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SYNDROMAL COMORBIDITY IN PATIENTS WITH NON-CHEMICAL ADDICTION

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The paper presents the results of the study of the comorbid pathology characteristics in conditions of distress in patients with non-chemical addiction. 76 male Internally displaced persons were examined who sought psychiatric help due to the presence of polymorphic symptoms, the main manifestations of which were affective disorders with panic attacks, sleep disturbances and suicidal thoughts. A four-dimensional questionnaire to assess distress, depression, anxiety, and somatization (The Four-Dimensional Symptom Questionnaire – 4DSQ) was used. A high level of depression, anxiety and somatization in patients with non-chemical addiction does not depend on the severity of distress; the effect of distress is a highly pathogenic factor for patients with non-chemical addiction, which acts as a trigger. In the structure of clinical manifestations, depressive dominates the degree of severity and prevalence and anxiety disorders, which augment the appearance of somatic symptoms, cause dysfunction of the autonomic nervous system and determine the abundance and diversity of somatic pathology.

Key words: male adolescents and juvenile, non-chemical addictions, comorbid pathology.

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СИНДРОМАЛЬНА КОМОРБІДНІСТЬ У ПАЦІЄНТІВ З НЕХІМІЧНОЮ АДИКЦІЄЮ

В роботі представлені результати дослідження особливостей коморбідної патології в умовах дистресу у пацієнтів з нехімічною адикцією. Було обстежено 76 пацієнтів вимушених переселенців чоловічої статі, які звернулися за психіатричною допомогою в зв'язку з наявністю у них поліморфної симптоматики, основні прояви якої були афективні порушення з нападами паніки, порушення сну і наявність суїцидальних думок. Був використаний чотиривимірний опитувальник для оцінки дистресу, депресії, тривоги і соматизації (The Four-Dimensional Symptom Questionnaire – 4DSQ). Високий рівень депресії, тривоги і соматизації у пацієнтів з нехімічною адикцією не залежить від ступеня вираженості дистресу; вплив дистресу є для хворих з нехімічною адикцією високопатогенним фактором, який виконує роль тригера. У структурі клінічних проявів за ступенем вираженості і поширеності переважають депресивні і тривожні розлади, які аугментують появу соматичних симптомів, викликають порушення функціонування вегетативної нервової системи і обумовлюють велику кількість і різноманітність соматичної патології.

Ключові слова: підлітки і юнаки чоловічої статі, нехімічні адикції, коморбідна патологія.

The article is a fragment of the research project: "*To develop a system for prevention of non-psychotic mental disorders and rehabilitation of victims of hostilities", state registration No. 0119U002902.*

The current level of society development is characterized by the widespread use of information and computer technology, which generates new types of entertainment. Addiction to online games has been recognized by scientists as a mental illness and included in a previous version of ICD-11 [2]. Internet addictions can also be attributed to the group of technological addictions − non-chemical (behavioral) dependencies that are implemented using modern technology [3]. Internet addiction is most often manifested in a young age among adolescents and young people, which significantly complicates their socialization and impedes integration into society [4].

A large number of studies have been conducted on non-chemical addictions, the publications present the results of the analysis of the mental health of adolescents with computer addiction, study gender characteristics, the role of family and social factors [7, 8, 12].

The analysis of mechanisms of addiction formation from computer games depending on features of structural characteristics of video games (i.e. structure, elements and components of video games), and also individual characteristics of players was performed [11].

There are isolated studies on the effect of psychotropic drugs in the presence of Internet addiction and comorbid psychopathology: depression, anxiety disorders, attention deficit hyperactivity disorder; described the experience of psychotherapeutic and psychosocial intervention in Internet addiction [11].

However, to date, non-chemical addictions remain the least developed problem. According to some authors, little is known about the manifestations of comorbid pathology, insufficient evidence of clinical studies of patients with non-chemical addictions, there are no standards of treatment and prevention, although today's need for therapeutic strategies for this pathology is obvious [5, 10].

The purpose of the study was to determine the role of distress in the formation of comorbid pathology in patients with non-chemical addiction.

Material and methods. 76 internally displaced persons (IDP) 18–24 years, males were examined. Subjects asked for psychiatric help due to the polymorphic symptoms, in the structure of which the most relevant were complaints of the whole body tremor, bad mood, anxiety with panic attacks, fear, disturbed sleep and, in some cases, suicidal thoughts on the background of gambling and Internet addiction. All patients had not only symptoms of mental disorders, but also manifestations of somatic pathology. The latter was the basis for the use of a tested and psychometrically validated four-dimensional questionnaire to assess distress, depression, anxiety and somatization, copyright belongs to the Dutch scientist Dr. B. Terluin (The Four-Dimensional Symptom Questionnaire – 4DSQ) [6, 11].

This questionnaire was specially designed and used to differentiate the clinical manifestations of distress, depression, anxiety and somatization in the primary care. At the same time, it is recommended to expand the scope of the questionnaire, using it to detect pathology in various diseases [1, 6].

The 4DSQ questionnaire is a questionnaire for self-completion by the patient within 10 minutes. The list of questions consists of 50 items, the content of which allows you to assess the severity of symptoms on the scales of distress, depression, anxiety and somatization for the previous 7-day period. Analysis of the obtained answers allows determining the predominant component in the structure of clinical manifestations in the patient [9].

According to the content of the questionnaire, the distress scale allows you to measure complaints related to emotional distress, the depression scale - symptoms associated with depressive disorder, the anxiety scale – anxiety-related symptoms, and the somatization scale – symptoms associated with somatic distress.

Distress and somatization scales contain 16 items and a range of scores from 0 to 32 points; depression scale – 6 items and a range of scores from 0 to 12 points; anxiety scale – 12 items with a range of scores from 0 to 24 points. Categories of answers: "no", "sometimes", "periodically", "often", "very often or constantly" are correlated with the 3-point system in the expression from 0 to 2 points: 0 points corresponds to the answer "no"; 1 point – "sometimes"; 2 points – "periodically", "often" and "very often or constantly". Interpretation of the results depending on the number of points can be interpreted as the absence of pathological changes, moderate or severe manifestation of the symptom [9].

Results of the study and their discussion. The study was based on the hypothesis that the process of addiction formation is accompanied by distress, which, in turn, induces the emergence of somatized and mental disorders. The use of a four-dimensional questionnaire in this study was screening in nature. The assessment of the number of points on the distress scale allows to determine the severity of distress in each patient and the consequences of its impact on the body. The sum of scores on the scales of depression and anxiety indicate affective disorders in patients with differentiation of the severity of their clinical manifestations and impaired vital functions. Analysis of the sum of points on the scale of somatization allows to identify the main clusters of disorders that have occurred in organs and systems. In general, the questionnaire allows to individually identify the predominant component of the scale.

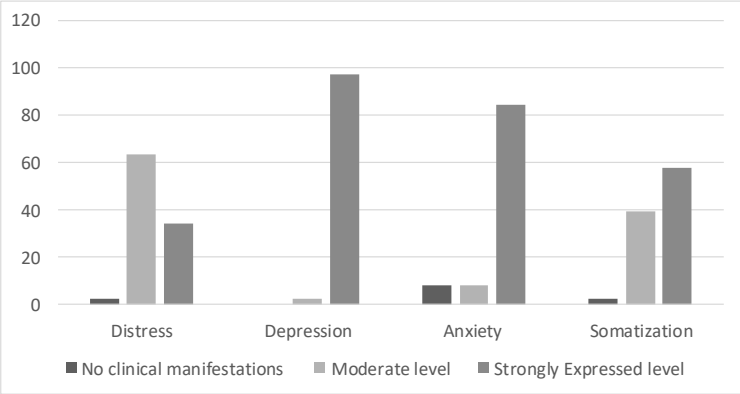

Fig. 1 Structural distribution of the examined patients according to the 4DSQ questionnaire, (n=76)

The analysis of the study showed that expressed level on the scales of depression, anxiety and somatization was most common among the examined patients 97.37±0.18 %, 84.21±0.46 %, 57.89±0.75 % – respectively; at the same time the expressed level of a scale of a distress was noted only at thirds of teenagers – 34.21±0.94 % (fig. 1). In our opinion,

this suggests that the formation of high levels of depression, anxiety and somatization in patients with non-chemical addiction does not depend on the severity of distress; the effect of distress is a highly pathogenic factor for patients with non-chemical addiction and acts as a trigger.

At the same time, a moderate level of distress was observed in 63.15±0.70 % of patients, in single (2.63±1.14 %) – on the scale of depression; on the scale of anxiety – in 7.89±1.11 % of cases and on the scale of somatization appeared in 39.47±0.90 % of subjects. Single patients were not prone to distress, but some symptoms were observed in the "sometimes" position.

In general, the role of distress in patients with non-chemical addiction is quite large; characterized by a wide range of clinical manifestations; causes disorders in various organs and systems; necessitates further clinical treatment and diagnostic measures. Subthreshold values of distress also cause some clinical manifestations.

For greater information, it was decided to study the presence of clinical symptoms in the structure of the scales (table 1).

Table 1

The frequency of clinical symptoms in the examined patients of distress scale 4DSQ, ($\hat{p} \pm \delta$, %) (n=76)

In the last 7 days:	No	Sometimes	Periodically	Often	Constantly
Internal tension	0	10.53±1.09	31.58±0.96	26.32±0.99	31.58±0.96
Feeling unbearable	36.84±0.92	57.89±0.75	0	10.53±1.09	0
Nothing else interests	0	57.89±0.75	10.53±1.09	31.58±0.96	0
Inability to cope with the situation	15.79±1.06	63.16±0.70	5.26±1.12	15.79±1.06	0
Increased irritability	0	5.26±1.12	31.58±0.96	42.11±0.88	21.05±1.03
I don't want to do anything	0	26,32±0,99	0	57.89±0.75	15.79±1.06
Violated clarity of thoughts	26.32±0.99	52.63±0.79	0	15.79±1.06	0
Difficulty falling asleep	0	5.26±1.12	31.58±0.96	26.32±0.99	36.84±0.92
Excitement	0	10.53±1.09	10.53±1.09	78.95±0.57	0
Bad or depressed mood	0	36.84±0.92	10.53±1.09	42.11±0.88	10.53±1.09
Persistent anxious thoughts	5.26±1.12	5.26±1.12	15.79±1.06	57.89±0.75	15.79±1.06
Restless sleep	0	5.26±1.12	21.05±1.03	42.11±0.88	21.05±1.03
Prostration	5.26±1.12	47.37±0.84	0	47.37±0.84	0
Inability to work	26.32±0.99	57.89±0.75	5.26±1.12	10.53±1.09	0
Transient images of sad events	0	42.11±0.88	5.26±1.12	52.63±0.79	0
It is very difficult to drive away unpleasant thoughts about an exciting event	0	26.32±0.99	10.53±1.09	63.16±0.70	0

Analyzing the indices of the distress scale, it becomes clear that the prevalence of the examined patients is dominated by algic manifestations and symptoms of autonomic nervous system dysfunction: headache – 52.63±0.79 % in the “frequent” position; in the position “sometimes” – muscle pain – 52.63±0.79 %; neck pain – 68.42±0.65 %; back pain – 26.32±0.99 %; increased sweating – 42.11 ± 0.88 %; rapid heartbeat – 42.11±0.88 %; feeling of bloating – 47.37±0.84 %; blurred vision or dots (flies) in front of the eyes – 36.84±0.92 %; feeling of lack of air – 68.42±0.65 %; nausea or upset stomach – 63.16±0.70 %; pain in the abdomen – 68.42±0.65 %; tingling in the fingers – 47.37±0.84 %; chest pressure or compression – 68.42±0.65 %; chest pain – 47.37±0.84 %.

The most significant on the scale of depression (table 2) is the result of prevalence rates, which indicates that the manifestation of depression was observed in all examined patients, with a significant predominance (according to the questionnaire) of severe depression. This terminology corresponds to the specifics of the wording of the questionnaire and although it does not agree with the classical provisions in psychiatry, including the diagnostic criteria for depression, however, indicates the strength and importance of emotional disorders in the examined patients. The latter determines the need for additional verification of the diagnosis.

Table 2

The frequency of clinical symptoms in the examined patients on the scale of depression 4DSQ, ($\hat{p} \pm \delta$, %) (n=76)

In the last 7 days:	No	Sometimes	Periodically	Often	Constantly
Everything does not make ense	10.53±1.09	63.16±0.70	15.79±1.06	10.53±1.09	0
Life has no meaning	31.58±0.96	52.63±0.79	5.26±1.12	10.53±1.09	0
Desire to die	63.16±0.70	36.84±0.92	0	0	0
Anhedonia	0	52.63±0.79	5.26±1.12	42.11±0.88	0
Hopelessness of the situation	15.79±1.06	57.89±0.75	0	21.05±1.03	5.26±1.12
How unfortunate that I did not die earlier	73.68±0.59	26.32±0.99	0	0	0

In the structure of clinical manifestations, the most common symptoms were such as bad or depressed mood – 42.11±0.88 %; incessantly anxious thoughts – 57.89±0.75 %; restless sleep – 42.11±0.88 % and loss of strength – 47.37±0.84 %.

The results of indicators on the scale of anxiety (table 3) are also widespread.

Table 3

Frequency of clinical symptoms in the examined patients on the anxiety scale 4DSQ, ($\hat{p} \pm \delta$, %) (n=76)

In the last 7 days:	No	Sometimes	Periodically	Often	Constantly
Slight fear	5.26±1.12	73.68±0.59	0	21.05±1.03	0
Unreasonable fears	15.79±1.06	57.89±0.75	5.26±1.12	10.53±1.09	10.53±1.09
Trembling	5.26±1.12	21.05±1.03	10.53±1.09	63.16±0.70	0
Anxiety or panic attacks	10.53±1.09	57.89±0.75	5.26±1.12	26.32±0.99	0
Fear of public transport	21.05±1.03	57.89±0.75	5.26±1.12	15.79±1.06	0
Fear of communication	63.16±0.70	36.84±0.92	0	0	0
Feeling of danger	5.26±1.12	47.37±0.84	0	36.84±0.92	10.53±1.09
Feeling of fear	10.53±1.09	84.21±0.46	0	5.26±1.12	0
Fear of leaving home alone	10.53±1.09	78.95±0.57	0	10.53±1.09	0
Avoiding places that cause fear	5.26±1.12	52.63±0.79	15.79±1.06	26.32±0.99	0
Obsessive actions	0	68.42±0.65	5.26±1.12	26.32±0.99	0

In the position “often” there were such symptoms as trembling in the presence of other people – 63.16±0.70 %; anxiety or panic attacks – 26.32±0.99 %; internal stress – 26.32±0.99 %; increased irritability – 42.11±0.88 %. In the “sometimes” position, almost all symptoms were found in more than half of the examined patients: anxiety or panic attacks – 57.89±0.75 %; feelings of fear – 84.21±0.46 %; that everything is meaningless - 63.16±0.70 %; that you will never be able to do anything – 57.89±0.75 %; that life has no meaning – 52.63±0.79 %; that you are no longer interested in the people around you or things – 57.89±0.75 %; that you will not cope with all this – 63.16±0.70 %; “It would be better to die” – 36.84 ± 0.92 %; that brings you no more satisfaction – 52.63 ± 0.79 %.

Interpreting the above indicators, it should be noted that in addition to affective disorders in patients with non-chemical addiction there are anhedonia, loss of meaning in life and hopelessness. Considering these symptoms in combination with the above-described depressive manifestations should assume the presence of suicidal activity in the subjects.

The somatization revealed at patients reflected a condition of the reduced resource of possibilities of the whole organism with apathetic, anxiety-phobic and dysthymic radicals, with sleep disturbance. In the "often" position, more than half of the patients (57.89±0.75 %) did not want to do anything; 78.95±0.57 % – it was easy to get excited; there were various phobic manifestations, which together amounted to 89.48±0.37 % of prevalence. Internal tension with a sense of threat of unknown danger was often experienced by 36.84±0.92 % of patients; memories and experiences of offensive events were observed in 63.16±0.70 % and 52.63±0.79 % of cases, respectively, which was accompanied by avoidant behavior (26.32±0.9 %) and ritual actions – 26.32±0.99 %.

Table 4

Frequency of manifestations of clinical symptoms in the examined patients on the scale of somatization 4DSQ, ($\hat{p} \pm \delta$, %) (n=76)

In the last 7 days:	No	Sometimes	Periodically	Often	Constantly
Dizziness	42.11±0.88	31.58±0.96	5.26±1.12	21.05±1.03	0
Muscle pain	5.26±1.12	52.63±0.79	10.53±1.09	31.58±0.96	0
Syncope	89.47±0.37	10.53±1.09	0	0	0
Neck pain	10.53±1.09	68.42±0.65	10.53±1.09	5.26±1.12	5.26±1.12
Back pain	0	26.32±0.99	26.32±0.99	26.32±0.99	21.05±1.03
Increased sweating	15.79±1.06	42.11±0.88	10.53±1.09	26.32±0.99	5.26±1.12
Accelerated heartbeat	0	42.11±0.88	31.58±0.96	31.58±0.96	0
Headache	5.26±1.12	15.79±1.06	15.79±1.06	52.63±0.79	10.53±1.09
Feeling bloated	36.84±0.92	47.37±0.84	5.26±1.12	10.53±1.09	0
Blurred vision or dots in the eyes	47.37±0.84	36.84±0.92	0	15.79±1.06	0
Feeling shortness of breath	5.26±1.12	68.42±0.65	0	21.05±1.03	5.26±1.12
Nausea or upset stomach	21.05±1.03	63.16±0.70	0	15.79±1.06	0
Abdominal pain	10.53±1.09	68.42±0.65	0	21.05±1.03	0
Tingling in the fingers	0	47.37±0.84	21.05±1.03	31.58±0.96	0
Chest pressure	5.26±1.12	68.42±0.65	5.26±1.12	21.05±1.03	0
Chest pain	52.63±0.79	47.37±0.84	0	0	0

In "sometimes" position, 57.89±0.75 % of the respondents felt a sense of hopelessness and the same number considered the situation unbearable; 52.63±0.79 % of patients had impaired clarity of thoughts. "Fear of leaving home alone" noted 78.95±0.57 % of respondents; were afraid of what should not be afraid at all (for example, animals, heights, small rooms) – 63.16±0.70 %; were afraid to ride buses, trams, subways or trains 57.89±0.75 %; felt uncomfortable or afraid to be ashamed in front of other people 36.84±0.92 %; experienced feelings of unknown danger 47.37±0.84 %; there were thoughts about: "How unfortunate that I did not die earlier" – in 26.32±0.99 % of cases; the appearance of transient images of upsetting or insulting events that were experienced earlier was noted in 42.11±0.88 % of patients; it was very difficult to drive away unpleasant thoughts about an exciting event or events 26.32±0.99 %; were forced to avoid certain places because they caused fear in 52.63±0.79 %; were forced to repeat the same actions several times a day, before they could do something else 68.42±0.65 % of the examined patients.

In the position "very often or constantly" patients noted pain symptoms in the structure of the distress scale (back pain – 21.05±1.03 %; headache – 10.53±1.09 %;). In the structure of the scale of depression, the most sensitive patients were affective (bad or depressed mood – 10.53±1.09 %; unreasonable fears – 10.53±1.09 %; persistent anxious thoughts – 15.79±1.06 %) and vital (restless sleep – 21.05±1.03 %) function. Among anxiety disorders, the most significant in non-chemical addictions are internal tension (31.58±0.96 %) and increased irritability – 21.05±1.03 % of cases. In the structure of somatization in patients with non-chemical addictions most prone to distress emotions in the form of apathy, manifested by a lack of desire to do anything – 15.79±1.06 %, a sense of threat from unknown danger – 10.53±1.09 % of cases and more than a third of patients develop insomnia, which is accompanied by difficulty falling asleep – 36.84±0.92 %.

In the process of clinical manifestations analysis it was found that in most patients with non-chemical addiction (89.47±0.37 % of cases), distress causes a cascade of clinical disorders in the structure of all scales of the technique used with damage not only mental but also physical health. Isolated clinical symptoms were observed in the range of one scale (depression) and in the range of three scales (distress, depression, somatization) in 5.26±1.12 % of patients in both cases.

World experience confirms that in patients with non-chemical addiction, distress has certain "target" effects, having a pathogenic effect, primarily on the emotional sphere and volitional activity. However, our data to a greater extent emphasize the decrease in volitional activity as a prognostically unfavorable factor for establishing a compliant "doctor-patient" relationship and the effectiveness of non-chemical addiction treatment [7, 8, 10].

Also in the studies of other authors there are data on the somatization of symptoms, but these data are not described fully enough, but coincide with our data [5, 10].

Data on the presence of Internet addiction and comorbid psychopathology: depression, anxiety disorders, attention deficit hyperactivity disorder, in contrast to the data we obtained indicate more the presence of anxiety disorders and attention deficit hyperactivity disorder, and our results indicate the development of greater distress, depression and somatization, which in turn will affect the tactics and targets of pharmacotherapy and psychotherapy [6, 9].

Conclusions

1. In patients with non-chemical addiction, the implementation of distress is accompanied by a destructive effect; manifested by a wide range of clinical symptoms; causes disorders in various organs and systems; necessitates further clinical treatment and diagnostic measures. Subthreshold values of distress also cause some clinical manifestations.

2. High levels of depression, anxiety and somatization in patients with non-chemical addiction do not depend on the severity of distress; the effect of distress is for patients with non-chemical addiction a highly pathogenic factor that acts as a trigger.

3. The structure of clinical manifestations by the degree of severity and prevalence is dominated by depressive and anxiety disorders, which augment the appearance of somatic symptoms, cause dysfunction of the autonomic nervous system and cause a large number and variety of somatic pathology. The latter should be used to develop a differentiated strategy of treatment and rehabilitation measures.

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EARLY PREVENTION OF OCCLUSAL DISORDERS OF DENTAL ARCHES

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Dental caries is one of the main factors of occlusal disorders, that changes location of occlusal contact points and is the cause of atypical mandibular movements, occlusal overloading and trauma. The objective of the research was to carry out early prevention of occlusal disorders in patients with carious lesions using modern restorative methods in order to prevent occlusal disorders using the methods of restorations of the affected chewing surfaces considering functional anatomy and subsequent checking of occlusal relationships with the help of the T-Scan Novus occlusal analysis system. Ninety students living in the regions with low fluoride level were examined. The treatment was carried out by the methods of direct and indirect restorations. The paper contains the results of redistribution of occlusal contacts in carious lesions and restoration of the first molar without considering the principles of functional anatomy, and the results immediately and 6 months after restorations of the chewing surfaces of the first molars considering the occlusal determinants.

Key words: occlusal disorders, analysis of occlusion, tooth restoration, prevention of occlusal disorders.

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РАННЯ ПРОФІЛАКТИКА ОКЛЮЗІЙНИХ ПОРУШЕНЬ ЗУБНИХ РЯДІВ

Одним із факторів оклюзійних порушень є карієс, що викликає зміни розташування точок в оклюзійному контакті, які є причиною виникнення атипових рухів нижньої щелепи, перевантаження зуба і утворення оклюзійної травми. Мета нашого дослідження полягала в профілактиці оклюзійних порушень методом реставраційного відновлення уражених жувальних поверхонь з урахуванням функціональної анатомії та подальшій перевірці оклюзійних співвідношень з допомогою комп'ютеризованої системи T-Scan Novus. Для цього ми обрали 90 студентів, які проживають у регіонах з низьким рівнем фтору. Лікування проводилось методами прямого й непрямого реставраційного відновлення оклюзійних поверхонь. В статті наведені результати перерозподілу оклюзійних контактів при каріозному ураженні та реставраційному відновленні першого моляра без урахування вимог функціональної анатомії, також результати одразу та через 6 місяців після відновлення жувальних поверхонь уражених зубів з урахуванням оклюзійних детермінант.

Ключові слова: оклюзійні порушення, аналіз оклюзії, реставраційні відновлення, профілактика оклюзійних порушень.

The study is a fragment of the research project "Clinical efficiency of complex treatment of hard tissues diseases of teeth and periodontium among the population of ecologically unfavorable regions", state registration No. 0118U004144.

Occlusion, in a dental context, is the harmony between dental arches, the temporomandibular joint (TMJ) and the neuromuscular system (masticatory muscles). We differentiate between static and dynamic occlusion. The static occlusion refers to contacts between the teeth when the jaw is closed. According to Angle's classification, there are three classes of occlusion. This classification is based on molars correlation. The dynamic occlusion refers to occlusal contacts occurring during movement of the mandible [5, 6, 8, 9, 11].