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Maternal Health Status of Choukhutiya Bhunjia Tribe of Gariyaband District of Chhattisgarh, India

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Abstract: ***Objectives: To assess the maternal health status of Choukhutia Bhunjia and to highlight the health related problems of pregnant and lactating Choukhutia Bhunjia women with regard to anaemia and nutritional status. Methods: The present study was conducted at Gariyaband district of Chhattisgarh, India. 15 predominated Bhunjia villages were selected for primary data collection for which 114 women (21 pregnant and 93 lactating women) were selected by census survey method. Structured interview schedule, semi-participatory observation technique were used for data collection. Anthropometric measurements viz. height and weight were taken (Weiner & Lourie, 1981). Hemocue 301was used for assessment of haemoglobin level. Results: Prevalence of anaemia was observed to be very high among lactating and pregnant Choukhutiya Bhunjia women. 64.92 % lactating women were found to be under underweight category and only 4.39% under over weight. Pearson correlation between BMI and anaemia was observed to be positively correlated. Conclusion: Maternal health of Bhunjia women were observed to be very low. The prevalence of anaemia was noted to be very high among the Bhunjia women. Quality of maternal nutrition and lack of health services might be responsible for the low maternal health of the Bhunjia women. Good antenatal, intranatal and post natal care and enhancement of health care delivery system might be helpful in upliftment of maternal health status of Choukhutia Bhunjia women.***

Keywords: BMI, Anaemia, Maternal health, Choukhutia Bhunjia, Chhattisgarh

1. Significance

The present study will be helpful in planning appropriate nutritional intervention programmes for the upliftment of health status of Bhunjia women of Chhattisgarh.

2. Introduction

The health and nutritional problems are most common in tribal women of India. Nutritional anaemia is one of the major problem of Indian rural and tribal women. According to UN 1984 at least half of the non pregnant and two thirds of the pregnant women were anaemic in developing countries (U.N., 1984). Average 56 percent with a range of 35-75 percent is the prevalence of anaemia globally as estimated by world health organization (W.H.O., 1992). Primary cause of anaemia is iron deficiency, which coexists with a number of other causes, such as malaria, parasitic infection, nutritional deficiencies and haemoglobinopathies (Ghosh, 2009) . Anaemia is a major cause of high incidence of premature births, low birth weight, perinatal mortality and maternal mortality. Earlier studies have indicated that maternal deaths occur among women in the age group 20-30 years and anaemia contributes to 19% of maternal deaths in India (SRS, 2001-03 in, 2001-03; SRS,1997-2003). In Chhattisgarh, 42 groups have been identified as schedule tribes. They form approximately 32 percent of the total population of Chhattisgarh. Bhunjia tribe is one of the vulnerable tribes of Chhattisgarh. Bhunjia tribe inhabit hilly forests of Gariyaband district of Chhattisgarh state and Nuapada district of Orissa. Bhunjia mainly comprise of two social groups - Choukhutiya and Chinda Bhunjia (Russel & Hiralal, 1916; Dube, 1948; Dubey, 1961; Mohanty, 2004). *Lalbangala (kitchen room)* is typical characteristic of Choukhutia Bhunjia. Before attainment of menarche a girl gets married to an arrow which is called “kad biha”. After kad biha, it is mandatory for the Choukhutia Bhunjia women to dine inside the lalbangala. They consume raw food only and they do not consume fried food or roasted food prepared outside lalbangala (Bhubaneswar, 2014; Kosariya & Chakravarty, 2015). The problems faced by Bhunjia tribals are innumerable. Poverty, unemployment, indebtedness are few of them. Worse still is the plight of Bhunjia women, who are the most underprivileged. The prevailing cultural practices and under-development has repercussion on the nutritional status of this community. Nutritional problems especially protein energy malnutrition are quite rampant among tribal group of Kerala (Sreelakshmi, et al., 2012).

3. Methodology

For the present empirical study 36 households from Chhura and 76 households from Gariyaband block were selected. 6 villages from Chhura and 8 villages from Gariyaband namely Baildih, Bijapani, Jalkipani, Jidad-Kanfad, Nawadih Khaliyapani, Sorid, Bagmar, Piparchhedi, Limdih, Mouhabhata, Potia, Rayaama, Tendubai and Tewari from where 114 women were; covered for the study and all the villages were inhabited by Choukhutia Bhunjia. Census survey method was used for selection of pregnant (21) and lactating (93) Bhunjia women 3 women refused to participate for weight-height and Hb test. Structured Interview Schedule and Semi-participatory observation technique were used for data collection. Anthropomeric measurements viz height vertex and weight were taken on the position of FHP by the use of anthropometer and weighing machine (Weiner & Lourie, 1981). Hb was observed through Hemocue 301 method. Anaemia cut off points used were those recommended by WHO for women and pregnant women (W.H.O., 1992). Besides these, other sociodemographic informations such as annual income, literacy rate, house hold type and size, source of drinking water were also collected. Data was analysed through SPSS 16.0. Data was collected during Dec. 2014 to Dec 2015.

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Aims and Objective

The aim of the present investigation was to assess the maternal health status among Choukhutia Bhunjia women of Gariyaband district of Chhattisgarh and highlight the health related problems of Choukhutia Bhunjia women with regard to anaemia and nutritional status.

4. Result

Prevalence of anaemia was found to be 90% among the lactating women and 85.72% among the pregnant women, mild anaemia was found to be 27.78% in lactating women and 19.04% in pregnant women, 42.22% of lactating women and 52.38% pregnant women showed moderate anaemia. Prevalence of severe anaemia was observed in 20% lactating women and 14.28% in pregnant women. In the present study 20% of lactating Bhunjia women were severely anaemic where as the percentage was observed to be a little lower in pregnant which was 5.8 ± 1.05 and 6.86 ± 1.10 in lactating and pregnant Bhunjia women respectively (Table No. 1 & 2). Table No.3 shows the distribution of BMI in lactating women 64.92 % lactating women were categorized under underweight category. BMI of lactating mothers however showed that 3.29% (14.62 ±0.86) were very severely underweight, 5.49% (15.74±0.24) were severely underweight, 57.14% (17.30 ±0.70) were underweight and only 29.67% (19.85 ±1.24) showed normal BMI whereas 4.39% (28.88 ±3.97) showed over weight.

Mild anaemia is higher in prevalence among lactating women compared to that of pregnant women. Moderate anaemia was observed to be higher in pregnant women. Pearson Correlation between BMI and Hb (r = .151, P=.112) showed a positive correlation but the difference was observed to be non-significant among the Bhunjia women. 60% Bhunjia Mother's age were around 20 to 30 years. 45.45% households had 4-5 members. Bhunjia boys form a nuclear family (91.18%) after marriage.

Demographic, social and economic profile of the people

Gariyaband district is situated in eastern part of Chhattisgarh. It is newly formed from Raipur district. Gariyaband has 5 blocks Fingeshwar, Gariyaband, Chhura, Mainpur, and Devbhog. except Fingeshwar and Devbhog all blocks are tribal block. Choukhutiya Bhunjia inhabit Chhura and Gariyab and Mainpur block. Bhunjia economy depends on minor forest produce and labour activity. They also produce paddy crop but it totally depends upon rain. More than 50% Bhunjias annual income is ≥35 thousand rupees. More than 90% Bhunjia are below poverty line. Annual income was assessed by Rojgar Guarantee program and sale of minor forest product. 44.73% Bhunjia mothers were Illiterate and education level was very poor. Only 4.34% have completed high school education. In the present study lowest age at marriage was 13 years and mean age at marriage was found to be 17.30 years. 91.98% Choukhutia Bhunjia had Nuclear family. 100% house were of kachcha type. They draw water from separate well and depend on "Jhariya" (water from river) for drinking purpose. They don't fetch water from common well and handpump. Choukhutiya Bhunjia take only tea at early morning and go for her work. Choukhutia Bhunjia mother never take roasted or fried food other than food prepared inside lalbangla. They never accept water from outsiders.

5. Discussion

BMI of the present population was observed to be 18.39 which is lower in comparison to Taiwanese women who had 24.4 ± 0.1kg/m² BMI (Chang, et al., 2014). The mean BMI of tribal women of Jharkhand was found to be 19.1m (Maiti, et al., 2005). which is higher than the present population.

Previous studies showed that BMI of 54% Bhunjia girls of 5-18 years age group were classified under very severely underweight category. Surprisingly only 6.91% girls were categorized under the normal range (Kosariya & Chakravarty, 2015). Infant mortality (123.71) and Maternal mortality rate (1030.92.) were also observed to be high in Bhunjia tribe (Kosariya & Chakravarty, 2015). Prevalence of anaemia seemed to be highest among tribal women aged between 15-25 years. However among general population of Kerala, it was found in 20-29 years age group (Shrinivasa, et al., 2016). Most of the women (60.92%) died within 12 hours of admission suggesting majority patients reach the tertiary hospital quite late. 67.17% of the women were below 25 years age group. Most of the maternal deaths are preventable by optimum antenatal, Intranatal and postnatal care. Early referral, quick and well equipped transportation facilities and promotion of overall safe motherhood is essential to reduce maternal deaths (Das, et al., 2014). Pregnancy, BMI, Education, wealth, childhood residency and region of residence factors are associated with anaemia in Mali (Nagnie, et al., 2008).

More than one – third [36%] of women aged 15-49 years in India have a BMI below 18.5 indicating chronic nutritional deficiency, including 16% who are moderately to severely thin. The proportion of undernourished women is highest in Bihar [45%], Chhattisgarh [43%], Madhya Pradesh [42%] and Orissa. [41%] prevalence of anaemia is highest in the Scheduled tribes as compared to other as more than two – third women belonging to Scheduled Tribes have anaemia (Tyagi & Jain, 2009). Prevalence of anaemia was found high among pregnant and lactating women in district of Dehradun. The problem of anaemia was more serious in the abstruse hilly and tribal area of the state, which draw attention to the need for further in depth field based studies in the flung area of Uttaranchal (Singh, et al., 2009). Prevalence of anaemia in Bhunjias was observed to be higher in comparison to rural women of west Bengal which was found to be 46.82% (Pal, et al., 2014) and also higher than Taiwanese women which was observed to be 19.5% (Chang, et al., 2014).10% severe clinical anaemia, about 29.32% mild to moderate anaemia was observed among the pregnant women of eastern coast of Odisha (Balgir, et al., 2011). Only 28.9% of pregnant women had haemoglobin level in normal range in Odisha whereas the present population showed 14.28% were normal with respect to Hb level.

6. Conclusion

The socio-economic status, level of education, quality of maternal nutrition and quality of antenatal care was quite low in Bhunjia mothers. Delay in early diagnosis, delay in treatment and lack of access to health services might be responsible for the low maternal health of the Bhunjia

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women. The present study showed a higher anaemia status as compared to the national averages which could be avoided with the help of good antenatal, intranatal and post natal care and improvement in health care delivery system. The fact should be brought to light for planning appropriate nutritional interventions for the upliftment of health status of Bhunjia women of Chhattisgarh.

7. Acknowledgement

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8. Compliance with Ethical Standards

Ethical clearance for the study was obtained from the Institutional ethical committee of Pt. Ravishankar Shukla University, Raipur. Written and verbal consent was obtained from each participant after explaining the purpose and nature of the research work. Participation in the study was on a voluntary basis and participants were informed their right to quit/refuse their participation at any stage of the study if they did not want to participate.

9. Conflict of interest

The authors have no conflict of interest.

Table 1: Prevalence of anaemia in Choukhutia Bhunjia mothers. (According to Classification of WHO, 1989. (W.H.O., 1989)

	Normal	Mild	Moderate	Severe	Total
Lactating Women	10%(9)	27.78%(25)	42.22%(38)	20% (18)	100%(90)
Pregnant Women	14.28%(3)	19.04% (4)	52.38%(11)	14.28%(3)	100%(21)

Table 2: Haemoglobin level observed in Choukhutia Bhunjia mothers.

	Normal	Mild	Moderate	Severe
Lactating Women	12-13.7	11.1-11.9	8.1-10.9	5.3-8.0
Mean	11.133	10.52	8.57	5.8
SD	±0.15	±0.26	±0.66	±1.05
Pregnant Women	11.0-11.3	10.3-10.9	7.5-9.4	4.7-6.8
Mean	12.71	11.38	9.32	6.86
SD	±0.54	±0.25	±0.82	±1.10

Table 3: Body mass index of Lactating Bhunjia Mothers

Category (WHO, 1995)	BMI Range -Kg/M²	Lactating Mothers			
		No.	%	Mean	SD
Very severely underweight	<15	3	3.29	14.6269	±0.86415
Severely underweight	15 - 16.0	5	5.49	15.7404	±0.24916
Underweight	16 - 18.5	52	57.14	17.3063	±0.70048
Normal (Healthy Weight)	18.5 – 25	27	29.67	19.8531	±1.24736
Over Weight	25 – 30	4	4.39	28.8847	±3.97977
Total		91	100	18.39	±2.87

Table 4: Number of conceptions among the Bhunjia Mothers

No. of conception	1	2	3	4	5	Total
No. of Womens	42.98% (49)	21.92% (25)	15.78% (18)	13.15% (15)	6.14% (7)	100% (114)

Table 5: Socio-demographic Characteristics of Choukhutia Bhunjia Mothers.

Age group distribution of Choukhutia Bhunjia Mothers.										
Age group	16-18>	19-20	21-25	26-30	31-35	36-40				
No. of mothers	1.75% (2)	16.67% (19)	33.33% (38)	29.82% (34)	13.15% (15)	5.26% (6)				
Number of members in a household										
No. of member in a household	2	3	4	5	6	7	8	9	10+	Total
No. of Household	1.18% (2)	14.54% (16)	20% (22)	25.45% (28)	13.63% (15)	11.81% (13)	6.36% (7)	4.54% (5)	1.18% (2)	100% (110)
Percentage of Literacy of Choukhutia Bhunjia Mother and their Education level.										
Illiterate	Literate	Total	Primary	Middle	High	Higher				
44.73% (51)	55.27% (63)	100% (114)	33.33% (38)	16.67% (19)	4.38% (5)	0.87% (1)				
Percentage of household Type				**Source of drinking water**						
Nuclear	91.18% (101)	house type		Hand pump	Well	River				
Joint	8.82% (9)	Kachcha	31.82% (35)	67.27% (74)	31.82% (35)	0.91% (1)				
Annual income of Choukhutia Bhunjia house hold										
Annual Income in Thousand rupees	15-25	26-35	36-45	46-55	56+	Total				
House hold percentage	17.27% (19)	49.09% (54)	24.54% (27)	4.54% (5)	4.54% (5)	100% (110)				

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Table 5: Marriage age of Choukhutia Bhunjia Women

Age	Frequency	Percentage	Cumulative Percentage
13	7	6.4	6.4
14	8	7.3	13.6
15	7	6.4	20
16	15	13.6	33.6
17	23	20.9	54.5
18	17	15.5	70
19	8	7.3	77.3
20	21	19.1	96.4
21	2	1.8	98.2
22	2	1.8	100
Total	110	100	
Mean 17.3000 Std. Error of Mean= .21165 SD = ±2.21			

Table 6: showing Correlations between BMI and Hb

		BMI	Hb
BMI	Pearson Correlation	1	0.151
	Sig. (2-tailed)		0.112
	N	112	112
HB	Pearson Correlation	0.151	1
	Sig. (2-tailed)	0.112	
	N	112	112

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