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EFFECT OF HABITUAL USE OF GUTKHA ON HUMAN BEING - AN AYURVEDIC PERSPECTIVE

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Abstract:

Background: The World Health Organization (WHO) in their edition of Tobacco Alert gives red alert to the developing countries from Tobacco and *Gutkha*. Diseases like submucosal fibrosis, cancers of the throat, mouth, lips, and oesophagus were found in *Gutkha* chewers. Although modern science researcher was found to be worked on the subject related to *Gutkha*. But as a whole, in combination as present in *Gutkha* no one really focus on their actions in human beings in *Ayurvedic* manner i.e., *Dosha, Dhatu, Mala, Agni, Srotasa, Indriya, Avayava, Mana, Bala* etc. By seeing its adverse effects, it is essential to know its action on *Doshadi* factors. **Materials & Methods-** The available information about *Gutkha* and *Ayurvedic* information about the constitutes of *Gutkha* is collected. For the case study *Gutkha* chewing volunteers. **Results-** In *sharirik laxanas Malavrodh* and *Malavshambh* are observed in most of the people. Some people cannot defecate easily without *Gutkha*. *Tamraparni* is the main content of the *Gutkha*. In different *Ayurvedic* texts it is mentioned that it acts as a *Madak by Prabhav*. So that we can also say that *Purisha dushti laxanas* like patient can not defecate easily without taking *Gutkha* was observed due to the effect of *Tamraparni*. In the *Manas laxanas* like *Mansik Dorbalyata, Kshobha* or *Chidchidepana, Nairashya, Aswashtata* are observed in most of the patients. **Conclusion -** *Gutkha* is a composition of *Savish* and *Nirvish Dravyas*. It acts as a slow *Poison*. It shows hazardous effects on human body. It causes *Vata Vridhi, Pitta Virdhi* and *Kapha Kshaya*. *Gutkha* disturbs the normal role of *Dosha, Dhatu* and *Mala*.

Keywords - *Gutkha, Dosha, Srotasa, Mana, Agni*

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INTRODUCTION:

Ayurveda is an ancient science of life. *Acharya* mentioned different types of *Vyadhi* due to *Ahitakara-Ahara-Vihara* and treatment has also mentioned in *Ayurvedic Samhitas*. The references about the smoking were found since *Vedic Kala*. [1] In *Ayurveda* the smoke of the plants having strong irritating smell are used for medicinal purposes mainly in *Manasika Vyadhi*. Habitual intake of tobacco chewing was not found in *Samhita* or *Veda*. Everyone at any time chew the *Gutkha* and spilt here and there. There is no any specific time to chew the *Gutkha*, like some people eat *Pan-Supari* after meals. People started to chew *Gutkha* from early morning to the late night. Most of the people stand near the *Pan-Tapari* and chew *Gutkha* eagerly. The *Gutkha* chewers chew it during walking and talking, in classrooms, traveling, on a motorbike or in a city bus or S.T. bus, in a cinema hall, in gardens and in most of the public places. Some people have habit to chewing *Gutkha* after Dinner. Most of the people have a very bad habit to chew *Gutkha* before defecation. They are unable to defecate or they don't defecate easily, if *Gutkha* is not taken. Some people place a *Gutkha* in the mouth and take sleep at night. This is a very bad habit. This usage of *Gutkha* is associated with cancers of mouth, lips, nasal cavities, *oesophagus* and *gut*. [2] Due to continuous *Gutkha* chewing there is whitish red coloration which leads to sub *mucosal fibrosis*. [3] This is the first stage of oral cancer. Tobacco and *Gutkha* are the proven factors for the increasing cancers in the *society*. [4] Along with the tobacco and *Supari* other injurious and poisonous substances are added in *Gutkha* like magnesium carbonate, ammonium sulphate,

magnesium sulphate etc. [5] It also contains synthetic *Kattha* which is manufactured from *Geru*, *Multani Mati*, dried blood of sacrificed animals like cow, *buffalo* etc. [6] The manufacturer wants to keep their formula confidential, hence they do not write the formula on the *Gutkha* pouch. The contents of *Gutkha* show the following effects on the *human body*. [7]

- Nicotine - It increases heart beats, blood pressure, it constricts the blood vessels.
- Marsh gas - It shows injurious effects on reproductive organs. It develops infertility.
- Ammonia - It disturbs the digestive system and chemical balance of blood.
- Pyridine - It produces cough, dryness of larynx, acidity etc.
- Colodine - It produces dizziness, death of cerebral cells etc.
- Perfirole - It blackness the teeth, it also provides weakness.
- Tarnayatosamine - It produces carcinoma.

Moreover, *Gutkha* contains lime, *catachu*, *Supari*, permitted spices and flavours. These ingredients have their own effects as well as they have effects in combination.

- Lime (calcium hydroxide) - irritation of the oral cavity which leads to the oral ulcers.
- Catechu - It contains polyphenol and tannins. It avoids absorption of iron and produces anorexia and anaemia.
- *Supari* - In these various alkaloids are present which are responsible for various cancers.

- Permitted spices and flavours - They contain aromatic hydrocarbons which are responsible for many oral disorders.

Effects of *Gutkha* -

It is proved that *Gutkha* is more responsible for cancer than *Tobacco alone*.^[8] Due to the *Gutkha* chewing there is constriction of blood vessels with increasing in blood sugar and cholesterol.^[9] There are atherosclerotic changes which results in deprivation of blood circulation in the lower extremities. Due to this, gangrene formation takes place. Ultimately leading to amputation. The heart vessels get constricted too which further leads to paralytic attacks. Other conditions like pharyngitis, asthma, heart disorders, lung disorders etc. with burning sensation in the eyes, hoarseness of voice may be developed by the time. Nicotine constricts the atrial flow leading to atherosclerosis. Due to the Nicotine, Methyl haemoglobin reduces by 10-15% which is important factor of transport of oxygen. Due to this, pressure is created on the heart to pump more so as to provide oxygen to other parts of the body. Exchange of oxygen and carbon dioxide is hampered in lungs which increases blood pressure. Due to all these factors, pressure on the heart is more and afterwards it gets depressed leading to Myocardial Infarction and death.

In Cancer Research Institute of Paris, it has been proved that tobacco leads to impotency and also malnutrition in the sperm which is transported to *the next generation*.^[10] Due to polycyclic aromatic hydrocarbons and nicotine, there is no spermatogenesis and also it leads to loss of motility and counts of sperms, ultimately leads to sterility. People chew the *Gutkha* and spit here and there, they

become reservoir for spreading droplet infection in the society. It inhibits individual health as well as social health by uncleanliness. It also inhibits nation's progress by destruction of capable youth. So now-a-days consumption of *Gutkha* is a very serious problem throughout the world.

Inclusive Criteria:

- 1) The persons having the habit of *Gutkha* chewing minimum last 5 years and having age above 18 years are considered for the case study.
- 2) The person chews a minimum of five pouches per day.
- 3) The volunteers are selected irrespective of sex.

Exclusive Criteria:

- 1) The school children and persons having age below 18 years are excluded from case study because they are innocent and they have irregularity in habitual *Gutkha* chewing.

Aim and Objective:

- 1) To study and understand the *Gutkha* from *Ayurvedic* review.
- 2) To study patients with this habit and analyses the effects from *Ayurvedic* view

Materials and Methods:

- 1) Various brands of *Gutkha* were collected from the market for its composition. Their trade names are different, but composition is same. It contains *Tamraparni*, Betel Nuts, catechu, Lime, permitted spices and flavours. Some of

them are saffron blended and contain magnesium carbonate.

- 2) The study material of *Gutkha* and available information about *Gutkha* is collected.
- 3) *Ayurvedic* information about constituents of *Gutkha* is collected.
- 4) For the Case Study *Gutkha* chewing volunteers.

Methodology:

The literary information about the contents of *Gutkha* is compiled from *Ayurvedic* texts. The case paper is formed considering the signs and symptoms of *Dosha Dushti* given in *Ayurvedic* texts. The case paper is finalised after some pilot cases. The case paper highlights *Mukha Parikshana* with aim to ask questions regarding different organs in it. Similarly various *Sharirika* and *Mansika* Lakshana included in the case paper.

The detailed questionnaire for *Srotasa Parikshana* was included considering the textual references. The effect of *Gutkha* on *Dosha, Dhatu, Mala, Bala, Srotasa, Agni, Avayava, Indriya* etc. was noted. The collected data was analysed with the help of *Ayurvedic* views as well as statistical methods wherever applicable.

Observations and Results: The observations of 240 cases (195 Males & 45 Females) studied are as follows. We find all the social and economic groups addicted to *Gutkha*. Mainly the younger and the middle-aged people (age in between 20 to 40 years) are more addicted to *Gutkha*.

While studying these cases following answers were noted about their habit of *Gutkha*.

1) The answer for the first question i.e. why they chew the *Gutkha*? Is common like time-pass, habit or addiction etc.

2) How did they get addicted to *Gutkha*?

For this every patient held their friends responsible. Some of the patients are firstly addicted to tobacco-chuna and later on shift to *Gutkha* chewing regularly.

3) Furthermore, once they keep the *Gutkha* in their mouth they get kicked and they get excited, but they cannot definitely explain their feelings of kick.

The *Gutkha* is kept sublingually, due to this the chemicals and toxic substances spread through the blood circulation to the heart and it gives temporally mental excitement. After sometime the kick goes and the person again feels restless and finally he takes *Gutkha* again.

4) And once they are deprived of *Gutkha* they complain of lack of concentration and feel restless. The person does not stay in this stage for a long time, and finally they take *Gutkha* again.

5) While eating *Gutkha* very few people ingest the saliva but most of the people spit, which is largely contributing to the public unhygienic. There are so many problems in front of the people who ingest the saliva while chewing the *Gutkha*. The *Gutkha* is one of the most important etiological factors of various diseases like stomatitis, mucous fibrosis, carcinomas etc. Thus *Gutkha* inhabits individual health as well as social health by uncleanliness. That's why this is the duty of each and every civilian to prevent the people from this bad addiction.

In *Mukha Parikshna* we have examined *Mukha, Oshta, Danta. Dantavestana, Gilayu, Jivha* and *Talu*. These seven *Avayava* of mouth were examined under the 29 *Lakshana*.

Table No. 1 Mukha Parikshana

Sr. No.	Lakshana	No. of patients	%
1	<i>Mukhapak</i>	190	79.16%
2	<i>Pitikotpatti</i>	104	43.33%
3	<i>Raktasrava</i>	125	52.08%
4	<i>Lalastrava</i>	92	38.33%
5	<i>Vrana</i>	84	35%

Mukhapaka is found in 79.16% of patients. Most of the patients are having *Mukhapaka* at least once in the month and they are slowly moving towards the *Pitikotapti* and *Vrana* which is found in the first stage of oral cancers.[11]

Table No 2 Oshtha Parikshana

Sr. No.	Lakshana	No. of patients	%
1	<i>Sphutita Oshtha</i>	180	75%
2	<i>Avadarana</i>	103	51.25%
3	<i>Shyava Varna</i>	96	40%

Due to the habitual chewing of *Gutkha*, *Vata Vriddhi* takes place in the human body and it shows above *Lakshana*.

Table No 3 Danta Parikshana

Sr. No.	Lakshana	No. of patients	%
1	<i>Vrana</i>	210	87.5%
2	<i>Dantagata Raktasrava</i>	100	41.66%

3	<i>Krumi Danta</i>	110	45.83%
4	<i>Danta Bheda</i>	45	18.75%

Table No. 4 Dantaveshtana Parikshana

Sr. No.	Lakshana	No. of patients	%
1	<i>Raktastrava</i>	100	41.66
2	<i>Avadarana</i>	95	39.38
3	<i>Shohta</i>	40	16.66

Loss of lustre of teeth is frequently observed in *Gutkha* chewers. Teeth color is changed in to *Peeta-Varna*. So, the *Shukla, Snigdha Guna* of *Danta* described in *Ayurveda Samhita* are greatly affected. These patients also get affected by *Krumi-Danta* or it is also called as Dental carries leading to *Danta-Shoola Lakshana*. In *Astang Sangraha, Doshbhediya Adhyaya Danta-Shoola* and *Danta-Bheda* are described as *Vataja Nanatmaja Vyadhi* and *Mukhapaka* is described as *Pittaja Nanatmaja Vyadhi*. So that we can say that *Gutkha* is one of the cause of such diseases.

Table No. 5 Gilayu Parikshana

Sr. No.	Lakshana	No. of Patients	%
1	<i>Gilayu Shohta</i>	72	30%
2	<i>Daha</i>	154	64.16%
3	<i>Puyastrava</i>	51	21.25%

Table No. 6 Talu Parikshana

Sr. No.	Lakshana	No. of patients	%
1	<i>Taludaha</i>	154	64.16
2	<i>Paka</i>	63	26.25
3	<i>Shohta</i>	44	18.33
4	<i>Vrana</i>	14	17.08

About the *Gilayu & Talu, Daha Lakshana* is observed disastrously. *Sharira Agni* and *Pitta*

has *Ashrayashrayi Bhava*. It means that *Daha Lakshna* is developed due to *Pitta Prakopa*. Most of the *Sharirika Vedana* is developed due to the *Samana Vayu*. The *Ushna Gunatmak Pachak Pitta* and *Samana Vayu* are situated in the *Amashaya*. Due to *Atisevana* of *Gutkha*, *Pachak Pitta* and *Samana Vayu* gets vitiated and *Pitta & Vata Prakopa* takes place. It develops *Daha Lakshna* of *Gilayu* and *Talu*.

Table No. 7 Jivha Parikshana

Sr. No.	Lakshna	No. of Patients	%
1	<i>Arochaka</i>	130	54.16
2	<i>Samata</i>	137	57.08
3	<i>Jivhakantak</i>	68	28.33
4	<i>Vrana</i>	65	27.08

When the *Gutkha* is placed in the mouth, the *Rasanendriya* gets stimulated as it has *Adhithana* on the *Jivha* and the patient feels the kick. After some time, this stimulation is released and the patient feels normal. But due to the habitual use of *Gutkha*, *Jivha* shows *Arochaka*, *Samata*, *Jivhakantak* etc. *Lakshana*. When the *Gutkha* chewers are deprived, they feel restless and uncomfortable and they start to get it again and again. Hence we can say that the *Gutkha* disturbs the normal role of *Rasanendriya* which is one of the most important *Panchagyanendriya*. Continuous chewing of *Gutkha* leads to *Atiyoga* of *Rasanendriya*. It is *Asatmya Indriyarth Samyoga* which is one of the main causes of different types of diseases. *Jivha* is a *Moolsthan* of *Bodhak Kapha*. Due to continuous chewing of *Gutkha* it gets vitiated, it produces different *Lakshana* like *Aruchi*, *Arasadyanata* etc.

Table No. 8 Sharirika Lakshana

Sr. No.	Lakshana	No of Patients	%
1	<i>Malavrodha</i>	195	81.25
2	<i>Malavstambha</i>	178	74.1
3	<i>Adhmana</i>	131	54.58
4	<i>Sadahamutrata</i>	87	36.25
5	<i>Sakashtamala</i>	195	81.25
6	<i>Sashoolamutrata</i>	56	23.33
7	<i>Pitamutrata</i>	73	30.41
8	<i>Nidranasha</i>	61	25.41
9	<i>Netragaurava</i>	53	22.08
10	<i>Netraraktata</i>	57	23.75
11	<i>Netrashoola</i>	49	20.41
12	<i>Kshudhamandya</i>	103	51.25
13	<i>Apakti</i>	111	46.21
14	<i>Ajirna</i>	109	45.41
15	<i>Amla pitta</i>	152	63.33
16	<i>Hastapadashool</i>	50	20.83
17	<i>Sandhishoola</i>	47	19.58
18	<i>Chimchimayana</i>	43	17.91
19	<i>Katishoola</i>	53	22.08
20	<i>Alpabala</i>	106	44.16
21	<i>Atisweda</i>	109	45.41
22	<i>Anidra</i>	126	52.03
23	<i>Atinidra</i>	45	18.75
24	<i>Ati-pipasa</i>	117	46.66
25	<i>Sharir daurgandhya</i>	46	19.16
26	<i>Moha</i>	44	18.31
27	<i>Bhrama</i>	41	17.08
28	<i>Sarvanga-gourav</i>	51	21.25
29	<i>Sarvanga-shoola</i>	74	30.83
30	<i>Jrumbha</i>	86	35.83

In *Sharirika Lakshana*, 81.25% patients show *Malavarodha*, 74.16% patients show *Malavashtambha*, 54.58% patients show *Adhmana*, 81.25% patients can not defecate easily without taking *Gutkha*. The other

Sharirika Laxana mostly seen are *Kshudhamandya*, *Apachana*, *Ajirna*, *Alpa-Bala*, *Ati-sweda*, *Anidra* and *Ati-pipasa*. These *Sharirika Laxana* are frequently observed in *Gutkha* chewers.

Table No. 9 Manasika Lakshana

Sr. No.	Lakshanas	No.of patients	%
1	<i>Manasika Durbalata</i>	139	57.91%
2	<i>Kshobha</i>	142	59.10%
3	<i>Nairashya</i>	99	41.25%
4	<i>Aswashtata</i>	119	49.58%
5	<i>Shirashoola</i>	114	47.05%
6	<i>Alasya</i>	69	28.75%
7	<i>Nirutsaha</i>	65	27.08%

After *Sharirika Lakshana* we come to the *Manasa Lakshana*. In the *Manasa Lakshana*, *Manasika Durbalata* is observed in 57.91% of patients, *Chidchidepana* or *Kshobha* is observed in 59.16%, *Nairashya* is observed in 41.25% and *Aswashtata* is observed in 49.95%. These *Lakshana* are typically observed in *Gutkha* chewers.

Table no .10 Test for Proportion

The calculated value and “P” values for the percentage of *Lakshnas* observed in different sections are as shown in the table.

N o.	Parikshana	Lakshna	% Observed	Cal . Value	“P” Value
1	Mukha	a) <i>Mukhapa ka</i>	79.16 %	9.00	< 0.01 **
		b)	52.08	0.6	0.26

		<i>Raktstrava</i>	%	2	7
2	Oshta	a) <i>Sputitha</i>	75.00 %	7.76	< 0.01 **
		b) <i>Avdharana</i>	51.25 %	0.38	0.352
3	Danta	a) <i>Vrana</i>	87.5 %	11.6	< 0.01 **
		b) <i>Dantashoola</i>	64.58 %	4.5	<0.01 **
4	<i>Gilayu</i>	<i>Daha</i>	64.16 %	4.3	< 0.001 **
5	<i>Talu</i>	<i>Daha</i>	64.16 %	4.3	< 0.001 **
6	Jivha	a) <i>Arochaka</i>	54.16 %	1.27	0.102
		b) <i>Samata</i>	57.16 %	2.22	0.0132*
7	<i>Sharirika Lakshana</i>	a) <i>Malavrodha</i>	81.25 %	9.6	< 0.01 **
		b) <i>Malavshambha</i>	74.16 %	7.48	< 0.01 **
		c) <i>Adhman</i>	54.58 %	1.42	0.078
		d) <i>Sakshta</i>	81.25 %	9.6	< 0.01

		<i>Mala Pravritti</i>			**
		e) <i>Kshudha Mandha</i>	51.25 %	0.3 8	0.35 19
		f) <i>Amlapitta</i>	63.33 %	4.1 3	0.00 2**
		g) <i>Anidra</i>	52.03 %	0.6 3	0.26 43
8	<i>Manasika Lakshana</i>	a) <i>Mansika Dourbalya</i>	57.91 %	2.4 5	0.00 71**
		b) <i>Kshobha</i>	59.10 %	2.8 2	0.00 24**

* = Significant value.

** =

Highly Significant Value.

Discussion:

Tamraparni is the main content of *Gutkha*. [12] Actual percentage of *Tamraparni* is not mentioned on the *Gutkha* pouch but it is the chief constituent of *Gutkha*. In different *Ayurvedic* texts it is mentioned that it acts as a *Madaka* by its *Prabhava*. [13] So that we can also say that patients cannot defecate easily without taking *Gutkha* was observed due to the effect of *Prabhava* of *Tamraparni*. The *Samana Vayu*, *Pachak Pitta* and *Kledaka Kapha* are situated in the *Amashaya*. Due to the habitual chewing of *Gutkha* this all *Doshas* are vitiated. Due to the vitiated *Samana Vayu*, *Agnimandya*, *Kshudamandya* and *Ajirna* symptoms are observed. Due to the vitiated *Pachak Pitta* *Lakshana* like *Amla pitta*, *Apachan*, *Ati sweda*, *Ati pipasa*, and *Netra Araktata* are frequently observed in the patients. As we know the *Prajnaparadha* is a

one of the main causes of disease described in *Charak Samhita*. [14] *Prajna* means optimum function of *Dhee*, *Dhriti*, and *Smruti*. Although people know about the poisonous and harmful effects of *Gutkha* still they are not able to leave this habit. All these lead to the increase of *Raja* and *Tama Guna* on *Prajna*. In *Dhriti Bhransha* though *Budhi* has taken the right decision considering what is rational or irrational but due to objective destruction of the material world the decision is not followed. The symptoms like *Panduta*, *Mandagni*, *Kasa*, *Pratiloma Vayu* particularly *Apana Vayu*; *Anidra*, *Adhman*, indications of *Yakruta* and *Pleeha Vriddhi*, *Durbalata*, *Alasya* and *Shotha* are observed due to the *Garavisha*. All these symptoms are also observed in habitual *Gutkha* chewers. It causes *Vata* and *Pitta Vriddhi* and *Kapha Kshaya*. The *Atisevana* of *Gutkha* causes *Lakshana* of *Vata* and *Pitta Prakopa*. Among *Tridoshas* and its subtypes, *Samana*, *Udana* and *Apana Vayu*; *Pachak Pitta*, *Bodhaka* and *Kledaka Kapha* were seen to be affected more. This is nothing but *Prajnaparadha* which is the most common cause of diseases. Though the hazardous effects of *Gutkha* chewing are known to the people they carry on with it.

Conclusion:

Gutkha disturbs the normal role of *Dosha* and produces *Kriyahani* of the above *Doshas*. *Rasa*, *Rakta*, *Mansa*, *Asthi*, *Shukra Dhatus* are mostly affected due to *Gutkha*. Mostly the *Dhatu Kshaya* and *Shukra Kshaya* is observed. In *Malas*, *Purisha* gets affected the most. The *Lakshana* like *Malavashtambha*, *Sashoola Mala Pravriti*, *Sakashta Mala Pravriti* and *Drava Mala Pravriti* are commonly observed in *Gutkha* chewers. The *Sweda* and *Mutravaha*

Srotasa were also affected to some extent. In *Srotasa*, *Rasavaha Srotasa*, *Purishavaha Srotasa* and *Shukravaha Srotasa* were seen to be affected disastrously. The effect of *Gutkha* on *Mana* results in *Mano-Dourbalya*, *Nairashya* and *Kshobha* etc. This might be due to the disturbances of *Mano Guna* with concern to *Prajnaparadha* and *Asatmya Indriyarth Samyoga*. Due to the effect of *Gutkha* the *Bala* also get affected at some extents results in "*Alpa Balatwa*". All these effects produce *Shukra Kshaya* in the body which ultimately leads to *Oja Kshaya*. With the help of statistical calculations, we can say that *Gutkha* may affect *Dosha*, *Dhatu*, *Mala*, *Srotasa*, *Agni*, *Mana* etc. Hence, we can conclude by saying that *Gutkha* affects *Dosha*, *Dhatu*, *Mala*, *Agni*, *Srotasa*, *Mana*, *Bala*, *Oja* etc.

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