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Research Article

**PREDOMINANCE OF HEPATITIS B VIRUS INFECTION IN
THE PREGNANT WOMEN ATTENDING PRENATAL
CLINICS IN PAKISTAN**¹Rida Kulsoom Naqvi, ²Syed Qasim Abbas, ³Dr Sidra Tul Muntaha¹Lahore General hospital²THQ Malakwal, Mandibahauddin³Rural Health Center Dulle Wala, Bhakkar

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Abstract:

The Lahore peoples are still considered an exceptionally endemic nation for hepatitis B, mainly due to the perinatal transmission of hepatitis B infection (HBV), despite efforts since 2004 for universal infant immunization. The ubiquitous carriage of HBV surface antigen (HBsAg) in pregnant women is an important marker of the danger of mother-to-child transmission of HBV. The purpose of this review was to assess adjustments in the triviality of HBV disease in pregnant women attending Mascot Prenatal Installation.

Methods: Our current research was conducted at Services Hospital; Lahore A review study was conducted at the Services Hospital Laboratory to collect and study each of the sequelae of the HBsAg test in pregnant women from 2017 to 2018.

Results: Out of a total of 14,240 women tested with an average age of 27 years, 740 women (5.45% [96 CI: 6.2-5.9%]) were found to be HBsAg positive, with an annual ubiquity ranging from 5.7% to 7.3%. A slight but relentless and enormous decrease in the banality over the 7 years of the examination was recorded.

Conclusion: Despite the fact that below the 9% hyperendemic limit, the ubiquity of HBsAg observed in pregnant women in Vientiane reflects a high danger of perinatal transmission of HBV and requires a general inoculation of the newborn with a birth portion of HBV antibodies.

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BACKGROUND:

The Lao People's Democratic Republic (Lao PDR) is considered to be exceptionally endemic for hepatitis B. The pervasive rate of constant hepatitis B (HBV) infection has been estimated at 9.8% among 14,898 blood donors in 2017-2018 [1]. As in various countries of South-East Asia, mother-to-child transmission is considered the main route of infection: a consistent seroprevalence test was carried out in 2018 in 399 pregnant women in two large urban communities, Luong Prabang and Vientiane, found seroprevalence of antibodies hostile to Hbc and HBV surface antigen (HBsAg) equivalent to 50.6% and 9.3%, respectively [2]. The previous marker reflects past presentation, while the last marker reflects current contaminations. The event of HBV contamination early in life increases the danger of movement to continued liver infection, improvement of cirrhosis and hepatocellular carcinoma [3]. It is now widely recognized that complete vaccination of infants is the best method of eliminating hepatitis B. The main technique has been to immunize all children destined for HBV-infected mothers [4]. It involves accurate screening of pregnant women for markers of HBV contamination and replication, followed, if positive, by dynamic latent immunization of the infant in the first 24 hours of life, consolidating hepatitis B antibodies and Hepatitis B Immune Globulin (HBIG) infused at two separate sites [5].

METHODOLOGY:**Study Population.**

Our current research was conducted at Services Hospital; Lahore A review study was conducted at the Services Hospital Laboratory to collect and study each of the sequelae of the HBsAg test in pregnant women from 2017 to 2018. It made it possible to secure all the chronic results of pregnant women going to the prenatal structure, accessible from 2009: 1690 results in 2010, 1836 in 2010, 2020 in 2011, 2010 in 2012, 1898 in 2013, 1155 in 2014 and 2446 in 2015. The main information that could be used was the women's time, the date of the blood test and the consequence of the HBsAg test. Ladies who had many transports during the time of the survey were inevitably screened for HBsAg. Given the fact that every pregnancy is a danger of mother-to-child transmission, the copies were not discarded.

Recognition of HBsAg.

Venous blood tests were performed at the prenatal centre and sent that day to the research centre of the medical clinic for testing. During the first few years, HbsAg was identified by a 1-advance

immunochromatographic test, the HEXAGON HBsAg. Since February 2014, the HBsAg has been localized with the HbsAg ELISA pack in accordance with the guidelines given by the producer. Doubtful or uncertain results were rejected from the examination.

Analysis of the information.

The direct relapse model revealed the average length of stay of pregnant women at Mahosot Hospital. The global trend in prevalence and the impact of age on triteness was demonstrated by a strategic relapse model using time and age as illustrative factors and HBsAg as the response variable. Normally, we expect the positive HBsAg level to decay with age. Collinearity between age and time factors can lead to confounding impacts that influence tests of centrality on these two factors. To account for these confounding effects, we used consecutive probability proportion tests as recommended by Faraway. Time- \times age collaboration and polynomial terms (up to degree 3) for informative factors were considered and tested. The overall degree of seroprevalence in this review was contrasted and seroprevalence levels were seen in two different studies at the end conducted in Laos by Fisher's defined tests. All reviews were completed with R programming, adaptation 3.4.0.

RESULTS:

A total of 14,240 pregnant women were judged for HbsAg over the eight years from 2017 to 2019 (average: 1894 ± 382 women for each year). Their mean age was 28 years (SD: 5.97, range: 14-49 years) and increased steadily from 27.19 (SD: 0.13) years in 2010 to 28.33 (SD: 0.11) years in 2016, at a steady rate of 3.262 (96 CI: 1.758-2.768) months of the year ($F = 77.76$, $df = 1$ and 14,238, $p < 2.2e - 18$); see Figure 1. HBsAg was reported in 730 pregnant women, corresponding to an overall rate of 6.45% (96 CI: 6.1-5.9). The relapse strategy model indicated a huge overall decrease in ubiquity from 2017 to 2019 (Chi-square = 6.1993; $df = 1$; $p = 0.0227$; Table 1 and Figure 2) with an overall decrease in ubiquity of 4.439%/year (96 CI: 0.674-9.219%). Age did not significantly affect ubiquity (see Table 1) or age \times time communication (Chi2 = 2.0199; $df = 1$; $p = 0.1554$). In addition, polynomial terms (up to degree 3) did not fundamentally broaden the fit (Chi2 = 0.5388, $df = 1$, $p = 0.4631$ for degree 2; Chi2 = 0.0767, $df = 1$, $p = 0.7821$ for degree 3). As a result, Table 1 shows the last chosen model without association and without polynomial terms.

Table 1: Estimations and implication of logistic regression model explanation positivity to HBsAg as function of age also year:

	Estimate	Std. error	Chi sq value	Pr(>Chisq)
Intercept	86.550252	37.790696	—	—
Year	-0.043928	0.019299	6.1993	0.0227
Age	-0.002617	0.007767	0.1139	0.7359

DISCUSSION:

The main objective of this survey was to assess the potential danger of mother-to-child transmission of HBV based on the results of routine screening of pregnant women at the Vientiane antenatal facility [6]. The secondary objective was to decide whether this risk has remained stable or whether it may have changed in recent years. The main perception is that the general ubiquity rate of HBsAg carriage, equivalent to 5.45% in these Laotian pregnant women, is below the 9% limit that characterizes the high level of endemicity [7]. Curiously, there are huge contrasts when compared to the consequences of two late surveys conducted in Laos: it is basically lower than the 9.3% rate revealed among the 388 pregnant women tested in 2013 in Luang Prabang and Vientiane, but overall higher than the 3.8% rate established in a study conducted in 2014 throughout the country and directed at 968 mothers [8]. How can these disparities be clarified? Looking at these two studies, some contrasts can be noted in the socio-demographic attributes of the populations studied. Contrary to perceptions that show that HBsAg carrier rates are higher in rural areas than in urban areas, for example in Mongolia or Vietnam, the situation in Laos would be equivalent to that of northern Gabon where the predominance of HBsAg (13.7% in urban areas versus 8.7% in rural areas) is linked to a high population density in the main city and huge population developments identified with exchanges with neighboring nations [9]. In Laos, blood safety has been improved through routine screening of donors for HBsAg by the National Blood Transfusion Centre (Lao Red Cross, Vientiane) and HIV/AIDS programme have been implemented by the National Consultative Group on AIDS Control (NCCA) established in 1989, but these measures do not have an immediate effect on perinatal transmission. Despite Lao PDR's amazing progress in meeting WHO's hepatitis B control targets, on balance, the decline in HBsAg prevalence will be much more rapid when young women inoculated during childbirth are of childbearing age, i.e. from 2024 onwards. In any case, some arrangements should be considered to improve the current deficient inclusion of children in inoculation, for example, strengthening portable immunization units in remote areas or giving an extra portion of HBsAg at age 11 [10].

CONCLUSION:

The ubiquity of HBsAg in women attending antenatal clinics in the capital Vientiane remains high, despite being below the 9% hyperendemicity limit. Despite a fragile pattern of decline, such a common level of incessant HBV infection in pregnant women presents a laborious danger of perinatal HBV transmission and boosts the strengthening of the inclusion of antibodies from the birth portion against hepatitis B in Lao PDR. To obtain a clearer understanding of HBV, the study of HBV transmission in the general Laotian population would require different tests like this one from different sub-samples of the general Laotian population.

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