



ORIGINAL ARTICLE

Educational intervention on periodontal medicine for stomatologists of Nuevitas municipality

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ABSTRACT

Introduction: mastery of periodontal medicine by stomatologists is essential to raise the level of knowledge.

Objective: to apply an educational intervention on periodontal medicine to stomatologists of Nuevitas municipality in the period from January 2023 to November 2024.

Methodology: a quasi-experimental study with participatory action was carried out, where an educational intervention was applied based on the diagnosis performed to increase the level of knowledge of stomatologists in Nuevitas municipality regarding periodontal medicine. Data were processed using the statistical program SPSS 23.0.

Results: in the study sample, basic general stomatologists predominated. Regarding the level of knowledge, the vast majority were poorly informed, but after the educational intervention through the postgraduate course offered, this situation was reversed. Smoking was the topic most widely known, while ignorance prevailed among many of them regarding almost all the other topics addressed. Most participants reported being satisfied with the course delivered.

Conclusions: the low level of knowledge of the participating stomatologists in Nuevitas municipality regarding periodontal medicine was diagnosed, and the educational intervention strategy succeeded in reversing this situation. The personnel were satisfied with the course delivered.

Keywords: Intervention, Educational; Periodontics; Dentists.

INTRODUCTION

The adequate use of knowledge about the potential relationships between periodontal disease (PD) and systemic health requires that professionals recognize the oral cavity as one of the multiple interrelated organ systems. The concept of periodontal disease as a localized entity that affects only the tooth and supporting apparatus is overly simplified. More than being confined to the periodontium, inflammatory periodontal diseases may have a wide range of systemic effects. Respiratory diseases such as bronchial asthma, physiological states such as pregnancy, endocrine-metabolic syndromes such as diabetes mellitus, cerebrovascular conditions, chronic kidney disease, rheumatoid arthritis, obesity, and even more recent conditions such as COVID-19 may influence periodontal health status, and vice versa.⁽¹⁾

From a medical and therapeutic standpoint, it is essential to understand the relationship between periodontal diseases and associated comorbidities. There is an association between oral (periodontal) diseases and cardiovascular diseases, diabetes, pregnancy complications, respiratory diseases, rheumatoid arthritis, among others.⁽²⁾

Since the 1990s, the bidirectional relationship between periodontal disease and systemic conditions has been investigated, giving rise to the definition of periodontal medicine. It is well known that periodontal disease can affect systemic diseases, including atherosclerotic cardiovascular disease, diabetes, adverse pregnancy outcomes, and chronic obstructive pulmonary disorder.⁽³⁾

The success of periodontal medicine in both prevention and treatment largely depends on the skills and knowledge of health professionals in order to provide timely referral, which ultimately influences the quality of life of patients. Lack of knowledge on the part of both health professionals and patients may contribute to the increase in the prevalence of periodontal diseases.⁽⁴⁾

In the Latin American context, the prevalence of periodontal diseases is quite high, with problems such as gingivitis accounting for around 98 % of periodontal conditions. The Latin American consensus on periodontics (LAOHA – Latin American Association of Oral Health) has emphasized the need for a call to protect oral health and increase both health and well-being indicators as essential components of general health of individuals. For this purpose, it is important to identify the knowledge that professionals possess regarding periodontal diseases.⁽⁵⁾

In Nuevitas municipality, there are very few research studies related to this subject, and there is also limited evidence of postgraduate courses offered that expand on what is taught at the undergraduate level regarding periodontal medicine. However, the incidence of patients with periodontal diseases in our clinics that may be associated with systemic disorders—and vice versa—continues to rise.

Therefore, the objective of this research is to apply an educational intervention on periodontal medicine to stomatologists of Nuevitas municipality in the period from January 2023 to November 2024, based on the importance of deepening knowledge about periodontal medicine and thus achieving excellence both in the training of our professionals and in the care they provide to patients.

METHODS

This is an educational research study in oral health with participatory action of a quasi-experimental type, consisting of the application of an educational intervention strategy to raise the level of knowledge on periodontal medicine among stomatologists of Nuevitas municipality, Camagüey province, from January 2023 to November 2024.

The universe was comprised of 53 stomatologists from the different stomatological care units of Nuevitas municipality during the study period. The sample consisted of 37 stomatologists. A non-probabilistic sample was used, where the selection of the subjects did not depend on all having the same probability of being chosen, but on the decision of the researchers. The sample was selected in a very careful and controlled manner, in a directed and intentional way. Typical subjects were chosen, with certain characteristics specified in the inclusion criteria. Thus, those who participated in the research were not selected at random to obtain the sample, but through a careful and controlled choice of subjects, selected one by one according to the degree to which they met the criteria, as well as the attributes established to be able to provide the most relevant information for the purposes of the research.

The following criteria were established for sample selection:

- **Inclusion criteria:**
 - Stomatologists actively working in Nuevitas municipality.
 - Being contextualized, that is, immersed in the physical and social context during the period in which the research was conducted.
 - Willingness to participate in the research, expressed through the informed consent document.
- **Exclusion criteria:**
 - Stomatology health professionals temporarily working in Nuevitas municipality.
- **Exit criteria:**
 - Stomatology health professionals who, for any reason, permanently or temporarily leave their workplace.
 - Health professionals who, after having given their informed consent to participate, do not wish to continue in the research.

Descriptive statistics were used, and the results are presented in tables through absolute and relative frequency distributions. Data were analyzed using the SPSS 23.0 statistical software for Windows.

Ethical considerations

As an initial step, official approval was sought from the Scientific Council and the Medical Ethics Committee of the Faculty of Stomatology of the Ismael Clark Stomatological Clinic. The participating stomatology health professionals were adequately informed about the purposes, objectives, and activities of the research so that they agreed without reservations to be active participants in the research activity as part of the informed consent.

RESULTS

Table 1 shows the distribution of the study sample according to the level of specialization of the participants who were involved in the educational intervention on periodontal medicine through the postgraduate course delivered as part of it. Basic general stomatologists predominated with 21 participants (56,7 %) of the total sample, followed by comprehensive general stomatologists with 11 participants (29,7 %), and a smaller number of participants from orthodontics and prosthodontics with 3 (8,1 %) and 2 (5,4 %), respectively.

Table 1. Level of specialization of the participants in the educational intervention.

Level of Specialization	No.	%
Basic General Stomatologists	21	56,7
Comprehensive General Stomatologists	11	29,7
Orthodontics	3	8,1
Prosthodontics	2	5,4
Total	37	100

Table 2 shows that in the present study, before the postgraduate course was offered as part of the educational intervention, 28 participants from the total sample were poorly informed about periodontal medicine, representing a high percentage (75,6 %). Only nine participants (24,3 %) were moderately informed about the subject, and none could state that they were well informed. It is worth noting that those few with moderate knowledge of periodontal medicine mostly belonged to periodontics. After applying the educational intervention through the course, this problematic situation was completely reversed in an extraordinary way: out of the 37 participants in the study, 36 became well informed (97,9 %), and only one (2,7 %) remained moderately informed, which represents a highly significant result.

Table 2. Level of knowledge of the participants in the educational intervention.

Level of Knowledge on Periodontal Medicine	Before		After	
	No.	%	No.	%
Well informed	0	0	36	97,9
Moderately informed	9	24,3	1	2,7
Poorly informed	28	75,6	0	0
Total	37	100	37	100

Table 3 shows that, in this study, before the postgraduate course was offered as part of the educational intervention, participants were, for the most part, knowledgeable only about a few topics related to periodontal medicine. The subject they knew most about before the course was smoking, with 37 participants (100 %), followed by the role of medications on the periodontium with 28 (75,6 %). Cardiovascular and cerebrovascular diseases, kidney disease and arthritis, as well as stress and genetic factors, were very poorly known before the course. In most of the topics, therefore, there was significant ignorance, being null in some of them such as preterm birth risk and low birth weight, as well as COVID-19. Without a doubt, the educational intervention strategy succeeded in definitively overturning the prevailing ignorance in the study sample.

Table 3. Level of knowledge of the participants in the educational intervention on the most relevant topics.

Periodontal Medicine Topics	Before		After	
	No.	%	No.	%
1. Smoking	37	100	37	100
2. Diabetes mellitus	19	51,3	32	86,4
3. Risk of preterm birth and low weight	0	0	34	91,8
4. Cardiovascular/cerebrovascular diseases	6	16,2	31	83,7
5. Kidney disease and arthritis	2	5,4	29	78,3
6. Stress and genetic factors	3	8,1	35	94,5
7. Role of medications on the periodontium	28	75,6	37	100
8. COVID-19	0	0	36	97,2

Table 4 presents the degree of satisfaction of the participants in the study once the educational intervention in the form of the postgraduate course was completed. It is gratifying to note that most participants were very satisfied with the course implemented: 31 out of the 37 in the study sample (83,7 %). Only four participants (10,8 %) reported being satisfied, and two (5,4 %) moderately satisfied, as they expressed a wish that the course could have lasted a little longer. None were dissatisfied.

Table 4. Degree of satisfaction of the participants with the postgraduate course delivered.

Degree of Satisfaction of Key Informants	No.	%
Very satisfied	31	83,7
Satisfied	4	10,8
Moderately satisfied	2	5,4
Total	37	100

DISCUSSION

Basic general stomatologists are often the first line of care. Much has been discussed about the need and importance of raising the knowledge level of stomatologists. It is recognized that continuing education is necessary, since it has been demonstrated that most are not adequately trained. The application of educational interventions in stomatologists and public health professionals in general will allow them to apply these in their professional practice and comprehensively raise their level of knowledge.⁽⁶⁾

Today, this is an important line of research work in the Department of Periodontics of the Faculty of Stomatology in Camagüey. This study links other specialties and works toward improving the knowledge level of all stomatologists. In a study,⁽⁷⁾ conducted in municipalities of Havana, the level of knowledge about dental implants among basic general stomatologists and comprehensive general stomatologists was measured, and the results corresponded with those of the present study. In the study conducted by Rodríguez MJ,⁽⁸⁾ similar results were obtained, with improved knowledge of the subject under study after educational actions were carried out.

In other recent studies conducted on similar topics, similar results were obtained, with improved knowledge of the subject under study after carrying out the corresponding educational actions and implementing an appropriate strategy.^(6,9,10)

It is important to note that studies on this subject constitute a social and academic commitment, since by strengthening and updating the level of information, they guarantee not only adequate preparation but also better patient care.^(9,10)

The importance of educational intervention studies for health professionals is reflected in several investigations, where the set objective—raising the level of knowledge on the subject under study—was achieved.^(11,12)

In studies conducted, such as that of Martínez Álvarez PJ et al.,⁽¹¹⁾ the level of information on a subject was successfully increased after the investigation, which coincides with our study. The importance of educational intervention studies for health professionals is reflected by other authors as well,^(11,12) where the goal of raising the level of knowledge on the subject under study was achieved.

One aspect that may have influenced the positive results was the permanence of the participants, since the sample remained unchanged, an indispensable requirement for inclusion criteria and for evaluating the strategy. This factor is considered to have positively influenced the increase in the level of information at the end of the course. The success of this intervention is also considered to be due to the use of innovative learning resources, including ICTs. Likewise, a volume of academic tasks was assigned to deepen independent study in teams, which involves sharing knowledge and responsibilities to improve the quality of medical knowledge in relation to the implementation of current health programs.

Oral health promotion, as it is implemented and advanced, has been aimed at strengthening preventive actions in order to avoid the onset of oral diseases. In this regard, the educational programs designed have played an important role.⁽¹³⁾

In periodontal disease, prevention, instruction, and promotion of self-care measures in the population are essential, so that individuals become aware of proper oral hygiene and understand risk factors and their control. Hence, it is necessary to implement preventive strategies that address harmful lifestyles and involve the community.^(14,15,16)

CONCLUSIONS

It was possible to characterize the research sample, and the implementation of the strategy demonstrated its effectiveness, as it allowed the improvement of the level of knowledge of these health professionals regarding periodontal medicine.

Conflict of interest

The authors declare that there is no conflict of interest.

The lead author declares that this article constitutes an output of a research project approved by a Scientific Research Ethics Committee and by the Scientific Council of the responsible entity.

Author contributions

MICM: conceptualization, research, formal analysis, project administration, writing – original draft, writing – review and editing.

GMMF: conceptualization, research, formal analysis, project administration, writing – original draft, writing – review and editing.

YED: conceptualization, research, formal analysis, project administration, writing – original draft, writing – review and editing.

BMGH: data curation, writing – original draft, writing – review and editing.

CSB: data curation, writing – original draft, writing – review and editing.

All authors approved the final

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