2	15.820	0.000*
	No	81	52.3	178	71.8		
4. Do you have any white patches in the mouth?	Yes	34	21.9	24	9.7	11.633	0.001*
	No	121	78.1	224	90.3		
5. Do you have any reddish discolorations in the mouth?	Yes	19	12.3	19	7.7	2.360	0.124
	No	136	87.7	229	92.3		
6. Do you suffer from pain in the jaw joint region in front of the ears?	Yes	45	29.1	56	22.6	2.114	0.146
	No	110	70.9	192	77.4		
7. Do you suffer from sensitivity in your teeth?	Yes	72	46.5	94	37.9	2.877	0.090
	No	83	53.5	154	62.1		
8. Do you have loss of taste sensation in your mouth?	Yes	36	23.2	29	11.7	9.378	0.002*
	No	119	76.8	219	88.3		
9. Do you suffer from pain in the face and other associated structures?	Yes	33	21.3	41	16.5	1.441	0.230
	No	122	78.7	207	83.5		
10. Have you ever had dryness of the mouth and bad breath?	Yes	36	23.2	47	18.9	1.066	0.302
	No	119	76.8	201	81.1		
11. Do you ever clench your jaws or grind your teeth since the lockdown began?	Yes	35	22.6	45	18.1	1.179	0.277
	No	120	77.4	203	81.8		
12. Do you have bleeding gums since the lockdown began?	Yes	69	44.5	62	25	16.559	0.000*
	No	86	55.5	186	75		

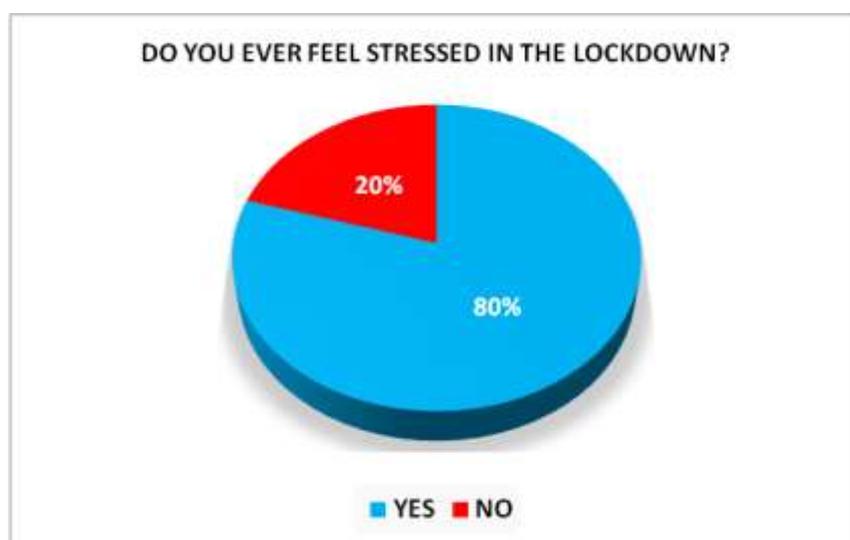


Figure 1

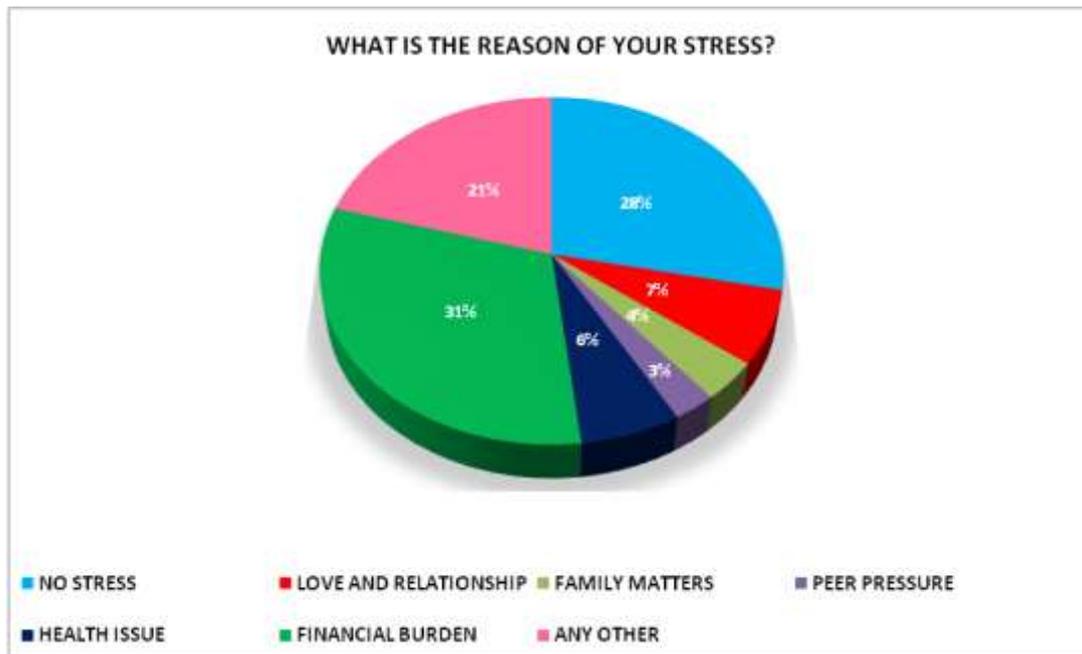


Figure 2

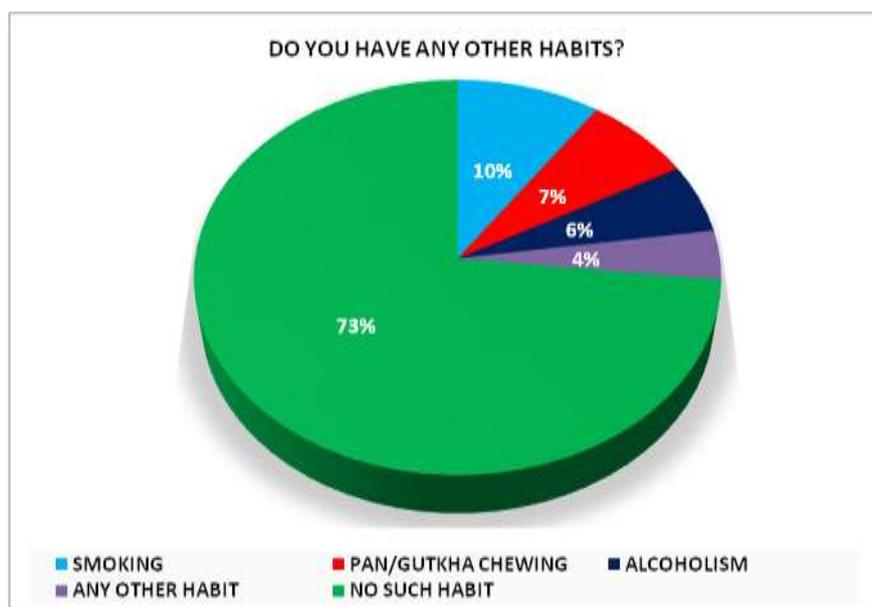


Figure 3

*The association of Gender with Question no. 3, 5, 6, 11 & 14 in **Table 3** is statistically significant ($P \leq 0.05$). That means, the proportion of females in a. enjoying the lockdown, b. practicing hobbies, c. cultivating new hobbies are higher than the proportions of males and the difference in their proportions in the aforementioned conditions is statistically significant ($P \leq 0.05$). The proportion of males in taking medication for stress and anxiety is higher than the proportion of females and the difference in their proportions is statistically significant ($P \leq 0.05$). In case of the reason for stress, love & relationship and financial burden are causing stress more in males than in females and family matters, peer pressure, health issues and other reasons are causing stress more in females than in males and the difference in their proportions in the aforementioned conditions is statistically significant ($P \leq 0.05$).

COMPARISON OF THE ORAL STATUS BETWEEN MALE AND FEMALE

*The association of Gender with Question no. 1, 2, 3, 4, 8 & 12 in **Table 4** is statistically significant ($P \leq 0.05$). That means, the proportions of males in a. having any habit, b. having burning sensation in mouth, c. having ulcers in mouth, d. having white patches in mouth, e. having loss of taste sensation in mouth, f. having bleeding gums are higher than the proportions of females and the difference in their proportions in the aforementioned conditions is statistically significant ($P \leq 0.05$).

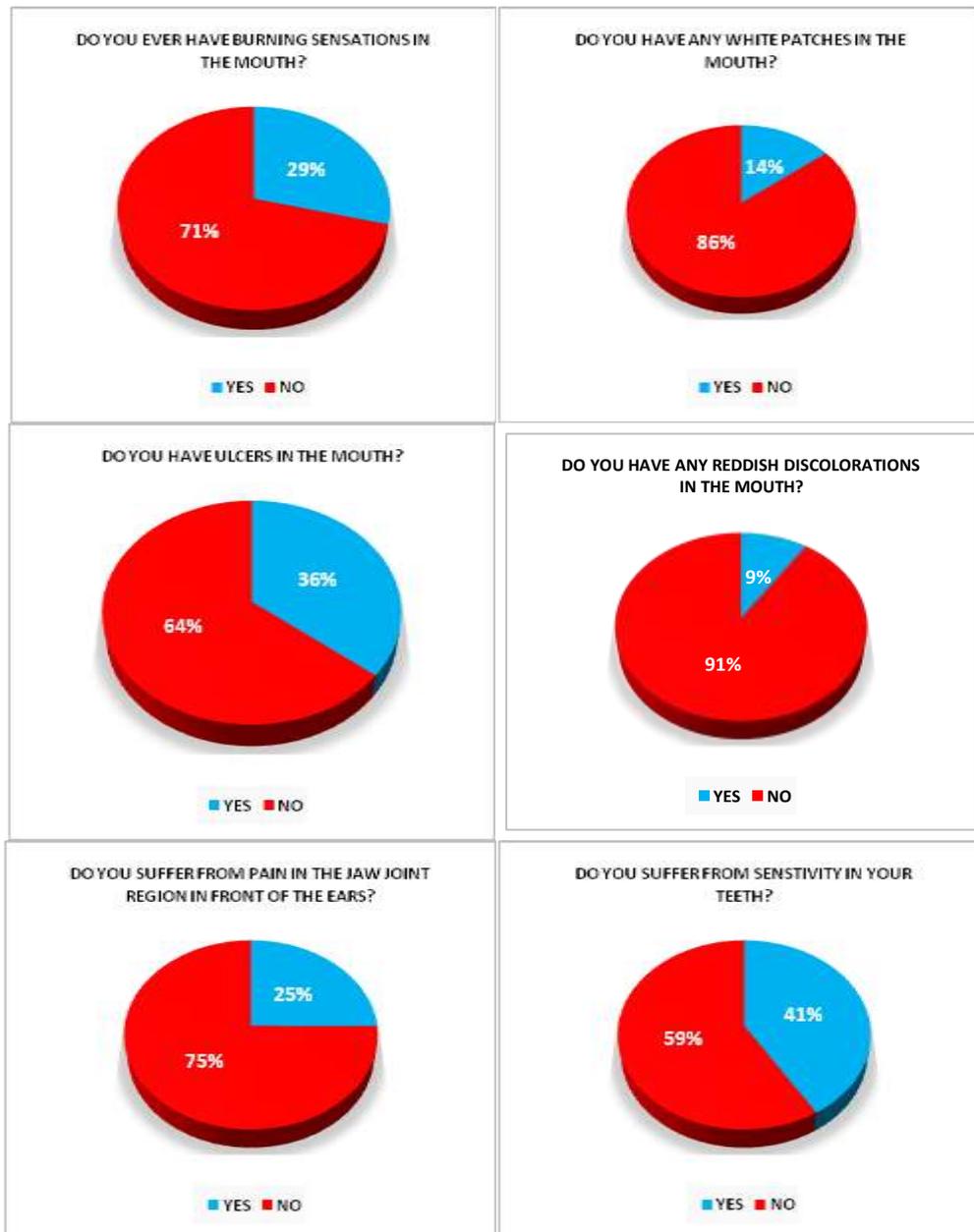
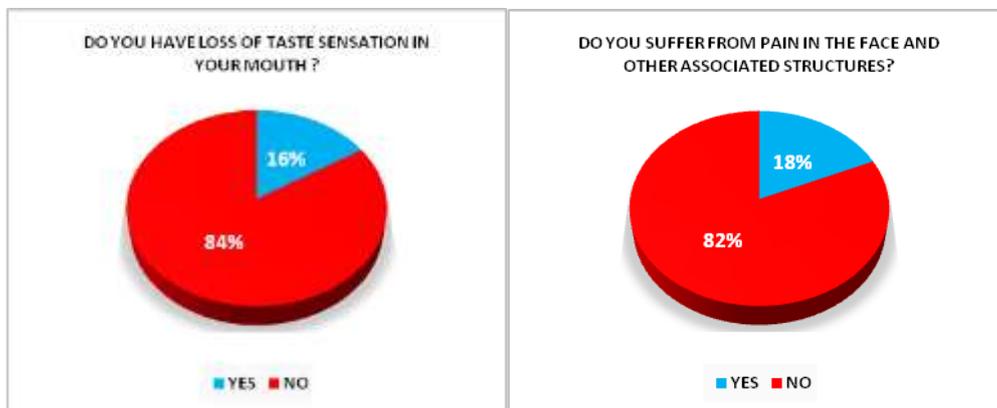


Figure 4



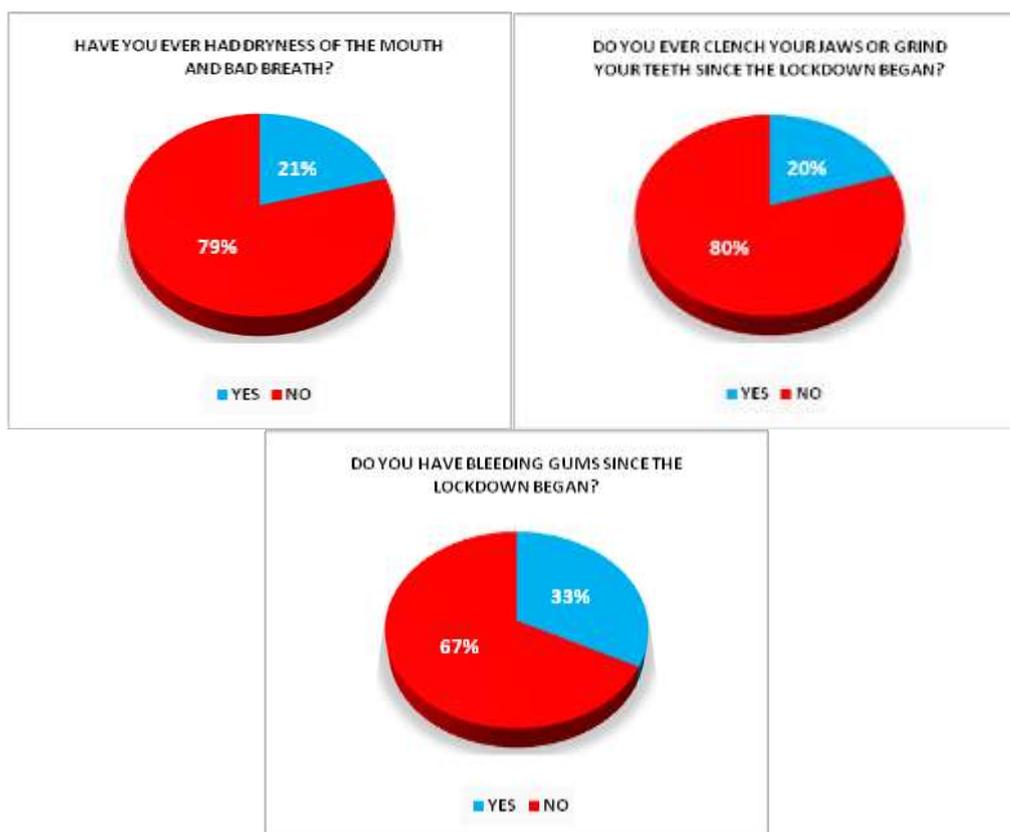


Figure 5

DISCUSSION

On looking at the oral psychosomatic disorders a few commonest ones were selected. Burning mouth syndrome, Recurrent Aphthous Stomatitis, Leukoplakia or white lesions, Erythroplakia or Red lesions, Atypical Facial Pain, Temporomandibular Joint Syndrome, MPDS, Periodontitis, Xerostomia, Ageusia, Bruxism and Gingivitis. Questions were asked on the symptoms and responses were collected. As stated that mind and the body works hand in hand. Deep impact of financial burden, health issues, love and relationship matters, family matters and peer pressure has served to create great burden on the oral cavity forming a burden on rima oris.^{17,19} Stress serves to be the key factor. The basic pathogenesis behind this states the release of Catecholamines under severe stress. It results in the activation of Autonomic Nervous System via sympathetic and parasympathetic pathways resulting in the release of Corticotropin Releasing Factor CRF and Arginine-vasopressin AVP, causing release of ACTH, endorphins and encephalins. When there is excess stress, their release is increased, along with the release of other inflammatory chemical mediators resulting in several manifestations in oral cavity.^{18,19,20} Where there is stress due to lockdown, fall in global economy, panic due to the fatal pandemic, how would the oral cavity be spared. Cognitive Behavioural Therapy and Telemedical consultation treatment has proved to be

quite effective in reducing the prevalence of oral psychosomatic disorders.²¹

Stress basically serves a mediation link which links the stressor to physiologic response in a patients body. Effect could be Neurotic, Psychotic, Psychosomatic or Healthy, all of it specifies, a change in body's chemical mediation. As suggested by Toyokufu A, Medically Unexplained Oral Symptoms (MUOS) was more acceptable as many a times the patient disagrees it to be a psychic disorder.^[22] A few of such symptoms commonly dealt are: 1). Burning Mouth Syndrome (BMS) 2). Atypical Odontalgia (AO) 3). Oral Cenesthopathy (Oral Dysesthesia) 4). Halitophobia (Olfactory reference syndrome) 5). Occlusal discomfort (Phantom Bite Syndrome) 6). Odontophobia (Dental Phobia).²³

BURNING MOUTH SYNDROME

Also termed as Oral Dysthesia, or Somatodynia, burning mouth syndrome serves as a burning, tingling or scalding sensation in the oral cavity having female predilection is the most common cause of stress and anxiety in the oral cavity. Most commonly associated with age more than 55-60 years, burning mouth can also be the attributes of other premalignant lesions and conditions such as Oral Submucous Fibrosis. Descending Dopaminergic Controls, steroid dysfunction, Endocrinal dysfunction, Thermal inhibition, caused due to stress and anxiety serves to be the etiopathology of burning mouth syndrome.^{24,25}

Cognitive Behaviour Therapy has proven to be effective as a treatment. Topical application of aloe vera gel, capsaicin cream and intake of anti-anxiety drugs and anticonvulsants such as phenytoin, gabapentin, has helped to treat burning mouth syndrome.²⁶

RECURRENT APHTHOUS STOMATITIS

68% of the population suggests that Recurrent Aphthous Stomatitis is a result of stress in some or the other form in individuals. A very complex and dynamic phenomenon lies behind the disturbance of immunoregulatory mechanisms leading to increased secretion of leucocytes and other chemical mediators exaggerating the epithelial disruption leading to painful ulcerations.²⁷ These are several DNA polymorphisms of the NOD-like receptor 3, toll-like receptor 4, interleukin (IL)-6, E-selectin, IL-1 β and TNF- α genes.²⁸

Recurrent Aphthous Stomatitis is a result of acute stress leading to exaggerated manifestations. Thus stress management interventions, apart from pharmacological therapy serves as a major treatment modality.

RED AND WHITE LESIONS

Oral lichen planus, leukoplakia, pemphigus, psoriasis are the basic white lesions associated with the oral cavity which have potential to develop into malignancy in near future. Basic etiology behind such lesions is stress. Among red lesions we have ANUG, Erythroplakia, drug allergy and many others. People suffering from red and white lesions in the oral cavity tend to have conscientious personality often a victim of severe stress and anxiety. Stress and depression may lead to obsessive-compulsive trait triggered by neurochemical mechanisms in the human body. This exaggerates neurological response triggering the release of T-Cells at a chronically high levels causing keratosis. Stress may also lead to the adoption of several deleterious habits in the individual such as smoking, and other masochistic habits serving as a fuel to fire of oral psychosomatic disorders in population.^{37,38}

MYOFACIAL PAIN DYSFUNCTION SYNDROME AND TEMPOROMANDIBULAR JOINT SYNDROME

Temporomandibular joint disorders and Myofascial Pain Dysfunction Syndrome is characterized by a psychophysiological pain in the in the Temporomandibular Joint region which is commonly a result of excessive stress, anxiety and depression. Excessive stress causing changes in the Endocrinal Dysregulation, fluctuation in the female hormone levels causes dysfunctioning of the masticatory muscles, lowering the blood flow to the muscles, decreasing the pH due to lactic acid accumulation resulting in muscle fatigue and pain.³⁴

Parafunctional activities and habits of the patients developed due to stress such as lip biting, bruxism and other self mutilation habits causes neurochemical regulatory dysfunction causing pain in the Temporomandibular joint area. This could lead to articular disk displacements and derangements with or without reduction. Thus Temporomandibular Joint disorders are considered as an oral psychosomatic disorder prevalent in females.^{35,36}

XEROSTOMIA

Xerostomia is defined as a subjective feeling of dryness of the oral cavity. This may be due to intake of several antipsychotics, anticonvulsants and psychogenic pharmacotherapy as a result of stress and anxiety. Decreased salivary flow rate is due to the depressive illness and more likely to be associated with appetite related disorders due to depression. Treatment for it should be avoidance of drugs such as antidepressants and anticholinergics, CBT and Reattribution has proven effective.

BRUXISM

Inability to cope with the emotional problems and lack of contingency management to cope behaviour leads to the development of various parafunctional habits. One such habit tends to be tooth grinding or bruxism commonly seen in children. Excessive stress and anxiety leads to self mutilation and harming oneself resulting in Neurotic behaviour. These patients tend to have massive occlusal wear and hypersensitivity. Often associated with psychological instability, bruxism is also a neurotic sleep disorder.³¹

DYSGEUSIA

Loss of taste sensation or altered taste sensation is a very common symptoms reported by the patient in stress. Exact etiology of it is unknown but it is due to the decreased salivary flow rate which is necessary for taste sensation.³⁰ Patients undergoing chemotherapy or radiotherapy post cancer treatment tend to be suffering from this more often as a result of stress and anxiety in their lives. Exact mechanism of it is unknown hence it is more likely to be Idiopathic dysgeusia.^{26,30}

PERIODONTITIS

Depression and stress can lead to the Suppression of HPA axis leading to dysregulated endocrine functions and hormone imbalance, moreover it can lead to the development of various maladaptive behaviour and habits such as smoking, bruxism etc. Gingiva and Periodontium being the frontier targets undergo inflammation leading to excess secretion of chemical mediators, reactive oxygen species creating oxidative stress and disturbed vascularity enhancing periodontitis and gingivitis in the population.^{31,32}

CONCLUSIONS

The war with this Corona Virus has been emerged to be the etiology of World War 3 where every

individual is at risk 'battling' with an invisible terror landing up in Stress, Anxiety and Depression. Being a psychological predator, COVID 19 has given birth to several Oral Psychosomatic disorders among population. Sanitizers, hand gloves, face masks and shield has now become the New Normal and Necessity.^{31,35} Though making use of this, avoiding Social Distancing, Staying Home and staying safe, handsome number of population has been a prey of stress related oral psychosomatic disorders serving as a Huge Burden on Rima Oris.

According to the above survey conducted at a Pan India level, this contagious virus has served to be the cause of stress, anxiety and depression among people affecting both Genders at some or the other level causing high prevalence of oral psychosomatic disorders. Therefore it is necessary to identify it at initial levels with appropriate psychological strategy and telemedicine interventions so that the mental and oral health of the population is preserved and improved.^{20,33}

REFERENCES

- Ricoca Peixoto V, Nunes C, Abrantes A: Epidemic Surveillance of Covid-19: Considering Uncertainty and Under-Ascertainment. *Port J Public Health* 2020;38:23-29.
- COVID-19: WHO calls India's lockdown 'comprehensive and robust', UN expresses solidarity". *The New Indian Express*. Retrieved 5 June 2020.
- "India Corona news: India beats other nations in Covid response: Study". *The Times of India*. 11 April 2020.
- "India scores high on Covid-19 response tracker made by Oxford University". *India Today*. 10 April 2020
- Withnall, Adam (24 March 2020). "India to go into nationwide lockdown". *The Independent*.
- "PM Modi announces extension of lockdown till 3 May". *Livemint*. 14 April 2020.
- "Lockdown extended till 17 May: What will open, remain closed". *Livemint*. 1 May 2020. Retrieved 14 May 2020.
- Chandrashekhara S. The story of the emerging coronavirus: SARS-CoV-2/COVID 19: Challenges posed and lessons learnt. *Glob J TransfusMed* 2020;5:1-6.
- Ozamiz-Etxebarria N, Idoiaga Mondragon N, Dosil Santamaría M and Picaza Gorrotxategi M (2020) Psychological Symptoms During the Two Stages of Lockdown in Response to the COVID-19 Outbreak: An Investigation in a Sample of Citizens in Northern Spain. *Front. Psychol.* 11:1491
- Agarwal, S., 2020. Covid-19 pandemic: Govt talks to Facebook, Google, WhatsApp for virus information blitz in: Bureau, E. (Ed.), *Business News* ed. The Economic Times, New Delhi
- Lam TT, Shum MH, Zhu HC, Tong YG, Ni XB, Liao YS, et al. Identifying SARS-CoV-2 related coronaviruses in Malayan pangolins. *Nature* 2020
- Y.-R. Guo, Q.-D. Cao, Z.-S. Hong, Y.-Y. Tan, S.-D. Chen, H.-J. Jin, Y. Yan The origin, transmission and clinical therapies on coronavirus disease 2019 (COVID-19) outbreak—an update on the status *Military Med. Res.*, 7 (2020), pp. 1),1-10
- M, Vishal & Devi, Parvathi & Bhovi, Thimmarasa & Jyoti, Bhuvan. (2010). Mouth as a mirror of systemic diseases. *medical journal*. 8. 235-41.
- Struzycka I. The oral microbiome in dental caries. *Polish journal of microbiology / Polskie Towarzystwo Mikrobiologow The Polish Society of Microbiologists*. 2014;63(2):127-135.
- Kumar NN, Panchaksharappa MG, Annigeri RG. Psychosomatic disorders: An overview for oral physician *J Indian Acad Oral Med Radiol* 2016;28:24-9.
- Kumar M, Chandu GN, Shafiulla MD. Oral health status and treatment needs in institutionalized psychiatric patients: One year descriptive cross sectional study. *Indian J Dent Res* 2006;17:171-7.
- Rehman U, Shahnawaz MG, Khan NH, et al. Depression, Anxiety and Stress Among Indians in Times of Covid-19 Lockdown [published online ahead of print, 2020 Jun 23]. *Community Ment Health J*. 2020;1-7.
- Moorthi, K & KC, Muraleedharan & Radhika, D (2020). PREVALENCE OF STRESS AND ANXIETY AMONG THE BANK EMPLOYEES IN INDIA DURING LOCKDOWN DUE TO COVID 19 Research Officer (H)/Scientist-2, 2 Officer-in-charge. 7. 719-730.
- Salari, N., Hosseini-Far, A., Jalali, R. et al. Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: a systematic review and meta-analysis. *Global Health* 16, 57 (2020).
- Shamim T. A simple working type classification proposed for the psychosomatic disorders of the oral cavity. *J Coll Physicians Surg Pak* 2012; 22: 612.
- Mijiti, A., Huojia, M. Psychosomatic problems . *Br Dent J* 228, 738 (2020).
- Hifsa Nisar, Rahul Srivastava. Fundamental concept of psychosomatic disorders: a review. *International Journal of Contemporary Medicine Surgery and Radiology*. 2017;3(1):12-18.
- Toyofuku A. From psychosomatic dentistry to brain dentistry. *Kokubyo Gakkai Zasshi*. 2007;74:161-8.
- Takenoshita M, Sato T, Kato Y, et al. Psychiatric diagnoses in patients with burning mouth syndrome and atypical odontalgia referred from psychiatric to dental facilities. *Neuropsychiatr Dis Treat*. 2010;6:699-705.
- Lauria G. Small fibre neuropathies. *Curr Opin Neurol* 2005;18:591- 597.
- Misery L, Bodere C, Genestet S, et al. Small-fibre neuropathies and skin: news and perspectives for dermatologists. *Eur J Dermatol EJD* 2014;24:147-153.
- Gallo CB, Mimura MAM, Sugaya NN. Psychological stress and recurrent aphthous stomatitis. *Clinics*. 2009;64(7): 645-8.
- Rivera, C. "Essentials of recurrent aphthous stomatitis (Review)". *Biomedical Reports* 11.2 (2019): 47-50.
- Toyofuku, A. Psychosomatic problems in dentistry. *BioPsychoSocial Med* 10, 14 (2016).
- Kalkuri. "From Brain to Dentistry": Oral Psychosomatic Disorders-A Review". *EC Dental Science* 18.6 (2019).
- Sutin AR, Terracciano A, Ferrucci L, Costa PT Jr. Teeth Grinding: Is Emotional Stability related to Bruxism?. *J Res Pers*. 2010;44(3)402-405.

32. Dumitrescu AL (2016) Depression and Inflammatory Periodontal Disease Considerations—An Interdisciplinary Approach. *Front. Psychol.* 7:347.
33. Davari AR., Ataei E., Assarzadeh H. Dentin Hypersensitivity: Etiology, Diagnosis and Treatment; A Literature Review. *J Dent Shiraz Univ Med Sci*, Sept. 2013; 14(3): 136-145.
34. Augusto VG, Perina KCB, Penha DSG, Santos DCA, Oliveira VAS. Temporomandibular dysfunction, stress and common mental disorder in university students. *Acta Ortop Bras.*2016;24(6):330-3.
35. Staniszewski K, Lygre H, Bifulco E, Kvinnsland S, Willassen L, Helgeland E, Berge T, Rosén A, "Temporomandibular Disorders Related to Stress and HPA-Axis Regulation", *Pain Research and Management, Dent Res J* 2018 (2):234-241
36. Mottaghi A, Razavi SM, Pozveh EZ, Jahangirmoghaddam M. Assessment of the relationship between stress and temporomandibular joint disorder in female students before university entrance exam (Konkour exam). *Dent Res J (Isfahan)*. 2011;8(Suppl 1):S76-S79.
37. Mortazavi H, Safi Y, Baharvand M, Jafari S, Anbari F, Rahmani S. Oral White Lesions: An Updated Clinical Diagnostic Decision Tree. *Dent J (Basel)*. 2019;7(1):15. Published 2019 Feb 7.
38. Sandhu SV, Sandhu JS, Bansal H, Dua V. Oral lichen planus and stress: An appraisal. *Contemp Clin Dent*. 2014;5(3):352-356.

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