International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2019): 7.583

Factors that Affect the Relationship between Carers and the Disabled with Dental Care

Ioannis Novakos[1], Konstantinos Arapostathis[2], Grigorios Venetis[3], Lambros Zouloumis[4]

[1]Special Primary School, Agios Nikolaos, Prefecture of Lasithi, Crete, Greece
Correspondence Email: *inovakos[at]gmail.com*

[2, 3, 4] School of Dentistry, Aristotle University of Thessaloniki, Thessaloniki, Greece

Abstract: ***Objectives: The behaviour of people with disabilities and their caregivers towards the proposed dental care. Material and Method: The sample of the research consisted of 200 caregivers and the disabled who were asked through a questionnaire. The independent variables were the gender, age, educational level of the caregivers, the dental image of the disabled, their daily dental care, the level of their oral condition and their behavioural profile during their visit to dentist. Dependent variables were the factors that act as a deterrent for people with disabilities to the origin of dental fear and anxiety about dental visits and treatment, as well as the underlying reasons why carers do not allow their children to go to the dentist. Results: According to the answers given, the frequency of visits to the oral health specialist for the prevention of the child's oral health stated that it is non-existent or very low for 39.6% and quite or very high for 56.4%. Regarding the daily dental care of the child in charge of the respondents, he never or almost never stated that he brushes his teeth 45.2%, quite often 46.7%, very often 7.1%, while a very high frequency of brushing; he said only 1% of cases. Conclusions: The indicators of the educational level and, especially of the socio-economic level of the caregivers of the disabled, determine the frequency of their visit to the dentist.***

Keywords: Special context, people with disabilities, oral cavity condition, oral care, application of proposed dental treatment

1. Introduction

The care of the oral cavity and the treatment of dental problems of people with disabilities, who study in special structures, is a major issue for their parents/carers and for the scientific community that deals with this field, through the best and most effective solutions that attempt to provide to individuals in this particular group. So far, therefore, not all the parameters that act as a deterrent and discouragement for these people have been taken into account, so that they visit the dentist when they have problems and, following his advice, apply the appropriate recommended dental treatment.[5] Among other things, there is a deficit and ambiguity regarding the possibilities of the minimal dental structures in the country that were created for these people, in order to provide - when and when needed - proven specialized and effective services. The point, however, that should be pointed out and emphasized in relation to the implementation of the proposed dental treatment for these individuals, is the development and acquisition by the dentists working in this field, of psychological and emotional abilities[7] and skills to listen, perceive and effectively address the individual needs and particularities of these individuals.[4]

In this light, it seems that the dentist who deals with the treatment of people with disabilities, is poorly trained/specialized to take into account their psychological and emotional peculiarities and shortcomings when performing the dental procedure. The issue of treatment of these people in the dental field, after all, is a multifaceted and multidimensional issue, since their psychological state affects and at the same time regulates their general behavioral image and function.[17] In addition, the specialist and specialized dentists who have as their object the treatment of these individuals, must take into account and take seriously in all stages of planning and implementation of the proposed treatment, the motivations, the way of participation and the degree of adaptation of their patients.[6]The "non-existent morale" and the fear of these people who feel about visiting the dentist in order to provide them with dental care, is inextricably linked and to a significant extent, with the socio-economic status of their family.[8]In essence, the aforementioned reference and assumption implies that these individuals/patients do not have self-knowledge, self-esteem and self-awareness about the condition and health of their dental cavity. Hence, they do not consider the restoration and treatment of their dental problems as an important chapter of their physical health and daily functioning.[10]

On the contrary, it is distinguished and recognized that people/patients with disabilities whose families have a high income and a higher level of education, have self-confidence (self-image) in terms of developing their personal perception of their health and, therefore, are more easily adapted to the conditions of the dental premises, which - by the way - cause fear most of the time even in adult patients. In short, people with disabilities from the upper socioeconomic strata and classes demonstrate greater ability and resilience in accepting dental practice.[12,15,16]

2. Material and Method

This research was conducted with the approval of the Research Ethics Committee of the Aristotle University of Thessaloniki, School of Dentistry. The completion of all the fields of the questionnaire which was approved by the Ethics Committee of the Aristotle University of Thessaloniki, School of Dentistry, automatically constituted a statement of consent.

2.1 Study group

The sample of the survey collected by the deliberate method of sampling, in order to carry out the survey, consists of 197 people. Therefore, it seems that the sample is based on specific data and data of the population, which are selected purposefully and expediently.[20] Usually, it appears that small samples are obtained, which, however, are able to contain the information needed to draw valid, reliable and objective conclusions.[3] The data collection was done using a questionnaire, which was distributed to the special structures of Primary and Secondary Education (Special Kindergartens, Special Primary Schools, Special Vocational Education and Training Laboratories and Special High Schools and Lyceums) as well as to parents/guardians, from where the above sample was collected. The questionnaire consists of 24 questions.[2,18] The first part of the questionnaire concerns the demographic identification of the sample and includes nine questions (open and closed type) which aim to describe both the caregiver-parent/guardian and the child for whom the latter is responsible. The next fifteen questions are closed and divided into four categories. The first category consists of two questions that attempt to describe the student's dental image, the second of six questions that compose an image of the student's daily dental care, the third category of five questions characterizes the level of oral The last category of two questions reflects the behavioral profile of the students during their visit to the.[1,14]

2.2 Research cases

The research hypotheses and issues that were investigated and addressed in this research are listed in the following sections:

1) Record the reasons and frequency of visits to the dentist and pediatric dentist for preventive reasons and/or provision of dental services.
2) Investigation and correlation of the effect of the variable of the socio-economic level of the families of persons - patients with disabilities, with the eating habits, the state of oral health and the use of dental services.
3) Investigation of the role of caregivers (parents, guardians, teachers) in the daily preventive care of the dental cavity and good and/or non-oral health of people with disabilities.
4) The role of psycho-emotional (fear, anxiety, disorganization, etc.) behavioral profiles of people with disabilities and, the way it influences their parents' decision to go to the dentist for therapeutic/invasive services.

2.3 Statistical analysis

The Spearman correlation coefficient was used to study and investigate the correlations between the categorical variables. This is a non-parametric coefficient of determination of dependence between two categorical variables, such as the variables in Likert scales used in the present study. Finally, a significance level of 10% was set for the control of the correlations. In terms of statistical analysis, IBM SPSS version 21 was used.[9]The following problems arose and were addressed during the statistical analysis. The question that attempts to describe the caregiver's age was probably misinterpreted by the participants and given as an answer the age of the person under the caregiver's responsibility. Hence, the answers concerning the under-18s were excluded from the analysis.

3. Results

The following are the relevant statistical tables for each question in the questionnaire.Regarding the analysis of the collected data, descriptive statistical methods were used.[13,19]

The correlation tables 1 and 2 show the statistically significant correlations. More specifically, statistically significant correlations appear between the following variables:

- The frequency of visits to the dentist and the frequency of brushing teeth (moderate positive correlation r = 0.344, P <0.001, N = 197).
- The frequency of visits to the dentist and the correct scientific brushing of the teeth (moderate positive correlation r = 0.456, P <0.001, N = 197).
- The frequency of brushing the teeth and the correct scientific brushing of the teeth (moderate positive correlation r = 0.397, P <0.001, N = 197).
- Proper scientific brushing of the teeth and the frequency of consumption of soft drinks and sweets during the day (weak negative correlation r = -0.203, P = 0.004, N = 197).

In addition, statistically significant correlations occur between the following variables:

- The effect of oral problems on sleep and activities and, to the extent that the condition of the teeth creates difficulties in chewing food (very strong positive correlation r = 0.786, P <0.001, N = 197).
- The effect of oral problems on sleep and activities and the degree to which cognitive performance is affected by poor tooth condition (very strong positive correlation r = 0.809, P <0.001, N = 197).
- The effect of oral problems on sleep and activities and the degree to which the condition of the teeth causes shame and discomfort (strong positive correlation r = 0.694, P <0.001, N = 197).
- The effect of oral problems on sleep and activities and, to the extent that phobia affects the dentist, the reference to dental problems (moderate positive correlation r = 0.491, P <0.001, N = 197).
- The degree to which the condition of the teeth creates difficulties in chewing food and the degree to which the cognitive performance is affected by the poor condition of the teeth (very strong positive correlation r = 0.755, P <0.001, N = 197).
- The degree to which the condition of the teeth creates difficulties in chewing food and, the degree to which the condition of the teeth causes shame and discomfort (strong positive correlation r = 0.64, P <0.001, N = 197).
- The degree to which the condition of the teeth creates difficulties in chewing food and, the degree to which the phobia for the dentist affects the reference to dental problems (moderate positive correlation r = 0.558, P <0.001, N = 197).

- The degree to which the cognitive performance is affected by the poor condition of the teeth and the degree to which the condition of the teeth causes shame and discomfort (strong positive correlation r = 0.698, P <0.001, N = 197).
- The degree to which the cognitive performance is affected by the poor condition of the teeth and the degree to which the condition of the teeth causes shame and discomfort (strong positive correlation r = 0.698, P <0.001, N = 197).
- The degree to which cognitive performance is affected by poor dental status and the degree to which the dentist's fear affects the reference to dental problems (moderate positive correlation r = 0.558, P <0.001, N = 197).
- The degree to which the condition of the teeth causes shame and discomfort and the degree to which the phobia affects the dentist's reference to dental problems (strong positive correlation r = 0.617, P <0.001, N = 197).
- Children who do not brush their teeth at all seem to have a lack of self-care of 10.7%, a partial lack of 42.9% and no 46.4% at all.

Children who brush their teeth sparingly have a lack of self-care of 9.8%, a partial lack of 13.1% and complete self-care of 77%.

Respectively, those children who brush their teeth a lot show a lack of self-service by 5.4%, a partial lack by 22.8% and not at all by 71.7%.

Children, who brush their teeth a lot, are characterized by a level of self-service with:

- Lack of self-service 28.6%
- Partial self-service 35.7%
- Full self-service 35.7%.

Finally, children who brush their teeth a lot seem to be the only ones who are distinguished by partial (50%) or no (50%) self-care.

4. Discussion

The sample of caregivers in terms of gender is defined as follows: 47.7% of respondents were men and 52.3% women, while in the total of 197 participants, 5.1% declared unmarried and 94.9% married, which is the majority. In all valid answers (sample of 138 people) the average age of caregivers is 34.78 years. The oldest of the caregivers is 60 years old and the youngest is 19 years old. The majority (73.2%) of carers are aged 30 to 40 years. Also, 23.4% of the respondents stated that they are responsible for the care of their own child, while 76.6% are responsible for a child or children, with whom they do not necessarily have any kinship. Regarding the educational level of the caregiver, it is distinguished that for the majority (66.5%) the maximum level of education is the secondary one. Respectively, for the education and the educational context of the children for whom they are responsible, the participants stated that 46.2% attend Kindergarten, 25.4% Primary School, only 9.1% High School, while 22.8% in Lyceum or EEEK. %.

The mental state of most students is characterized, according to caregivers, by learning disabilities (including ADHD) (43.6%), followed by mental retardation (23.9%) and developmental disorder (24.4%). In the sample of the present study, 5.5% of children present with more serious health problems such as cerebral palsy, deafness and Down syndrome. Finally, students belonging to the autism spectrum are 2.5%. It is worth noting that the majority of studentshave the ability to communicate (95.4%) and, in fact, self-service (67%). 95.9% of caregivers stated that the child or children they care for and/or are responsible for their care, has visited a dentist, mainly due to the presence of pain (44.7%). However, it is unfortunate that the relevant visit concerned the prevention of only 20.3% of these cases. Equally sad, although the percentage is small (4.1%), it concerns some children who have never visited the dentist.

According to the answers given, the frequency of visits to the oral health specialist for the prevention of the child's oral health, stated that it is non-existent or very low for 39.6% and quite or very high for 56.4%. These numbers are close enough and it seems that more information is needed to understand the need for good oral health. Regarding the daily dental care of the child in charge of the respondents, he never or almost never stated that he brushes his teeth 45.2%, quite often 46.7%, very often 7.1%, while a very high frequency of brushing; he said only 1% of cases. In brushing teeth, it turns out that the motivation of caregivers plays an important role. According to the respondents, among others, it is found that only 33% of children take care of their teeth on their own initiative.

The majority of the respondents (68%) stated that the cognitive performance of the studentsis affected by the poor condition of the teeth at all or little, as the majority (60.9%) stated that the toothache, dry mouth and bad breath or other oral problems, affect sleep and concentration during the performance of cognitive tasks, no or little. The caregivers/ respondents also stated (59.9%) that the poor condition of the teeth of the students with disabilities who are responsible for their care and education, causes them little or no feelings of shame and annoyance. Among other things, the condition of the teeth does not create difficulties or creates minimal difficulties in chewing food for students (62.9%). Finally, it should be noted that for the results described, the actual condition of the oral cavity of children is poor or moderate for (46.7%) and good or excellent for (53.3%).

During the visit to the dentist the majority of children/ students (95.4%) experience negative emotions such as fear, anxiety or disorientation. However, these fears are not reflected in the communication on relevant issues, where caregivers are divided with (513%) having several or more problems when communicating with the student about dental problems or related pain, while (48.7) %) stated that it encounters few or no such issues. Finally, students who are able to communicate seem to visit the dentist more often and have a higher frequency of brushing their teeth during the day compared to those students who do not have the ability to communicate. Regarding the parameter of the socio-economic level of the families of students with disabilities, it is shown that there is a strong correlation with the living conditions, eating (inside and outside school) habits and

attitudes of these students, with the good and/or bad condition of the oral cavity, with the quality of oral health and the use of dental services. Admittedly, it is also clear that the fear and anxiety that these students have about the dentist and the dental practice, is of family origin and heredity.

5. Clinical Relevance

5.1 Scientific rationale for study

This scientific-empirical research is an original and pioneering project of investigating the corresponding gap that exists in Greece regarding the subject and issue under this study.

5.2 Principal findings

The socio-economic status as well as the educational level of the families/carers of the disabled are important frontal factors that determine their relationship with dental care.

5.3 Practical Implications

Certainly the socio-economic level of families/caregivers of the disabled, is strongly and positively correlated on the one hand, with the fear and anxiety and/or not that these people experience for dental care, on the other hand, with the frequent use of dental services and good and/or not oral health condition.

Acknowledgements
We are grateful to the carers of the disabled and my colleagues of special education for their selfless contribution to filling the questionnaires of our study. We are also grateful to Mr Anastasios Antoniadis who transcribed the interviews. This study was not supported by any funding.

Conflict of Interest
The authors declare that they have no competing interests.

Author Contributions
NovakosIoannis and ZouloumisLambros conceived the ideas; NovakosIoannis collected the data; NovakosIoannis analysed the data, and all authors led the writing.

Data Availability Statement
The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

References

[1] Arens AK, Yeung AS, Craven RG, Hasselhorn M. A short German version of the self-description questionnaire I: Theoretical and empirical comparability. *Int J Res Met Educ* 2013; 36(4): 415–438.
[2] Bell E, Bryman A, Harley B. *Business research methods*. London: Oxford University Press, 2018.
[3] Gnardelis X. *Applied statistics*. Athens: Papazisis, 2003.
[4] Chua AN, Warady BA. Care of the pediatric patient on chronic dialysis. *Advances in Chronic Kidney Disease* 2017; 24(6): 388–397.
[5] Danielewicz AL, Dos Anjos JC, Bastos JL, Boing AC, Boing AF. Association between socioeconomic and physical / built neighbourhoods and disability: A systematic review. *Prev Med* 2017; 99: 118–127.
[6] Davis DM, Fiske J, Scott B, Radford DR. The emotional effects of tooth loss, a preliminary quantitative study. *Br Dent J* 2000; 188(9): 1220–1230.
[7] Ekanayake L, Dharmawardena D. Dental anxiety in patients seeking care at the university dental hospital in Sri Lanka. *Community Dent Health* 2003; 20: 112–116.
[8] Fletcher AC, Walls JK, Cook EC, Madison KJ, Bridges TH. Parenting style as a moderator of associations between maternal disciplinary strategies and child well-being. *J Fami Is* 2008; 29: 1724–1744.
[9] Howitt D, Dunkan C. *Statistics with SPSS 10 for Windows*. Athens: Key Number, 2002.
[10] Katz DB, Nicholelis MA, Simon SA. There is more to taste than meets the tongue. *Am J PhysiolGastr Liver Physiol* 2000; 278: 86–89.
[11] Katona C. Managing depression and anxiety in the elderly patient. *Europe Neuropsychopharmacol* 2000; 10(4): 5427–5432.
[12] Krause N, Shaw BA. Giving social support to others, socioeconomic status and changes in self-esteem in late life. *J GerontPsycholSci* 2000; 55(6): 323–333.
[13] Makrakis B. *Data analysis in scientific research using SPSS*. Athens: Gutenberg, 2001.
[14] McDowell I. *Measuring health: A guide to rating scales and questionnaires* (3rd ed.). New York: Oxford University Press, 2006.
[15] Newton JI, Fiske J, Foote O, Frances C, Loh I, Radford DR. A preliminary study of the impact of the loss of part of the face and its prosthetic restoration. *J Prost Dent* 1999; 89: 585–590.
[16] Paterniti S, Verdier-Taillefer MH, Dufouil C, Alperovitch A. Depressive symptoms and cognitive decline in elderly people: Longitudinal study. *Br J Psych* 2002; 181(5): 406–410.
[17] Sarris M. *Sociology of health and quality of life*. Athens: Papazisis, 2001.
[18] Stalikas A, Triliva S, Roussi P. *Psychometric tools in Greece: A collection and presentation of questionnaires, tests and lists of characteristics in Greece*. Athens: Pedio, 2012.
[19] Tsiolis G. The relationship between qualitative and quantitative research in the social sciences: From the war of "examples" to synthetic approaches? In: Dafermos M, Samatas M, Koukouritakis M, Chiotakis S, (Ed.), *The social sciences in the 21st century: Controversial issues and challenges*. Athens: Pedio, 2011; 56–84.
[20] Farmakis N. *Sampling and applications*. Athens: Association of Greek Academic Libraries, chapter 6., 2015. Available at http://hdl.handle.net/11419/4846.

List of Figure Legends

1) Frequency of visits to the dentist.
2) Teeth brushing frequency. (Moderate positive correlationr = 0.344, P <0.001, N = 197)
3) Properly scientific brushing of teeth.(Moderate positive correlation r = 0.456, P <0.001, N = 197)
4) Frequency of soft drinks and sweets consumption during the day.(Weak negative correlation r = -0.203, P = 0.004, N = 197)
5) Effect of oral problems on sleep and activities.
6) To what extent the condition of the teeth causes difficulties in chewing food.(Very strong positive correlation r = 0.786, P <0.001, N = 197).
7) How much is the cognitive performance affected by the poor condition of the teeth.(Very strong positive correlation r = 0.809, P <0.001, N = 197).
8) How embarrassing and annoying is the condition of your teeth.(Strong positive correlation r = 0.694, P <0.001, N = 197).
9) To what extent does the fear of the dentist affect the reporting of dental problems? (Moderate positive correlation r = 0.491, P <0.001, N = 197).