Acta Scientific Dental Sciences (ISSN: 2581-4893)

Volume 2 Issue 9 September 2018

Research Article

Impact of Health Services on Accessibility, Performed Treatment Index (PTI), Requirement Treatment Index (RTI), on Oral Hygiene Behavior

Niniek L Pratiwi[1]*, Hari Basuki[2] and Agus Soeprapto[1]

[1]*Researcher at Center for Research and Development of Humanities and Health Management, NIHRD-Ministry of Health Republic Indonesia, Jakarta, Indonesia*

[2]*Lecturer of Public Health Community, Faculty at Airlangga University, Surabaya, Indonesia*

***Corresponding Author:** Niniek L Pratiwi, Researcher at Center for Research and Development of Humanities and Health Management, NIHRD-Ministry of Health Republic Indonesia, Jakarta, Indonesia.

Received: May 21, 2018; **Published**: August 02, 2018

Abstract

Background: The number of tooth decay in Indonesia based on national health survey by the Department of Health of Indonesia in 2001 found about 70 percent of the Indonesian population aged 10 years and over have experienced damage gigi. Pada age 12 years, the amount of tooth decay reaches 43.9%, age 15 year reached 37.4%, age 18 years 51.1%, aged 35 - 44 reached 80.1%, and the age of 65 years and over reached 96.7%.

Methods: Data from analyse health community based survey/"Riskesdas" years 2007, based on the data types Oral hygiene behavior is nominal, and as the dependent variable, independent variables while are: access to health services, PTI, which has a scale RTI data are ordinal. Design analysis is the analysis of ordinal relations with Regressi.

Result: Results showed that there are several variables that could significantly affect oral hygiene behavior with p value = 0.000 ($p < 0.05$, at α 0.05) is the travel time and distance to health center, age, occupation KK, level of per capita household expenditure, PTI, and RTI. The closer the travel time to health centers the greater the percentage of tooth brushing behavior and otherwise the longer the travel time from the center of the larger health behavior brush. Influence the accessibility of health service facilities ease significantly affect preventive efforts, the community dental health promotion.

Conclusion: Needed improvements in accessibility of health care facilities, especially dental health services for remote areas, islands and borders both facilities and equipment facilities as well as dental health personnel. Distance and short takes on the health service center is a factor enabling or supporting the predisposing factors will affect the drivers as a form of ease in obtaining access to knowledge about dental health, especially in the behavior of the brush. Predisposing factors embodied in the knowledge of factors affecting reinforcing increases one's motivation toothbrushing behavior. For toothpaste affordability cross-subsidies required to increase purchasing power of a toothpaste containing fluoride levels and toothbrushes that can reach people, especially the poor.

Keywords: PTI; RTI; Oral Hygiene Behavior; Economy Status; Accessibility

Introduction

Dental and mouth health is still not a major concern. As a result, cavities or caries become a common problem facing most societies. Though this condition becomes a gate of various diseases. Ignoring dental and mouth health means opening the gates to various diseases. During this handling of dental problems is still limited to patching the tooth. Such action is considered capable of controlling caries. And that's not enough to solve the problem thoroughly. Caries or tooth decay is the most common infectious disease in the world and is found in 95 percent of the world's population [1].

The number of tooth decay in Indonesia based on a health survey conducted by the Ministry of Health of Indonesia in 2001 found that about 70 percent of Indonesia's population aged 10 years and over have experienced tooth decay. At age 12, the amount of tooth decay reached 43.9 percent, age 15 years reached 37, 4 percent, age 18 years 51.1 percent, age 35 - 44 reached 80.1 percent, and age 65 years and over reached 96.7 percent. This data, of course,

cannot be considered small, as some dangerous diseases such as heart, lungs, low birth weight, preterm birth, and diabetes can start with oral hygiene problems. Periodontal disease or dental support and advanced caries in a person is determined more by genetic factors, the person's response, the environment, the habits, and the risk factors obtained.

In periodontal disease, bacteria that attach to the teeth and gums will affect the blood vessels. The disorder causes the dilation of blood vessels because of the bacteria that enter the bloodstream. Infection can stimulate certain body compounds to release the body's defenses that will affect the blood vessels. As a result, there is an increased risk of systemic disease, including coronary heart disease.

Dental health also affects the fetus pregnant women conceive. Dental caries that becomes a place for the entry of germs will cause an infection of the membranes. As a result, the membranes rupture prematurely. In addition to the risk of premature birth, germ infections also cause other effects such as stunted fetus growth, low birth weight, and susceptible to disease because the immune system has not been fully formed.

The risk of death in infants was lurking because not ready to live outside the womb with lungs and liver immature. While the immune system was not yet fully formed. "Therefore, it is important to prevent tooth decay early with daily health care" [2].

The high caries rates are probably closely related to the wrong eating patterns and some behaviors such as people prefer sweet, less fibrous and sticky snacks. Behavior of brushing time is wrong because it is done during the morning bath and afternoon bath and not after breakfast and at bedtime (Pratiwi NL, 1998). Though brushing your teeth before bed is very effective to reduce dental caries.

On the other hand, there is a perception of people who claim that dental disease does not result in death causing a lack of awareness to maintain oral hygiene and to place dental problems at the level of the latter need. Though the tooth is the focus of infection of systemic disease, including kidney and heart disease. Some cultures of the local community as well as marking the level of a man's and a woman's maid by way of pangur, nginang tobacco behavior will further increase the caries number. Lack of dental workers (dentists, dental nurses) from the final Health Department report of Pelita V [3] which only 6,914 health workers in Indonesia, meaning one health worker handled approximately 29,000 people. Added to the problem of unequal distribution of health workers. Therefore, this study is aimed to examine the relationship of dental health service access and Performed Treatment Index (PTI) to oral hygiene behavior.

The problem formulation of this study is: Is access to health services to the public affect the behavior of oral hygiene?

With the answer to the problem of research, the results of this study are expected to help the district/city government to be able to develop service programs and preventive efforts of oral health of the community so that the degree of oral health is achieved according to WHO expectations. And it is hoped that this study can develop new science for scientists in Indonesia.

Methods

Framework Analysis

Many factors cause the occurrence of pain in the teeth and mouth, in this study seen from 3 approaches epidemiologist the occurrence of Oral Hygiene Behavior. Factor host begins with anatomical shape of the teeth with a lot of fissure on the crown will facilitate attachment of food scraps, hormonal factors will affect the degree of acidity in saliva and the presence of systemic factors such as elevated blood glucose levels will facilitate the occurrence of periodontitis disease. From the factor agent itself in the presence of microbacterials such as Streptococcus aureus, Streptococcus mutans the caries-causing bacteria present in the plaque, debris will damage the enamel layer of the tooth. The presence of fungi in the tongue mucosa, the gums will together cause the formation of candidiasis in the oral cavity [4].

Influence of environmental factors is very big role in the occurrence of diseases of the teeth and mouth, such as the influence of dietary habits sweet and sticky foods, which begins at infancy, toddlers to adults, the behavior of maintaining oral hygiene, the habit of brushing teeth is wrong both time and technical. The influence of public access to dental health facilities can influence the behavior of dental health preventive efforts, Performed Treatment Index (PTI), Requirement Treatment Index (RTI).

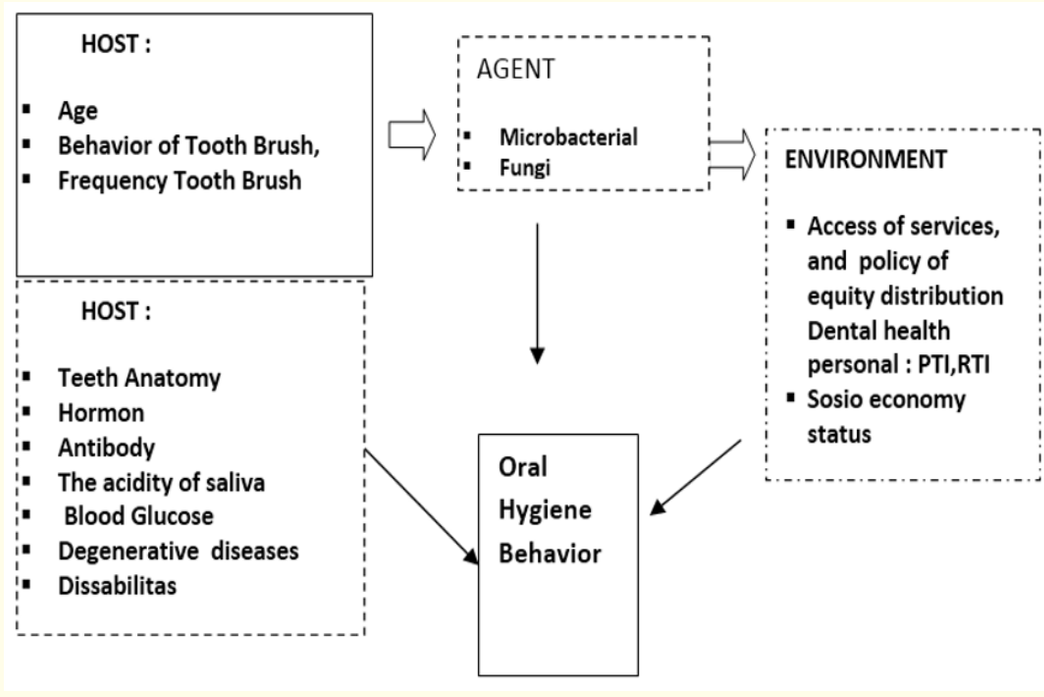

Figure 1: Framework concept several variables that can affect the amount of oral hygiene behavior.

Types of Analysis

Based on the type of dental brushing behavior data that is nominal and as a dependent variable, the independent variables are: access to health services, PTI, RTI index that has a nominal scale of data. Looking at the type of data, then test the analysis through 2 stages:

1. Analysis, univariate, bivariate for relationship analysis of two variables which then proceed with second phase analysis.
2. Regression analysis ordinal which is multiregression.

Design Analysis

Design analysis is a relationship analysis with ordinal Regression.

Estimated large sample, how to select and sampling

Population is the whole of Indonesian society, which can represent the City/District and representative for national data. Sampling using sample Susenas KOR 2007.

Variable variables analyzed:

1. Dependent variables: Oral hygiene behavior,
2. Independent variables: Age, gender, RTI index, PTI, and access affordability of health care facilities.

Management and data analysis

Data analysis by description of characteristics of:

1. Variable utilization of health care guilt with nominal data type (yes, no) on B25-B27 (RKD) 07.IND.
2. Variable access to health service utilization Block VI 1ª-3 on RKD07.RT, Block VI Access and utilization of health services (Ca01).
3. Variable behavior Oral hygiene (D10a-D10b).

Operational definition

Oral hygiene behavior is the habit of respondents in making efforts to maintain oral hygiene, habits and time brushing teeth.

Limitations of analysis

The ability of software analysis and limited variables

Results

Characteristics

Some data about the characteristics of respondent we show in two tables namely age group and gender, and can be seen in table 1 below.

Ages (year)	Oral Hygiene Behavior		Total
	Yes	No	
10 - 14	96.0%	4.0%	100.0%
15 - 24	97.6%	2.4%	100.0%
25 - 34	97.1%	2.9%	100.0%
35 - 44	96.0%	4.0%	100.0%
45 - 54	92.7%	7.3%	100.0%
55 - 64	83.5%	16.5%	100.0%
65 - 74	67.4%	32.6%	100.0%
75+	47.6%	52.4%	100.0%
Total	92.2%	7.8%	100.0%

Table 1: Oral hygiene behavior by ages riskesdas 2007.

There is a tendency for younger age to increase the prevalence of brushing teeth and the increasing age of brushing teeth is lower. The prevalence of brushing teeth was highest in the 15 - 24 year age group of 97.6%, followed by the second order of age group 25 - 34 years 97.1%, age 10 - 14 years 96.0%. The prevalence of behavior is not the highest daily brushing in the age group of 75 years and over 52.4%, 65 - 74 years 32.6%, possibly due to the increasing age of tooth loss is also greater so as not to brush the teeth.

Sex	Oral Higiene Behavior		Total
	Yes	No	
Male	91.9%	8.1%	100.0%
Female	92.6%	7.4%	100.0%
Total	92.2%	7.8%	100.0%

Tabel 2: Procentage oral higiene behavior by sex riskesdas 2007.

Women have more percentage of brushing behavior than men, whereas the behavior does not brush more teeth in male gender than female.

Distance to hospital service center	Brushing Teeth Behavior		Total
	Yes	No	
< 1 km	93.5%	6.5%	100.0%
1 - 5 Km	91.5%	8.5%	100.0%
> 5 km	86.8%	13.2%	100.0%
Total	92.3%	7.7%	100.0%

Tabel 3: Percentage of brushing teeth behavior by distance to riskesdas 2007 health service.

The closer the distance to the health service center the greater the percentage of the tooth brushing behavior and vice versa the further away from the health service center the greater the behavior of not brushing the teeth.

Travel_Time (minute)	Brushing Teeth Behavior		Total
	Yes	No	
<=15’	93.5%	6.5%	100.0%
16’ - 30’	91.1%	8.9%	100.0%
31’ - 60’	85.9%	14.1%	100.0%
> 60’	79.3%	20.7%	100.0%
Total	92.3%	7.7%	100.0%

Tabel 4: Persentase perilaku menggosok gigi menurut waktu tempuh ke pelayanan kesehatan riskesdas 2007.

The closer the travel time to the health service center the greater the percentage of tooth brushing behavior and vice versa the longer the travel time from the health service center the greater the behavior of not brushing the teeth.

RTI	Brushing Behavior		Total
	Yes	No	
.00	85.2%	14.8%	100.0%
Lower (0,01 - 0,33)	87.9%	12.1%	100.0%
Middle (0,34 - 0,66)	94.0%	6.0%	100.0%
High (0,67 - 1,00)	96.5%	3.5%	100.0%
Total	90.5%	9.5%	100.0%

Table 5: Percentage of brushing behavior based on required treatment index (RTI) riskesdas 2007.

Required Treatment Index (RTI) is a percentage of the number of permanent teeth that carries the DMF-T number. RTI describes the extent of damage that has not been addressed and requires fogging/retraction.

There is a greater tendency for higher RTI levels to increase the prevalence of brushing behavior, but the lower the RTI level the greater the non-brushing behavior.

PTI	Brushing Behavior		Total
	Yes	No	
.00	90.6%	9.4%	100.0%
Lower (1 - 2)	95.7%	4.3%	100.0%
Middle (3 - 10)	98.0%	2.0%	100.0%
High (> 10)	97.4%	2.6%	100.0%
Total	90.8%	9.2%	100.0%

Table 6: Percentage of brushing behavior by performed treatment index (PTI) riskesdas 2007.

Performed Treatment Index (PTI) is a percentage of the number of permanent teeth being swelled against DMF-T. PTI describes the motivation of a person to shed his or her hollow teeth in an effort to maintain a fixed tooth.

The greater the level of PTI (one's motivation for cavity teeth perforation) the greater the percentage of brushing behavior, the lower the PTI level the greater the percentage of non-brushing behavior.

Analysis of relationships with ordinal regression test some factors of oral hygiene behavior

From the table above seems to have the smallest significant value with ordinal multi regression analysis method is the travel time

From the table above seems to have the smallest significant value with ordinal multi regression analysis method is the travel time to the health service center, age, gender, RTI and PTI index, meaning that most influence on tooth brushing behavior is travel time, age, gender, RTI index, PTI.

Parameter Estimates								
		Estimate	Std. Error	Wald	Df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[Brushing _teeth = 1]	.613	.254	5.805	1	.016	.114	1.111
Location	[Age 10 = 1]	-2.217	.205	116.768	1	.000	-2.619	-1.815
	[Age 10 = 2]	-3.060	.074	1730.983	1	.000	-3.204	-2.916
	[Age 10 = 3]	-2.890	.061	2245.614	1	.000	-3.010	-2.771
	[Age 10 = 4]	-2.681	.055	2334.267	1	.000	-2.790	-2.572
	[Age 10 = 5]	-2.058	.050	1694.254	1	.000	-2.156	-1.960
	[Age10 = 6]	-1.335	.048	787.526	1	.000	-1.428	-1.242
	[Age10 = 7]	-.610	.047	165.693	1	.000	-.703	-.517
	[Age10 = 8]	0(a)	.	.	0	.	.	.
	[Travel_time = 1.00]	-.949	.066	203.787	1	.000	-1.080	-.819
	[Travel_time = 2.00]	-.778	.069	128.719	1	.000	-.912	-.643
	[Travel_time = 3.00]	-.343	.076	20.344	1	.000	-.491	-.194
	[Travel_time = 4.00]	0(a)	.	.	0	.	.	.
	[RTI_RANK = .00]	.633	.039	262.221	1	.000	.556	.709
	[RTI_RANK = 1.00]	.321	.046	49.683	1	.000	.232	.410
	[RTI_RANK = 2.00]	.152	.049	9.729	1	.002	.056	.247
	[RTI_RANK = 3.00]	0(a)	.	.	0	.	.	.
	[PTI_RANK = .00]	.797	.217	13.444	1	.000	.371	1.223
	[PTI_RANK = 1.00]	.412	.256	2.592	1	.107	-.090	.914
	[PTI_RANK = 2.00]	-.131	.335	.152	1	.696	-.788	.527
	[PTI_RANK = 3.00]	0(a)	.	.	0	.	.	.
	[b4k4 = 1]	-.500	.040	158.593	1	.000	-.578	-.422
	[b4k4 = 2]	0(a)	.	.	0	.	.	.

Table 7: Ordinal regression analysis results some factor determinan oral hygiene riskesdas 2007 behavior.

Link function: Logit.

a: This parameter is set to zero because it is redundant.

The result of statistical test shows that there is a significant correlation between age factor to toothbrushing behavior with p value = 0,000 (at alfa = 0,05). It means that the increasing age decreases the brushing behavior.

The above statistical test shows that there is a significant relationship between the sex factor on the brushing behavior of teeth with p = 0,000 (at alpha = 0,05). Means that Women are more percentage of brushing behavior than men, on the contrary behavior does not brush more teeth in male gender than female.

Parameter Estimates								
		Estimate	Std. Error	Wald	Df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[brushing _teeth = 1]	-.096	.020	23.815	1	.000	-.135	-.058
Location	[Age 10 = 1]	-3.277	.034	9213.145	1	.000	-3.344	-3.210
	[Age 10 = 2]	-3.795	.030	16139.673	1	.000	-3.854	-3.737
	[Age10 = 3]	-3.591	.028	16069.554	1	.000	-3.647	-3.536
	[Age 10 = 4]	-3.283	.027	15103.748	1	.000	-3.336	-3.231
	[Age 10 = 5]	-2.644	.025	11084.888	1	.000	-2.693	-2.594
	[Age10 = 6]	-1.717	.024	4970.881	1	.000	-1.765	-1.669
	[Age 10 = 7]	-.820	.024	1130.113	1	.000	-.868	-.773
	[Age 10 = 8]	0(a)	.	.	0	.	.	.

Table 8: Results of ordinal age regression analysis with OHI behavior riskesdas 2007.

Link function: Logit.

a: This parameter is set to zero because it is redundant.

Parameter Estimates								
		Estimate	Std. Error	Wald	Df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[brushing _teeth = 1]	2.523	.008	94109.891	1	.000	2.507	2.539
Location	[b4k4 = 1]	.095	.012	66.262	1	.000	.072	.117
	[b4k4 = 2]	0(a)	.	.	0	.	.	.

Table 9: Regression analysis results ordinal gender with oral hygiene behavior, riskesdas.

Link function: Logit.

a: This parameter is set to zero because it is redundant.

Parameter Estimates								
		Estimate	Std. Error	Wald	Df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[brushing _teeth = 1]	1.881	.022	7514.780	1	.000	1.838	1.924
Location	[Distance_health services = 1.00]	-.788	.024	1120.788	1	.000	-.834	-.742
	[Distance_health services = 2.00]	-.490	.023	446.499	1	.000	-.536	-.445
	[Distance_health services = 3.00]	0(a)	.	.	0	.	.	.

Table 10: Result of ordinal regression analysis distance to health service center with oral hygiene behavior, riskesdas 2007.

Link function: Logit.

a: This parameter is set to zero because it is redundant.

It appears that there is a significant correlation between health care center distance factor to brushing behavior with p = 0,000 (at alpha = 0,05). Means that The closer the distance to the health service center the greater the percentage of brushing behavior and vice versa the further away from the health service center the greater the behavior of not brushing the teeth.

There was a significant correlation between time factor of health service center to toothbrushing behavior with p value = 0,000 (at alfa = 0,05). Means that The closer the travel time to the health service center the greater the percentage of brushing behavior and vice versa the longer the travel time from the health service center the greater the behavior of not brushing teeth.

Parameter Estimates								
		Estimate	Std. Error	Wald	Df	Sig.	95% Confidence Interval	
							Lower	Upper
Threshold	[brushing _teeth = 1]	1.346	.028	2342.002	1	.000	1.292	1.401
Location	[Travel_time = 1.00]	-1.324	.029	2109.577	1	.000	-1.381	-1.268
	[Travel_time = 2.00]	-.975	.030	1047.220	1	.000	-1.034	-.916
	[Travel_time = 3.00]	-.464	.034	189.965	1	.000	-.530	-.398
	[Travel_time = 4.00]	0(a)	.	.	0	.	.	.

Table 11: Result of ordinal regression analysis travel time to health service center with oral hygiene riskesdas 2007 behavior.

Link function: Logit.

a: This parameter is set to zero because it is redundant.

Required Treatment Index (RTI) is a percentage of the number of permanent teeth that caries the DMF-T number. RTI describes the extent of damage that has not been addressed and requires fogging/retraction.

The table above shows that there is a significant relationship between RTI factor Iterhadap brushing behavior with p value = 0.000 (at alfa = 0,05). Means that there is a greater tendency of high RTI level the greater the prevalence of brushing behavior, but on the contrary the lower the RTI level the greater the non-brushing behavior.

The above statistical test shows that there is a significant relationship between PTI factor to tooth brushing behavior with p value = 0.000 (at alfa = 0,05). It means that there is a greater tendency of higher PTI level to increase the prevalence of brushing behavior, but otherwise the lower the PTI level the greater the non-brushing behavior.

Parameter Estimates								
		Estimate	Std. Error	Wald	Df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[brushing _teeth = 1]	3.320	.018	32462.223	1	.000	3.284	3.356
Location	[RTI_RANK = .00]	1.571	.020	5978.928	1	.000	1.532	1.611
	[RTI_RANK = 1.00]	1.339	.024	3127.360	1	.000	1.292	1.386
	[RTI_RANK = 2.00]	.567	.028	419.773	1	.000	.512	.621
	[RTI_RANK = 3.00]	0(a)	.	.	0	.	.	.

Table 12: Result of regression analysis ordinal hygiene behavior with required treatment index (RTI) riskesdas 2007.

Link function: Logit.

a: This parameter is set to zero because it is redundant.

Parameter Estimates								
		Estimate	Std. Error	Wald	Df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[brushing _teeth = 1]	3.626	.108	1130.504	1	.000	3.415	3.837
Location	[PTI_RANK = .00]	1.364	.108	159.289	1	.000	1.152	1.575
	[PTI_RANK = 1.00]	.514	.131	15.402	1	.000	.257	.770
	[PTI_RANK = 2.00]	-.238	.169	1.986	1	.159	-.569	.093
	[PTI_RANK = 3.00]	0(a)	.	.	0	.	.	.

Table 13: Results of regression analysis of ordinal hygiene behavior with performed treatment index (PTI) riskesdas 2007.

Link function: Logit.

Performed Treatment Index (PTI) is a percentage of the number of permanent teeth being swelled against DMF-T. PTI describes the motivation of a person to shed his or her hollow teeth in an effort to maintain a fixed tooth

a: This parameter is set to zero because it is redundant.

Discussion

Characteristics of OHI behavior

There is a tendency for younger age to increase the prevalence of brushing teeth and the increasing age of brushing teeth is lower.

The prevalence of brushing teeth was highest in the 15 - 24 year age group 97.6%, followed by age group 25 - 34 years 97.1%, age 10 - 14 years 96.0%. The prevalence of behavior is not the highest daily brushing in the age group of 75 years and over 52.4%, 65 - 74 years 32.6%, probably due to the increasing age of tooth loss is also greater so it is considered unnecessary to brush your teeth. Another possibility may be when wearing dentures so the oral cavity does not need to be cleaned again as well as with dentures. While the age group of 15 - 24 years and the age of 25 - 34 years is a group of young adolescents and productive age with high spirits, the possibility of maintaining more dominant face aesthetic than other age groups, which impact on the tendency to maintain oral hygiene is higher than the age group others.

Women have more percentage of brushing behavior than men, whereas the behavior does not brush more teeth in male gender than female. It may be assumed that women are more likely to comply with the advice of health workers in the behavior of brushing their teeth. In terms of keeping the aesthetic of women's faces tend to pay more attention to the outward appearance than the male sex, by diligently behaving brushing your teeth every day a woman will expect to get a clean and healthy teeth that will affect the beauty of his face (as a system of values adopted by society and is predisposing factors.

The closer the distance to the health service center the greater the percentage of the tooth brushing behavior and vice versa the further away from the health service center the greater the behavior of not brushing the teeth. It is assumed that with easy access to health care centers, the surrounding population will receive more health information, especially about oral and dental health compared to people who are far from access to health services. Similarly, the closer the travel time to the health service center the greater the percentage of the behavior of brushing teeth and vice versa the longer the travel time from the health service center the greater the behavior of not brushing the teeth. Accessibility factor for health service facility is enabling factor according to Lawrence Green., *et al* [5].

There is a greater tendency of higher RTI levels the greater the prevalence of brushing teeth, but the lower the level of RTI the greater the behavior of not brushing your teeth. A person whose teeth are hollow will experience a very painful pain, this pain that is likely to cause a person's effort not to experience it again resulting in efforts or efforts to make prevention efforts in the form of brushing teeth, compared to those who have never experienced toothache. Moreover, the cost of treatment for dental health is relatively expensive will increase one's motivation to make some preventive efforts. As with the greater the level of PTI (one's motivation for cavity teeth perforation) the greater the percentage of brushing teeth, the lower the PTI level the greater the percentage of non-brushing behavior.

Ordinal regression analysis some factors affecting OHI behavior

The result of statistical test shows that there is a significant correlation between age factor to toothbrushing behavior with p value = 0,000 (at alfa = 0,05). Means that the increasing age decreases the behavior of brushing teeth. Do not Underestimate Dental Hygiene and Mouth It has been proven that a series of serious diseases, can be caused by germs that have rotted in the teeth and cause infection in the gum tissue to enter the bloodstream. Conditions that can cause inflammation in other body parts such as the heart muscle, kidneys, joints, other prolonged headaches. The germ trip is known as the focal infection theory. Though this condition becomes a gate of various diseases. In periodontal disease, bacteria that attach to the teeth and gums will affect the blood vessels. The disorder causes the dilation of blood vessels because of the bacteria that enter the bloodstream. Infection can stimulate certain body compounds to release the body's defenses that will affect the blood vessels. As a result, there is an increased risk of systemic disease, including coronary heart disease. Prevention efforts can be done in various ways, ranging from regular toothbrushes, dental floss, mouthwash, mousse gel, and chewing gum. Researchers from the Oral Biology Section of FKG UI Prof. Elza I Auerkari DDS MBIOMED PhD suggests, in addition to fluoride ingredients, xylitol is also beneficial for maintaining dental health in http://www.wikipedia.org/wiki/Karies_gigi ^ Dental Caries [1].

Personal hygiene consists of good dental cleansing [6]. Good oral hygiene is needed to minimize the agents that cause mouth disease and remove dental plaque. The plaque contains bacteria. Caries can be prevented by regular cleansing and dental checkups. For dental health, setting sugar consumption is important to note [7]. Sugar remaining on the mouth can produce acids by bacteria.

The above statistical test shows that there is a significant relationship between the sex factor on the brushing behavior of teeth with p = 0,000 (at alpha = 0,05). Means that Women are more percentage of brushing behavior than men, on the contrary behavior does not brush more teeth in male gender than female.

It can be explained that although behavior is a form of response or reaction to stimuli or stimuli from outside the organism/person, but in responding highly depends on the characteristics or other factors of the person concerned. This means that although the stimulus is the same for some people, the response of each person is different. Factors that distinguish responses to different stimuli are called behavioral determinants (Notoatmodjo S 2003). Determinant behavior can be divided into 2 namely:

1. Internal factors, i.e. the characteristics of the person con cerned, given, or innate, such as the level of intelligence, emotional level, gender, age, and so forth.
2. External factors, i.e. the environment, whether physical, social, cultural, economic, political. This environmental factor is often a dominant factor that colors a person's behavior.

It appears that there is a significant correlation between health care center distance factor to tooth brushing behavior with p value = 0,000 (at alfa = 0,05). Means that The closer the distance to the health service center the greater the percentage of the behavior of brushing teeth and vice versa the further away from the health service center the greater the behavior of not brushing the teeth.

There was a significant correlation between time factor of health service center of brushing behavior with p value = 0,000 (at alfa = 0,05). Means that The closer the travel time to the health service center the greater the percentage of the behavior of brushing teeth and vice versa the longer the travel time from the health service center the greater the behavior of not brushing the teeth. The distance and short travel time to the health service center is an enabling or supporting factor that will influence the predisposing factor as a driving factor as a form of ease in gaining access to knowledge about dental health, especially in behaving about brushing teeth. Predisposing factors embodied in knowledge will affect the reinforcing factor for behaving brushing teeth.

The behavior of brushing your teeth as a stimulus response can slowly affect a person and also affect the surrounding environment in which he lives as an environment factor, which will ultimately affect a person's lifestyle behavior in healthy dental behaviors as described in the Precede-Procedure Framework of HP -planning [5].

There was a significant correlation between RTI factor to brushing behavior with p value = 0,000 (at alfa = 0,05). Means that there is a greater tendency of high RTI level the greater the prevalence of brushing teeth, but the lower the level of RTI the greater the behavior of not brushing your teeth. RTI which is the index of need for patch treatment, where the greater the index will affect a healthy person beperilaku that is by brushing teeth more often can be explained by the theory of Health belief models because the pain due to cavities as a form of threat (Perceived threat) will cause a reaction to behave rub tooth. A large RTI index per person causes a person to behave tooth cleaning, but it is too late because the teeth are already hollow.

The above statistical test shows that there is a significant correlation between PTI factor to brushing behavior with p value = 0,000 (at alfa = 0,05). Means that there is a greater tendency of higher PTI level the greater the prevalence of brushing teeth, but otherwise the lower the PTI level the greater the behavior of not brushing the teeth. PTI is an index of one's motivation in the effort of performing dental care. The larger the motivation index in performing the greater dental care for tooth brushing behavior, can be explained by the theory of motivation. According to Colquite J A 2000, high motivation can influence behavior through increased knowledge and skills. This can be explained by the opinion of Bandura, 1989, that a person will decide to behave according to health advice will ultimately consider about, expectations of possible outcomes of expectancy, expectations of a reasonable outcome expectancy and outcome value value). For example by brushing your teeth regularly after eating and before going to sleep, he will expect no holes and tartar on his teeth. Regular brushing behavior requires a high commitment to remain consistent, but basically anus has many problems that result in no consistency of commitment to him. But with a high motivation, a person still holds his commitment to berkilku healthy. Another factor consideration a person decides to behave is how much effort or effort to overcome obstacles, if greater expectations of behavior than effort, then the suggestion of healthy behavior becomes stronger [8-11].

Conclusion

Some factors related to OHI behavior

- There is a significant relationship between the health care center's distance factor on the brushing behavior of teeth with the value p = 0,000 (at alpha = 0.05). Means that The closer the distance to the health service center the greater the percentage of the behavior of brushing teeth and vice versa the further away from the health service center the greater the behavior of not brushing the teeth.

- There is a significant relationship between the factor of travel time of health service center brushing behavior with p value = 0.000 (at alfa = 0,05). Means that The closer the travel time to the health service center the greater the percentage of the behavior of brushing teeth and vice versa the longer the travel time from the health service center the greater the behavior of not brushing the teeth.

- There is a significant relationship between the age factor of the tooth brushing behavior and the p value = 0,000 (at alpha = 0.05). Means that the increasing age decreases the brushing behavior of teeth.

- There is a significant relationship between the sex factor on the brushing behavior of teeth with the value p = 0,000 (at alpha = 0.05). Means that Women more percentage of brushing behavior than men, on the contrary behavior does not menggosok teeth more in male gender than woman.

- There is a significant relationship between RTI factor terhadap brushing behavior with p value = 0.000 (at alfa = 0,05). Means that there is a tendency the higher the level of RTI the greater the prevalence of brushing teeth, but otherwise the lower the level of RTI the greater the behavior of not brushing your teeth.

- There is a significant relationship between PTI factor on toothbrushing behavior with p value = 0,000 (at alfa = 0,05). Means that there is a greater tendency of higher PTI level the greater the prevalence of brushing teeth, but otherwise the lower the PTI level the greater the behavior of not brushing the teeth.

Recommendation

- Increased access to health care facilities, especially dental services for remote areas, islands and borders both facilities and equipment as well as dental hygiene and improvement of facilities for ease of transportation.

- By looking at the results there is a meaningful relationship between the factors of age, sex with the behavior of brushing teeth, it is necessary socialization of the importance of efforts to prevent dental caries through the way and time to brush your teeth properly, either through mass media, health program counseling from every puskesmas, polindes, posyandu. Socialization of fluoride toothpaste use in various age groups as well as in the elderly with emphasis on female gender, given that women have more time to be able to deliver dental health education to families especially children, toddlers. And no less important counseling also in pregnant women in order to prepare a healthy fetus with adequate calcium consumption for the formation of bones and teeth that are more resistant to caries.

- Addition quioner for Riskesdas to 2, on RKD07.IND Teeth is on tooth and mouth, about toothpaste with or without fluorine question, and need additional question about method or way of brushing to facilitate enough question of toothbrushing technique with back and forth technique and or circular motion of dental crowns and gums.

Bibliography

1. Angky Soekanto. Dental Caries, hosted on the University of California Los Angeles School of Dentistry (2006).

2. Soekanto Angky. "Masalah Gigi and Mulut, Gerbang Kedatangan Penyakit dalam" (2009).

3. History of Dentistry: Ancient Origins, hosted on the American Dental Association website (2007).

4. Anderson T. "Dental treatment in Medieval England". *British Dental Journal* 197.7 (2004): 419-425.

5. Green Lawrence W and Marshall W Kreuter. "Health Promotion planning an Educational and Environmental approach, second edition". By: Mayfield Publishing Company, Toronto London (2000).

6. Baehni PC and B Guggenheim. "Potential of Diagnostic Microbiology for Treatment and Prognosis of Dental Caries and Periodontal Disease". *Critical Reviews in Oral Biology and Medicine* 7.3 (1996): 259-277.

7. Spolsky V. "The Epidemiology of Ginqival and Periodontal diseases in Clinical periodontology". By Glickman seventh edition, WB Saunders company Philadelphia London Toronto, Montreal Sydney (2001): 302-326.

8. Bandura Albert., *et al*. "Sociocognitive self regulatory, mechanism governing transgressive behavior". *Journal of Personality and Social Psychology* 80.1 (2001): 125-135.

9. Ash and Nelson. "Wheeler's Dental Anatomy, Physiology, and Occlusion". 8th edition. Saunders.

10. Departemen Kesehatan R. "Pedoman pelaksanaan Usaha Kesehatan Gigi Sekolah Direktorat Jenderal Pelayanan Medik Direktorat Kesehatan gigi" (2007).

11. Departemen Kesehatan KI. "Pedoman Perencanaan Tingkat Puskesmas, Direktorat Jenderal Pembinaan Keeehatan Maeyakarat R.I, Jakarta (2001).

Volume 2 Issue 9 September 2018