The prevalence of anti HBs among healthy reproductive-age female in Indonesia : National Health Survey 2007

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INTRODUCTION

Hepatitis B virus during pregnancy has a high vertical transmission rate, causing fetal and neonatal hepatitis and maternal mortality. Neonatal hepatitis can lead to chronic virus carriage, which in turn may lead to liver cirrhosis and hepatocellular carcinoma in young adults. Acute Hepatitis B carries a particular risk, not only for the mother, but also for the newborn. Therefore identifying female in reproductive-age for anti HBs is a useful indicator for the immunity of the disease.

AIM / OBJECTIVE

To determine the prevalence of anti HBs in healthy reproductive-age female during the national health survey in 2007.

Table 1. Distribution anti HBs among pregnant and non pregnant

Pregnant	Negative	Positive	P-value
1. Yes	182	60	
2. No	450	153	0.857
3. N/A	340	117	
Total	972	330	

METHODS

The data used was secondary data obtain from National Health Survey in healthy respondent in Indonesia in 2007. In this study, we analyzed biomedical data that can be linked to the demographic data from public health questionnaire. The samples were reproductive-age female aged 15 to 49 years. The Enzyme Linked Immunosorbent Assay (ELISA) kit (Murrex-Abbot Laboratories) was used for serodetection of anti HBs according to manufacturer instruction. The number of respondents of reproductive-age female who were sampled in this analysis were 1302 respondents

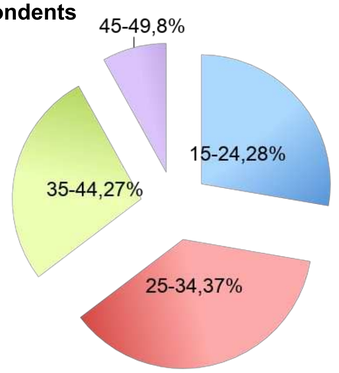
Table 2. Anti HBs among age group female

Age group	Negative	Positive	Total	P-value	OR
	N (%)	N (%)	N		
15-24	228 (79.9)	73 (20.2)	361		
25-34	355 (73.8)	126 (26.2)	481	0,044	1.4
35-44	258 (72.7)	97 (27.3)	355	0,026	1.5
45-49	71 (67.6)	34 (32.4)	105	0,010	1.9
Total	972 (74.7)	330 (25.3)	1302		

RESULTS

The samples collections were obtained from urban area in 272 districts/municipalities in 33 provinces. The survey collected 7520 sera from all respondents. The 1302 of 7520 sera tested for anti HBs were reproductive-age female. Most of respondents were at 25 to 34 age group (481/1302, 39.4%). Among 1302 sera, we found that 330 (25.4%) had positive anti HBs. A 117 of 1302 (8.9%) samples were pregnant women. A 32 of 117 (27.4%) pregnant women had positive anti HBs. There is no information regarding the gestation period. A 81 of 1302 (6.2%) samples were delivered women. A 18 of 81 (22.2%) delivered-women had positive anti HBs

Graph 1. Distribution age groups of respondents



CONCLUSIONS

The high seroprevalence of anti HBs among healthy reproductive-age females are a public health concern. Further comprehensive studies are required to provide epidemiological information for public health awareness in the community

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BIBLIOGRAPHY

1. Xaydalasouk K, Strobel M, Buisson Y, Black AP, Muller CP (2018) Seroprevalence and risk factors of hepatitis B and C virus infections in female workers of Lao garment factories. PLoS ONE 13(7): e0199919. https://doi.org/10.1371/journal.pone.0199919 .
2. Lavanchy D. Hepatitis B virus epidemiology, disease burden, treatment, and current and emerging prevention and control measures. J Viral Hepat. 2004; 11: 97±107. https://doi.org/10.1046/j.1365-2893. 2003.00487.x PMID: 14996343
3. Ministry of Health Republic of Indonesia, Basic Health Research Report, National Institute ofHealth Research andDevelopment, 2007.