WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.074
Volume 7, Issue 11, 69-78. Research Article ISSN 2277– 7105

THE EFFECT OF QAT AND OTHER BAD CHEWING HABITS IN PEOPLE WHO NEED ORAL REHABILITATION IN ADEN CITY 2011-2013

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Article Received on
09 April 2018,

Revised on 30 April 2018,
Accepted on 21 May 2018,

DOI: 10.20959/wjpr201811-12441

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ABSTRACT

Qat is a type of leaf, rather wide and about two fingers in length, people would consume these leaves just as they are, these leaves were just stuffed fully into the mouth and munched. The aim of this study is that how is the qat chawing affecting on the tempromandibular joint according to duration, sex, age and site of chawing. **Method:** 4 groups are a prospective study done, in Qat chewers and other bad chewing habits in Aden city in the period between 2011 and 2013. The sample was selected randomly from different districts in Aden City; it was selected 240 people (213 male and 27 females) who had bad chewing habits which divided into (Qat, Tombol, Gum and Betel Nut). All statistical conclusions were performed using spss version 15. **Result:** the percentage of TMJ disorders in Qat chewers were (25%) in association with other bad chewing habit while the percentage of TMJ disorders among Qat chewers were (45.16%) were not associated with other bad chewing habits. From the 240 qat chewers, 68 males and 14 females have the signs and symptoms of TMJ disorder. It was obvious that the most affected age category complaining of TMJ disorder was (35-45 years old) of Qat chewing. The prevalence of TMJ disorder in Qat chewers was directly proportional to the increase in the number of chewing hours.

KEYWORD: Qat, Tombol, Gum, Betel nut, Temperomandibular joint, Signs and symptoms.

INTRODUCTION

length, people would consume these leaves just as they are, these leaves were just stuffed fully into the mouth and munched. Qat tree is grown in most areas of Yemen. The leaves of the qat plant contain alkaloids structurally related to amphetamine and they are currently chewed daily by a high proportion of the adult population in Yemen for the resulting pleasant

mild stimulant action.[1]

The habit of chewing qat leaves is widespread in certain areas of East African the Arabian Peninsula. It has pleasurable central stimulant properties, which are commonly believed to improve work capacity and counteract fatigue.[2]

Effects of qat chewing on oraldental tissues is inflammatory change (stomatitis) followed by secondary infection. These might be related to mechanical strain on the cheek and other oral tissues as well as chemical irritation of the mucosal surfaces. A high rate of periodontal diseases and low rate of dental caries has been observed among Yemeni male qat chewers. Mouth dryness, common following qat chewing, might be due to the sympathomimetic effect of Cathinone and/or to excess secretion of saliva during chewing also lead to attrition and staining of teeth.[1]

Tumors of the oral cavity (lower maxilla, buccal mucosa and lateral surface of the tongue) were reported in 13% of patients seeking treatment over a two year period in a clinic in the Yemeni town Hodeida.[1]

The effects of qat chewing on TMJ is headaches, tenderness of the chewing muscles, and clicking or locking of the joints, also some people shows difficulty in opening their mouth Sometimes the pain seems to occur near the joint rather than in it.[2]

General objectives

The prevalence of TMJ disorders among Qat chewers (and other bad chewing habits) in Aden City in 2011-2013.

Specific objectives

The prevalence of TMJ disorders among Qat chewers and other bad chewing habits according to:

1- Frequency and duration
2- Gender
3- Age variable.
4- Site of Qat chewing.

MATERIALS AND METHODS

It is a prospective study done, in Qat chewers and other bad chewing habits in Aden city in

the period between 2011- 2013. The sample was selected randomly from different districts in Aden City, it was selected 240 people (213 male and 27 females).

Who had bad chewing habits which divided into 4 groups (Qat, Tombol, Gum and Betel Nut). The variables of the sex, age, we received these information from individual investigation which include all the information for our data analysis.

Each person completed a medical and dental history and signed an informed consent document. All persons accepted oral examination in a direct sun lighted room and each one answer the questionnaire applied in the investigation, which already prepared.

All statistical conclusions were performed using spss version 15.

RESULTS

Table 1:

	Frequency	Percent	Percent Valid	Cumulative Percent
Valid Yes	82	34.2	34.2	34.2
No	158	65.8	65.8	100.0
Total	240	100.0	100.	

The percentage of tmj disorder in qat chewers

Table (1) demonstrate that from the sample we examined which is about 240 qat chewers (100%), only 82 qat chewers (34.2%) have the signs and symptoms of TMJ disorder, while 158 qat chewers (65.8%) show neither signs nor symptoms of TMJ disorder.

Table 2: TMJ Disorder* Sex* Tomool* Gum chewing* Betel nut Crosstabulation.

Count

Betel nut	Gum chewing	Tomool			Sex: Male	Sex: Female	Total
Yes	Yes	Yes	TMJ Disorder	Yes	1		1
				No	3		3
			Total		4		4
		No	TMJ Disorder	Yes	0	1	1
				No	5	0	5
			Total		5	1	6
	No	Yes	TMJ Disorder	Yes	1	3	4
			Total		1	3	4
		No	TMJ Disorder	Yes	5	1	6
				No	4	1	5
			Total		9	2	11
No	Yes	Yes	TMJ Disorder	Yes	1	1	2
				No	2	0	2
			Total		3	1	4
		No	TMJ Disorder	Yes	8	0	8
				No	31	3	34
			Total		39	3	42
	No	Yes	TMJ Disorder	Yes	3	1	4
				No	17	2	19
			Total		20	3	23
		No	TMJ Disorder	Yes	49	7	56
				No	75	15	90
			Total		124	22	146

The table show that among the 4qat chewers who are associated with other bad chewing habits (tombol, betel nut and gum chewing), only one (1) of them have the signs and symptoms of TMJ disorder, while the 3 others have no signs or symptoms of TMJ disorder.

Also this table show that from 146 qat chewers who aren't associated with other bad chewing habits, only 56 of them show signs and symptoms of TMJ disorder while the other 90 show neither signs or symptoms of TMJ disorder.

Table 3:

TMJ Disorder * Bad Habits Crosstabulation

			Bad Habits		
			Yes	No	Total
TMJ Disorder	Yes	Count	26	56	82
		% within TMJ Disorder	31.7%	68.3%	100.0%
	No	Count	69	89	158
		% within TMJ Disorder	43.7%	56.3%	100.0%
Total		Count	95	145	240
		% within TMJ Disorder	39.6%	60.4%	100.0%

The table shows that from 82 qat chewers that have signs and symptoms of TMJ disorder, only 26 individual are associated with other bad chewing habits, while 56 individual are not.

Table 4:

TMJ Disorder * Age Crosstabulation

			Age					
			15-25	25-35	35-45	45-55	> 55	Total
TMJ Disorder	Yes	Count	26	16	20	12	8	82
		% within TMJ Disorder	31.7%	19.5%	24.4%	14.6%	9.8%	100.0%
	No	Count	60	29	17	40	12	158
		% within TMJ Disorder	38.0%	18.4%	10.8%	25.3%	7.6%	100.0%
Total		Count	86	45	37	52	20	240
		% within TMJ Disorder	35.8%	18.8%	15.4%	21.7%	8.3%	100.0%

This table shows that

1- Only 26 qat chewers (31.7%) from 86 individual in the age of 15-25 years have signs and symptoms of TMJ disorder.
2- Only 16 qat chewers (19.5%) from 45 individual in the age of 25-35 years have signs and symptoms of TMJ disorder.
3- Only 20 qat chewers (24.4%) from 37 individual in the age of

4- 35-45 years have signs and symptoms of TMJ disorder.
5- Only 12 qat chewers (14.6%) from 52 individual in the age of 45-55 years have signs and symptoms of TMJ disorder.
6- Only 8 qat chewers (9.8%) from 20 individual in the age of >55 have signs and symptoms of TMJ disorder.

Table 5:

TMJ Disorder * Sex Crosstabulation

			Sex		
			Male	Female	Total
TMJ Disorder	Yes	Count	68	14	82
		% within TMJ Disorder	82.9%	17.1%	100.0%
	No	Count	137	21	158
		% within TMJ Disorder	86.7%	13.3%	100.0%
Total		Count	205	35	240
		% within TMJ Disorder	85.4%	14.6%	100.0%

This table shows that From the 240 qat chewers, 205 were males and only 68 of them have the signs and symptoms of TMJ disorder while 137 have no signs or symptoms.

From 240 qat chewers, 35 were females and only 14 of them have the signs and symptoms of TMJ disorder while 21 show no signs or symptoms.

Table 6:

TMJ Disorder * When did you starts Crosstabulation

			When did you starts				
			1-10	11-20	21-30	> 30	Total
TMJ Disorder	Yes	Count	24	31	20	7	82
		% within TMJ Disorder	29.3%	37.8%	24.4%	8.5%	100.0%
	No	Count	62	38	46	12	158
		% within TMJ Disorder	39.2%	24.1%	29.1%	7.6%	100.0%
Total		Count	86	69	66	19	240
		% within TMJ Disorder	35.8%	28.8%	27.5%	7.9%	100.0%

This table shows that from 240 qat chewers

1- From the 86 individual who start chewing qat from (1-10 years) only 24 qat chewers (29.3%) develop signs and symptoms of TMJ disorder.
2- From the 69 individual who start chewing qat from (11-20 years) only 31 qat chewers (37.8%) develop signs and symptoms of TMJ disorder.

3- From the 66 individual who start chewing qat from (21-30 years) only 20 qat chewers (24.4%) develop signs and symptoms of TMJ disorder.
4- From the 19 individual who start chewing qat from (> 30 years) only 7 qat chewers (8.5%) develop signs and symptoms of TMJ disorder.

Table 7:

TMJ Disorder * Site Crosstabulation

			Site			Total
			Right	Left	Alternately	
TMJ Disorder	Yes	Count	23	36	23	82
		% within TMJ Disorder	28.0%	43.9%	28.0%	100.0%
	No	Count	50	80	28	158
		% within TMJ Disorder	31.6%	50.6%	17.7%	100.0%
Total		Count	73	116	51	240
		% within TMJ Disorder	30.4%	48.3%	21.3%	100.0%

1- From the 73 individual who chew qat in the right side, only 23 qat chewers (28.0%) develop signs and symptoms of TMJ disorder.
2- From the 116 individual who chew qat in the left side, only 36 qat chewers (43.9%) develop signs and symptoms of TMJ disorder
3- From the 51 individual who chew qat in both sides alternatively, only 23 qat chewers (28.0%) develop signs and symptoms of TMJ disorder.

Table 8:

TMJ Disorder * How many hours do you spent Crosstabulation

			How many hours do you spent			Total
			1-2 hours	3-4 Hours	> 5	
TMJ Disorder	Yes	Count	5	23	54	82
		% within TMJ Disorder	6.1%	28.0%	65.9%	100.0%
	No	Count	15	52	91	158
		% within TMJ Disorder	9.5%	32.9%	57.6%	100.0%
Total		Count	20	75	145	240
		% within TMJ Disorder	8.3%	31.3%	60.4%	100.0%

1. From 20 qat chewers who spent (1-2 hours) chewing qat, only 5 individual (6.1%) develop signs and symptoms of TMJ disorder.
2. From 75 qat chewers who spent (3-4 hours) chewing qat, only 23 individual (28.0%) develop signs and symptoms of TMJ disorder.
3. From 145 qat chewers who spent (>5 hours) chewing qat, only 54 individual (65.9%) develop signs and symptoms of TMJ disorder.

Table 9:

TMJ Disorder * How many time do you chew qat in day Crosstabulation

			How many time do you chew qat in day			
			once	twice	> 3	Total
TMJ Disorder	Yes	Count	66	12	4	82
		% within TMJ Disorder	80.5%	14.6%	4.9%	100.0%
	No	Count	129	23	6	158
		% within TMJ Disorder	81.6%	14.6%	3.8%	100.0%
Total		Count	195	35	10	240
		% within TMJ Disorder	81.3%	14.6%	4.2%	100.0%

1. From 195 qat chewers who chew qat once a day, only 66 individual (80.5%) develop signs and symptoms of TMJ disorder.
2. From 35 qat chewers who chew qat twice a day, only 12 individual (14.6%) develop signs and symptoms of TMJ disorder.
3. From 10 qat chewers who chew qat (>3) a day, only 4 individual (4.9%) develop signs and symptoms of TMJ disorder.

Table 10:

TMJ Disorder * How mant time do you chew qat in week Crosstabulation

			How mant time do you chew qat in week			
			1-2 day	3-4 day	> 5	Total
TMJ Disorder	Yes	Count	17	20	45	82
		% within TMJ Disorder	20.7%	24.4%	54.9%	100.0%
	No	Count	36	47	75	158
		% within TMJ Disorder	22.8%	29.7%	47.5%	100.0%
Total		Count	53	67	120	240
		% within TMJ Disorder	22.1%	27.9%	50.0%	100.0%

1. From 53 qat chewers who chew qat (1-2 days in a week), only 17 individual (20.7%) develop signs and symptoms of TMJ disorder.
2. From 67 qat chewers who chew qat (3-4 days in a week), only 20 individual (24.4%) develop signs and symptoms of TMJ disorder.
3. From 120 qat chewers who chew qat (>5 days in a week), only 45 individual (54.9%) develop signs and symptoms of TMJ disorder.

DISCUSSION

From our research we found that Qat chewing is the prime cause in TMJ disorder even though the percentage of affected Qat chewers wasn't as we thought, but it is a respective percentage (34.2%), so we can say that Qat chewing has an effect on TMJ health.

Qat chewing can be considered as main cause of TMJ disorder weather was associated with

other bad chewing habits or not. We found in our research that the percentage of TMJ disorders in Qat chewers were (25%) in association with other bad chewing habit while the percentage of TMJ disorders among Qat chewers were (45.16%) were not associated with other bad chewing habits. We aren't denying that other bad chewing habits also play a role in TMJ disorder, but Qat chewing solitary can cause TMJ disorder.

It was abvious that the most affected age category complaining of TMJ disorder was (35-45 years old) of Qat chewing.

The prevalence of TMJ disorder among females Qat chewers was (40%) which much higher than TMJ disorder in male Qat chewers which was (33.17%).

The prevalence of TMJ disorder in Qat chewers that started chewing Qat from (11-20 years) was the highest percentage which was (44.9%) more than other Qat chewers who chew Qat in different periods of time.

The prevalence of TMJ disorders among Qat chewers who chew Qat in both sides alternatively was the highest percentage (45.09%).

The prevalence of TMJ disorder in Qat chewers was directly proportional to the increase in the number of chewing hours (the more you spent chewing Qat, the more you get TMJ disorder).

The prevalence of TMJ disorder among Qat chewers who chew Qat twice or more than 3 times a day has the highest percentage (40%) more than Qat chewers that chew Qat only once a day.

The prevalence of TMJ disorder among Qat chewers who chew Qat more that 5days a week has the highest percentage (37.5%) more than Qat chewers who chew Qat 1-2 days or 3-4 days in a week.

Recommendations

Because of general bad squeals of Qat chewing in our country, the following recommendations have to be done:

1. The government should apply preventive programs to illustrate the dangers and bad sequels.

2. The government have to encourage the farmers to invest their lands in other useful cultures than Qat (e.g coffee beans)
3. Offering opportunities for young to reduce the unemployment for this slide of population which considered one of the main reason to be Qat chewer.
4. Imposition orders and rules to reduce and control Qat consumption and planting.

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