

EXPLORATION OF THE MOTIVATIONS IN THE ADHERENCE OF PATIENTS TO PERIODONTAL MAINTENANCE THERAPY.

Exploración de las motivaciones en la adherencia
de los pacientes en la mantención periodontal.

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ABSTRACT:

Introduction: Although it has been shown that the supportive periodontal therapy (SPT) is essential to maintain the results obtained by periodontal therapy, patient adherence to SPT is not usually satisfactory (4). The objective of this research is to explore the motivations in the adherence to periodontal maintenance of patients treated at Universidad Viña del Mar (UVM) during the year 2020.

Material and Methods: A study based on the qualitative paradigm was carried out using a design based on discourse analysis through semi-structured interviews. A sample size of 10 participants was consolidated, by obtaining with them the saturation of data collected and of 4 main dimensions. Each interview was transcribed ad verbatim and later analyzed through the Atlas.ti 9 Software.

Results: Four main categories or dimensions were created: Motivations of the patients to produce a change in their oral health; Information that the patients have regarding their oral health; Oral hygiene habits acquired after periodontal treatment; Situations that prevent adherence to periodontal treatment.

Conclusion: The main motivations of patients to adhere to supportive periodontal therapy are related to the education and information they acquire in the first phase of periodontal treatment. Observing the changes during treatment, improving oral health, improving aesthetics and functionality, are other important motivations, as well as the patients' fear of losing their teeth and the desire to educate their family.

KEYWORDS:

Qualitative research; Motivation; Periodontal diseases; Tooth loss; patient compliance; Treatment adherence and compliance.

RESUMEN:

Introducción: Aunque se ha demostrado que la fase de mantención periodontal (TPS) es esencial para mantener los resultados obtenidos por la terapia periodontal, la adherencia del paciente a la TPS no es, en su mayoría, satisfactoria (4). El objetivo de esta investigación es explorar las motivaciones de los pacientes en la adherencia a la mantención periodontal, atendidos en la Universidad Viña del Mar (UVM), durante el año 2020.

Material y Métodos: Se realizó una investigación basada en el paradigma cualitativo por medio de un diseño en base al análisis de discursos a través de entrevistas semiestructuradas. Se consolidó un tamaño muestral de 10 participantes, al obtener con ellos la saturación de datos recolectados y de 4 dimensiones principales, cada entrevista fue transcrita ad verbatim y posteriormente analizadas a través del Software Atlas.ti 9.

Resultados: Se generaron cuatro categorías o dimensiones principales: Motivaciones del paciente para generar un cambio en su salud oral, Información que posee el paciente respecto a su salud oral, Hábitos de higiene oral adquiridos posterior al tratamiento periodontal y Situaciones que impiden la adherencia al tratamiento periodontal

Conclusión: Las motivaciones principales que presentan los pacientes para adherirse a la fase de mantención periodontal, están relacionadas con la educación e información que adquieren en la primera fase del tratamiento periodontal. Observar los cambios durante el tratamiento, adquirir salud oral, mejorar la estética y funcionalidad, son otras motivaciones de importancia, así como el miedo que presenta el paciente de perder sus dientes y las ganas de querer educar a su familia.

PALABRAS CLAVE:

Investigación cualitativa; Motivación; Enfermedades periodontales; Pérdida de diente; Cooperación del paciente; Cumplimiento y adherencia al tratamiento.

INTRODUCTION.

The Third World Workshop on Periodontics highlighted supportive periodontal therapy (SPT) as a key step in controlling periodontal disease and its recurrence. In this sense, the justification for adherence to SPT is in accordance with the etiological role of biofilm and its by-products in the appearance and progression of periodontitis.¹ Therefore, the stability of healthy periodontal tissues, ensured by optimal biofilm control, should be enough to prevent the onset and recurrence of periodontal disease. However, despite rigorous control of the supragingival biofilm, it does not affect the subgingival microbiota in deep periodontal pockets.²

In this context, SPT can somehow compensate for non-compliance with oral hygiene standards.³ Although it has been shown that this phase is essen-

tial to maintain the results obtained by periodontal or implant therapy in the long term, patient adherence to SPT is not usually satisfactory.⁴

Identifying the patients who are most likely to present a non-compliance pattern would help dentists and/or periodontists to focus their attention on these issues, which, for the most part, require a motivational strategy adapted to the risk profile of each individual.

Despite the existence of literature that explains the long-term benefits in adherence to SPT, there is no evidence regarding the motivations that lead patients to attend this phase of the treatment. The objective of this research is to explore the motivations in the adherence to periodontal maintenance of patients treated at Universidad Viña del Mar (UVM) during the year 2020.

MATERIALS AND METHODS.

A study based on the qualitative paradigm was carried out using a design based on discourse analysis through semi-structured interviews. The scope of this research is exploratory since the objective is to examine a topic that has not been addressed before.⁵ This study was approved by the Ethics Committee of Universidad Viña del Mar.

The study population consisted of the patients who attended periodontal maintenance at the adult clinic branch II of Universidad Viña del Mar during the year 2020. (Table 1)

Inclusion criteria

-Patients with a previous diagnosis of generalized periodontitis regardless of stage or grade.

-Patients who regularly attend the adult clinic II at Universidad Viña del Mar.

Exclusion criteria

-Patients who have not received SPT after the initial treatment at Universidad Viña del Mar.

-Patients with psychomotor or neurological conditions that prevent their participation in the interview.

-Patients who received advice from third parties during the interview to answer the questions.

Patients were invited to participate in the study by telephone and the informed consent was sent by email, in which the scope of the research and its academic objective were explained. Once the authorized informed consent with the patient's signature was received, a date and time for the personal interview was scheduled. The interview was carried out through the Zoom platform, recorded, and transcribed ad verbatim and later analyzed through the Atlas.ti Software.⁹ A sample size of 10 participants was consolidated, by obtaining with them the saturation of the data collected and the 4 main dimensions.⁵

When the transcription of the first interview began, its analysis also also performed, which consisted of two stages. The first stage corresponded to the initial coding, in which significance units were searched within the text to assign an initial descriptive code for each idea. In the different

transcriptions, diverse codes were assigned, which were repeated as the analysis progressed, indicating reiteration of responses by the participants and the subsequent saturation of data.

The second stage consisted of focused coding where previously created categories were related and grouped to form concepts, codes, and dimensions that allowed the description of the phenomenon under study.⁶

RESULTS.

From the research, four main categories or dimensions were created:

- Motivations of the patients to produce a change in their oral health

- Information that the patients have regarding their oral health

- Oral hygiene habits acquired after periodontal treatment

- Situations that prevent adherence to periodontal treatment

1. Motivations of the patients to produce a change in their oral health.

This category refers to the process that initiates, guides, and maintains goal-oriented behaviors to produce a change in the patient's oral health, which can be due to intrinsic or extrinsic motivation. (Table 2) Regarding this category, various answers were found, among the most relevant we identified the initial reason for the consultation, which is usually associated with dental pain, periodontal problems, and the need for rehabilitation.

The participants reported that they attended the university clinic to increase their levels of knowledge about their oral health, obtain periodontal treatments, reduce their dental pain, and have a place where they can go for routine check-ups, since they related care at the university with a respectful, personalized treatment and with a more positive attitude on the part of the care provider.

Participants reported a heterogeneity of motivations, some of them were the avoidance of consequences resulting from accumulated oral damage, the low costs of care that would allow them to

continue with their treatment, the potential changes or expectations that they have regarding their treatment, the need for more information about oral health and aesthetics, which affects their personal appearance and how it can positively impact their relationship with their personal, family, and work networks. Within this context, extrinsic motivations related to producing changes in habits in their environment were presented through the generation of behavioral models within their family nucleus.

Likewise, intrinsic motivations were found, such as fear related to dental loss and improving their quality of life in relation to eating different types of food. Regarding these motivations, patients created expectations about their treatment, among which we find improving their oral hygiene technique, which leads to an improvement in their oral health, which in turn has a positive impact on their physical and mental health, preventing the use of removable prosthesis.

Likewise, it was detected that the motivations of some participants regarding the continuity of periodontal treatment are contradictory. Some of these participants go to see the dentist to avoid major problems that require more extensive and/or more expensive treatments. This shows that, in general, patients tend to avoid seeking dental care or visiting the dentist. There is a consistency in the answers of the participants, considering the periodic check-ups with the dentist and the maintenance of the hygiene technique taught by the dentist as a fundamental

axis. Despite this, and despite declaring an adequate motivation, there was a group of participants who persisted with their inadequate hygiene techniques, as well as the use of hygiene elements prior to the intervention by the dentist.

2. Information that the patients have regarding their oral health

This category refers to the degree of information and understanding that the patients have in relation to their oral status, as well as the pathologies involved and how these are related to other chronic non-communicable diseases to explore the consequences of their disease. (Table 3)

In relation to this category, it was found that a group of patients is unaware of the impact that oral health has on general health, while others expressed that having difficulty eating due to oral problems, such as tooth loss, would affect general health, due to the impact on their mental and emotional health.

Regarding the relationship between periodontitis and chronic diseases, only one patient out of the ten interviewed mentioned the relationship between diabetes and periodontitis, referring to tissue healing. The remaining participants were unaware of this relationship.

When asking the participants what they understood by periodontal maintenance, most of the patients explained that it is a periodic check-up, in which the status of the disease is observed, which, according to the patients, can be performed every 3 months, 6 months or once a year. There were some

Table 1. Distribution of the participants according to gender, age, and occupation.

Gender	Age	Occupation
Male	31 years	Fitness trainer
Male	48 years	Computer technician
Female	42 years	Homemaker
Male	47 years	Specialist in foreign trade
Female	72 years	Homemaker
Female	56 years	Kindergarten educator
Male	42 years	Professional welder
Female	55 years	Office clerk
Male	46 years	Salesman
Female	35 years	Cosmetologist

Table2. Motivations of the patient to produce a change in their oral health.

Subcategories	Topics	Representative units of meaning
Initial reason for consultation	Dental pain, periodontal problems, need for rehabilitation	<p>"The reason I sought help was gingivitis, my gums were bleeding a lot and I had discomfort" (female, 56 years old).</p> <p>"(..) A filling had fallen out and well, I thought that only the filling had fallen out, but my tooth had actually been fractured. Apart from the fact that the filling fell out, the tooth was fractured (..)" (male, 48 years old)</p> <p>"Because I had a problem with a dental crown, which was coming off" (female, 55 years old) "The truth is that I don't remember why because it hadn't been a specific issue, the problem is that my dental health was, well, neglected, deteriorated, to be more precise. And I went for a dental consultation, basically a check-up" (male, 47 years old).</p>
Reasons for the patient to attend the dental clinic	Learning, cleaning, alleviating pain, eliminating signs and symptoms, routine check-ups	<p>"...and I totally include myself. I think most people go because their tooth hurts, they already feel some discomfort, but it's totally annoying, painful; if there's no other way, that's why you go... Look, I do medical tests every year for everything else, I try to prevent problems with my health, but if you ask me if I do the same with respect to my mouth... nothing, I would never have done anything really, it was just because the student was guiding me (..)" (male, 48 years old)</p> <p>"But even more so in the case of a specific situation, I think constant pain, extreme bleeding or the appearance of a foreign body, as was the case with me" (male, 31 years old)</p>
How did the patient get to the dental clinic?	Recommendation, social networks, alternative with lower cost	<p>"Because of my daughter... she had gone to see a dental student and as I had a similar problem, she told me to go there myself. And my daughter also had gone thanks to a friend of hers who had also gone there to receive treatment. So, it was due to these three people that I went to the university dental clinic" (female, 72 years old) "How I found about the UVM clinic... Well, I was just walking, I had a problem with one of my teeth, if I'm not mistaken, and I saw on Facebook the post of the dental student who needed people for practicing surgery, periodontics, tooth extraction and other things that I don't remember right now (..)" (female, 42 years old) "Maybe because the costs were much lower, and they offered more alternatives (treatments)" (male, 48 years old)</p>

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Subcategories	Topics	Representative units of meaning
Motivations to attend the dental clinic	Avoid consequences resulting from oral and dental damage, low costs of care, potential changes, or patient expectations, need for information regarding their oral health, aesthetics	<p>"(...) I had kind of solved my money problems and, to begin with, they charged you less and the treatment was supervised by a doctor, a surgeon. Secondly, you were given the choice of paying in installments, their schedule was flexible, and they provided all the care that I needed... basically that" (male, 46 years old)</p> <p>"(...) Now as an adult I have dental crowding and suffer from toothache, and for the same reason, I have a poor dental hygiene. This leads to plaque, caries, etc. Just laziness and neglect (...)" (male, 47 years old)</p>
Motivations to continue with periodontal treatment	Oral health, changes observed by the patient, aesthetics Education, extrinsic motivation, intrinsic motivation, Money, Refusing to go to the dentist	<p>"From the start, I have seen changes, my gums no longer bleed and if they do bleed, I worry about why they are bleeding, that means that maybe I am not brushing well (...)" (female, 42 years old)</p> <p>"I want to be able to smile happily and eat without worries, so that my teeth do not fall out" (female, 55 years old) "Not losing my teeth, if I don't do it, I'm going to lose my teeth, that's what motivates me to keep doing it" (female, 35 years old) "Not having to go to see the dentist so frequently" (female, 72 years old)</p> <p>"It is a matter of awareness, because I had neglected my oral health for many years, negligence, I am not going to do that again" (male, 47 years old)</p> <p>"I have to set a good example for my daughters" (male, 43 years old)</p>
Expectations of periodontal treatment	Instruction of proper hygiene technique, maintaining oral health, physical health, mental health, not using dentures	<p>"Taking care of my teeth and not using dentures" (male, 43 years old)</p> <p>"Heal myself physically and mentally because oral health is very important" (male, 47 years old)</p> <p>"(...) That my teeth get better, that the disease does not continue progressing (...)" (female, 35 years old)</p> <p>"Maintaining good oral health, basically that will allow me to enjoy my teeth for a long time" (male, 48 years old)</p>
Responsibilities of the patient in the care of his oral hygiene	Check-up with the dentist, hygiene	<p>"Now I do, in the past I didn't. I didn't think it was important to use dental floss and I didn't have dental floss. Now I'm familiar with interproximal brushes, I hadn't heard about them before. You have to take your time to brush from tooth to tooth, start on one side until you reach the other, then down the same way; because you usually think, aah, I have just to brush my teeth, remove food remains and that's it, but no, it's not just that." (female, 42 years old)</p>

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Subcategories	Topics	Representative units of meaning
Responsibilities of the patient in the care of his oral hygiene	Check-up with the dentist, hygiene	<p>"My responsibilities begin with hygiene; I think that personal hygiene involves a correct brushing or a correct technique, because... you always brushed your teeth in whatever way you wanted, but here I learned, I was taught, I was educated on the subject and I learned to recognize the importance of the brushing technique, the quality of the brush and that there are other types of brushes that are also necessary, and dental floss, etc." (male, 47 years old)</p> <p>"Of course, to begin with, they taught me how to choose the correct type of brush, that is, we started from the basics. Before, I always used a brush that was anatomical and easy to grip, but I didn't pay attention to the bristles of the brush itself. So today I use a soft brush that does not damage my gums, that is smaller, the smaller the better...</p> <p>Knowing how to brush my teeth and the amount of time to get them clean is very important and the amount of time that you dedicate to brushing and cleaning your teeth is important (...)" (male, 46 years old)</p>
Patient commitment to their oral health	Knowledge of risk factors, oral health care, hygiene, check-up with the dentist	<p>"It is recommended that a person has to periodically check his/her denture every 6 months or once a year" (female, 72 years old)</p> <p>"I don't remember if it was once a year or twice, but it seems like it is once, isn't it?" (male, 48 years old)</p>

Table 3. Information that the patient has regarding his oral health.

Subcategories	Topics	Representative units of meaning
Knowledge of the impact of oral health on general health	Unknown, difficulty eating, mental health, infections, positive impact of changes with periodontal treatment, no relationship	<p>"None. If they ever told me I don't think I've paid attention to it, but no. I think not. I'm not aware". (Woman, 42 years old)</p> <p>"Mainly in the emotional part, it affects me because the fact of having bad teeth, the fact of having lost my teeth affects one emotionally and one feels diminished." (Woman, 55 years old)</p> <p>"(...) at the time the boy explained to me what was related to the issue of periodontitis and that infections, septicemia, etc. could be generated". (Man, 47 years old)</p> <p>"(...) I thought it was not related, I thought they were two parallel worlds." (Man, 48 years old)</p>
Knowledge of the relationship between periodontitis and chronic diseases	Diabetes, unknown	<p>"They explained to me that diabetes could affect the healing of my teeth in any wound." (Woman, 55 years old)</p>
Definition of periodontal disease	Chronic disease, periodontal involvement, halitosis, bleeding gums, infection, calculus accumulation, virus	<p>"(...) the deterioration of the gums or the layer that supports the living tooth, the bone. And that deteriorates through inflammation, the tissues shrink until finally the loss of the tooth occurs ". (Man, 47 years old)</p> <p>"Periodontal disease is a chronic disease, chronic means that it will never go away, that is, I will always have to be treating it so that it remains stable and does not return." (Woman, 35 years old)</p> <p>"When you bleed a lot, I think that's it." (Female, 56 years old)</p> <p>"Because one of the main causes is the accumulation of tartar, that tartar later becomes calculus and thus, it is like a whole process that is formed if I neglect myself and do not practice proper hygiene, let's say." (Woman, 35 years old)</p> <p>"If I stop caring for my teeth, this disease is going to take over my mouth and I am going to lose everything. Stop brushing, let the gum virus take over" (Man, 43 years old)</p>
Knowledge of the periodontal diagnosis that presents	Gingivitis, periodontitis, BOP, chronic disease, can't remember	<p>"Just periodontal disease they told me, I don't remember much more." (Woman, 55 years old)</p> <p>"(...) They told me that mine was chronic, that is, I had to be constantly going for check-ups, I had to have very good hygiene, because it comes back, that is, it is not that one treats it and then it will never come back, if not that one has to be going for check-ups, constantly doing good hygiene, because it is something that if one stops doing it, it comes back and the problems start all over again". (Man, 48 years old).</p>

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Subcategories	Topics	Representative units of meaning
Knowledge of the periodontal diagnosis that presents	Gingivitis, periodontitis, BOP, chronic disease, can't remember	<p>"(...) the diagnosis itself that they told me, I don't remember, that is, I would have to look for it (...)" (Woman, 35 years old)</p> <p>"(...) what stuck with me was that I had 72% bleeding when I arrived. And then when they did everything to me, I was left with 1%, which for me was like, achieved, like I behaved well throughout the process (...)" (Woman, 42 years old)</p>
Knowledge of the treatment of periodontal disease	Measurement with instruments, cleanliness, oral hygiene, indicated hygiene implements, eliminate risk factors, unknown	<p>"(...) according to what I believe, the issue of measurements with some instruments to write down points 2-3, I imagine that they are the millimeters that there is a distance between the gum and the tooth, that are collected, etc, and that then they give again, to yield to their normal position and this is done by means of an instrument that I do not remember the name of, which measures and records each tooth with its number in a logbook, etc. And that after a certain time tooth-brushing, it is measured again to see the progress or stagnation or the null response to that treatment" (Man, 47 years old)</p> <p>"Well, that is, you have to first maintain oral hygiene with good brushing, sweeping, the use of dental floss, well in my case I have to use interprox brushes, mouth-wash at some point" (Man, 31 years old)</p> <p>"They told me that cigarette smoke was very strong for my teeth and gums, that any method to reduce infection and inflammation would lose its effect if I smoke again." (Man, 43 years old)</p>
Knowledge of the work of the dentist in the treatment of periodontal disease	Scaling, hygiene instruction	<p>"(...) from there there was this scaling and all that part of cleaning the teeth (...)" (Man, 31 years old)</p> <p>"(...) First there was a hygiene issue for me, which they taught me about sweeping, brushing (...)" (Man, 31 years old)</p>
Definition of periodontal maintenance	Periodic control, cleaning, seeking care when signs and symptoms reappear	<p>"I understand how to periodically go to the dentist and get informed about how you are (...)" (Female, 56 years old)</p> <p>"(...) the check-ups are to see if the disease continues to stabilize or if it has reactivated if it has returned (...)" (Woman, 35 years old)</p> <p>"Brush your teeth regularly and keep them clean and healthy" (Woman, 72 years old)</p>

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Subcategories	Topics	Representative units of meaning
Consequences of not attending periodontal maintenance	Increased severity of diagnosis, setback, disease, tooth loss, infection	<p>"That it has increased, because since this does not have any symptoms that one can say, oh! The disease came back, this is something totally without pain and no symptoms, if I stop going, I will not know if the disease is stable or if it progresses (...)" (Woman, 35 years old)</p> <p>"The deterioration of my gums and that which leads to the loss of my teeth (...)" (Man, 48 years old)</p> <p>"have a setback and return to the same thing, because if you don't have a periodic control, tartar forms again, I can return to gingivitis, so I believe that one should have a periodic control with the dentist" (Woman, 56 years old)</p>
Benefits of attending periodontal maintenance	Oral health, continuous learning of the hygiene technique, current condition, avoiding dental loss, aesthetics, extrinsic motivations, intrinsic motivations, not having to attend	<p>"Keep myself the way I like. My mouth is clean, my gums are healthy, because they don't swell, they don't bleed, so I think that really is it, in summary" (Woman, 42 years old)</p> <p>"Keep the disease under control and do not cause more damage" (Woman, 55 years old)</p> <p>"(...) I don't want to go back to how I was because, no, I don't feel good, I feel like I am now. I look in the mirror and laugh, before I covered my mouth so as not to laugh. (Woman, 42 years old)</p> <p>"Don't get sick, protect your teeth so they don't fall out or you don't have to take them out." (Woman, 72 years old)</p>
Frequency of periodontal maintenance checks-ups	3 months, 6 months, once a year, can't remember	<p>"Periodontal maintenance is scheduled from time to time and can be quarterly, 3 months or every 6 months depending on the degree of the disease (...)" (Woman, 35 years old)</p> <p>"If I remember correctly, once a year at least, at least." (Man, 31 years old)</p> <p>"I don't remember if it was once a year or twice, but it seems like once or not?" (Man, 48 years old)</p>

of them who did not remember the periodicity of check-ups. It was also mentioned that it is related to cleaning and that one should visit the dentist when signs and symptoms of the disease reappear. Among the consequences of not attending this stage of treatment, the increase in the severity of the diagnosis was mentioned, experiencing a setback, and the reappearance of the disease with the consequent tooth loss and infection.

On the other hand, within the benefits of periodontal maintenance, the most mentioned aspect was maintaining oral health together with good hygiene as a result of learning the correct technique, maintaining their current oral health status, and avoiding tooth loss.

3. Oral hygiene habits acquired after periodontal treatment

This category refers to the level of concessions made by the patient to achieve adequate oral health. This category encompasses the level of responsibility in the initial periodontal treatment and in the subsequent maintenance phases. (Table 4)

Regarding the level of knowledge of the learned hygiene technique, most of the participants, except for two, fully explained the modified Bass technique. However, consistency was observed in the reports in relation to the fact that there were difficulties in teaching the technique, specifically in learning the technique, where motor difficulty was the first obstacle. In this same context, the participants correctly reported the use of interproximal brushes, except for one participant. The habit of oral hygiene was developed and maintained over time in most patients, in relation to perseverance, discipline, and the use of correct implements, except for some specific patients who, despite their intrinsic and extrinsic motivation, had concepts of traumatic brushing, random techniques, and the non-use of the indicated hygiene instruments.

4. Situations that prevent adherence to periodontal treatment.

This category refers to the different situations that make it difficult or impossible for the patient to attend the periodontal maintenance phase. (Table 5)

Initially, the demotivation to attend the dentist for the first time lay in three large areas: little information from the patient regarding the severity and negative consequences of maintaining a poor oral health, negative thoughts about their lost oral health, and finally the participants indicated a heterogeneity of excuses such as: budget and time constraints, favoring other activities instead of going to the dentist, personal problems, and family situations, among others.

In relation to situations that prevent attending periodontal maintenance check-ups, patients highlighted the following aspects: the health situation at the national level due to the SARS-CoV-2 virus (prolonged and repeated quarantines), as people were given limited permits of displacement due to the protocols implemented by the Ministry of Health; distrust of professionals, a result of negative experiences prior to their periodontal treatment or animosity of patients towards dentists; and economic factors, a situation that was reiterated in the answers of the participants, since they reported that dental treatments are expensive for the average income of Chileans, associated with the impossibility of requesting work permits for fear of losing their jobs, consequently, postponing dental care.

DISCUSSION.

When exploring the motivations that patients have for adhering to periodontal maintenance, it was found that the initial motivations of patients are heterogeneous. They are usually associated with dental pain resulting from carious lesions, periodontal problems, and the need for treatment. These motivations are not necessarily justifications for periodontal treatment per se.

Likewise, it was observed that patients want to improve their levels of knowledge regarding their oral health, obtain adequate treatments, and reduce the consequences of caries and periodontal disease. These results coincide with what was observed in the study by Halvari *et al.*,⁷ in which the need for patient satisfaction was studied, as well as types of autonomous motivations in relation to the behavior

of subjects with respect to their oral health. These studies support the idea of "clear" motivations, behaviors that lead to an improvement in oral health. These results are supported by clinical studies conducted by Halvari *et al.*,^{7,9} (2006 - 2012), in which it was observed that, in patients with intrinsic motivations, the levels of bacterial plaque are reduced around 5-7 months after treatment.⁸

In this context, the need to improve a deficiency, to satisfy a requirement or need could result in a high motivation to finish the treatment. This could be due to the fact that autonomy has been positively related to intrinsic motivation.^{10,11}

Potential changes to improve quality of life are also consistent with the literature. According to Montes (2001), patients who have lost teeth fall into depression. This does not exclude patients with a low socioeconomic level that do not have access to private dental treatments, especially edentulous ones, causing low self-esteem and shame. However, these consequences cannot be associated with this study, since part of the initial motivations for seeking dental treatment is that the university clinic provides dental care at a low cost.

Ironically, other motivations for continuing periodontal treatment were anxiety or fear of the dentist, which encouraged the patient to avoid more extensive and/or more expensive treatments, establishing intrinsic and extrinsic motivations. These results could be similar to those reported by Costa *et al.*,¹² in which general anxiety symptoms have a direct positive effect on the perception of oral health. Although, the latter is contrary to what was suggested by Zukanović *et al.*,¹³ (2018), who provided empirical evidence that vulnerable patients are more prone to high levels of rejection or fear of dental care, who rarely visit the dentist, which has a deteriorating impact on their oral health.

The results also indicate that there are other motivations that encourage patients to adhere to periodontal maintenance therapy. Among these, there are the benefits of attending maintenance, the answers with the greatest consistency were aesthetics, preventive methods that allow avoiding

dental loss, and maintaining oral health. On the other hand, and within the results obtained, it was observed, as a subcategory, the consequences of not attending the periodontal maintenance phases. The latter include an increase in the severity of the periodontal diagnosis, decline in periodontal stability, and tooth loss. Despite the relevance of the results obtained, there is still no evidence that allows us to compare the results of this study with previous research.

Although it is true that part of the results obtained in this study contribute mostly to the objectives set out in this research, other results were observed that allow us to explain the phenomenon in greater depth. Despite the initial difficulties in training participants on the oral hygiene technique, the results of this study show that there was a good acceptance of the modified Bass technique, even though the participants did not remember the name of the technique. These results coincide with what was shown by Janakiram *et al.*,¹⁴ (2020) in which the modified Bass technique produces positive changes in biofilm control and, therefore, in the final perception of oral health. One of the reasons could be due to the Hawthorne effect,¹⁵ which would increase the use of the hygiene technique, because patients are immersed in a university context. The high and sustained rate of adoption could be due to a health habit that has been developed through the unique combination of internalization, awareness, and increased self-confidence.

Although it is true that a commitment was observed by a part of the participants regarding the levels of responsibility in the periodontal treatment and the phases of subsequent maintenance, few recognized and associated the risk factors with an increasing reduction of harmful habits and the control of related systemic diseases, such as diabetes mellitus. In a study carried out by Al Habashneh *et al.*,¹⁶ the level of perception, knowledge, and concern that patients have of the relationship between diabetes and periodontal disease was evaluated. It was observed that only half (48%) of 500 participants recognized that diabetes could negatively influence

the development of periodontal disease and only 38% of the participants knew that periodontal disease could negatively influence glycemic control.

Regarding tobacco, in a study carried out by Lung *et al.*,¹⁷ only 6% of the participants recognized that tobacco was negatively related to periodontal disease. Even though the patients were in an academic context, where there was constant reinforcement between the student in practice and the patient, there were no differences with the evidence. This could be explained because the levels of knowledge and learning are multifactorial and depend partially on the communication skills of the professional and that not all patients had risk factors, a variable that could have influenced the interest of the patient at the time of training, within the initial periodontal treatment phase.

The social barriers when it comes to going to the dentist are detailed in the heterogeneity of answers and justifications related to money and time, since some patients reported this problem as one of the main reasons for not going to the dentist, and not the lack of motivation or the lack of awareness. Time tends to always be related to work and the lack of flexibility, as well as the coincidence of the appointment times given by the dentist and the working hours of the patients, because the time used to visit the dentist is directly related to the money earned (or not earned in this case) by the patient. This was reported by two respondents who identified them as factors that partially affect the motivation to start periodontal treatment.

Among the situations that prevent patients from attending the periodontal maintenance check-ups, there is the SARS-CoV-2 virus pandemic. Some participants reported that they did not follow their periodontal treatment due to the complications caused by the pandemic. They put off the periodontal maintenance treatment indicated by the dentist. On the other hand, the economic factor is again an issue that prevents patients from continuing their periodontal maintenance, as well as time constraints and long working hours. As mentioned above, economic problems make people seek the lowest

possible cost, and that is where public care services make a huge difference, although they may not be optimal for the patient in terms of resources, or the quality of the care provided.

Finally, one of the limitations of the study is the fact that the research was carried out from the analysis of the answers of the participants through a semi-structured interview. In order to understand a phenomenon, it is recommended to carry out more complex analyses, therefore it is suggested to carry out research through in-depth interviews and grounded theories. Despite the above, to conduct exploratory studies like this one that allow the identification of a broader view of the phenomenon is also considered a strength. It is suggested that this same study be further replicated but from the perspective of the patients treated at private healthcare facilities.

CONCLUSION.

The main motivations that patients have for adhering to the supportive periodontal therapy phase are related to the education and information they acquire in the first phase of periodontal treatment. Observing the changes during treatment, improving oral health, improving aesthetics and functionality, are other important motivations, as well as the patients' fear of losing their teeth and their desire to educate their family. On the other hand, the low fees that the university clinic charges are one of the aspects highlighted by the patients that motivate them to attend and continue with their periodontal maintenance therapy.

Although patients are motivated to attend the maintenance phase, there are situations that hinder their adherence, the most important are budget and time constraints. The latter is closely related to their work schedule. It was also observed that the current health situation, the SARS-CoV-2 virus pandemic, makes it difficult for periodontal patients to attend their periodontal maintenance therapy.

Conflict of interests:

The authors declare that they have no competing interests.

Ethics approval:

Patients gave informed consent and the study was approved by the Ethics Committee of the Viña del Mar University.

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