

Diagnosis and Treatment of Patients with Maxillary-Mandibular Joint Dysfunction without Pathology of Inflammatory-Dystrophic Origin

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The relevance of the work. In recent years, various aspects of joint dysfunction have been studied, and high-tech methods of diagnosis and treatment of dental patients have been introduced into medical practice [1.3.9], despite this, the TMJ pain dysfunction syndrome (SBD) cannot find its solution. We know that, to date, three main theories of the origin of SBD are considered; - occlusive disorders; - muscle imbalance and-psychophysiological phenomenon. When these factors interact, hyperfunction of the masticatory muscles can develop with the appearance of fatigue, pain, and limited mobility in the joint; also, according to some authors, these pathologies are caused by various causes such as psychogenic factors, central nervous system lesions, parafunctions of the masticatory muscles, occlusive disorders, premature contacts, and errors in prosthetics [Nurova Sh.N., Vayarieva O. O. disser-ya, 172, Murtazaev S. S. 2020].

Full-fledged diagnosis of TMJ disorders is possible with general clinical and special research methods [5.16.19]; special research methods include: the study of diagnostic models, occlusiography, TMJ radiography, contrast radiography, computed tomography (CT) of the TMJ in lateral and axial projections, magnetic resonance imaging of the TMJ, electromyographic (EMF) study of the masticatory muscles, graphic registration of n/h movements, electronic axiography (EAG) [7.11.13]. However, there is no single understanding of the medical tactics and algorithm of a comprehensive examination of patients, which allows us to obtain

complete information about the morphofunctional state of the ESR, which allows us to form a treatment plan and predict its outcome [4.6.8].

To date there is no universally accepted treatment concepts BDS TMJ [1.7.10] so many patients this disease do not receive timely and adequate health care [3.7.9]: moreover, according to dentists orthopedic methods of treatment of pathology of the TMJ are pathogenic and most effective [21.22]; others will specialistische that somatopsychology conditionality pathology BDS TMJ offer specialized treatment from General practitioners, endocrinologists, neurologists, etc. The

authors suggest that the treatment of patients with TMJ remains one of the most complex and urgent problems of modern dentistry, with a wide variety of special diagnostic methods and appropriate treatment. It is necessary to take into account the etiological factors and the clinical condition of the patient to choose the optimal scope of diagnostic measures and to develop new research methods.

The purpose of the study. To evaluate the effectiveness of diagnostic and therapeutic methods of investigation in TMJ pathologies unrelated to inflammatory and dystrophic disorders of the joints.

Materials and methods of research: To conduct the study in 120 patients aged 20 to 59 years (78 women and 42 men) with complaints of TMJ SBD, including 39-OAS; 28-NMS; and 17-dislocation of the intra-articular disc (VVD) without inflammatory–dystrophic changes; also as a control group (KG) 36 patients without TMJ disorder, in the Bukhara Regional Children's Dental polyclinic, where the base of the Department of "Orthopedic Dentistry and Orthodontics" is located Bukhara State Medical Institute. The detection of symptoms of TMJ pathology was carried out with the help of examination cards compiled on the basis of a survey and an objective examination that we developed to supplement No. 191, also, all patients were carried out with general clinical and special examination methods recommended by the method. As can be seen, from the data in Table 1, it follows

that TMJ SBD was more common in women 61.9%, and the main number of patients was 59.6% after 40 years; also, of the identified general pathologies, TMJ SBD 46.42% was OAS.

Table No. 1
Distribution of patients by group, age, and gender (in % x)

Pathology		SBD TMJ			Totalpatients	Control
Age	Paul	OAS (OG-1)	NMS (OG-2)	VD (OG-3)	SBD TMJ	Healthy (KG)
20-29 n=12	M; n=4	2 (6,25%)	2 (6,25%)	-	12 (14,28%)	2 (12,5%)
	Ж; n=8	4 (7,69%)	3 (5,76%)	1 (1,9%)		2 (10,0%)
30-39 n=22	M; n=7	3 (9,37%)	2 (6,25%)	2 (6,25%)	22 (26,19%)	5 (31,25%)
	Ж; n=15	8 (15,38%)	4 (7,69%)	3 (5,76%)		5 (25,0%)
40-49 n=24	M; n=8	3 (9,37%)	3 (9,37%)	2 (6,25%)	24 (28,57%)	5 (31,25%)
	Ж; n=16	8 (15,38%)	5 (9,61%)	3 (5,76%)		6 (30,0%)
50-59 n=26	M; n=13	7 (21,87%)	4 (12,5%)	2 (6,25%)	26 (30,95%)	4 (0,25%)
	Ж; n=13	4 (7,69%)	5 (9,61%)	4 (7,69%)		7 (35%)
M; n= 32 (38,09%)		15 (17,85%)	11 (13,09%)	6 (7,14%)	84 (100%)	16 (44,44%)
Ж; n=52 (61,9%)		24 (28,57%)	17 (20,23%)	11 (13,09%)		20 (55,55%)
Totalpatients n=84 (100%)		39 (46,42%)	28 (33,33%)	17 (20,23%)	84 (100%)	36 (100%)
Patients who received stoma treatment (1st subgroup).		20 (23,80%)	10 (11,90%)	10 (11,90%)	40 (47,61%)	-
Patients who received a combined stom. treatment. (2nd subgroup)		19 (22,61%)	18 (21,42%)	7 (8,33)	44 (52,38%)	-
Generalsurvey. n=120	Os. group 84 (70,0%)	39 (32,5%)	28 (23,33%)	17 (14,16%)	84/36	36 (30,0%)

(BEAg), with maximum jaw compression (BEAcj) in mkV, chewing time in seconds, rest time, frequency of chewing, and coefficient "K" (photo # 1,2.). By using occlusive revealed premature contacts on the methodology (Nazarov Oh, J. 2009 thesis, and Potapov V. P. 2007, 87]; the motion of the mandible in the vertical direction (Kamenova, L. A., RF Patent for utility model No. 133709 from 27.10.2013); the study of bioelectric activity of masticatory muscles was performed on an adaptive four-channel electromyography (EMG) for dental research "Synopsis"

company "Neurotech"; When processing electromyograms, the following parameters were determined: the average amplitude of biopotentials in the resting phases (BEP), during nut chewing (BEAp), with maximum jaw compression (BEAP) in MV, chewing time in seconds, rest time, chewing frequency, and the "K" coefficient (photo1,2.).

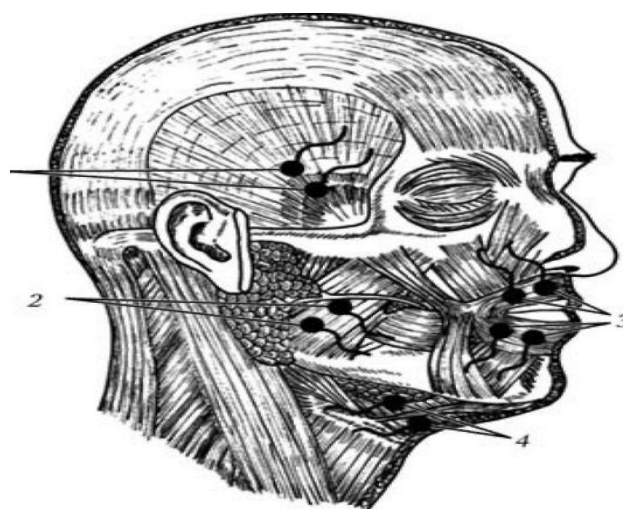


Figure 1 and 2. The point of determination of muscle tone and electromyography.

Computed tomography was performed on a spiral multi-slice tomograph (manufactured by GE LightSpeed (USA), with the mouth position closed and open, and the scanning time of one phase 5-7 s (Kamenov literature). In order to treat patients with TMJ SBD, the essence of the disease and the role of the patient in recovery were explained, and etiological factors were eliminated; with defects in the dentition-removed more than two teeth, including the supporting teeth, incorrectly prosthetic, incorrectly received orthodontic care and are caused by delayed erasure of the mounds of the chewing teeth, improper restoration of the teeth fillings, as well as traumatic, neurological and psychological etiofactors. The first subgroup - 50 patients underwent filling, orthodontic treatment, prosthetics, selective grinding of teeth, taking into account occlusal concepts, and were also recommended to follow a diet with a restriction of hard food intake for a month, to control n/h

movements – do not open your mouth wide, do not make atypical lateral movements: - The second subgroup of 44 patients with TMJ pathologies was also treated as the first subgroup, in addition, non – narcotic analgesics (ibuprofen 400 mg, 3-4 times a day) were prescribed to relieve BS, 3 (10.3%) patients with masticatory muscle hypertonus-muscle relaxants (midocalm 50 mg 2p/day). At the same time, all patients performed massage in combination with a complex of myohymnastic exercises for the masticatory muscles [Gafforov's manual, Nazarov 2014], also according to the indications, a chin mask was used to limit the atypical movement of the jaws. The course of treatment consisted of up to 30 procedures, lasting 10-15 minutes. Computed tomography was performed on a spiral multi-slice tomograph (manufactured by GE LightSpeed (USA), with the mouth position closed and open, and the scanning time of one phase 5-7 s (Kamenov literature). In order to treat patients with TMJ SBD, they explained the essence of the disease and the role of the patient in recovery, eliminated etiological factors; with defects in the dentition-removed more than two teeth, including the supporting teeth, incorrectly prosthetics, incorrectly received ortodontic care and are caused by delayed erasure of the mounds of the chewing teeth, incorrect restoration of the teeth fillings, as well as traumatic, neurological and psychological etiofactors. The first subgroup - 50 patients underwent filling, orthodontic treatment, prosthetics, selective grinding of teeth, taking into account occlusal concepts, and were also recommended to follow a diet with a restriction of hard food intake for a month, to control n/h movements – do not open your mouth wide, do not make atypical lateral movements: - The second subgroup of 44 patients with TMJ pathology was also treated as the first subgroup, in addition, non – narcotic analgesics (ibuprofen 400 mg, 3-4 times a day) were prescribed to relieve BS, 3 (10.3%) patients with masticatory muscle hypertonus-muscle relaxants (midocalm 50mg 2p/day). At the same time, all patients performed massage in combination with a complex of myohymnastic exercises for the masticatory muscles [Gafforov's manual, Nazarov

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The obtained materials were statistically processed using the application software package "Statistika", Microsoft Office. Digital data was processed on a personal computer by the method of variation statistics.

Results and discussion. When analyzing 84 patient records of the main group, we identified the following nosological forms of SBD; OADS – 46.42% (OG-1); NMS - 33.33% (OG-2); intra – articular disc dislocation (VVD)-20.23% (OG-3): According to the results of the examination in patients with OG - 1 - joint pain on one side – 25 (64.1%); joint pain on both sides – 13 (33.33%); according to the nature of pain: acute – not noted; dull, aching – 38 (97.43%); irradiation of pain in: temple, nape, ear – 28 (71.79%); masticatory muscles – 10 (25.69%); clicking on one side – 28 (71.79%); clicking on both sides-10 (25.64%); the occurrence of clicking - in the middle opening of the mouth 38 (97.43%); reciprocal – not noted; crunch with tight jaw compression 6 (15.38%); sensation of a foreign body in the joint – 14 (35.89%); tinnitus, ear congestion – 18 (46.15%); blocking of jaw movements – 14 (35.89%); hypertonus of the masticatory muscles – 5 (12.89%); daytime jaw compression – 6 (15.38%); gnashing of teeth at night – 5 (12.89%); rapid muscle fatigue during chewing – 14 (35.89%); anamnesis of the disease: Prolonged unilateral chewing – 27 (69.23%); bad habits – 39 (100%); wide opening of the mouth – 3 (7.69%); long-term emotional stress – 4 (10.25%); after orthodontic and orthopedic treatment – 22 (56.41%); after dental filling-4 (10.25%); Objective examination data - facial asymmetry in the affected side – 9 (23.07%); deflection– not observed; deviation – 38 (97.43%); restriction of mouth opening – 15 (38.46%); defects of the dentition – 12 (30.76%); secondary occlusion deformation – 9 (23.07%); decrease in interalveolar height – 6 (15.38%); pathological bite – 8 (20.51%); pain during palpation of the TMJ area – 29 (74.35%); pain on palpation of the masticatory muscles proper-12 (30.76%); pain during palpation of the temporal muscles – 11 (28.20%); pain during palpation of the external and internal elytra muscles – 39 (100%); premature contact of the antagonist teeth-38 (97.43%); decrease in the amplitude of chewing movements – 30 (76.92%); increase in the amplitude of chewing movements – not noted; decrease in BEA with maximum jaw compression – 8 (20.51%); decrease in BEA

during chewing – 6 (15.38%); increase in BEP masticatory muscles – 35 (89.74%); increased BEA with maximum jaw compression – 23 (58.97%); increased BEA with chewing – 15 (39.46%); narrowing of the joint gap – 20 (51.28%); expansion of the articular fissure-12 (30.76%); the location of the heads on the slope of the articular tubercles-16 (41.02%):

- On of the results of examination of patients OG-2 these clinical symptoms to look as; - 24 (85,71%); - 5 (17,85%); - 26 (92,85%); - 19 (67,85%); - 4 (14,28%); - 8 (71,42%); - 20 (71,42%); - 5 (17,85%); - 21 (75%); 10 (35,71%); - 4 (14,28%); - 26 (92,85%); - 20 (71,42%); - 26 92,85%); - 10 (35,71%); - 8 (28,57%); - 3 (10,71%); - 6 (21,42%); - 28 (100%); - 28 (100%); - 8 (28,57%); - 8 (28,57%); - 4 (14,28%); - 1 (3,57%); - 28 (100%); - 28 (100%); - not marked case; - 28 (100%); - 12 (42,85%); - 9 (32,14%); - 5 (17,85%); - 8 (28,57%); - 23 (82,14); - 7 (25%); - 7 (25%); 26 (92,85%); - 23 (82,14%); - 22 (78,57%); - 4 (14,28%); - 4 (14,28%); - 16 (57,14%); - 12 (42,85%); - 20 (71,42%); - 6 (21,42%); 8 (28,57%); - 22 (78,57%); - 8 (28,57%); - 20 (71,42%) compliance:

- On of the results of examination of patients OG-2 these clinical symptoms to look as; - 10 (58,82%); - 7 (41,17%); - 6 (35,29%); - 12 (70,58%); - 6 (35,29%); - 15 (88,23%); - 7 (41,17%); 8 (47,05%); - 9 (52,94); - 10 (58,82%); - 12 (70,58%); - 15 (88,23%); - 4 (23,52%); - 2 (11,76%); - 3 (17,64%); - 17 (100%); - 17 (100%); - 4 (23,52%); - 6 (35,29%); - 12 (70,58%); - 1 (5,88%); - not marked case; - 12 (70,58%); - 16 (94,11%); - 11 (64,70%); - 15 (88,23%); - 10 (58,82%); - 7 (41,17%); - 9 (52,94%); - 14 (82,35%); - 14 (82,35%); - 13 (76,47%); - 11 (64,70%); - 16 (94,11%); - 13 (76,47%); - 12 (70,58%); - 3 (17,64%); - 14 (82,35%); - 12 (70,58%); - 11 (64,70%); - 17 (100%); - 8 (47,05%); - 14 (82,35%); - 3 (17,64%); - 6 (35,29%) accordingly, the cases.

As can be seen from the results obtained in OAS and NMS, the following combination of symptoms was observed in 97% of patients: clicking in the middle of opening the mouth, dull pain in the TMJ, bad habits, partial absence of teeth, pain when palpating the TMJ area, deviation, premature contacts, decreased amplitude of chewing movements, increased bioelectric activity of the chewing

muscles at rest. When VVD almost 100% of patients were accompanied by snapping in the middle of the opening of the mouth, acute and short-term pain in the TMJ during chewing and maximal mouth opening, foreign body sensation in the joints, fatigue of the muscles during chewing, "jamming", "locking" of the joint, inability to close the teeth, bad habits, chewing on one side, pain on palpation of the lateral pterygoid muscles, limitation of mouth opening, deflexa to the affected side, premature contacts, decrease in the amplitude of mouth opening, narrowing of the joint space, the location of the articular heads on the slope of the articular tubercles. 6 months after treatment, the 1st subgroup with intact dentition was presented for a follow-up examination. Repeated occlusiography showed that in 12 (60.0%) patients with OAS; - in 11 (55.0%) patients with NMS; - in 5 (50.0%) patients with VD, mouth opening was observed from - $3,6 \pm 0,8$; $3,8 \pm 0,4$ $3,4 \pm 0,3$ before $4,1 \pm 0,3$; $4,2 \pm 0,3$ $4,0 \pm 0,2$ sec, respectively, and without deviation from the mid-sagittal line.

6 months after treatment, subgroup 2 in 14 (73.68%) OAS patients; in 14 (77.77%) NMS patients; in 5 (71.42%) VD patients, there were multiple uniform occlusal contacts; vertical movements n / h in patients of this subgroup with OADS— 4.2 ± 0.5 amplitude; 4.3 ± 0.6 seconds; with NMS $-4,4 \pm 0,8$; $4,4 \pm 0,4$; $4,1 \pm 0,3$ accordingly.

As a result of studying the nature of vertical movements when opening and closing the mouth with OAS, NMS and VVD, it was revealed (Table No. 1). According to the results of EMG, the study showed an increase in the bioelectric activity (BEA) of the proper masticatory muscles at rest (BEP) on OG-1, OG-2 and OG-3; a decrease in max-compression and chewing.

Table No.1.

Functional characteristics of the masticatory and temporal muscles proper in patients with TMJ OADS before and after treatment.

	EMG indicators (mkV)	In fact, muscles of mastication		Temporalmuscles	
		Stricken-I side	Thehealthyside	Stricken-I side	Thehealthyside
OG-1	BEP	$41,2 \pm 4,9$	$39,7 \pm 5,1$	$43,8 \pm 4,2$	$39,0 \pm 4,9$
	BEA (compression)	$490,2 \pm 43,2$	$461,4 \pm 32,2$	$432,6 \pm 50,3$	$473,4 \pm 46,2$
	BEA (chewing)	$377,2 \pm 69,4$	$367,2 \pm 60,1$	$334,3 \pm 81,4$	$354,8 \pm 69,1$
	Chewingtime (s)	$7,98 \pm 0,2$	$7,47 \pm 0,3$	$7,98 \pm 0,4$	$7,54 \pm 0,3$
	The time of rest (with)	$6,44 \pm 0,5$	$6,33 \pm 0,2$	$6,56 \pm 0,6$	$7,21 \pm 0,2$

A ft er T re at m e n t s	1	BEP	40,2±3,8	39,5±4,2	41,2±3,1	38,8±3,3
	2		39,3±3,4	38,6±4,1	39,1±2,3	38,5±2,4
	1	BEA	480,3±34,2	471,4±30,1	442,6±44,3	433,4±36,2
	2	(compression)	468,2±31,2	460,4±22,3	448,6±41,2	443,4±41,2
	1	BEA (chewing)	357,2±54,2	347,2±55,1	344,3±61,4	364,8±59,1
	2		347,2±49,5	357,2±56,1	355,3±51,4	364,8±59,1
	1	Chewingtime(s)	367,2±49,4	357,2±56,1	344,3±75,4	354,8±56,1
	2		353,2±49,8	357,2±55,1	348,3±73,4	350,8±59,1
OG-2	1	The time of rest	6,38±0,4	6,23±0,22	6,86±0,5	7,21±0,2
	2	(with)	6,22±0,3	6,13±0,24	7,23±0,4	7,21±0,2
		BEP	42,2±5,1	41,2±4,3	38,8±3,6	37,3±4,1
		BE(compression)	337,1±98,2	344,5±101,3	204,3±100,3	234,5±122,1
		BEA (chewing)	240±71,3	265±65,4	239±67,4	263±90,3
A ft er T re a t m e n t s		Chewingtime (s)	9,42±0,3	8,2±0,2	9,47±0,2	9,0±0,2
		The time of rest	6,87±0,3	7,71±0,3	7,09±0,1	8,22±0,1
	1	BEP	41,1±4,2	41,0±3,4	37,4±3,1	37,1±3,2
	2		41,0±3,2	39,8±3,3	37,1±2,8	37,0±3,1
	1	BEA	341,1±56,2	344,0±78,3	214,8±72,4	230,3±98,4
	2	(compression)	343,1±52,8	341,3±88,2	228,4±71,8	232,6±87,9
	1	BEA (chewing)	252±48,4	263±64,4	246±46,4	260±76,6
	2		264±44,6	260±63,8	258±37,4	264±76,8
	1		9,08±0,6	8,1±0,3	9,24±0,4	9,2±0,4
	2		8,24±0,6	8,2±0,3	9,0±0,1	9,0±0,1

	1	Chewingtime (s)	6,98±0,2	7,46±0,4	7,98±0,2	8,28±0,3
	2		7,67±0,1	7,54±0,2	8,30±0,2	8,28±0,4
OG -3		BEP	42,4±5,8	40,2±6,3	40,4±2,8	36,3±5,1
		BE (compression)	360,1±100,2	376,5±122,3	218,6±125,3	248,4±134,1
		BEA (chewing)	244±70,3	288±80,2	260±87,4	295±93,3
		Chewingtime(s)	9,42±0,3	8,92±0,3	9,86±0,6	9,03±0,4
		The time of rest (with)	7,03±0,6	7,81±0,3	7,48±0,1	8,67±0,4
A f t e r T r e a t m e n t s		BEP	40,8±4,6	40,1±4,3	37,8±1,2	36,8±4,4
			39,6±3,8	40,0±4,8	37,1±2,2	36,3±5,1
		BEA (compression)	370,4±78,4	370,8±89,4	234,8±92,4	238,8±104,1
			375,4±66,2	371,1±79,9	246,8±88,2	234,4±98,1
		BEA (chewing)	254±56,3	282±49,2	285±57,4	287±53,3
			278±48,7	276±50,2	280±44,4	284±76,3
			9,06±0,4	8,76±0,3	9,42±0,4	9,0±0,4
			8,66±0,4	8,52±0,2	9,06±0,8	8,83±0,2
		Chewingtime (s)	7,43±0,4	7,78±0,3	7,98±0,2	8,47±0,4
			7,88±0,4	7,81±0,3	8,34±0,2	8,22±0,4

Note: 1-first subgroup; 2 - second subgroup; confidence at $p < 0.05$. Note: 1-first subgroup; 2 - second subgroup; confidence at $p < 0.05$ The time of rest (with)

According to the results of spiral computed tomography in the oblique projection in the "mouth closed" position, all OG-1, 2, 3 revealed expansion of the joint gap in D4 and narrowing of the gap - in D2 and D5 on the sick side, while on the healthy side – expansion in D2 and D5. In the study in the "mouth open" position, the articular heads were located at the top of the OG-1 20 (51.28%); OG - 2 12

(42.85%); OG - 3 9 (52.94%), on the posterior slope of the articular tubercle in 18 (46,15%); 13 (46,42%) and 8 (47.05%) patients, respectively.

After treatment the results of helical computed tomography in the oblique view in the "mouth closed" especially in subgroups 2 fit of the gap of the joint space in D4 and expansion of cracks - D2 and D5 on the affected side, while on others – reduce the gap in D2 and D5 divisions; when set to "mouth open" in patients subgroup -2 condyles were located on the top OG-1 – 15 (83,33%); the OG – 2 - 12 (63,15%); from OG-3– 5 (71,42%) (table 2). According to the results of spiral computed tomography in the oblique projection in the "mouth closed" position, all OG-1, 2, 3 revealed expansion of the joint gap in D4 and narrowing of the gap - in D2 and D5 on the sick side, while on the healthy side – expansion in D2 and D5. In the study in the "mouth open" position, the articular heads were located at the top of the OG-1 20 (51.28%); OG - 2 12 (42.85%); OG - 3 9 (52.94%), on the posterior slope of the articular tubercle in 18 (46,15%); 13 (46,42%) and 8 (47.05%) patients, respectively.

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Note: 1-first subgroup; 2 - second subgroup; confidence at $p < 0.05$. m

Table No. 2.

Study of the joint gap of the TMJ in patients with TMJ OG-1, OG-2, OG-3 and KG

Jointgap Groups		Affectedside	Thehealthyside	Controlgroup	
OG-1	D1	3,3±0,8	2,4±0,8	2,8±0,21	
	D2	1,4±0,6	2,8±0,6	2,2±0,23	
	D3	1,2±1,2	2,6±1,1	2,4±0,25	
	D4	9,4±1,1	8,1±1,1	8,9±0,28	
	D5	2,2±0,3	3,7±0,5	3,2±0,24	
After Treatments	1	D1	3,0±0,4	2,7±0,	2,8±0,21

				4	
	2		2,8±0,6	2,8±04	2,8+0,21
	1	D2	1,8±0,4	2,4±0, 2	2,2+0,23
	2		2,2±0,2	2,7±0, 2	2,2+0,23
	1	D3	1,9±1,0	2,4±1, 0	2,4+0,25
	2		2,2±0,8	2,4±1, 1	2,4+0,25
	1	D4	9,1±1,2	8,4±1, 4	8,9+0,28
	2		8,8±1,0	8,7±0, 8	8,9+0,28
	1	D5	2,6±0,3	3,3±0, 4	3,2+0,24
	2		2,9±0,1	3,3±0, 4	3,2+0,24
OG -2		D1	3,0±0,7	2,3±0,4	2,8+0,21
		D2	1,5±0,4	2,5±0,3	2,2+0,23
		D3	1,01±0,9	2,4±1,4	2,4+0,25
		D4	9,0±1,1	8,0±1,1	8,9+0,28
		D5	2,3±0,4	3,9±0,9	3,2+0,24
After Treatments	1	D1	3,0±0,1	2,5±0,6	2,8±0,21
	2		2,7±0,2	2,6±0,2	2,8±0,21
	1	D2	1,8±0,2	2,3±0,2	2,2±0,23
	2		2,2±0,6	2,2±0,4	2,2±0,23
	1	D3	1,8±0,5	2,5±1,0	2,4±0,25
	2		2,0±0,4	2,3±0,8	2,4±0,25
	1	D4	9,0±0,8	8,6±1,5	8,9±0,28
	2		8,8±0,6	8,8±1,2	8,9±0,28
	1	D5	2,8±0,4	3,4±0,6	3,2±0,24
	2		3,2±0,8	3,4±0,3	3,2±0,24
OG -3		D1	2,4±0,8	3,1±0,9	2,8+0,21
		D2	1,7±0,7	2,2±0,8	2,2+0,23
		D3	1,7±0,1	2,8±1,2	2,4+0,25
		D4	9,9±0,3	10,7±1,4	8,9+0,28

		D5	2,8±0,5	4,2±0,7	3,2±0,24
After Treatment	1	D1	2,6±0,4	2,9±0,4	2,8±0,21
	2		2,8±0,6	2,5±0,3	2,7±0,21
	1	D2	1,9±0,5	2,1±0,4	2,2±0,23
	2		2,2±0,4	2,1±0,8	2,2±0,23
	1	D3	1,9±0,1	2,4±1,4	2,4±0,25
	2		2,2±0,4	2,4±1,0	2,4±0,25
	1	D4	9,8±0,2	9,7±1,1	8,9±0,4
	2		9,2±0,2	9,8±1,4	8,7±0,3
	1	D5	2,8±0,1	4,0±0,4	3,2±0,24
	2		3,1±0,4	3,8±0,2	3,2±0,24

Note: 1-first subgroup; 2 - second subgroup; confidence at $p < 0.05$

As we can see, from the clinical observation of 39 patients with OAS, 28 patients with NMS, 17 patients with VVD during the year, the results of control registration of vertical movements of all patients, electromyography and computed tomography showed that 37; 25 and 14 patients, respectively, did not have complaints, but 2, 3 and 3 patients, respectively, continued or reappeared with TMJ pain after treatment; all patients treated with 1-subgroup. As we can see, from the clinical observation of 39 patients with OAS, 28 patients with NMS, 17 patients with VVD during the year, the results of control registration of vertical movements of all patients, electromyography and computed tomography showed that 37; 25 and 14 patients, respectively, did not have complaints, but 2, 3 and 3 patients, respectively, continued or reappeared with TMJ pain after treatment; all patients treated with 1-subgroup.

Conclusions:- The examination maps and database developed taking into account the typical and rarely occurring symptoms allowed us to make a complete clinical picture of the nosological forms of TMJ BSD and identified cases occurring from 97 to 100%, taking into account which it is possible to develop in detail the tables of differential diagnosis of OAS, NMS and VVD:

- Special methods of research such as EMG, occlusiography, SCT and clinical studies prove that, is associated with the amplitude of vertical movements n / h , changes in the BEP of the masticatory muscles and the occurrence of OAS,

NMS and VVD of the TMJ. Also, the effectiveness of the proposed scheme was established – complex treatment on the example of patients in the 2nd subgroup was observed with a positive result:

The list of references used.

1. Olimov S. Sh. Gafforov S. A., Saidov A. A., Badriddinov B. B. Features of the elemental composition of displaced saliva in children with dental anomalies. // VI-th International Congress of Dentists of Kazakhstan "Education, science and practice of dentistry in the XXI century". 2019, p. 11.
2. Olimov S. Sh., Gafforov S. A., Saidov A. A. Assessment of connective tissue markers in the development of temporomandibular joint pathology in children.// VI-th International Congress of Dentists of Kazakhstan "Education, science and practice of dentistry in the XXI century" 2019, p. 9.
3. Olimov sh. S., gafforov S. A. Features of the elemental composition of saliva from the displaced school-age children with subcluster anomalies.// III - international dental Congress "Actual problems of dentistry and maxillofacial surgery" Tashkent 2019 page 11.
4. OlimovSH. S., Saidmurodov J. B., A. T. Oblokulov Intensity and rasprostranennost caries of children in the early mixed dentition.// Actual problems of fundamental and clinical medicine and distance learning. Samarkand 2020. 22.
5. Gafforov S. A., Durdiev Z. I. Violation of the formation of bone organs of the dentition system in children with respiratory system pathologies //ACADEMICIA: An International Multidisciplinary Research Journal. – 2020. – T. 10. – №. 4. – C. 325-333.
6. Gafforov S. A., Yariyeva O. O. The degree of damage to hard tissues of teeth of carious and non-carious among children and adolescents of the Bukhara city // «Евразийский вестник педиатрии» – 2019. – №3 (3). – С. 111-117.
7. Asrorovich, R. O., & Shodiyevich, I. A. (2020). Comparative assessment of structural and functional changes in periodontal tissues during prosthetics with metal-ceramic

- and zirconium dentures. European Journal of Molecular and Clinical Medicine, 7(7), 583-594. Retrieved from www.scopus.com
- 8.Eronov Y.Q., Kamalova M.Q. Evaluation of caries prevalence in children with cerebral palsy// *Academicia: an international multidisciplinary research journal*. - 2020. - Vol. 10. – P. 85 - 87.
- 9.Eronov Yo.Q. Dynamics of the prevalence of diabetes and the study of dental status in children of the bukhara region// *International Journal of Applied Research* -2019. Vol. 5 - P. 151-154.
- 10.Eronov Yo.Q. Loshli-Yushenko-Krasnagorskiy method of leave in children with brain palacy// *The Pharma Innovation Journal*. - 2009. Vol. 4. - P. 601-602.
- 11.Eronov Yo.Q. The dynamics of the prevalence of diabetes and the study of dental status in children of the bukhara region// *AJMR ISSN 2278-4853*. - 2019. Vol. 8 – P. 95-100.
- 12.Eronov Yo.Q., Assessment of the evaluation of oral hygiene in children with cerebral palsy// *Asian Journal of Multidimensional Research (AJMR)* February, -2020. Vol. 8. - P. 189-191.
- 13.Eronov Yo.Q., Rajabov A.A. Analytical indicator of saliva in children with cerebral palsy// *Academicia: An International Multidisciplinary Research Journal*. - 2020. Vol. 8. – P. 1823-1825.
- 13.Eronov Yo.Q., Rajabov A.A. Assessment of the evaluation of oral hygiene in children with cerebral palsy// *Asian Journal of Multidimensional Research (AJMR)* February. - 2020. Vol. 8. – P. 189-191.
- 14.Eronov Yo.Q., Rajabov A.A. Loshli-Yushenko-Krasnagorskiy method of leave in children with brain palacy// *The Pharma Innovation Journal*. - 2020. Vol. 4. – P. 601-602.
- 15.Kamalova F. R., Eshonkulov G.T., Radjabov A. A., Saidova M.A. The study of anomalies of maxilla-facial system of children's age in the Bukhara region// *Academica: December*. - 2019. Vol. 12. - P. 63-67.
- 16.Kamalova F.R. Development and evaluation of the effectiveness of the dental dental examination program for children with diabetes in adverse enviro-nmental Conditions// *Academicia*10 Issue 1, January. - 2020. Vol. 1. - P. 1364 - 1366.
- 17.Mirsalikhova F.L., EronovYo.Q., Radjabov A.A. Prevention and treatment of caries in children with cerebral palsy// *Academicia: An International Multidisciplinary Research Journal*. - 2019. Vol. 9. Issue 12. – P. 68-70.
- 18.Turaeva F.A. Comprehensive treatment of generalized periodontitis using autotrombocytic mass// *The Pharma Innovation Journal*. – India. - 2020.Vol. 7. - P. 599-600.

19. Turaeva F.A. Improving the Effectiveness of Treatment of Generalized Periodontitis Using Auto Platelet Mass// American Journal of Medicine and Medical Sciences – USA. - 2020. Vol. 8. – P. 576-579.
20. A. Gaffarov, O. M. Astanov "Differential diagnosis of patients with syndromes of pain dysfunction of the maxillofacial joint". // Journal: Tibbietdayangikun 3(31)2020 289-296s.
21. O. M. Astanov. TMJ dysfunction is a fairly common pathology. // ISCCPCD May 2020 8-9 p.