

Knowledge of oral health and oral hygiene habits of college students.

Conocimiento de la salud bucal y hábitos de higiene bucal en estudiantes peruanos.

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Abstract: Introduction: Oral health is essential for people's well-being and quality of life; therefore, the present study performs an analysis on the knowledge of oral health and oral hygiene habits, making reference to the indicators of the WHO. **Objective:** To analyze the knowledge of oral health and oral hygiene habits in students of the Universidad Nacional Hermilio Valdizán, Peru, during the second semester of the 2019 academic year. **Material and Methods:** Research type descriptive correlational design; the sample consisted of 234 students. Data collection involved the use of two questionnaires designed and validated for the study. Data processing was carried out using descriptive statistics and normality analysis using the Kolmogórov-Smirnov test. **Results:** The results of knowledge of oral health as well as oral hygiene habits showed a medium level. It was determined that there is a high positive correlation between the variables ($R=0.796$) and this correlation is significant with a level of confidence of 95% ($p<0.05$). **Conclusion:** Knowledge of oral health influences the oral hygiene habits of Peruvian students, and considering that oral diseases continue to be an important and growing global public health challenge, the State must formulate preventive measures with potentially different approaches to reduce its prevalence in the population.

Keywords: oral hygiene; habits; oral health; Peru; surveys and questionnaires; students.

Resumen: Introducción: La salud bucodental es fundamental para el bienestar y calidad de vida de las personas, por lo que, el presente estudio realiza un análisis sobre el conocimiento de la salud bucodental y hábitos de higiene oral, haciendo referencia a los indicadores de la OMS. **Objetivo:** Analizar el conocimiento de salud bucodental y hábitos de higiene oral en estudiantes de la Universidad Nacional Hermilio Valdizán, Perú, periodo académico II-2019. **Material y Métodos:** Investigación de tipo descriptiva con diseño correlacional. La muestra estuvo constituida por 234 estudiantes. La recolección de datos implicó la utilización de dos cuestionarios diseñados y validados para el estudio. El procesamiento de los datos se realizó mediante estadística descriptiva y el análisis de normalidad mediante la prueba de Kolmogórov-Smirnov. **Resultados:** El conocimiento de salud bucodental

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mostró un nivel medio al igual que los hábitos de higiene oral. Se determinó que existe una correlación positiva alta entre las variables ($R=0,796$) y que la misma es significativa con un nivel de confianza de 95% ($p<0,05$). **Conclusión:** El conocimiento de salud bucodental influye en los hábitos de higiene oral de los estudiantes peruanos, y considerando que las enfermedades

orales siguen siendo un reto importante y creciente de salud pública mundial, el estado debe formular medidas preventivas con enfoques potencialmente diferentes con el fin de disminuir su prevalencia en la población.

Palabra Clave: *higiene bucal; hábitos; salud bucal; Peru; encuestas y cuestionarios; estudiantes.*

INTRODUCTION.

Oral diseases are a public health problem with high prevalence worldwide, impacting 3500 million people in 2015.¹ In Peru, 90,⁴ percent of the population suffers from dental caries and other oral diseases such as periodontal disease and malocclusion,² with the lack of hygienic habits one of the factors that affect their incidence.³

The oral hygiene “is the measure to prevent and maintain a good state of health that involves the practice standards of hygiene, which, over time, become a habit.”⁴ Having bad hygiene habits reduces the protection of teeth and increases the possibility of developing oral disease in children and adolescents.⁵ It is thus essential to promote hygiene habits in children since childhood, both at home,⁶ and in educational institutions in order to help maintain oral health and to prevent the occurrence of these diseases.⁷

A number of studies on the oral health and oral hygiene refer to the indicators of the World Health Organization (WHO) and the Pan American Health Organization, among which are the fragmented studies of the Ministry of Health of Peru.⁸ Within the panel, reference is made to the habits of hygiene oral under the following dimensions: perception of health status, personal hygiene, habits of organization, oral health, development of toothbrushing skills, practices of preventive measures, dental examination, habit of self-esteem and quality of life, focused on systematic habits of quality of personal success.⁹

Within the Peruvian population, a considerable group is made up of university students, who during this stage face a change in their habits that reduces the usual oral hygiene practices.¹⁰ Taking this into account, the Peruvian health system has not

established public policies or programs that generate a relevant change.¹¹ While this is happening in Peru, in developed countries the most recurrent oral pathologies tend to decrease,¹² reporting increasingly successful experiences related to the improvement of the oral health, achieved through public policy based on the promotion and prevention, and on programs of continuing education of wide coverage.¹³

Despite the current situation, neither Peru nor the rest of the world can definitively avoid these health problems, which is why state intervention is required to stop them and effectively reduce them. In this sense, the education of children and adolescents is essential to achieve change and the State must consider it when establishing its strategies.⁵

Based on the above, it is essential to know what knowledge and care practices university students carry out for their oral health, considering the importance of this group, since it is at this stage that the main dentomaxillary variations occur, as well as the consolidation of identity; and the change that is promoted will influence both the development of their lifestyle and the new generations.¹⁴ Based on this, the study aims to analyze the knowledge of oral health and oral hygiene habits in Peruvian students, and based on the findings, the aggregation of basic topics related to oral health in the curriculum of the educational institutions.

MATERIALS AND METHODS.

A descriptive-correlational study was carried out in order to obtain the level of correlation between the study variables, based on the following hypothesis: knowledge of oral health influences the oral hygiene

habits of students of the National University Hermilio Valdizán of Peru. For this, a population of 10,381 students from the Hermilio Valdizán National University of Peru in the academic period II-2019, including dental students, was considered. The sample was probabilistic of the simple random sampling type with a known population, taking into account a confidence level of 95% and a sampling error of 5%. From the formula for finite populations knowing the number of the population^{15,16} the final sample consisted of 234 students.

For data collection, two questionnaires were developed and applied, whose internal consistencies according to Cronbach's Alpha were 0.87 and 0.78, respectively. The first was validated in its content, criteria and construction by a group of experts from different areas;¹⁷ it consisted of questions about the

knowledge of oral health of the students. For the variable oral hygiene habits, an adaptation was made to the instrument called the Oral Hygiene Habits Scale.¹⁸

For data processing descriptive statistics were used. The analysis of normality was performed using the Kolmogórov-Smirnov test,¹⁹ and as a result the variables and their dimensions, at the value of $p < 0.05$, indicated that the data did not conform to a normal trend, so the correlation analysis was performed using the non-parametric ordinal correlation test Rho by Lancero. The software used was Statical Package for the Social Sciences-SPSS 24 and the results were tabled.

Based on the instruments developed, an evaluation scale was established for both the level of knowledge of oral health and oral hygiene habits. (Table 1).

Figure 1. Results from the Spearman nonparametric correlation showing high correlation between two variables.

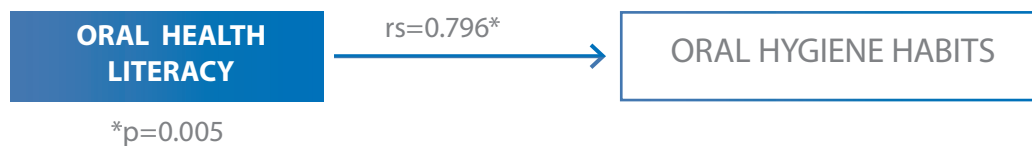


Table 1. Scales for the analysis of the variables of the study.

Criteria or categories	Ranges in Arithmetic Averages
High	2.0 - 3.0
Medium	1.0 - 1.9
Low	0.0 - 0.9

Table 2. Arithmetic averages of the dimensions of the variable knowledge of oral health.

Dimensions	Arithmetic Averages
Perception of a healthy state	1.8
Oral Health	0.6
Exam dental	0.9
Cleaning Habits	1.7
Overall Average of the variable	1.3

Table 3. Arithmetic averages of the dimensions of the variable oral hygiene habits.

Dimensions	Arithmetic Averages
Personal hygiene	2.1
Toothbrushing skills	0.8
Preventive measures	0.6
Quality of life	2.4
Overall Average of the variable	1.5

RESULTS.

After the application of the instrument on the level of oral health knowledge of the students (Table 2), the results show that the dimension that obtained the highest score was the perception of a healthy state, followed by cleaning habits, and according to the established scale, the respondents have greater knowledge in these two specific points studied, at an intermediate level. The rest of the analyzed dimensions, oral health and dental examination, were shown at a low level, indicating that there is a percentage of the student population that does not consider the dental examination important, being consistent with the perception that they are perceived as healthy, including their oral health. Likewise, the general average of the variable is 1.3, that is, oral health knowledge is at an average level in the surveyed students.

Regarding oral hygiene habits, the results (Table 3) indicate that the level of understanding about quality of life and personal hygiene as a fundamental part of oral hygiene habits is high. Regarding brushing skills and preventive measures, a low level of knowledge is observed according to the scale, which indicates that, despite considering oral and personal hygiene important in the quality of life, there are deficiencies in terms of ways to maintain oral hygiene and preventive measures are taken to ensure oral health. Regarding the general mean of the variable, the result of 1.5 indicates that oral hygiene habits are moderately present in students.

According to the results of the Kolmogorov-Smirnov test, all values of $p < 0.05$ indicate that both the variables and their dimensions do not form a normal distribution, so non-parametric correlation tests should be used to establish the relationships among them. Therefore, the correlation analysis

using Spearman's Rho statistic was used to establish a possible relationship between the study variables.

The results of the non-parametric correlation analysis of Spearman (Figure 1) show that there is a high positive correlation ($R=0.796$) and that it is significant at a confidence level of 95% ($p < 0.05$), which indicates that oral health knowledge influences the oral hygiene habits of the students of the Hermilio Valdizán National University, Peru, which supports the hypothesis proposed.

DISCUSSION.

The results regarding the level of knowledge in oral health partially support the high percentage of Peruvians with oral diseases² since oral health and dental examinations are not considered important for students, however, having a deteriorated oral health status generates consequences in the health and quality of life of each person.²⁰ If students do not undergo an annual dental examination, their chances of presenting an oral disease increases.¹⁰ Additionally, if they do not have knowledge about the repercussions of periodontal disease, their probability of suffering from it is high, and by not undergoing a dental examination their health could be thus affected.²¹

The knowledge acquired during childhood about oral health is essential to prevent the appearance of diseases, since it allows people to establish hygiene habits.²² However, during the university stage when a lifestyle is being defined, habits should be instilled not only to avoid oral morbidity but also to care of their physical wellbeing and health in general.^{6,10} These results confirm the proposed idea that the prevalence of oral diseases is due to a lack of modification of risk behaviors, which warrants the need to instill knowledge about oral health in the population.¹⁵

Regarding the average level of the dimensions of the perception of a healthy state and cleaning habits, the results indicate that the students consider that by not presenting symptoms of any discomfort and practicing cleaning habits, they assume that they do not have problems with their oral health and that it is unlikely that they will suffer from oral diseases, without knowing that this is not really the case, as they can suffer from an oral problem attributed to other factors²³ and that many periodontal diseases are asymptomatic.²⁴ These results confirm the proposal²⁵⁻²⁷ of a relationship between the lack of oral hygiene and the presence of conditions such as caries and periodontal disease.

The evaluation of oral hygiene habits showed that students consider personal hygiene and their quality of life important, but not brushing skills and preventive measures. However, despite the fact that young people report practicing adequate oral hygiene, the prevalence of dental caries was 98.5%.⁶ Preventive measures should be implemented at all stages of life in order to avoid oral morbidity,²⁸ as their implementation leads to a reduction in caries.²⁹ As such, both the State as well as primary, secondary and university educational centers should focus on the establishment of such measures.

The result of the relationship between the variables showed a high positive correlation ($R=0.796$) indicating that the level of knowledge about oral health influences the oral hygiene habits of the students, that is, the higher the level of knowledge they have about oral health, the better the development of hygiene habits. However, this does not occur in parents/caregivers whose relationship between the level of knowledge and the practice of oral hygiene is not statistically significant,³⁰ as although parents do not have adequate oral hygiene, their children can develop it. A study carried out in university students indicated that practicing good dental hygiene habits lead to reducing halitosis, showing good appearance when speaking, and preventing the appearance of cavities and periodontal diseases.³¹

Currently, the incidence of oral diseases continues to be an important and growing challenge for global public health, so states should advocate for the formulation of preventive measures with potentially

different approaches in order to reduce their prevalence in the population.

CONCLUSION.

This study evidenced the influence of knowledge about oral health on the oral hygiene habits of university students, therefore, carrying out prevention plans, also at this level, may influence the reduction of periodontal diseases by promoting healthier oral health habits.

Conflict of interests: The authors declare no conflict of interest.

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