

Table 3: LFT in different trimesters of pregnancy

	Trimester 1	Trimester 2	Trimester 3	p value	
				Kruskal Wallis	Post-hoc comparison (Dunn)
Bilirubin (total) (mg/dL)	0.40 (0.22)	0.37 (0.12)	0.44 (0.24)	0.2855	
Bilirubin (direct) (mg/dL)	0.17 (0.08)	0.15 (0.05)	0.15 (0.06)	0.4476	
Proteins (g/dL)	7.6 (0.46)	7.0 (0.38)	6.7 (0.38)	<0.0001	<0.001 (each group vs. other)
Albumin (g/dL)	4.16 (0.21)	3.67 (0.28)	3.40 (0.18)	<0.0001	<0.001 (each group vs. other)
AST (IU/L)	21.9 (5.5)	20.1 (6.9)	19.9 (8.0)	0.093	
ALT (IU/L)	17.9 (14.4)	14.8 (7.3)	13.2 (5.2)	0.0425	<0.05 1 vs. 2
ALP (IU/L)	70.4 (22.4)	90.3 (40.7)	171.0 (75.2)	<0.0001	<0.05 1 vs. 2; <0.001 1 vs. 3, 2 vs. 3
GGT (IU/L)	12.9 (9.1)	11.8 (4.8)	11.1 (5.1)	0.298	
5' nucleotidase (IU/L)	4.1 (5.1)	2.5 (3.4)	5.0 (0.4)	<0.0001	<0.01 1 vs. 3; <0.001 2 vs. 3

test in a Western population was studied by Bacq *et al.*¹ He observed significant increase in alkaline phosphatase activity, slightly higher ALT activity in the 2nd trimester, low GGT activity in the 2nd and 3rd trimesters, and higher activity of 5' nucleotidase in the 2nd and 3rd trimesters. We established the normal values for the various liver function tests in pregnant women in southern India. Our data show that values were within the normal range (mean + 2SD of levels in our pregnant women) in the vast majority, except for serum alkaline phosphatase, which was expected.

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Hepatitis B virus infection among Indian tribes: need for vaccination program

In India, Scheduled Tribes (STs) are those that are notified as such under Article 342 of the Constitution. Certain characteristics like primitive traits, distinctive culture, shyness with public, geographical isolation, and social and economic backwardness are criteria for this notification. STs account for over 84 million people, represent 8.1% of the country's population (2001 census), and inhabit almost all its States. We

reviewed published studies on hepatitis B virus (HBV) infection among Indian tribes to arrive at summary prevalence.

A *Medline* search was undertaken using the key words "hepatitis B", "prevalence", "tribes" and "India". Snowballing technique was then used to identify and locate potential studies by scanning all the retrieved articles. Manual search was also carried out to search for articles in non-indexed journals. Nine studies covering 21 tribes from 8 States were identified (Table).¹⁻⁹ These eight States represent 50.4% of the country's tribal population.

The fixed effects model was used to summarize the prevalence of HBsAg observed among different tribes.¹⁰ The weighted prevalence and its 95% confidence interval were calculated as follows: If p_i is the prevalence and n_i is the sample size of the study, then the weight (w_i) of the study was defined as $n_i/p_i(1-p_i)$. The weighted prevalence was calculated as $P = \sum(w_i p_i) / \sum(w_i)$. The *chi*-square test of heterogeneity was used to examine heterogeneity between the studies.¹¹

The HBsAg prevalence ranged from 1.86% among the tribes of Kolli Hill area of Tamilnadu to 65.60% among the Jarawas. The weighted prevalence among the tribes was 10.15% (95% CI 10.09-10.22). Data on hepatitis B 'e' antigen (HBeAg) positivity was available from the Nicobarese (18.4%) and Jarawa (40.5%) tribes in the Andaman islands and the Lambada tribe (19.6%) of Andhra Pradesh.^{2,7,12}

The possible routes of transmission of HBV infection among the tribes were perinatal transmission,^{4,12} accidental inoculation of contaminated blood during certain cultural practices like tattooing and nose and ear piercing,^{3,4,7} polygamy or multiple sexual partners, and horizontal transmission through close personal contacts or through blood or body fluid contamination as skin infections were common among the tribes.^{4,12} Some of studies also

Table: Prevalence of hepatitis B surface antigen in different tribes in India

State	Tribe	Population sampled (n)	HBsAg (n.; %)	Ref.
Andaman and Nicobar Islands	Andamanese	27	1 (3.70)	1
	Onges	58	18 (31.00)	
	Nicobarese	1144	267 (23.30)	
	Shompens	37	14 (37.80)	
Madhya Pradesh	Jarawas	64	42 (65.60)	2
	Baiga	91	4 (4.40)	3
	Halbas	67	2 (3.00)	4
	Gonds	123	16 (13.00)	
	Kawars	58	6 (10.30)	
	Oraons	118	10 (8.50)	
	Bhils	397	73 (18.40)	
	Bhilals	122	23 (18.90)	
	Barelas	429	76 (17.70)	
	Bhils	536	55 (10.26)	5
Rajasthan	Raj Gond	450	126 (28.03)	5
	Kolam	106	15 (14.15)	
	Naik Gond	42	4 (9.52)	
Maharashtra	Pradhan	43	3 (6.98)	
	Not mentioned	296	25 (8.50)	6
Arunachal Pradesh	Lambada	890	46 (5.20)	7
Andhra Pradesh	Tribes of Kolli hills	161	3 (1.86)	8
Tamil Nadu				
Ladakh				
(Jammu and Kashmir)	Ladhakis	144	14 (9.72)	9

suggested the possibility of blood-sucking arthropods in the transmission of the infection.²

The *chi* square for heterogeneity among the studies was significant, indicating that the studies were heterogeneous. Another limitation of the present study is the fact that HBsAg prevalence in some of the tribes was assessed more than 25 years earlier. However, in absence of any vaccination program, it does not appear likely that the HBsAg rates could have changed significantly over the years.

Our study indicates that the prevalence of HBsAg among the scheduled tribes of India is much higher than that in the general population. As the tribes comprise a sizeable proportion of the population in different States in India, hepatitis B vaccine should be included in the immunization program for tribal children.

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Association of asthma and allergic rhinitis with celiac disease

The association of celiac disease (CD) with bronchial asthma and allergic rhinitis has been investigated