Original Article

Prevalence of Anaemia Among Gutka Addicted Pregnant Women

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Abstract

Objective: To assess the prevalence of anemia in Gutka addict pregnant women presented at gynae and obstetrics out patients Department (OPD)

Methodology: This was a cross sectional observational study, conducted at a tertiary care hospital from Jan 2018 to June 2018.
The pregnant women attending antenatal outpatient department of Obstetrics and Gynaecology were inquired for Gutka addiction. Only gutka addict pregnant women were selected and interviewed after taking informed verbal consent. A 3 ml blood sample was taken from each subject to assess the haemoglobin level. Haemoglobin level <11.0 g/dl was considered as anemia. Data was collected via study proforma.

Results: A total of 90 pregnant women were included in the study. Most of the respondents (86%) were in 21-30 years of age group. The majority of women (63.3%) were uneducated and belonged to a low socioeconomically class (73.3%). Most of the women (66.6%) were addicted for more than 5 years of duration. Anemia was seen in 70% of the study participants and 55.5% (35) of them were having moderate anemia (Hb 7.0—9.0mg/dl). The severity of anemia was directly related to the amount and duration of Gutka consumption (p=<0.05).

Conclusion: Gutka addiction increases the risk of anemia in pregnant women and women are taking it as a safe alternative to cigarette smoking. So efforts should be taken to increase the awareness regarding the harmful effects of gutka on pregnancy, fetus and general health.

Keywords: Gutka addiction, Anaemia, pregnancy.

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Introduction

Anemia is the commonest hematological disorder seen during pregnancy. 18% of pregnant women are complicated by anemia worldwide, while in underdeveloped countries like Pakistan anemia is 3-4 times more common, approximately in 56% of pregnant women. According to World Health Organization (WHO), anaemia in pregnancy is characterized as hemoglobin levels below 11 gm/dl and hematocrits below 33%. Anemia is graded as mild when the level of haemoglobin is between 10.0 and 10.9 gm/dl, moderate when it is between 7.0 and 9.9 gm/dl, severe when it is between 7.0 and 9.9 gm/dl, and very severe when it is below 4.0 gm/dl.[1] The WHO reports the tobacco as the most preventable factor of death worldwide. Tobacco usage is thought to be responsible for 5.40 million deaths per year. Tobacco is sold in a variety of types and mixtures, including

smoking cigarettes, pipes for smokeless products, and cigars. In Pakistan, Pan along with tobacco, Chalia Supari, Naswar, and gutka are the most prevalent types of smokeless tobacco present.[2] Gutka is a blend of areca nut, roasted sun-dried tobacco, catechu, and slaked lime, sweeteners and flavours.[2] Gutka has an impact on the normal activity of the CYP-450 enzyme, which is present in nearly all organs of human body. These enzymes are involved in the development of hormones such as sex hormones, testosterone, and oestrogen, and also vitamin D and cholesterol. It is associated with many serious side effects, like carcinogenic, psychological and cardiovascular etc. Effects in the cardiovascular system are abrupt changes in blood pressure, dizziness, blurred vision, palpitation, and cardiac arrhythmias. Gutka also has several gastrointestinal adverse effects such as nausea, acid reflux, vomiting, diarrhea, and abdominal pain. Traces of toxic metals are also found in Gutka such as lead, arecoline, and chromium, which lead to the loss of appetite and gastritis resulting in chronic blood loss and decreased iron absorption which causes iron-deficiency anemia in users. [3] In contrast to this other studies showed increased haemoglobin levels with the use of smokeless tobacco and impaired pulmonary function could be the reason behind increased erythropoiesis.[4,5] Smokeless tobacco or Gutka usage is highly prevalent among South East Asian females and is gradually gaining acceptance globally as a safe option to smoking cigarette. During pregnancy, the usage of smokeless tobacco is linked with preterm birth, low birth weight, stillbirth and decreased folate levels.[6,7] This study intended to see the prevalence of anemia in Gutka addict pregnant women.

Methodology

It was a cross sectional observational study conducted at the outpatient department of Al-Tibri Medical College & Hospital, Isra University Karachi Campus form 1st January-2018 to 30-June-2018. Women using Gutka at least 1 packet per day in past 1 year is labeled as Gutka addict. Only Gutka addict pregnant ladies were included in the study. The content of the questionnaire explained, and then informed verbal consent was obtained from participants. Demographic details regarding age, parity, educational and socioeconomic status, gestational age at booking were entered in proforma. Women were interviewed regarding duration of intake and consumption frequency of Gutka packets per day. Complete blood count (CBC) was performed in all patients to see the haemoglobin levels and assess the severity of anemia. Exclusion criteria were the non-pregnant woman, women who use other forms of tobacco (cigarette smokers, pan, Naswar, etc), anemia due to other medical disorders for example folic acid deficiency, vitamin B-12 deficiency, thalassemia, chronic blood loss etc were excluded from the study. The data analysis was done by SPSS 16 version. Simple frequencies were calculated for qualitative data and presented as % (n); no statistical test was applied.

Results

A total of 90 Gutka addict pregnant women were enrolled in this study. The majority of participants 78 (86%) were in 21-30 years of age group. Most of the respondents 63% (57) were uneducated and 73.3% (66) belonged to a low socioeconomic class. The majority of women 83.3% (75) were multigravida. A large number of women 55.7% (50) attended OPD for the first time in A total of 90 Gutka addict pregnant women were enrolled in this study. The majority of participants 78 (86%) were in 21-30 years of age group. Most of the respondents 63% (57) were uneducated and 73.3% (66) belonged to a low socioeconomic class. The majority of women 83.3% (75) were multigravida. A large number of women 55.7% (50) attended OPD for the first time in the third trimester of pregnancy (Table I).

Table I: Demographic features of study population (n = 90)		
Age Group	**Frequency**	**%**
<20 years	3	3%
21-30 years	78	86%
>30 years	9	10%
Educational status		
Uneducated	57	63%
Primary education	18	20%
Secondary education	15	16.6%
Socioeconomic status		
Poor	66	73.3%
Middle	24	26.6%
Upper	0	
Parity		
Primigravida	15	16.6%
Multigravida	75	83.3%
Gestational age		
1st trimester	15	16.6%

2nd trimester	25	27.5%
3rd trimester	50	55.7%
Gutka packets consumption per day		
1-2 per day	42	46.6%
3-5 per day	27	30.0%
6-10 per day	21	23.4%
Anemia		
Normal haemoglobin	27	30%
Mild anemia	18	28.5%
Moderate anemia	35	55.5%
Severe anemia	10	15.8%

Regarding details of gutka addiction, 66.6% (60) pregnant women were using gutka for more than 5 years of duration, and 46.6% (42) were consuming 1-2 packets of gutka per day. Anemia was present in 70% of the study participants and 55.5% (35) of them were having moderate anemia (Hb 7.0—9.0mg/dl). The severity of anemia was directly related to the amount of Gutka consumption p-value 0.044. Severe anemia was significantly higher among women having had Gutka consuming duration more than five p-value 0.001. (Table II).

Table II: Severity of anemia according to frequency of Gutka consumption (n = 90)

Gutka Packets /day	Severity of anemia				
	Normal HB	Mild	Moderate	Severe	p-value
1-2 per day	18	12	10	01	0.044
3-5 per day	07	02	16	02	
6-10 per day	02	04	09	07	
Total	27	18	35	10	
Duration of Gutka					
1-5 years	17	10	13	03	
>5 years	10	08	22	07	**0.001**
Total	27	18	35	10	

Discussion

Pakistan is among the fifteen countries with high tobacco consumption in the world and use of Gutka is popular in Karachi because of its low cost, and affordability and easy accessibility in men and women.[13, 14] Smokeless tobacco use is prevalent in females of reproductive age group in Asia, with higher trends in teenagers.[6, 15-17] We also observed increased trends of gutka addiction in 20-30 years age group (86.6%) similar trends were also seen in another study.[12]

In our study, a large number of participants were uneducated (63%) and belonging to poor socioeconomic class (73.3%). These findings are similar to the studies conducted in India. [12, 18]

Most of the study participants 66.6% were using gutka for more than 5 years and consuming at least 1-2 packets per day. Anemia was significantly associated with the use of gutka in our study,70% of gutka addict pregnant women were having haemoglobin levels less than 11 gm % and out of them 55.5% of women were moderately anaemic. While in another study 65.88 % of anaemic pregnant women were having a history of betel nut addiction[9]. Our results are also supported by study of Parkash c gupta in which smokeless tobacco users were 1.7 times more likely to be anaemic in comparison to non-user women.[8] While in another study 26.69% of anemic pregnant women were addicted to pan or gutka which could be the cause of anemia.[19]

In our study, majority of participants 78 (86%) were 21-30 years of age group and majority of women 83.3% (75) were multigravida. In comparison to our results, study conducted by Brohi parveen Zahida et al[20] reported that mostly women (64.1%) using gutka were in age range of 14 to 24 years followed by 30.7% in age range of 25-35 years and 5.1% of females in age range above 35 years. Association between ghutka use and parity showed that Ghutka use was associated with 47.4% of multipara, 31% of nullipara, 17.2 % of a primipara, and 4.3% of grand multipara parity. Another study conducted by Das CM et al[21] reported a mean age of 38.34±5.732 and in their study, 40 (11.42%) study subjects were Primgravida, 188 (53.71%) study subjects were multigravida, however, grand multipara were 122(34.85%). Moreover, housewives were 298 (85.14%) and employee were 52 (14.85%) of study subjects; Illiterate study subjects were 178(50%). Another study conducted by Radhika AG et al[22] reported that mean age of pregnant women using gutka was 24.86±3.91 years, however, control group study subjects showed a mean age of 25.21±3.6 years. In their study, 54% of gutka users and 33.7% of nonusers were illiterate. In the study of Khursheed F et al[23] according to addiction frequency, highest addiction to gutka was seen in the 69.83% of study subjects of age group 25-35 years, 68.17% of study subjects of para 2-5, and 77.49% of females from rural area. A

significant percentage of the participants (63%) in our study were uneducated and from a low socioeconomic background (73.3%). These results are close to those of Rani et al., who researched India.[24]

In our study, regarding details of gutka addiction, 66.6% (60) pregnant women were using gutka for more than 5 years of duration, and 46.6% (42) were consuming 1-2 packets of gutka per day. In comparison to our results, study conducted by Brohi parveen Zahida et al[20] reported that out of total 187 (61.9%) females who utilized smokeless tobacco all through pregnancy, 164 women (54.3%) used smokeless tobacco prior to pregnancy and proceeded to do so during pregnancy, except for three, whereas 26 females began using it during pregnancy. Prior to pregnancy, they used it 2-3 times and continued to use it throughout their pregnancy. Ghutka used by 116 of study subjects remained the most prominent form of smokeless tobacco (62%). In the Southeast Asian region, betel nut as well as its products (main-puri, gutka, supari, pan) are widely consumed by both the general public and expectant mothers. The continued use renders them addicted to these products (physically or mentally dependent on an addiction substance) and induces anaemia. Gutkha has made inroads in traditional society and people with lower socioeconomic status use it as another source of smoking. The myth that it is less detrimental than smoking is in favor of gutkha.

In our study, anemia was present in 70% of the study participants and 55.5% (35) of them were having moderate anemia (Hb 7.0—9.0mg/dl). The severity of anemia was directly related to the amount of Gutka consumption p-value 0.044. Similar results are seen in the study conducted by Sreevidya Set al[25] whose results reported that in univariate analysis, anemia (Hb below 10 g/dl) was associated significantly with smokeless tobacco (OR=1.7, 95% CI 1.2–2.5). The findings indicate that, as with cigarette smoking, using smokeless tobacco throughout pregnancy is correlated with lower haemoglobin levels. Southeast Asian females consume smokeless tobacco in massive quantities, and it is increasingly becoming popular around the world as a healthy replacement to smoking. The significance of more research and explanation of this relationship to public health is thus vital. While another study conducted by Mubashara Z

et al[26] also reported that 26.69% of anemic pregnant women were addicted to pan or gutka which could be the cause of anemia. Another study conducted by Ali shaikh et al[27] also reported that The levels of vitamin B12 and serum ferritin are significantly reduced by using smokeless tobacco. They discovered low levels of serum ferritin and high levels of C - reactive protein in manpuri and gutaka users; (p=0.05). Gutaka users had significantly lower levels of folate and vitamin B12; (P= 0.05). People in Bangladesh have begun to consume tobacco juice, which results in up to 6-7% reduction in the levels of haemoglobin.[28] During pregnancy, folate deficiency can result in preterm birth, low birth weight, neural tube defects, megaloblastic anaemia, and growth retardation.

Conclusion

Gutka addiction increases the risk of anemia in pregnant women and women are taking it as a safe alternative to cigarette smoking. So efforts should be taken to increase the awareness regarding the harmful effects of gutka on pregnancy, fetus and general health.

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