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Utilization of antenatal care and its determinants among scheduled tribe women of Kashmir

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Abstract
The study investigated the utilization of Antenatal care and effect of various socio-medical determinants on utilization of antenatal care services among Scheduled tribe women of Kashmir. The total number of 408 Scheduled Tribe women (Gujjar and Bakkerwal) in the age group of 18-45 years from four districts of Kashmir i.e. Anantnag, Baramulla, Gandarbal and Srinagar were covered. Standard reproductive health status interview schedule as framed by NFHS-3 (National Family Health Survey) volume II 2005-2006 with selective modification as per requirement was used to collect data. The results revealed poor utilization of Antenatal care services by studied group and significant effect ($P<0.05$) of Socio-medical factors like educational level, age at marriage, income, husband`s educational level and parity on the utilization of health services by respondents during their last pregnancy has been observed. Thus the study recommends special consideration to socio-medical factors in order to address the unmet need of antenatal care services among scheduled tribe women of Kashmir.

Keywords: antenatal care (ANC), utilization, socio-medical determinants, scheduled tribes

Introduction
Antenatal during pregnancy is important for the health of the mother and development of the unborn baby and helps to link the woman and her baby with the formal health system, increases the chance of using a skilled attendant at birth and contributes to good health through the life cycle. Globally, about 800 women die every day due to causes related to pregnancy and child birth and 20 percent of these women are from India. Annually, it is estimated that 55000 women in India die due to preventable pregnancy related causes (UNICEF, 2012). Maternal mortality is higher in women living in rural areas and among poorer communities. Skilled care before, during and after childbirth can save the lives of women and newborn babies (WHO, 2014) [22]. Poor utilization of antenatal care in developing countries may be strong determinant of maternal mortality rates (Isyaku *et al*., 2015) [9]. World Health Organization and UNICEF recommend minimum of four antenatal care visits (United Nations 2008) [20]. Antenatal care is an important element as it plays important role in reducing health risk from mother and her child and contributes in healthy pregnancy outcome (Kadapatti and Vijayalaxmi, 2012) [11]. Antenatal care is poor in developing countries especially among scheduled tribes due to their different socio-cultural set up (Adhikari, *et al*., 2016 and Deb, 2008) [2, 5]. Pregnancy is considered as a normal and natural phenomenon by most tribal groups and no special care is given to ladies during pregnancy (Negi, *et al*., 2010) [13]. Non-utilization of antenatal care (ANC) by tribal mothers, as they do not consider having a check-up necessary during pregnancy (Maiti *et al*. (2005) [12]. Tribal women in Kashmir (gujjar and bakkarwal) are at high risks related pregnancy and child bearing (Gul, 2014) [8]. Thus the present study has been under taken with the aim to access utilization of antenatal care services (ANC) and underlying factors contributing towards utilization among scheduled tribe women of Kashmir.

Methodology
Giving due weight age to the inhabitation of Tribal population, the present study was carried out in four districts of Kashmir i.e. Anantnag, Baramulla, Gandarbal and Srinagar. The total number of 408 Scheduled Tribe women (Gujjar and Bakerwal) in the age group of 18-45 years from above mentioned districts of Kashmir valley were covered, sample size was derived from target population(15,1019 Scheduled Tribe Women in Kashmir) at 5% error level with confidence level of 95%. A standard reproductive health status interview schedule as framed by NFHS-3 (National Family Health Survey) volume II 2005-2006 with selective modification as per requirement was used to collect data. The data thus collected was tabled, analyzed and interpreted as per the needs of the study.

Results and Discussion
Socio-medical characteristics
All the respondents were in reproductive age range of 18-45 years, 10.29 percent were between 18-25 years,23.52 percent within 25-30 years and 66.17 percent were 30 and above years of age. About 52.94 percent of the respondents were literate, among which majority i.e. 77.20 percent were observed to study up to the primary level, (20.93%) above primary level, 0.7 percent above higher secondary level and 47.3 percent were illiterate. In terms of family income about 36.02 percent of respondents had income up to rupees 10000 per month,38.97 percent belonged to income group of 10000-15000 per month,24.26 percent belonged to income group of 15000-20000 and 0nly 0.7 percent of respondents were having income level above 20000 per month. Only 37.99

percent of respondent's husband were found to be literate, among which 58.06 percent were found to study up to primary level,36.16 percent above primary level, and remaining 36.16 percent above higher secondary level. Age at marriage was less than 18 years for 51.71 percent of respondents and 17.18±3.24 years was found to be mean age at marriage among respondents. The age at marriage is lower than the age at marriage of the Gaddis, Kinnauras and Bhots of Himachal Pradesh who marries mostly between the age of 19-21 years (Pathania *et al*., 2008) [18] but is higher than tribes of Andra Pradesh 13-15 years (lal, 2006). Tufail, 2014 [19] found that early marriages are preferred by Gujjars and bakkarwals of J&K due to mass illiteracy, orthodoxy, outcaste threat and prevailing insecurity caused by militancy and allied factors. In terms of fertility status, majority of respondents i.e 282 (69.11%) were seen to be having parity of more than three, 16.17 percent having parity of two,13.97 percent with parity of three and only 0.73 percent of respondents were found to be having parity of one. It has been observed that mean number of children born per ever ST women was 3.53±1.02 years which is almost similar to that of national level i,e 4 (Census, 2001) [4].

Table 1: Distribution of respondents as per socio-medical characteristics

Variables	Frequency	Percentage
Age in yrs		
18-25	42	10.29
25-30	96	23.52
30 and above	270	66.17
Educational Status of women		
Literate	215	52.94
Up to primary level	166	77.20
Above primary level	45	20.93
Above higher secondary level	3	0.7
Illiterate	193	47.3
Total income of family(rupees/month)		
Up to 10000	147	36.02
10000-15000	159	38.97
15000-20000	99	24.26
>20000	3	0.7
Husband's Educational Status		
Literate	155	37.99
Up to primary level	90	58.06
Above primary level	56	36.16
Above higher secondary level	9	2.20
Illiterate	253	62.0
Age at marriage(years)		
< 18 years	211	51.71
> 18years	197	48.28
Mean age at marriage	17.18±3.24	
Fertility status		
No. of parity		
One	3	0.73
Two	66	16.17
Three	57	13.97
More than three	282	69.11
Average no of children	3.53±1.02	

Utilization of antenatal care

Antenatal care is an important component of reproductive health that not only determines the outcome of pregnancy but plays vital role in maintaining health of mother and can be an important tool in diagnosing and preventing risks during pregnancy. It was found that less than half (only 175 i.e.42.8%) of the mothers during pregnancy have received ANC from satisfactory sources i.e. Govt/Municipal hospital which is quite higher than ST women of Rajasthan, where 85.2 percent did not have even a single antenatal check-up during pregnancy (Bharadwaj and Tungdim, 2010). About 57.8 percent of respondents have received TT injections and among those only 41.9 percent have received injection twice while others have received only one dose, As per NFHS-3 (2005-06) reports 61.9 percent of ST women were being found receiving TT injection. In terms of consumption of IFA tablets 31.1 percent have consumed Iron and folic acid tablets which is higher than that reported by NFHS-3 (2005-06) i.e. 17.6 percent. In terms of utilization of benefits during pregnancy only one third (33.5 percent) of respondents have got benefitted by supplementary food and 38.9 percent have received health check-ups and health and nutrition education from Anganwadi /ICDS centre during their last pregnancy. Only 26.7 percent women are being informed about financial assistance/help and support during delivery under JSY among which only 7.3 percent have actually got benefitted by free transport, medicine and baby care. Some other studies have also reported failure of JSY in achieving its goals. (Deshpande, 2011).

Table 2: Distribution of respondents as per utilization of antenatal care during last pregnancy

Variables	Frequency	Percentage
Place of antenatal care		
Home	233	57.1
Govt/municipal hospital	175	42.8
Registration at (Month of taking antenatal check-up)		
Registered	**175**	**42.68**
2 months	22	5.3
3 months	86	21
4 months	66	16.1
Other	1	0.2
Not registered	233	56.82
Tetanus toxoid during pregnancy		
None	173	42.4
Once	64	15.6
Twice	171	41.9
Supplements received (Consumed Iron and folic acid tablets during pregnancy)	127	31.1
No. of women received benefits from Anganwadi/ICDS centre during their pregnancy		
▪ Supplementary food	137	33.5
▪ Health check-ups	159	38.9
▪ Health and nutrition education	159	38.9
No. of women informed about financial assistance/help and support during delivery under JSY	109	26.7
▪ Free transport	8	7.3
▪ Free medicine	8	7.3
▪ Free baby care	8	7.3

Table 3 shows educational level of respondents has significant effect (p<.001) on utilization of ANC, it was found that 86.6 percent of respondents among those with education of above primary level had received TT injection and 51.1 percent had received IFA tablets whereas Cent

percent of respondents with education above higher secondary level have received both TT injections and IFA tablets during their last pregnancy. These findings are in accordance with those of Negi *et al*., 2010 [13] who reported increase in utilization of antenatal care services with increase in education among tribal's of Chhattisgarh and Jharkhand. Strong association between literacy status of mother and utilization of antenatal services has also been reported by Javali *et al*. 2014 [10].

Table 3: Influence of educational level on utilization of Antenatal care

Educational Level	Place of Antenatal Care		Consumption of TT injections		Consumption of IFA tablets	
	Home	Govt/municipal hospital	Yes	No	Yes	No
Up to primary level (1st - 5th standard)	104 (62.6)	62 (37.3)	85 (51.2)	81 (48.7)	65 (39.1)	101 (60.84)
Above primary (6th - 10th standard)	24 (53.3)	21 (46.6)	39 (86.6)	6 (13.3)	23 (51.1)	22 (48.8)
Above higher secondary level	0 (0.0)	3 (100)	3 (100)	0 (0.0)	3 (100)	0 (0.0)
Chi-square	5.80		20.53		6.18	
p-value	≤0.05		≤0.000		≤0.04	

Table 4 reveals significant influence (p<.0001) of marital age on Utilization of ANC services. It has been found among those whose marriage had taken place at age of below 18 years, that out of total only 29 (13.9%) have received ANC from public health services and low consumption of TT injections(27.8%) and IFA tablets(18.7%) was also found among them. The percentages were much high i.e. 73.4 % for utilization of ANC from Public health institutions, 87.9 percent receiving TT injections and 44.2 percent consuming IFA tablets in age group of 18-25 yrs. Usually it is observed that young mothers need more care during pregnancy because of the adverse pregnancy outcomes associated with age (Ganchimeg *et al*., 2014, Abass Mitwaly and El Saman, 2016., Olausson, 2001 and WHO, 2007) [7, 1, 15, 21] but present findings show that our tribal young women seem to prefer home care over institutional care.

Table 4: Influence of age at marriage on utilization of antenatal care

Age at marriage	Place of Antenatal care		Consumption of			
			TT injections		IFA tablets	
	Home	Govt/municipal hospital	Yes	No	Yes	No
<18 years	180 (86.1)	29 (13.9)	58 (27.8)	151 (72.2)	39 (18.7)	170 (81.3)
>18 years	53 (26.6)	146 (73.4)	175 (87.9)	24 (12.1)	88 (44.2)	111 (55.8)
Chi-square	147.28		150.76		31.067	
p-value	≤0.0001		≤0.0001		≤0.0001	

Table 5 revealed significant impact (p<.0001) of income level on utilization of antenatal care services. It can be observed that with increase in level of income, utilization of ANC services from public health services has also increased from 10.8 percent to 100 percent from income level of 5000-10000 to income level above 20000.Increasing trends were also observed In terms of consumption of TT injections and IFA tablets with increase in levels of income among respondents. According to Pandey *et al*. 2002 economic status of the household determines the utilization of antenatal care and delivery care services.

Table 5: Influence of Income level on utilization of antenatal care

Income level	Place of ANC		Consumption of			
	Home	Govt/municipal hospital	TT injections		IFA tablets	
			YES	NO	YES	NO
5000-10000	131 (89.1)	16 (10.8)	53 (36.05)	94 (63.9)	30 (20.4)	117 (79.5)
10000-15000	46 (28.9)	113 (71.06)	132 (83.01)	27 (16.9)	53 (33.3)	106 (66.6)
15000-20000	56 (56.5)	43 (43.4)	45 (45.4)	54 (54.5)	41 (41.4)	58 (58.5)
>20000	0 (0.0)	3 (100)	3 (100)	00 (0.0)	3 (100)	0 (0.0)
Chi-square	117.02		77.92		19.76	
p-value	≤0.000		≤0.000		≤0.000	

Table 6 shows Significant (p<.000) influence of husband's educational level on utilization of ANC services among respondents. Utilization of ANC from public health_facility improved from 33.3 percent to cent percent with increase in husband's level of education from primary to above higher secondary level. Percent Increase with consumption of TT injections and IFA tablets was also found among those with higher education level. These findings are in accordance with Negi *et al*. (2010) [13] where they found that Husband's education and SLI have positive effect on the utilization of ANC from public health services Negi *et al*., (2010) [13] but are contrary to those of Chubike and Constance (2013) who found that educational level of the husband does not affect utilization of maternal health care services.

Table 6: Influence of husband`s educational level on utilization of Antenatal care

Husband's educational level	Place of ANC		Consumption Of			
			TT injections		IFA tablets	
	Home Hospital	Govt/municipal Hospital	YES	NO	YES	NO
Up to primary level	60 (66.6)	30 (33.3)	50 (55.5)	40 (44.4)	10 (11.1)	80 (88.8)
Above primary level	14 (25)	42 (75)	54 (96.4)	2 (3.5)	42 (75)	14 (25)
Above higher secondary level	0 (0.0)	9 (100)	9 (100)	0 (0.0)	7 (77.7)	2 (22.2)
Chi-square	32.751		32.745		66.160	
p-value	0.0001		0.0001		0.0001	

Table 7 shows utilization of ANC is significantly (P<.0001) being influenced by fertility status of respondents, it can be observed that with increase in parity of mothers, the utilization of ANC from public health institutions decreased from cent percent to 33.6 percent, similarly TT injections percentage lowered to 42.5 percent and IFA tablets consumption dropped from 66.6 percent to 15. 9 percent. Though multiparous and grand-multiparous women due to their previous experience may prefer to take subsequent pregnancies as normal, yet risk of maternal complication among grand multipara warrants supervised or institutional monitoring. The present study findings are consistant with findings from Kulkarni and Nimbalkar (2008) who also reported that utilization of antenatal care decreases significantly with increase in parity. However the findings are not consistent with findings of (Olayinka *et al*., 2012) [16] who revealed no association between parity and utilization of ANC services.

Table 7: Influence of fertility status on utilization of Antenatal care

No. of parity	Place of ANC		Consumption Of			
			TT injections		IFA tablets	
	Home	Govt/municipal hospital	YES	NO	YES	NO
One	0 (0.0)	3 (100)	3 (100)	0 (0.0)	2 (66.6)	1 (33.3)
Two	9 (13.6)	57 (86.3)	61 (92.4)	5 (7.5)	57 (86.3)	9 (13.6)
Three	37 (64.9)	20 (35.08)	49 (85.9)	8 (14.03)	23 (40.3)	34 (59.6)
More than 3	187 (66.3)	95 (33.6)	120 (42.5)	162 (57.4)	45 (15.9)	237 (84.04)
Chi-square	66.08		79.62		128.23	
p-value	≤0.0001		≤0.0001		≤0.0001	

Conclusion

Underutilization of available health services among studied group has been observed in this study and various socio-medical factors like literacy level, age at marriage, parity, income level and husband`s educational level were found to be contributing factors towards current level of utilization. Thus our study highlights need to improve socio-medical set up especially in tribal areas for bringing out positive change towards utilization of Antenatal care services, which will surely help in improving the reproductive health status of tribal population.

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