STRESS DURING DENTAL TREATMENT IN PEOPLE WITH INTELLECTUAL DISABILITIES

¹MIRJANA JAKOVČEV, ¹ANDREA GAŠPAR, ²JASNA OSTOJIĆ

¹"Milan Amruš" Primary School, Slavonski Brod, Croatia. Contact: mirjana.jakovcev@gmail.com, ²Red Cross Zagreb, Croatia

Received: 30.5.2017. Preliminary report Accepted: 7.11.2017. UDK: 616.31: 159.942-056.34

Abstract: Dental treatments are often associated with stress because of unpleasant patient experiences such as pain and negative emotional reactions. People with intellectual disabilities experience such stress more intensively because of their different abilities of understanding and different levels of functioning. It is necessary to investigate the factors associated with stress in order to reduce the level of perceived stress for people with intellectual disabilities. Therefore, the aim of this study was to investigate the relationships of certain factors with perceived stress of people with intellectual disabilities during dental treatment. Based on the aim of the study, the following hypotheses were formulated: the level of stress in dental treatments is negatively correlated with the frequency of dental treatments, the level of stress in dental treatments is negatively correlated with the level of satisfaction with the dentist's approach; and the level of stress in dental treatments is positively correlated with the degree of intellectual disability. The study involved 192 parents of people with intellectual disabilities. Parents filled out questionnaires designed for the purposes of this study in order to evaluate the level of stress experienced by their children, the parents' level of satisfaction with the dentist's approach and the frequency of visits to the dentist. The hypotheses were tested using Pearson correlation coefficients, and the results revealed a statistically significant correlation between satisfaction with the dentist's approach and level of stress. Thus, perceived stress in dental treatments is negatively associated with satisfaction with the dentist's approach. In other hypotheses, a correlation was not statistically significant, suggesting that data from this sample could not confirm that degree of intellectual disability or the frequency of visits to the dentist are associated with perceived stress. The results have practical implications for designing potential future educational programs in dental practice, and present a good starting point for further research on this subject.

KEY WORDS: stress, dental care, persons with intellectual disabilities

INTRODUCTION

Health care and health protection are one of the fundamental determinants of quality of life. Dental protection, as part of health protection, is an important factor for overall quality and level of satisfaction with everyday life. Nevertheless, people with intellectual disabilities, as a sensitive and marginalised group of people, encounter many obstacles in exercising their rights in dental care. People with intellectual disabilities have more oral health problems than the general population (Elite Continuing Education, 2013). Therefore, the effect of oral disease on quality of life is greater for them than for the general population (Stiefel, 2002, p. 30). People with intellectual disabilities need additional help and support in achieving and maintaining oral health. This population is generally unaware of the importance of oral protection or the need for oral

protection (Bindal et al. 2015, according to Smith et al. 2010). Also, due to their specific needs and characteristics, people with intellectual disabilities are sometimes not able to use regular dental services and they need an individual approach. "Oral protection represents one of most important areas in rehabilitation and treatments of persons with disabilities, but it is also one of the most inaccessible ones" (Samkharadze et al., 2013, p. 566, according to Lynette et al., 2011., Marshall, et al., 2007, Taryn et al., 2011). This inaccessibility does not refer to an inadequate number of dental practices, but rather to a lack of dentist accessibility, to ways in which dentists perform dental procedures, and to insufficient education of dentists and other dental staff to provide services for people with intellectual disabilities. Appropriate dental care also depends on the readiness of patients to go to the dentist regularly, in

which case most people with intellectual disabilities must rely on the support provided by their parents or legal guardians. People with intellectual disabilities often experience stress during dental visits due to lack of understanding of the need for dental treatment and inability to adequately express feelings of pain, discomfort and fear. Support for people with intellectual disabilities is provided by parents, legal guardians or assistants. They soothe and comfort persons by giving them a feeling of security, and they explain the person's behaviour to the dentist.

QUALITY OF LIFE AND ORAL HEALTH

Oral health has begun to be perceived within the context of quality of life only in the last few decades. Before then, it was believed that oral health does not affect general quality of life. (Petričević et al., 2008). Many aspects of oral health and its effect on quality of life have not been fully explored (Stiefel, 2002). The following factors of oral health affect an individual's quality of life (Grungold and Zagoršćak, 2012, p. 6 according to Mehtta and Kaur, 2011): dental system function (chewing, speech), social life (intimacy, communication, social interaction), psychological well-being (appearance, self-esteem) and discomfort/pain (acute or chronic). These factors can lead to low self-confidence and low self-esteem, and can discourage individuals in their everyday social interactions, therefore causing chronic stress and depression.

Oral health

Oral health is a part of general health and cannot be isolated from it. Oral health affects eating, speaking and a person's appearance. Oral health problems can be worse in more vulnerable groups of people, such as people with disabilities. Visible body parts, such as the mouth, are a mirror of a person's general health status. Turner et al. (2009; PHIS, 2002) state that people with disabilities have worse oral hygiene and need a higher level of oral protection than the general population; people with disabilities also require special/specific dental procedures. Many factors affect the oral health of people with disabilities, with some of the most important being poor socioeconomic status, low quality

of dental treatment, lack of oral health care, lack of motivation and inadequate training programs for dentists who work with people with disabilities (Stiefel, 2002, p. 27). Multiple risk factors of oral diseases include psychological limitations that prevent daily oral care as well as difficulties in cognition and communication. Behavioural problems create a lack of understanding and of motivation for daily oral care in the individual with disabilities, as well as a lack of motivation in those who provide training about oral hygiene. Age, level of intellectual disability and institutionalisation are important factors that affect the level of oral hygiene (Stiefel, 2002 according to Tesini, 1980; Thorton et al., 1989; Jurek & Reid, 1994; Nowak, 1984).

To improve the quality of oral health, it is important to dedicate sufficient attention, patience and care to the daily oral hygiene activities of people with intellectual disabilities. When going to dental treatments, people with disabilities are often treated with sedatives, which are very expensive for the government (Shetty et al., 2015). Sedatives and anesthesia are not necessary for all those people.

People with disabilities have the same right to health assistance/care as the general population. However, sometimes that is not the reality. Society needs to ensure that people with disabilities are given a choice, that they are making their own decisions, and that they are included and given needed help (Owens, 2011), so that the quality of their dental treatment improves. Quality of oral health in people with intellectual disabilities is defined as a program that focuses on a person, provides individualised treatments with comprehensive continuing care, provides access to individualised care when it is needed and uses a less restrictive approach in getting patients to cooperate (Stiefel, 2002). Dental diseases can be prevented, and that is particularly important for people with disabilities.

Oral health characteristics of people with intellectual disabilities

People with intellectual disabilities often have health problems that may affect oral health and oral hygiene. They can have complex health conditions, may use various drugs and also may have difficulties in conducting their daily routines due

to psychological or cognitive difficulties. People with intellectual disabilities suffer more often from periodontal diseases and dental caries than the general population (Morgan et al., 2012 according to Pezzementi, 2005 and Anders, 2010). One Brazilian study found that 30 percent of the sample of people with intellectual disability had never received dental treatment and had difficulty accessing public health services, unlike their siblings without intellectual disability who had better dental health and easier access to health services (Santos Oliveira et al., 2013). The characteristics of people with intellectual disabilities that increase their risks of oral diseases are cognitive, psychological and behavioural limitations that often lead to poor oral hygiene practices as well as difficulties in cooperating with the dentist during dental treatment (Mouradian and Corbin, 2003). The specificity of oral hygiene in people with intellectual disabilities is the "result of hereditary and developmental disorders, degree and type of impairment, inappropriate medical treatment and socio-economic status" (Grungold & Zagoršćak, 2012 according to Wilkins, 1994; Walsh, 2003; Pezzementi & Fisher, 2005). One study showed that income status was not a relevant factor in terms of its effect on the oral status of people with intellectual disability (Hughes and Gazmararian, 2015). As those authors concluded, "Oral health problems are not exclusive to low-income study participants". Oral health can affect vital functions such as breathing, choice of food, eating, swallowing and talking (Stiefel, 2002).

STRESS DURING DENTAL TREATMENT

Stress is a normal psychological reaction to life events that make us feel scared or nervous in any way (Jordanova et al, 2013). It is an inevitable part of daily life for people with disabilities (Iwasaki & Mactavish, 2005). During dental treatment, people with intellectual disabilities often encounter various psychological and social problems (Samkharadze et al., 2013), which cause stress and significant limitations on quality of life. Stress in dental treatments influences daily life in terms of limited functioning and oral problems (Oosternik-Wubbe, 2010). Stress in the context of the present study refers to the fear, anxiety and discomfort that people experience when they visit a dentist

(Iwasaki & Mactavish, 2005). Such stress can be connected to a traumatic experience, which can cause the individual to refuse to visit the dentist and allow progression of dental diseases. "Oral treatment of patients with intellectual disabilities requires empathy, patience and a high level of knowledge and skill" (Stiefel, 2002, pg. 28). A study that examined the relationship between duration of treatment and oral health in people with intellectual disability showed that after spending some time in dental treatments, patients showed a statistically significant decrease in caries but not in level of cooperation (Finkelman et al., 2013).

Providing dental services to people with intellectual disabilities

Maintaining oral health is often not a priority in the view of people with intellectual disabilities or in the view of their family members or legal guardians. Since good oral health involves practicing dental hygiene, keeping track of dental appointments, and following the dentist's instructions, people with disabilities sometimes cannot meet those requirements without additional support and a person to accompany them (Stiefel, 2002). That author states that dentists often have to deal with the person's condition and modify the treatment according to individual needs in order to provide quality oral care and prevent serious oral surgery. Sometimes dental staff is unable or unwilling to provide dental protection (Turner et al., 2009, according to PHIS, 2002) due to a lack of motivation to work with people with intellectual disabilities. Various obstacles such as poor behaviour management skills and lack of professional education about working with this population often cause dentists to refuse to treat patients with intellectual disabilities (Bindal et al., 2015, according to Salama et al., 2010). Several challenges negatively influence access to dental services: a) architectural barriers, b) a dentist's absent or insufficient training to work with people with intellectual disabilities, and c) negative attitudes toward people with disabilities. Clinical treatment of patients with intellectual disabilities may require additional staff, time, and behaviour modification techniques, including physical limitations and sedations, which dentists are not paid to provide (Shetty et al., 2015 according to Adenubi et al., 1997). Due to these factors, people with intellectual disabilities experience problems in service delivery. People with disabilities should have special dental care because they may require additional support to gain access to dental services, to cooperate during treatment and to understand oral care procedures (Stiefel, 2002). Dental treatment may take longer if patients do not cooperate, or if the procedures require sedation or anesthesia (Stiefel, 2002, according to Hayes and Sonis, 1992). Dentists and other dental professionals must be aware of the patient's needs, be open and have the skills necessary to provide adequate care. This requires special education for all persons involved in providing dental services.

RESEARCH AIM AND HYPOTHESES

The aim of this research was to examine whether frequency of dental visits, level of intellectual disability and satisfaction with the dentist's approach correlate with stress reactions in people with intellectual disabilities during dental visits. Based on this research aim, the following hypotheses were defined:

- H1: there is a negative correlation between frequency of dental visits and the level of stress during dental visits;
- H2: there is a positive correlation between level of intellectual disability and the level of stress during dental visits;
- H3: there is a negative correlation between satisfaction with the dentist's approach and the level of stress during dental visits.

METHOD

Participants

The sample consisted of N=192 parents of people with intellectual disabilities. The reason for collecting data from parents instead of directly from their children was our fear that the heterogenity in levels of functioning among people with intellectual disabilities would lead to inconsistencies in data collection. The parents were members of 12 associations for people with intellectual disabilities in the following cities in Croatia: Čakovec, Đakovo, Đurđevac, Ivanec, Križevci, Ludbreg, Orahovica, Sisak, Slavonski Brod, Split, Vukovar and Zagreb. These associations are

members of the Croation Association of Societies of Persons with Intellectual Disabilities. The inclusion criteria for participants were that they lived in the same household as their children with intellectual disabilities, and that they accompanied their children to dental treatments. Parents participated in the research anonymously and voluntarily. Written consent was obtained from participants, and the Code of Ethics for Academic Work of the University of Zagreb was respected. Parents filled out the questionnaires concerning their children with intellectual disabilities. Half the parents had male children with intellectual disabilities (average age M=28.99; SD=11.27; N=89), and the other half had female children with intellectual disabilities (average age M=31.71; SD=11.59; N=86). In both gender groups, the average age was 30.33 (SD=11.81, N=175); 8.9% of parents did not give information about the people with intellectual disability's age, corresponding to 7 male and 10 female parents. The age of people with intellectual disabilities ranged from 7 to 64 years. Table 1 shows the distribution of participants according to level of intellectual disability. Data on level of disability were missing for nearly 40% of participants. Most participants (20.8%) fell into the category of moderate intellectual disability. Many respondents (39.6%) had outdated medical records in which the level of intellectual disability was not specified.

Table 1. Distribution of participants according to level of intellectual disability (N=192).

| Level of intellectual disability | Frequency | Percentage |
|----------------------------------|-----------|------------|
| Borderline | 10 | 5.2% |
| Mild | 24 | 12.5% |
| Moderate | 40 | 20.8% |
| Severe | 18 | 9.4% |
| Profound | 24 | 12.5% |
| Intellectual disability not | 76 | 39.6% |
| specified | | |

Instruments and data collection

The questionnaire was produced by the Croation Association of Societies of Persons with Intellectual Disabilities. The purpose of the questionnaire was to obtain information and descriptive data in order to influence public policy and solve problems in protecting the oral health of people with intellectual disabilities. Partners on the project were: the

Table 2. Correlation between frequency of dental visits and perceived stress level in people with intellectual disability during dental visits (N=173).

| | | On a scale from 1 to 5, assess the general stress level in your child with intellectual disability during dental visits, with higher score meaning higher stress level |
|---|-----------------------------------|--|
| Check how often your child with intellectual disability has visited the | Pearson's correlation coefficient | 058 |
| dentist on average over the past 10 years | | .461 |
| | N | 173 |

Knowledge Centre in cooperation with the National Foundation for Civil Society Development, the Ombudsman for Persons with Disabilities and the Clinical Hospital Centre in Zagreb. This questionnaire examined attitudes, opinions and experiences of parents about the dental care of their children with intellectual disabilities. Data were collected between December 2016 and January 2017. The questionnaire consisted of socio-demographic variables and 19 more variables, from which three were extracted and analysed to answer the research questions. Socio-demographic variables were gender, age and level of intellectual disability of the child with intellectual disabilities. Parents indicated how often they had visited the dentist with their child in period over the past 10 years, by checking one of five possible answers: we don't go to a dentist; rarely; 1-2 times a year; 3-4 times a year; or more than a four times in a year. Parents also evaluated the overall level of stress generally experienced by their child when visiting a dentist on a scale from 1 to 5, with a higher number indicating a higher level of stress. Parents answered how satisfied they were with the dentist's approach in relation to their child's specific needs and characteristics on a scale from 1 to 5, with a higher number indicating a higher degree of overall satisfaction.

Data analysis

Collected data were statistically analysed using SPSS for Windows (version 20.0; IBM, Chicago, IL, USA). Data were examined using Pearson correlation coefficients.

RESULTS

Data were tested for normal distribution using the Kolmogorov-Smirnov test and through visual inspection of graphs. The distribution did not deviate significantly from normal, so for this research it was adequate to use Pearson's correlation coefficient. To answer our first hypothesis, Pearson's correlation coefficient was calculated between the frequency of dental visits and perceived stress level in people with intellectual disabilities during dental visits. Parents reported on the frequency of their child's dental visits over the previous 10 years. They assessed their child's level of stress during dental visits on a scale from 1 to 5.

Results are shown in Table 2. As we can see, r= -0.058, p>0.05, N=173 were obtained using results from 173 parents, since 19 did not answer the question, as we can see in Table 3. Most participants visited the dentist once or twice a year (32.5%). The results in Table 2 indicate that there was no statistically significant correlation between frequency of dental visits and perceived stress level in people with intellectual disability based on their parents' report. Correlation was negative but too weak to be statistically significant at the 95% confidence level.

Therefore we reject the first hypothesis. This research did not show the expected correlation between frequency of dental visits and perceived stress level in people with intellectual disability during dental visits.

Table 3. Descriptive data about frequency of dental visits.

| FREQUENCY OF DENTAL VISITS | NUMBER OF PARTICIPANTS | PERCENT % |
|-------------------------------|---------------------------|-----------|
| Doesn't go to dentist | 18 | 9.4 |
| Rarely | 36 | 18.7 |
| 1-2 times a year | 74 | 38.5 |
| 3-4 times a year | 28 | 14.6 |
| More than 4 times a year | 17 | 8.9 |
| Missing | 19 | 9.9 |
| TOTAL | 192 | 100.0 |

Table 4. Correlation of level of intellectual disability and perceived stress level during dental visits (N=116).

| | | Level of intellectual disability |
|--|-----------------------|----------------------------------|
| On a scale from 1 to 5, assess the | Pearson's correlation | .123 |
| general stress level in your child with | coefficient | |
| intellectual disability during dental | р | .193 |
| visits, with higher score meaning higher | N | 116 |
| stress level | | |

Table 5. Descriptive data about stress levels experienced during dental visits.

| STRESS LEVEL | NUMBER OF RESPONDENTS | PERCENT % |
|--------------|--------------------------|-----------|
| 1 | 39 | 20.3 |
| 2 | 26 | 13.5 |
| 3 | 47 | 24.5 |
| 4 | 29 | 15.1 |
| 5 | 39 | 20.3 |
| Missing | 12 | 6.3 |
| TOTAL | 192 | 100.0 |

In order to answer our second hypothesis, we calculated Pearson's correlation coefficient between level of intellectual disability and perceived stress level during dental visits. The results are shown in Table 4 based on data from N=116 participants who filled out this question (r=0.123, p>0.05). Although the correlation coefficient was positive as expected, the correlation was very weak and not statistically significant at the 95% confidence level. It is important to mention that people with an undefined level of intellectual disability were excluded from this analysis.

These data indicate no statistically significant correlation between level of intellectual disability and level of stress during dental visits in people with intellectual disability. Therefore, we reject the second hypothesis. These results show that stress was not correlated to level of intellectual disability. In the total sample, 12 parents (6.2%) did not evaluate the stress experienced by their child with intellec-

tual disabilities when visiting the dentist, as we can see in Table 5. The remaining 180 parents gave an estimate on a scale from 1 to 5, where higher score indicated higher estimated stress. On average, parents estimated that visiting the dentist caused intermediate stress in their child (M = 3.02, SD = 1.43, range1 to 5).

For our third hypothesis, Pearson's correlation coefficient was calculated between parental satisfaction with the dentist's approach and perceived level of stress during dental visits. The results are shown in Table 6. The results lead us to conclude that correlation between the two abovementioned variables is negative, weak and statistically significant at the 99% confidence level (r= -0.213. p<0.01). This question was filled out by N=173 parents of people with intellectual disabilities. The results tell us the following: the more the parents were satisfied with the dentist's approach to their child with intellectual disability, the lower the perceived stress in their child during dental visits. The converse is also true: the lower the perceived stress was in a person with intellectual disability during a dental visit, the more satisfied his or her parents were with the dentist's approach.

The expected negative correlation between parental satisfaction with the dentist's approach and perceived level of stress during dental visits was confirmed in this study; therefore, we accept the third hypothesis.

Table 6. Correlation between parental satisfaction with the dentist's approach and perceived level of stress during dental visits (N=173).

| | | How satisfied are you with the approach of your children's dentist? |
|--|-----------------------------------|---|
| On a scale from 1 to 5, assess the general stress level in your child with | Pearson's correlation coefficient | 213 |
| intellectual disability during dental | p | .005 |
| visits, with higher score meaning higher stress level | N | 173 |

Table 7. *Descriptive data about satisfaction with the dentist's approach.*

| SATISFACTION WITH DENTIST'S APPROACH | NUMBER OF RESPONDENTS | PERCENT % |
|--|--------------------------|-----------|
| 1 | 6 | 3.1 |
| 2 | 6 | 3.1 |
| 3 | 31 | 16.1 |
| 4 | 46 | 24 |
| 5 | 84 | 43.8 |
| Missing | 19 | 9.9 |
| TOTAL | 192 | 100 |

DISCUSSION

Lack of significant correlation between stress level and frequency of dental visits can be explained as the result of other factors that affect stress during dental visits more strongly and that do not depend on the frequency of visits. The authors of the present study assume that the majority of the general population acquire adequate models of coping with stress, which help them relax enough to be able to cooperate with the dentist during dental treatment, despite the stress they feel. Such people are expected to experience lower levels of stress if they visit the dentist more often, due to stress reduction techniques that they apply during every subsequent dental appointment. Knowing that the dentist will lower the pain and apply partial sedation decreases perceived stress. It is assumed that people with intellectual disability are stressed due to lack of understanding of the need for oral hygiene and due to fear of unknown or unpleasant situations involving sensations of pain. It is assumed that the stress level in people with intellectual disability is often lower when people are accompanied by their parents or other close people whose presence helps calm them. At the same time, one study indicates that parental behaviour during dental visits can strongly influence the stress level in their children (Eli, 1992). If a parent is highly anxious during the child's dental visit, the child will also probably be anxious during the visit. In that study, parents of people with intellectual disability reported that the level of stress in their children remained constant regardless of the frequency of dental visits. Petrovic et al (2015) found that risk of caries increased with increasing level of intellectual disability. Fear of dental visits in people with disability was found to correlate with frequency of dental visits and with perceived oral status (Stiefel 2002, according to Gordon et al 1998). It is recommended for the general population to visit a dentist preventively in early childhood, even before growing the first teeth, so that the child can get to know the dentist's office and staff in a calm situation without stress or pain.

Perceived stress probably depends on the previous experience of a person, as well as on traumatic incidents. Rayen et al. (2006) found that anxiety and stress in children from the general population during dental visits depend on personal experiences, dental status and personality. Various studies also found that previous experience determines how a person perceives dental visits and manifests stress (Oosterink-Wubbe, 2010, according to Locker, 2003, Locker et al. 1999, Abrahamsson et al 2002). The same is assumed to be true for people with intellectual disability.

The way in which the dentist approaches a patient represents can strongly influence whether the patient will be stressed during the visit. A dentist who has enough time for a patient, who has a calming attitude, who treats teeth gradually and uses partial sedation for a patient--such a dentist significantly decreases levels of stress in patients. This kind of approach is more appropriate for people with intellectual disability. Salmasi et al. (2015) found that establishing communication and trust with patients with intellectual disability is key to a positive dental experience. Whether the tretment will be tolerable and pleasant for a patient, or instead a constant source of fear and anxiety, depends on the dentist (Mohorović, 1986). That author highlighted the importance of a good relationship between dentist and patient as well as of pain management techniques during treatment. A good relationship is of interest to both sides because a dentist's treatment affects both the patient and the dentist him- or herself.

CONCLUSION

Issues of dental care for people with intellectual disabilities are still unknown and unavailable to the general public. People with intellectual disabilities

experience more problems than the regular population in achieving complete oral health. Dental treatments for people with intellectual disabilities are often stressful. In this study, we considered three factors that potentially affect stress experienced by people with intellectual disabilities during dental treatment: degree of intellectual disability, frequency of dentist visits and parental satisfaction with the dentist's approach. A statistically significant correlation was found between the perceived stress level in the person with intellectual disability and the satisfaction of his or her parents with the dentist's approach. In contrast, our results indicate that in this sample, stress during dental treatment was not correlated to the patient's level of functioning or frequency of dental visits. Our findings lead us to recommend further studies on dentists' approach in order to provide treatments that people with disabilities find less stressful.

This research includes several limitations. The results could be affected by the fact that the questionnaire was not a standardised measurement tool and that it examined only three variables that could be biased by parental subjectivity. On the test of each variable, some participants did not provide responses. It should be taken into consideration that responses came from parents of people with disabilities. It would be good to collect data directly from the people with disabilities, as well as from dentists. This study could be a starting point to examine in depth how and why stress level correlates with the dentist's approach.

This study has practical implications by suggesting the usefulness of educating dentists, parents and people with intellectual disabilities. People with intellectual disabilities should be included in education about oral protection. This would enable them to be more independent and to understand the importance of oral health and the need to maintain it. It would contribute to better cooperation with the dentist. It is also important to make parents of children with intellectual disabilities aware of the need to visit a dentist from an early age in order to help the children acquire positive experience, skills and knowledge about oral hygiene. It is necessary to educate dentists to help them understand people with intellectual disabilities and choose the right approach when working with them (Dao et al., 2005). A curriculum to educate dentists to work with people with disability recommends that patients with intellectual disabilities be scheduled for treatments in the morning in order to decrease waiting time (Elite Continuing Education, 2013). Visits should also be as short and simple as possible, in order for the patient to create positive interaction with the dentist and with the other staff. Achieving optimal oral health status and meeting the dental needs of people with intellectual disabilities are key factors for creating optimal conditions for inclusion (Morgan et al. 2012). Morgan et al. (2012) also suggest that it is highly important to develop directions and compensatory strategies for promoting and protecting the oral health of this sensitive population.

REFERENCES

- Bindal, P., Wen Lin, C., Bindal, U., Zaman Safi, S., Zainuddin, Z., Lionel, A. (2015): Dental Treatments and Special Needs Patient's: Dentist's Point of View in Selected Cities of Malaysia. Biomedical Research, 26, 1, 152-156.
- Dao, L.P., Zwetchkenbaum, s., Inglehart, M.R., (2005): General Dentists and Special Needs Patients: Deose Dental Education Matter? Journal of Dental Education, 69, 10, 1107-1115.
- Eli, I. (1992). Oral Psychophysiology: Stress, Pain and Behavior in Dental Care. CRC Press, London. Dostupno na: https://books.google.hr/books?id=ctvXmy3SFyMC&pg=PA67&lpg=PA67&dq=dentist+visit+frequency+and+perceived+stress&source=bl&ots=jNzw77tOsR&sig=cTlgZaOVkOf3ltJT0_UCMvrHyok&hl=hr&sa=X&ved=0ahU KEwjo-9GZnNHTAhXEWSwKHR8pCl0Q6AEIfzAJ#v=onepage&q=dentist%20visit%20frequency%20and%20 perceived%20stress&f=false (pristupljeno: 2.5.2017.)
- Elite Continuing Education (2013): Practical oral care for people with developmental disabilities. Retrieved from: https://s3.amazonaws.com/EliteCME_WebSite_2013/f/pdf/DOH40I13.pdf (2.5.2017.)
- Finkelman, M.D., Stark, P.C., Tao, W., Morgan, J.P. (2014): Relationship between duration of treatment and oral health in adults with intellectual and developmental disabilities. Special Care in Dentistry (34):4, 171-175.
- Grungold, L. & Zagoršćak, D. (2012): Razina oralne higijene kod odraslih osoba s intelektualnim teškoćama. Retrieved from: http://www.unizg.hr/rektorova/upload_2012/Razina%20oralne%20higijene%20kod%20odraslih%20 osoba%20s%20intelektualnim%20teškoćama.pdf (27.4.2017.)
- Elite Continuing Education (2013): Practical oral care for people with developmental disabilities. Retrieved from: https://s3.amazonaws.com/EliteCME WebSite 2013/f/pdf/DOH40I13.pdf (2.5.2017.)
- Iwasaki, Y. i Mactavish, J.B. (2005): Ubiquitous Yet Unique, Perspectives of People With Disabilities on Stress. Rehabilitation Counseling Bulletin, 48,4, 194-208.
- Jordanova, N.P., Radojkova-Nikolovska, V., Markovska-Simoska, S. (2013): Perceived stress in dental practice- Sec. Med. Sci. 34, 2, 135-141.
- Morgan, P.J., Minihan, M.P., Stark, P.C., Finkelman M.D., Yantisides, K.E., Park, A., Nobels, C.J., Tao, W., Must, A., (2012): The oral health status of 4,732 adults with intellectual and developmental disabilities. JADA, 143, 8, 838-846.
- Mouradian, W. E. and Corbin, S.B. (2003): Addressing health disparaties trough dental-medical collaborations. Part II. Cross-cutting themes in the care of special populations. Journal of Dental Education, 67, 12, 1320-1326.
- Oosterink-Wubbe, F.M.D. (2010): Pathological forms of dental anxiety: aetiology, prevalence and fear evoking aspects. Doctoral disertation. University of Amsterdam. Retrieved from: http://dare.uva.nl/search?identifier=06e7ec57-7fe7-4634-bbab-dacedef73f3e (30.4.2017.)
- Owens, J. (2011): Access to dental services for people with learning disabilities: Quality care? Journal of Disability and Oral Health, 12, 1, 17-27.
- Petričević, N., Čelebić, A., Baučić Božić, M., Rener-Sitar, K. (2008): Oralno zdravlje i kvaliteta života: temelj suvremenog pristupa. Medix, specijalizirani medicinski dvomjesečnik, 14, 75, 62-66.
- Petrovic, B.B., Peric, T.O., Markovic, D., L.J., Bajkin, B.B., Petrovic, D., Blagojevic, D.B., Vujkov, S. (2016): Unmet oral health needs among persons with intellectual disability. Research in Developmental Disabilities (59), 370-377.
- Rayen, R., Muthu, MS., Rao, R.C., Sivakumar, N. (2006): Evaluation of physiological and behavioral measures in relation to dental anxiety during sequential dental visits in children. Indian Journal of Dental Research, 17, 1, 27-34.
- Santos Oliveira, J.S., Prado Junior, R.R., Sousa Lima, K.R., Oliveira Amaral, H., Moita Neto, J.M., Ferraz Mendes, R. (2013): Intellectual disability and impact on oral health: a paired study. Special Care in Dentistry (33):6, 262-268.
- Samkhardaze, S., Osipova-Schoneich, M., Alkhanishvili, Z. (2013): Survey of Dental Services Provision to People with Disabilities in Georgia. European Scientific Journal. 2, 566-574.

- Shetty, A. K., Prakashchandra, LathaAnandakrishna, Girish,M.S., Punitha, S.K., Usha, R. (2015): Evaluation of chair side dental care provided to children with special health care needs. Journal of Dental & Oro-facial Research, 11, 1, 55-57.
- Salmasi, A., Harrison, R., Brondani, M. (2015): They stole her teeth! An exploration of adults with developmental disability experiences with dental care. Special Care in Dentistry (35):5, 221-228.
- Smith, G., Rooney, Y, Nunn, J. (2010): Provision of dental care for special care patients; the wievs mf Irish dentists in the Republic of Ireland. J Irish Dental Assoc. 56, 80-84.
- Stiefel, D. J. (2002): Dental Care Considerations for Disabeld Adults. Special Care Dentists 22(3), 26-29. Retrieved from: http://paul-burtner.dental.ufl.edu/files/2012/05/Disabled-Adults.pdf (27.4.2017.)
- Turner, S., Lamont, T., Chesser, H., Curtice, L., Gordon, K., Manton, S., Martin, A., Welbury, T., Sweeney, M.P. (2009):Oral health risk assessment of adults with learning disabilities: Current practice. Journal of Disability and Oral Health 10, 1, 11-17.
- Vuletić, G., Ivanković, D., Davern, M. (2011): Kvaliteta života u zdravlju i bolesti In: Kvaliteta života i zdravlje. Hrvatska naklada za znanost. Retrieved from: https://bib.irb.hr/datoteka/592441.KVALITETA_IVOTA_I_ZDRAVLJE.pdf (28. 4. 2017.)

STRES PRI ODLASKU STOMATOLOGU KOD OSOBA S INTELEKTUALNIM TEŠKOĆAMA

Sažetak: Stres se često dovodi u vezu s odlascima stomatologu budući da mnogi pacijenti tretman kod stomatologa povezuju s neugodnim doživljajima kao što su bol i negativne emocionalne reakcije. Osobe s intelektualnim teškoćama, zbog specifičnosti funkcioniranja i načina razumijevanja, taj stres doživljavaju intenzivnije. Kako bi se moglo djelovati u smjeru smanjenja razine doživljenog stresa potrebno je znati koji su to faktori povezani sa stresom. Prema tome, cilj ovog istraživanja bio je ispitati povezanost određenih faktora sa stresom pri odlasku stomatologu kod osoba s intelektualnim teškoćama. U skladu s ciljem istraživanja formulirane su sljedeće hipoteze: da je razina stresa pri odlasku stomatologu negativno povezana s učestalošću odlazaka stomatologu; da je razina stresa pri odlasku stomatologu negativno povezana s razinom zadovoljstva pristupom stomatologa; te da je razina stresa pri odlasku stomatologu pozitivno povezana sa stupnjem intelektualnih teškoća. U istraživanju su sudjelovala 192 roditelja osoba s intelektualnim teškoćama koji su ispunili anketne upitnike kreirane za potrebe ovog istraživanja. Roditelji su procienjivali razinu stresa koju proživljavaju njihova djeca, razinu zadovoljstva pristupom stomatologa, te procijenili učestalost odlazaka stomatologu. Hipoteze su testirane Pearsonovim koeficijentom korelacije, a utvrđena je statistički značajna povezanost razine stresa pri odlasku stomatologu sa zadovoljstvom pristupom stomatologa. Dakle, percipirani stres pri odlasku stomatologu negativno je povezan sa zadovoljstvom pristupom stomatologa. Kod ostalih hipoteza nije pronađena statistički značajna povezanost, što upućuje na zaključak da na ovom uzorku nije potvrđeno da su stupanj intelektualnih teškoća, kao ni učestalost posjećivanja stomatologa povezani s doživljenim stresom pri odlasku stomatologu. Dobiveni rezultati imaju praktične implikacije za eventualno osmišljavanje budućih edukativnih programa u stomatološkoj praksi, te su dobra polazna točka za daljnja istraživanja ove tematike.

KLJUČNE RIJEČI: stres, stomatološka zaštita, osobe s intelektualnim teškoćama