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Salutogenisis towards Oral Health among School Teachers in Bangalore- A Cross Sectional Study

[1]Dr. Kavya MK, [2]Dr. Rekha R, [3]Dr. Radha G
[1]*Post graduate Student, Department of Public health dentistry,VokkaligharaSangha Dental College and Hospital ,Bangalore*
[2]*Professor and Head,Department of Public health dentistry,VokkaligharaSangha Dental College and Hospital ,Bangalore*
[3]*Professor,Department of Public health dentistry,VokkaligharaSangha Dental College and Hospital ,Bangalore*
Corresponding Author: Dr.Kavya MK

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ABSTRACT: Health being multidimensional is under the control of individual as well as is dependent on the environmental components (physical, biological, psychosocial), and further interaction of these factors may be health-promoting or deleterious. SOC seems relevant to oral health as oral diseases have a strong behavioralcomponent.**Teachers** play a vital role in shaping the behavior and overall comprehensive development of school children and considerable influence on pupils and to on the community at large.

Aims: To evaluate the Salutogenesis on oral health among School Teachers in Bangalore.

OBJECTIVE: To assess the oral health knowledge, attitude, and behaviour and the sense of coherence and to correlate between SOC and oral health knowledge, attitude and behavior among the study population.

Settings and Design: A cross-sectional study was designed to assess the Sense of coherence among school teachers towards oral health in Bangalore.

Methods and Material: The investigator visited the 6 adopted schools of institution in Bangalore city. All the school teachers were informed and those who willing to participate were asked to sign the consent form and to fill the questionnaire.

Statistical analysis used: Descriptive statistics were performed to assess the frequencies of responses to the questionnaire items. Statistical analysis to find out the association between oral health knowledge, attitude and practice and SOC were done using chi-square. Descriptive statistics like means and frequencies were tabulated and p-value was ≤0.05 was considered statistically significant

Results:

Among the participants, 80% had good oral health knowledge, whereas 20% had poor oral health knowledge with poor SOC level which was not statistically significant.92% of them had good oral health attitude with poor SOC level which arestatistically significant.(p<0.001*).This study concluded that even though school teachers had low SOC levels, they had good oral health behavior and attitude.

Key-words: Sense of coherence, Oral health, Oral health behaviour

I. INTRODUCTION:

Health defined as physical, mental and social wellbeing and as a resource for living a full life. The holistic concept implies that all sectors of society influence health and emphasizes on promotion and protection of health[1]. One key factor which governs the health in today's life is stress. Stress has been defined as a "physiological response to situations or issues that may not affect the person's attitude or body positively." When stress occurs, most of the people are affected by poor or negative habits that may impact their health[2]. Many theoretical models have been proposed to promote oral health and to explain oral diseases. Most of these models are based either on biomedical factors or on psychosocial factors[3]. One such conceptual model focusing on both dimensions is the Salutogenic theory and its core construct namely sense of coherence (SOC)[4]. It is a medical approach focusing on factors that support human health and well-being and is concerned with the relationship between health, stress, and coping. "Salutogenic model"-coined by Aaron Antonovsky[5].It depends on experiencing a strong "sense of coherence"[6]. Sense of coherence (SOC) is hypothesized to be an important psychological factor that enables people to cope with stressors and successfully maintain and improve health[7]. Strong evidence of SOC is being related to health diseases and health-related behaviors[8]. Teachers play a vital role in shaping the behavior and overall

comprehensive development and more authoritative on school children than parents and to an extent on the community at large[9]. Indeed, previous studies in adults found that SOC was associated with more favorable oral health-related behaviors. Thus SOC is important among adults because it impacts their lifestyle and their children. The aim of the study is to evaluate the Salutogenesis on oral health among School Teachers in Bangalore. Objectives are to assess the oral health knowledge, attitude, and behavior, and the sense of coherence and to correlate between SOC and oral health knowledge, attitude and behavior among the study population. This study attempts to identify the association between oral health and SOC.

SUBJECTS AND METHODS:

The investigator visited the adopted schools of VS Dental College and Hospital in Bangalore city. All the school teachers from 6 adopted schools were informed about the study and invited to participate. Those willing to be a part of this study were asked to sign the consent form and to fill the questionnaire. The investigator was present and answered any doubts and cleared any queries regarding the question. Out of the study population (N=100), all the 100 participants returned the duly filled questionnaire. A pilot study was conducted before the study to check the feasibility of the study. This data was not included in the final study analysis and results. Study tools included a questionnaire (English) that was handed out to all participants. Signed informed consent was obtained from the study participants before the study. Information about the study and informed consent were handed out to the study participants and those giving consent to be part of this study were given the study questionnaire. The questionnaire had- **Demographic details**-Name, Age, Gender, School name, Education, Dietary habits, Oral hygiene practice, Questionnaire on knowledge and attitude and
13-item Sense of coherence questionnaire.

RESULTS:

The cross sectional study was conducted to assess the sense of coherence towards oral health among school teachers in Bangalore. All **100** school teachers from 6 adopted schools of our institution in Bangalore were included in the study and data from participants were included for the final analysis.

Majority 97% of them know about the use of tooth brush for cleaning teeth,86% and 85% know correct tooth brushing frequency and time of brushing respectively. Overall 58% don't know the use of dental floss, 57% know the cause of decayed teeth and ways of preventing it, while 56% and 48% don't know the role of fluoride and diet in tooth decay respectively.57% know about that infection in the gum cause gum bleeding, 68% know regular brushing of teeth can protect gum from gum bleeding, 82% know smoking/pan chewing/gutka harmful for oral health.(Table 1)

Among study population, 97% think teeth are important part of their body,77% think visiting to the dentist is necessary to keep their teeth in a healthy state, 82% think that dental problem will affect general health. Majority 64% don't know that well cleaning of teeth can be done without using toothpaste, 81% of them are satisfied with their own teeth,75% are afraid of going to dentist and about 83% know gutka/paan chewing/smoking in any form is a bad habit.(Table 2)Majority 96% don't use gutka/ panchewing habit and 77% visited the dentist..(Table 3).overall 80% had good knowledge and 20% had poor knowledge and 92% had good attitude and 8% had poor attitude towards oral health.(Table 4). Among study population 99% had poor SOC level.(Table 5) 80% had good oral health knowledge in which 79% had poor SOC level, whereas 20% had poor oral health knowledge with poor SOC level which was not statistically significant and 92% had good oral health attitude with poor SOC level, whereas among 8% had poor oral health attitude in which 7% had poor SOC level which are **statistically significant.** Majority 77% who visit the dentist had poor SOC with 76% , whereas 23% had poor SOC level who are not visited the dentists as well and are not statistically significant and 96% who don't use gutka had poor SOC level among 4% who use gutka, 3% had poor SOC level which are**)statistically significant. (Table 6**

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TABLE 1: DISTRIBUTION OF STUDY PARTICIPANTS ACCORDING TO KNOWLEDGE

Questions	N= 100		
	Yes	No	Don't know
Do you know about the use of tooth brush for cleaning teeth?	97	3	0
Do you know correct tooth brushing frequency per day?	86	8	6
Do you know about the correct time of brushing/cleaning teeth?	85	9	6
Do you know about the use of dental floss?	42	37	21
Do you know the cause of decayed teeth and ways of preventing it?	57	20	23
Do you know about the role of fluoride in tooth decay?	44	32	24
Do you know about the role of diet in tooth decay?	52	25	23
Does infection in gum cause gum bleeding.	57	20	23
Does regular brushing of teeth can protect one-self from gum bleeding?	68	15	17
Does smoking/chewing paan/gutka harmful for oral health?	82	16	2

TABLE 2: DISTRIBUTION OF STUDY POPULATION ACCORDING TO ORAL HEALTH ATTITUDE

Questions	N = 100		
	Yes	No	Don't know
Do you think teeth are an important part of your body?	97	3	0
Do you think regular visit to the dentist is necessary to keep your teeth in a healthy state?	77	20	3
Do you think that dental problem can affect general health?	82	11	7
Well cleaning of teeth can be done without using toothpaste?	36	57	7
Are you satisfies with your own teeth?	81	17	2
Are you afraid of going to dentist?	25	72	3
Is gutka/tobacco chewing/smoking in any form a bad habit?	83	16	1

TABLE 3: DISTRIBUTION OF STUDY POPULATION ACCORDING TO ORAL HEALTH BEHAVIOUR

Questions	**N=100**	
	Yes	No
Do you visit the dentist?	77	23
Do you use gutka?	04	96

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TABLE 4: DISTRIBUTION OF TOTAL KNOWLEDGE AND KNOWLEDGE AMONG STUDY PARTICIPANTS

	N=100
ORAL HEALTH KNOWLEDGE	**PERCENTAGE(%)**
Good >5	80
Poor<4	20
ORAL HEALTH ATTITUDE	
Good >5	92
Poor<4	8

TABLE 5: DISTRIBUTION OF STUDY POPULATION ACCORDING TO SOC LEVEL

	N= 100		
SOC LEVEL	Poor SOC (<66)	Average SOC (66-75)	High SOC (>76)
%	99	1	0

TABLE 6: ASSOCIATION BETWEEN SOC AND ORAL HEALTH KNOWLEDGE, ATTITUDE AND ORAL HEALTH BEHAVIOUR

	Poor SOC	**Average SOC**	**Good SOC**	**Chi-square**	**p-value**
Oral Health Knowledge					
Good >5	79	1	0	0.253	0.615
Poor- <4	20	0	0		
Oral Health Attitude	Poor SOC	Average SOC	Good SOC		
Good >5	92	0	0	11.616	**<0.001***
Poor- <4	7	1	0		
Oral Health Practice					
Do you use gutka					
Yes	3	1	0	24.24	**<0.001***
No	96	0	0		

II. DISCUSSION:

It is well established that the quality of children's relationships with their teachers in the early grades has important implications for children's concurrent and future academic and behavioral adjustment[6]. SOC is important among adult group of school teachers, because of its impact on their own life style and their children

In the present study, subjects were divided into four age groups and majority of the study subjects were in the age group of >55 years which was similar to that described by Gaiao LR et al, Srivastava et al.[10,11]majority were females when compared to men which was almost similar to study by VidyaSekhar et al and a study by Kompalli et al.[12,13]

In previous study, according to dietary habits by Zhu L et al, At age 35–44 years 43% of participants had daily consumption of sweets [14]. In the present study, majority study population are oftenly/sometimes having sweets in between meals ,whereas daily frequency of sweets ranging from 1-2 times /day were 83% and 3-4 times were 11% respectively.

A high number of subjects had a regular oral hygiene habits, and previous study by Abu-

Gharbieh E et al showed that 98% of all participants practiced at least an acceptable level of oral behavior and 53% practiced a good to perfect level[15]. A dental visit within the previous 12 months was reported by 25% among participants and 6% had a dental check-up during the past two years according to the previous study by Ling Zhu et al, K. Spinler et al [14,16]. A study by Bala k et al shows Only 19.1% participants had visited a dentist in the last 12 months which is quite low as compared to the study conducted by Shammari et al in which 60% of the participants had visited a dentist in the last 12 months[17,18]. While in the present study, among the study population 77% visited the dentist where as 23% not visited the dentist in their previous year.According to the study by Eman_Abu-Gharbieh et al,overall, participants had an acceptable level of oral health knowledge[15]. In our study, majority had good oral health knowledge where in, most of them i.e. 97% had answered about the use of tooth brush,86% answered about the correct tooth brushing frequency, majority are satisfied with their own teeth, and think that dental problem will affect the general health. In the previous study by Bala K et al., Approximately more than half of the study participants were satisfied with their oral health (both teeth and gums) and graded them from excellent to good. The study population relied upon hospital for managing dental problems and almost same percentage of participants believe that oral health is as important as general health[17].
Overall attitude among study participants was good in the present study, similar to the previous study byBala K et al[17].

In the present study, the association was not found between SOC and oral health knowledge. Although the studies showed a correlation between SOC and other health related behavior among adults such as dietary habits, risk behaviours for HIV infection and alcohol consumption.

Overall, Other Oral health behaviour investigated here were associated with SOC. Only few studies have attempted to relate oral health behaviors to psychological factors.A positive significant association was found between SOC and healthy diet in adults , Bernabé E et al where as in present study there is association seen in frequency of sweets(0.006^{*})[19]

The association between SOC and tooth brushing behavior, reported a significant association meaning that individuals with a strong SOC were more likely to brush their teeth twice or more per day compared with those who had lower levels of SOC as by Bernabé E et al[19] . Results of this study shown that, even though the school teachers have majority low SOC they more likely to brush their teeth with brush with tooth paste , twice a day with oral mouth rinse and they make more frequent dental visits than those with average and high SOC level.Total SOC was not significantly associated with the type of cleaning, tooth brushing with twice a day or with a use of oral mouth rinse. However previous studies have shown that a strong SOC is associated with the tooth brushing as well no such association.

Regular dental visiting habits did not display any statistically significant relationship with SOC in this study, which is in contrast to some other studies. It has been suggested that health behaviors are multidimensional, and this then requires more or less initiative on the part of an individual. Moreover, there are still just two oral health surveys that have analysed the relationship between SOC and oral health behaviors in adults.In this present study, low SOC study participants gave correct answers to some extent when it comes to knowledge of oral health. But there is no significant association seen when it comes to oral health related knowledge. However, the overall oral health knowledge was good.

In this present study, there is an association between low SOC and the positive attitude towards oral health. Savolainen et al found a relationship between strong SOC and positive oral health attitude. Focusing on individuals attitudes towards oral health may be an important way to improve skills when using available resources in a healthy direction leading to a better oral health[20].

In this context, the contribution of the salutogenic theory for health promotion has been studied, showing how people can be able to see their lives a s structured and coherent may have an impact on health. To increase the knowledge of a holistic view of oral health, including a psychosocial perspective focusing on resources instead of risks, may be a way to influence both professional and their patients working with oral health prevention and promotion.

One problem in the interpretation of the present findings is the nature of the SOC concept itself. The salutogenic model is a relatively new theory, and although it has gained widespread attention, it is not free from problems and inconsistencies.

This study carried out among school teachers in Bangalore, is the first investigation into relationship between SOC and oral health. Other population groups may show different results. More research is needed to validate and further to

explore the complex psychosocial inter-relationships between SOC and oral health.

III. CONCLUSION

In conclusion, this sample of school teachers of Bangalore had, mean oral health related knowledge and their oral health related attitude was Good and Oral health related behavior was average to good. SOC was associated to their oral health behavior such as frequency of snacks/sweets per day and Gutka chewing. This study also concluded that even though school teachers had low SOC level, they had good oral health behavior and attitude.

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