Research Paper

Effects of Psychological Stability of High School Students On Oral Health Management

Eun-Ryeong Lee[1], Ki-Sang Kwon[1], Joung-Youl Ju[2], Min-Kyoung Park[3*]

[1]*Dept. of Biomedical Laboratory Science, Kyung-Woon University, Gumi, Gyeongbuk, 39160, KOREA*
[1]*Dept. of Biomedical Laboratory Science, Kyung-Woon University, Gumi, Gyeongbuk, 39160, KOREA*
[2]*Dept. of Physical Therapy, Kyung-Woon University, Gumi, Gyeongbuk, 39160, KOREA*
[3]*Dept. of Dental Hygiene, Kyung-Woon University, Gumi, Gyeongbuk, 39160, KOREA*
Corresponding Authoer: Eun-Ryeong Lee

ABSTRACT. The study was conducted to evaluate the effects of eco-identity, stress, and school life on the oral health status of high school students living in Gyeong-buk area. This study aimed to provide baseline data to develop a program to enhance the oral health status of high school students. The results of this study showed that study subjects with lower stress had better school life and oral health status. Moreover, study subjects had better oral health knowledge when their school life was more enjoyable. Furthermore, study subjects had better oral health attitude when their school life was more enjoyable and they experienced lower stress. Overall, study subjects tended to have a healthier oral condition with better school life and lower stress. The results of this study implied that it would be necessary to take measures to improve student′s satisfaction with school life and reduce stress.
KEYWORDS: Ego-Identity, Stress, School Life, Oral Health Management

I. INTRODUCTION

Living a healthy life became one of the people′s major interests as the average life expectancy remarkably increases owing to the advancement of medical technology, the recent economic development, andthe enhancement of life quality. Particularly, oral health and oral disease management, which have been relatively neglected, are drawing more attention and being demanded more1) . In the life cycle, adolescence is a critical time to develop proper oral health habits. South Korean teenagers spend most of their time in school to complete their courses of study so school life adaptation can be considered as the most important aspect of adolescence. Good school life adaptation allows predicting the psycho socialadaptation state that is shown in the overall social life in various organizations including the school. It can be an important value which indicates the quality of teenagers′ life. Consequently, an objective and comprehensive studies on the school life adaptation are required to understand and improve the adaptation behavior pattern of teenagers2).

High school period during adolescence is the time to think about and decide on the course of their career by preparing for college admission and employment3). Moreover, teenagers go through with the major changes in physical and psychological elements during the period. They often suffer from an identity crisis while the society is growing rapidly and the trend is abruptly changing. They also experience psychological pressure due to anxiety that they cannot predict the future. This pressure leads to tremendous stress and teenagers suffer from endless internal conflicts during the period. Furthermore, school life and interpersonal relationship can act as stress factors because they spend a lot of hours in school. Specifically, the relationship with teachers and peers can be stressful to teenagers. Since the college entrance examination is emphasized in South Korea, they feel the pressure not only from the parents′ demands for good grades and school life but also from the peer group. As a result, it is possible that they suffer from oral health and mental health problems due to excessive stress4) .Moreover, they often miss the appropriate treatment due to their busy school schedule and the effects of this maltreatment remain until adulthood. The objective of this study was to contribute to the improvement of high school students′ oral health by analyzing the effects of ego-identity, stress, and interpersonal relations

hip on oral health among various known factors influencing the oral health of teenagers.

II. METHOD

2.1 Research Subjects

This study targeted high school students living in Gyeong-buk area selected by the convenience sampling method. This study utilized the survey results of 105 grade 1 students, 140 grade 2 students, and 97 grade 3 students. After excluding 20 questionnaires that respondents did not answer sincerely or misunderstood questions, the results of 342 respondents were used for the analysis.

2.2 Measurement Tools

This study modified the questionnaires used by Kim5) and Park6) and self-recording type survey method was employed. The questionnaires were distributed to and retrieved from students through career counselors and homeroom teachers by visiting high schools in person. The questionnaire consisted of the clarity of self-concept, stress measurement, interpersonal relationship, subjective oral health status, oral health knowledge, practice to maintain oral health, oral health education, oral health attitude, and generalcharacteristics. Before conducting the main test, a preliminary survey was performed on 30 high schoolstudents living in Gumi area to test the appropriateness of terms and expression and the questionnaire was finally supplemented and corrected. Before conducting the study, a preliminary study was carried out on 30 high school students living in Gumi area. In this process, the questionnaire was finally corrected and supplemented by testing the appropriateness of terminologies and expression of items.

2.3 Data Analysis

The study used the SPSS 20.0 statistics program for the collected data in order to examine the effect of Ego-Identity, Stress, School Life of Oral Health Management. The study conducted frequency analysis by frequency and percentage in order to find out the general characteristics of the research subjects. In order to inquire into the effect of High School student dietary life and stress, Ego-Identity on oral health status, the study conducted multiple regression analysis.

III. RESULTS

The frequency analysis results of the general characters of research subjects are indicated in <Table 1>.

<Table 1> General Characteristics of the Research Subjects

Categories		N	%
Gender	Male	158	46.2
	Female	184	53.8
Grade	1	105	30.7
	2	140	40.9
	3	97	28.4
Total		342	100.0

A multiple regression analysis was conducted to evaluate the effects of ego-identity, stress, and school life on subjective oral health status and the results are shown in <Table 2>. The results of the analysis showed that ego-identity, stress, and school life explained 5.7% of oral health status′ variation and the regression model was significant (F=8.784, p<.001). The results of the analysis revealed that oral health status was affected by stress negatively (β=-.137, p<.01) and by school life positively (β=.131, p<.05). In other words, oral health status was better when stress was lower and school life was improved.

<Table 2> The effects of ego-identity, stress, and school life on subjective oral health status

Variable		B	SE	β	t	p
Oral Health Status	(Constant)	2.593	.343		7.563	.000
	Ego-Identity	-.087	.064	-.065	-1.361	.174

Stress	-.119	.045	-.137	-2.647	.008**
School Life	.251	.098	.131	2.562	.011*

R^2=.238, =.057,   Adjusted =.050,   F=8.784, p=.000***

A multiple regression analysis was carried out to test the effects of ego-identity, stress, and sc hool lifeon oral health knowledge and the results are shown in <Table 3>. The results of the analysis showed that ego-identity, stress, and school life explained 5.5% of oral health knowledge's variation an d the regression model was significant (F=8.432, p<.001). The results of the analysis indicated that sch ool life positively affected oral health knowledge ($β$=.177, p<.01) and by school life positively ($β$=.1 31, p<.05). That is, oral health knowledge was enhanced with better school life.

<Table 3> The effects of ego-identity, stress, and school life on oral health knowledge

Variable		B	SE	β	t	p
Oral Health Knowledge	(Constant)	3.003	.241		12.474	.000
	Ego-Identity	.015	.045	.016	.331	.741
	Stress	-.059	.032	-.098	-1.887	.060
	School Life	.239	.069	.177	3.474	.001**

R^2=.234, =.055,   Adjusted =.048,   F=8.432, p=.000***

A multiple regression analysis was performed to examine the effects of eco-identity, stress, an d school life on oral health education and the results are shown in <Table 4>. The results of the anal ysis showed that ego-identity, stress, and school life of high school students explained 0.9% of oral he alth education's variation and the regression model was not significant (F=1.276, p>.05).

<Table 3> The effects of ego-identity, stress, and school life on oral health education

Variable		B	SE	β	t	p
Oral Health Education	(Constant)	3.780	.651		5.802	.000
	Ego-Identity	-.028	.121	-.011	-.234	.815
	Stress	.082	.085	.051	.958	.339
	School Life	.362	.186	.102	1.948	.052

R^2=.093, =.009,   Adjusted =.002,   F=1.276, p=.282

A multiple regression analysis was performed to examine the effects of eco-identity, stress, and school life on oral health attitude and the results are shown in <Table 5>. Ego-identity, stress, and sc hool lifeexplained 4.8% of oral health attitude's variation and the regression model was significant (F=7 .407, p <.001). The results of the analysis showed that oral health attitude was influenced by stress ne gatively ($β$=-.115, p<.05) and by school life positively ($β$=.145, p<.01). In other words, oral health at titude was better when stress was lower and school life was improved.

<Table 5> The effects of eco-identity, stress, and school life on oral health attitude

Variable		B	SE	β	t	p
Oral	(Constant)	3.620	.381		9.500	.000

Health Attitude	Ego-Identity	-.041	.071	-.028	-.581	.562
	Stress	-.110	.050	-.115	-2.211	.028*
	School Life	.304	.109	.143	2.793	.005**

R^2=.220, =.048,   Adjusted =.042,   F=7.407, p=.000***

IV. DISCUSSION

The study was conducted to evaluate the effects of eco-identity, stress, and school life on the oral health status of high school students living in Gyeong-buk area. This study aimed to provide basel ine datato develop a program to enhance the oral health status of high school students. Teenagers expe rience abrupt physical changes and it is necessary to build appropriate oral health habits. Eco-identity, used as astudy tool, was composed of questions indicating how well a person knows about oneself. Str ess scale was divided into school life, family life, interpersonal relationship, and egosphere. Higher stre ss score means that a subject received more stress. The results of this study showed that study subject s with lower stress had better school life and oral health status. Moreover, study subjects had better or al health knowledge when their school life was more enjoyable. Furthermore, study subjects had better oral health attitude when their school life was more enjoyable and they experienced lower stress. Overa ll, study subjects tended to have a healthier oral condition with better school life and lower stress. The results of this study implied that it would be necessary to take measures to improve student's satisfact ion withschool life and reduce stress.

REFERENCES

[1]. MH. Jung and MY. Park, A Study on the oral healthcare condition of adult in public health and their knowledge about oral health, *J Dent Hyg Sci,* 2007,7(2), 73-9.
[2]. KO. Lim and JH. Choi, Survey on oral health behavior and knowledge of middle school students, *J Korean Soc Dent H yg,* 2011, 11(2), 241-8.
[3]. JY. Han, The study in terms of factors having effects on continued oral health management of high school students, *J K orean Acad Dent Hyg,* 2010, 12(3), 263-74.
[4]. AR. Heo, IS. Park and KS. Song, Influence of Stress on Oral Health Practice of High School Students, *J Dent Hyg Sci ,* 2016, 16(1), 45-52.
[5]. SJ. Kim and IS. Park, A Study of Oral Health Recognition and Behaviors of College Students, *Journal of Korean Academy of Dental Hygiene*, .15(2), 2013, 89-100.
[6]. HJ. Park, HW. Kim, SY. Ko and JH. Lee, Moderating Effects of Oral Health Behaviors on the Relation Between Daily Stress and Oral Health Status in Korean Adolescents, *Korean public health research*, 41(1), 2015, 81-93.