

Original Article

Prevalence of Gutka/Mawa Addiction in Pregnant Women and Causing Iron Deficiency Anemia

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Abstract

Objective: To determine the prevalence of Gutka/Mawa addiction and causing iron deficiency in pregnant women living in district thatta of Sindh and its peripherals.

Methodology: It was prospective, observational and cohort study conducted in DHQ thatta and Abdul Kareem Unar Memorial Hospital Makli, by using a non-probability sampling technique. This study included 100 pregnant women aged 18 years and above. The data is collected by obtaining history and hemoglobin percentage with Blood indices (CBC).

Results: Out of these 100 cases, 9 (9%) of women had mild degree of anemia (Hb 9-10.9g/dl), 56 had moderate anemia (Hb 7-8.9g/dl) while 34 women presented with severe anemia (Hb <7g/dl).

The percentage of cases with Gutka/Mawa addiction increased with increasing parity. Furthermore, all parity 2 and onwards cases had exposure to betel nuts.

Conclusion: It is concluded that Gutka/Mawa consumption is very high in thatta district. If simply we are taking mothers who are presented in hospital with anemia in pregnancy are over burden on hospital and for blood banks, to treat excessively by repeated transfusion.

Keywords: Pregnancy, anemia, Gutka, Mawa, addiction, parity.

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Introduction

Anemia is a blood ailment which originates due to body's incompetence to produce healthy red blood cells resulting in low hemoglobin concentration. In this condition body produces lower amount of red blood cells than usual. Anemia constitutes the list of most prevalent disorders in the world. Specifically, pregnant women are more prone to anemia and backed by a study conducted in 2011, about 38 percent of expecting women are stricken with anemia and the ratio is even higher in developing countries like Nigeria, Bangladesh, Pakistan, Papua New Guinea and that constitutes around 50% of expectant women.^{1,2} Anemia is one of the leading cause of deaths in pregnant women along with complications during pregnancy, fetal defects, low birth weight, perinatal mortality and neonatal deaths.^{3,9} The threat of decreased birth weight and premature birth amid the anemic pregnant women was found to be approximately

4 and 1.9 times more correspondingly than the non-anemic pregnant women.⁴ The etiology of anemia in expectant women is multi-elemental. In South East Asian region, betel nut consumption and consumption of its products like paan, main puri, supari etc. is very high and is linked to anemia. Its regular use makes women addicted and dependent. Multiple studies show that usage of areca nut and its products make expectant women prone to complication like anemia, miscarriages, fetal complications etc.¹

Areca nut also known more commonly as betel nut (BN) or paan in Indian subcontinent is very popularly consumed solitary and also along with other ingredients such as chewing tobacco in South East Asian countries and their immigrants residing in other parts of the world like Nigeria, Papua New Guinea, Palau etc.^{5,10} Records of Puranas and Rivegeda demonstrate that beetle nut has been consumed earlier for its digestive and masticatory qualities due to its bitter and pungent taste⁶.

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An alkaloid arecolines is present in BN which is supposedly responsible for its psycho-stimulatory effects and as a result of exposure to arecoline in people who consume BN, oral cancer is very prevalent. Along with psycho-stimulatory effects, arecolines are also found to be responsible for beetle nut's carcinogenic properties causing oropharyngeal cancers and esophageal cancers as well as other negative outcomes on fetus by beetle nut's consumption by pregnant women¹². Consumption of areca nut also escalate the possibility of cardiovascular diseases like HTN and arrhythmias and systemic diseases like diabetes. But the key mechanism by which betel nut consumption leads to these systemic diseases remain abstract.^{5,7,8}

According to multiple studies folate deficiency is reported to be linked with betel nut consumption. Folate stores in women's body starts getting depleted because of its increased requirement during pregnancy as folate is essential for growth and development of placenta, fetus and maternal tissues. Thus, in expectant women who chew betel nut and its products, folate deficiency aggravates. This leads to a series of complications like megaloblastic anemia, decreased birth weight, spina bifida, defects of neural tube, premature birth, deferred maturation of nervous system and retardation of organ growth in fetus.⁵ Conversely, it is argumentative that why the ratio of anemia is high in expectant women in spite of prescribing folate and iron supplements to prevent anemia in expectant women in the first place.¹¹

Thus our aim to conduct this study is to find out links between consumption of betel nut and its products in women and the cases presented with anemia and to investigate these cases for any association of this consumption with negative pregnancy outcomes.

Methodology

It was prospective, observational and cohort study conducted in DHQ thatta and Abdul Kareem Unar Memorial Hospital Makli, by using a non-probability sampling technique. This study included 100 pregnant women aged 18 years and above. The period of the study is 1 year that is 2019. The data is collected by obtaining history and hemoglobin percentage with Blood indices (CBC). The data pertaining to age, parity and anemic condition in pregnant women. Age wise the women are divided into 3 groups, below 25 years, between 25-35 years and above 35 years. According to anemia was categories by WHO guidelines as mild (9-10.9gm/dl), moderate (7-8.9 gm/dl) and severe (less

than 7 Hb) according to parity the women divided into Primigravida, Primipara, Para 2-5 and Para >5. Associated with the addiction with severity of anemia.

The software used to analyze data was SPSS version 22. The results presented in terms of frequencies and percentages.

Results

A total of 100 women were included in this study. All participants were pregnant at the time of the study and were diagnosed with iron deficiency anemia. Out of these 100 cases, 97 women were found to have a history of Gutka/Mawa addiction. The frequency of women associated with Gutka/Mawa addiction in the three age groups and their parity is represented in Table II.

Table I: Prevalence of Betel Nut Addiction in Pregnant Anaemic Women.

Variable	No of Cases
Total number of pregnant anaemic women	100
No. of women with history of Gutka/Mawa addiction	97
Prevalence of Gutka/Mawa addiction (%)	97%

The highest number of Gutka/Mawa consumption was seen in the age group 25-35, however, all 5 cases that presented in the age group >35 had an addiction history.

Table II: Demographic Features.

Variable	No of cases n=100 (%)	Cases with history of addiction n (%)		p-value
		Yes	No	
Age (years)				
<25	38 (38)	36 (94.73)	2 (5.26)	0.625
25-35	57 (57)	56 (98.24)	1 (1.75)	
>35	5 (5)	5 (100)	0 (0)	
Parity				
Primigravida	24 (24)	22 (91.6)	2 (8.33)	0.24
Primipara	25 (25)	24 (96)	1 (4)	
Para 2-5	45 (45)	45 (100)	0 (0)	
Para >5	6 (6)	6 (100)	0 (0)	

Out of these 100 cases, 9 (9%) of women had mild degree of anemia (Hb 9-10.9g/dl), 56 had moderate anemia (Hb 7-8.9g/dl) while 34 women presented with severe anemia (Hb <7g/dl). The percentage of cases with Gutka/Mawa addiction increased with increasing parity. Furthermore, all parity 2 and onwards cases had exposure to betel nuts.

Table III: Severity of Anaemia

Variable	No of cases	Cases with history of addiction n (%)	p-value	
Hemoglobin (g/dl)	n (%)	Yes	No	
Mild (9-10.9)	9 (9)	8 (88.8)	1 (11.11)	0.289
Moderate (7-8.9)	56 (56)	55 (98.21)	1 (1.78)	
Severe (<7)	35 (35)	34 (97.14)	1 (2.85)	

Discussion

The frequency, origin, and severity of maternal anaemia vary depending on the community. Due to variations in socioeconomic status, way of life, and health-seeking behaviour across various communities, the frequency varies greatly.¹³ Betel nut consumption and betel nut products are particularly popular in South East Asia. The habit of chewing often develops throughout school years and persists into adulthood. There is strong evidence that ingesting betel nut products while pregnant can have a variety of negative health effects, such as anemia, miscarriages, and poor fetal outcomes.^{14 15}

The epidemiological information about betel nut usage in Pakistan has been documented in several subgroups, and rates vary depending on the sample examined and the study's geographic location.^{16 17} According to the 1994 National Health Survey, 12.5% of Pakistani women smoke, and 10% of them use any chewable type of tobacco, such as Gutka, Naswar, and Pan. In their study, Senn M. et al. found that 94% of pregnant women ingest betel nuts.^{18 19}

In their study, Patoli et al. discovered that 12% of women used betel nut.²⁰ Another research done in Karachi on residents of squatter settlements revealed that among females, 60.9% used areca nuts and 56.5% used gutka.²¹ In their study, Usman G et al. reported that 96% of women in Karachi's coastal region eat gutka while nursing their infants.²² In this study, we discovered that pregnant women who had anemia had a very high prevalence (65.88%) of addiction to these drugs. The older maternal age has been linked to an increased risk of anemia in pregnancy in several studies. As the women's age and parity grow, we also observed an increase in the frequency of anemia in our research.^{23 24} As the women's age and parity grow, we also observed an increase in the frequency of anemia in our research. Addiction was particularly prevalently prevalent in older and multiparous women. This finding shows how strongly addiction and anemia are related.

Just a little amount of study has been done to assess the effects of gutka/mawa and its products on pregnant women's health. This study was conducted to first determine the prevalence of gutka/mawa product use and then to determine the effect on iron deficiency in pregnancy.

Conclusion

A high percentage of pregnant women who were visiting antenatally or indoors in emergency in their second and third trimester, and were moderate to severely anaemic account around 60 to 65% had failed oral iron therapy and needed parental support of iron in late second trimester or blood transfusions in emergency. Many times they present with complications of anemia in pregnancy like pre-eclampsia, Intrauterine growth restriction, loss of weight or Non progress. labor / obstructed labor which often end up on caesarian sections.

Furthermore, one gutka/mawa costs 50 Rupee average, and a woman usually use 6 to 10 packs/day which spend money around 300 to 500 per head in a family of 6 to 8 members. If using in a way same like burdened by 9000 to 15000/ month extra expenditure.

We have seen people with no proper shelter to live but they spend their daily wedges labour income over this addiction.

If simply we are taking mothers who are presented in hospital with anemia in pregnancy are over burden on hospital and for blood banks, to treat excessively by repeated transfusions.

That probably its happening because all these things are acting like chelating agents in gut so it's not possible for oral irons to be digested, however same patients are responding on parenteral therapy.

According to the study's findings, eating gutka/ mawa while pregnant is highly linked to iron deficiency anemia, which can have a negative impact on the growing fetus both directly and indirectly through poor maternal health. It is advised that enough information and counselling on the potential negative health effects of gutka/ mawa products be given to all pregnant women during their prenatal, antenatal, and postnatal periods.

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