Int J Biol Med Res.2019 ;10(2):6708-6710

Contents lists available at BioMedSciDirect Publications

International Journal of Biological & Medical Research

Journal homepage: www.biomedscidirect.com

Original article

Incidence Rate of Hepatitis B in Zamboanga City, Western Mindanao, Philippines

[a]Mujiba A. Ahalul, [b]Hermielisa B. Guiroy, [c]Roldan T. Echem

[a]Basilan National High School, Senior High School Department, Department of Education 7300, Isabela City, Basilan, Philippines
[b]Western Mindanao State University, College of Science and Mathematics, Normal Road, Zamboanga City7000, Philippines

ARTICLE INFO

Keywords:
HVB
HCC
HBsAg
Chronic
Acute
Cirrhosis
Immunization

ABSTRACT

Abstract. This study aims to determine the incidence of Hepatitis B in Zamboanga City, Western Mindanao from 2014 – 2018. Secondary data of Hepatitis B infections were obtained from the City Health Office, Zamboanga City. There was minimal decrease in the prevalence of Hepatitis B infections in Zamboanga City from 2014-2018. This is maybe with the DOH Expanded Program on Immunization at birth and free immunization prevention campaign. In 2014, has the highest (50) cases of hepatitis B recorded and in 2018, there were 42 cases recorded. In 2015, has the lowest number of cases recorded. Records also show that female is more vulnerable to this infection than the male for the past 5 years. In terms of gender, results show that in 2014, male has the highest Hepatitis B with 28 cases recorded than 22 cases recorded among the female. However, in 2016 and 2018 there was an increase of 23 cases among female than 11 and 19 cases of male. The HBsAg positivity among residents of Zamboanga City classifies the area as an endemic for HBV infection and appears to have less changed over the last five years.

©Copyright 2010 BioMedSciDirect Publications IJBMR - ISSN: 0976:6685. All rights reserved.

1. Introduction

One of the significant public health burden affecting many millions of people worldwide, and is most widespread in the Asia Pacific region is the Chronic or Acute Viral Hepatitis B infections (Lavanchy 2004). This infections leading to Hepatitis B Virus (HBV) related cirrhosis and Hepatocellular Carcinoma (HCC) is responsible for the cause of mortality for a staggering half a million deaths every year in the Asia pacific Continent (Perz et al. 2006).

The Philippines is listed as a country endemic for hepatitis B. This is a major public health problem with a prevalence of HBsAg among early childhood and adults that can lead HBV-related cirrhosis and HCC or liver cancer (Wong et al. 2013). Hepatitis B surface antigen (HBsAg) consists of HBV envelope protein and excess coat particles detectable in the blood in acute and chronic hepatitis B infection (WHO guidelines March 2015). The positivity of the HBsAg laboratory test results means that a person is infected with hepatitis B virus. Hepatitis B infection is produced by the hepatitis B virus (HBV). A virus with enveloped DNA that infects apparently damages liver and causes its hepatocellular necrosis and inflammation. This infection can be either acute or chronic, and may range from asymptomatic infection or mild disease to severe or rarely fulminant hepatitis (Lavanchy 2004).

The mode of transmission of the HBV in human is predominantly circulating through percutaneous or mucosal exposure to infected blood and body fluids that includes saliva, menstrual, vaginal and seminal fluids (Mast 1999). Sexual transmission of hepatitis B may occur, particularly in unvaccinated men who have sex with men and heterosexual persons with multiple sex partners or contact with sex workers. The vehicle of the transmission of this virus are also through accidental inoculation of minute amounts of blood or fluid during medical, surgical and dental procedures, or from razors and similar objects contaminated with infected blood; use of inadequately sterilized syringes and needles; intravenous and percutaneous drug abuse; tattooing; body piercing; and acupuncture. Another major route of HBV transmission in many parts of the world including the Philippines is by mode of perinatal transmission (Beasley et al. 1983).

The World Health Organization developed a strategy for awareness, surveillance, prevention and treatment of viral hepatitis. In the Philippines, Hepatitis immunization program is incorporated in the Philippines' expanded program on immunization (EPI) since 1992. The DOH implemented a renewed drive to promote the timely administration of the birth dose of the HBV vaccine as mandated by Republic Act 10152, also known as the Mandatory Infants and Children Health Immunization Act of 2011. With these strategies of the government to combat the prevalence of Hepatitis B infections, still the rate of incidence is alarming.

* Corresponding Author : **Hermielisa B. Guiro**
Province, Philippines; E-mail: hguiroy1996@gmail.com

© Copyright 2011. CurrentSciDirect Publications. IJBMR - All rights reserved.

However, an accurate and updated estimate of the national prevalence of hepatitis B infection in the Philippines is insufficient. Although many prevalence studies have been done earlier, they either included small sample sizes, or were done only in select populations like overseas employment applicants, certain ethnic groups and limited locality (Evangelista 1986). In Zamboanga City, Western Mindanao, the data of the prevalence of Hepatitis B infections is not well studied. The DOH Regional Office obtained the data from the City Health Office, Barangay Health Centers and hospitals. Accurate prevalence estimates in the general population are important in the control of HBV infection and its complications, and may especially be instrumental in shaping health policies on primary and secondary prevention of this infection.

Method

Description of the locale. Zamboanga City is a highly urbanized city and it is considered as the 6th most populous and 3rd largest city by land area in the Philippines. The City is subdivided into two congressional districts and the two districts are composed of 98 barangays. The 2 districts are delineated by Veterans Avenue. District I is composed of 36 barangays on the west coast while District II is composed of 61 barangays on the east coast (Zamboanga City.gov.ph). The total population of Zamboanga City based on 2015 Census of Population is at 861,799 (POPCEN 2015).

Zamboanga City is one of the island provinces that make up the Philippine archipelago located across the southern tip of Zamboanga Peninsula (Region 9), Mindanao and is bounded on the north by Basilan Strait and sheltered by Basilan island, on the east by Moro Gulf, on the southeast by Celebes Sea and on the west by Sulu Sea (Zamboanga City Official Website, 2019).

Collection of data. This study was conducted in Zamboanga City, Western Mindanao, Philippines. Descriptive method was used to analyze the data gathered. The City Health Office of Zamboanga City provided the researcher the records of the number of infected Hepatitis B patients from 2014 – 2018. Permit was obtained from the Department of Health, Regional Office IX. The permit was forwarded to City Health Office, Zamboanga City. Secondary data was obtained by informal interview with the Officer in-Charge of the record section of City Health Office.

Descriptive analysis. Secondary data were recorded and analyzed by using Excel Microsoft ver. 2010. Frequency count was employed to determine the incidence rate of hepatitis B among male and female and age group. The data obtained in Zamboanga City were also compared with the national data of Department of Health.

Results and Discussion. There was minimal decrease in the prevalence of Hepatitis B infections in Zamboanga City from 2014-2018. This is maybe with the DOH Expanded Program on Immunization at birth and free immunization prevention campaign. Figure 1 shows the prevalence of Hepatitis B infections among various age groups and gender that have been recorded in the Zamboanga City. In 2014, has the highest (50) cases of hepatitis B recorded and in 2018, there were 42 cases recorded. In 2015, has the lowest number of cases recorded. Records also show that female is more vulnerable to this infection than the male for the past 5 years.

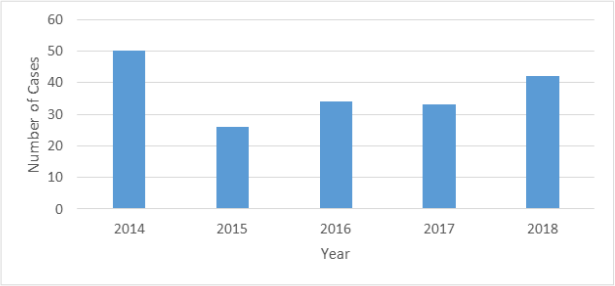


Figure 1. Hepatitis B infections distribution by year from 2014 to 2018 in Zamboanga City.

There were other variables measured relative to the trend of the Hepatitis B infections rate in Zamboanga City. In terms of gender, results show that in 2014, male has the highest Hepatitis B with 28 cases recorded than 22 cases recorded among the female. However, in 2016 and 2018 there was an increase of 23 cases among female than 11 and 19 cases of male (Figure 2).

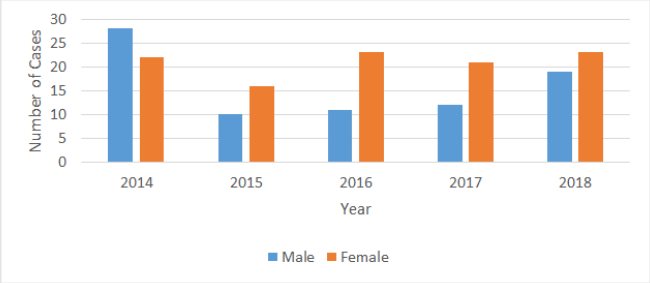


Figure 2. Hepatitis B infections distribution by gender from 2014 to 2018 in Zamboanga City.

Figure 3 shows the age group of the incidence of Hepatitis B infections. In 2014, the infections were highest with an age group from 15-24 years old and there were 13 cases recorded. In 2015-2017, there were 10 cases that were recorded. However, in 2018 there were 12 cases of Hepatitis B recorded. In 2014 and 2018, the age group from 25- 34 and 45-54 there were 12 cases that were recorded.

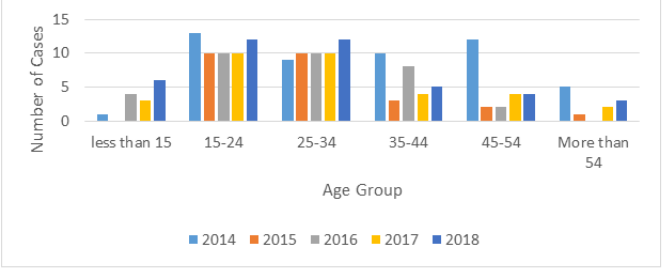


Figure 3. Hepatitis B infections distribution by age group from 2014 to 2018 in Zamboanga City.

Conclusion.

The HBsAg positivity among residents of Zamboanga City classifies the area as an endemic for HBV infection and appears to have less changed over the last five years. Results shows that HBsAg prevalence among adults in Zamboanga City remains high. That HBV infection is more common among the age brackets from 15 – 34 years old and as well as for the female. The emphasis on the importance of prevention in the control of this infection, especially in a healthcare resource-challenged setting like in the Philippines should be undertaken. The recent gains with universal infant HBV vaccination are a significant step towards bringing down the prevalence of HBV infection. However, the government should double the effort in reaching out to the residents of the community. Universal infant HBV vaccination should be part of a government-led multi-sectorial national comprehensive hepatitis B control program that will bring together all the various initiatives on the prevention of HBV infection as well as the management of chronic HBV infection and its consequences. As to the number of additional cases for the incidence of the Hepatitis, the succeeding researcher should include the data coming from the different private hospitals in Zamboanga city.

Acknowledgements

We are grateful for the close collaboration between Basilan National High School - Senior High School, Department of Education (Isabela City, Basilan, Philippines) and Western Mindanao State University, College of Science and Mathematics (Zamboanga City, Philippines) in completing this study. We thank Department of Science and Technology(DOST) for their encouragement and assistance during the conduct of the research. Special thanks to Dr. Reynante E. Autida, Director of Research Development and Evaluation Center, WMSU for giving feedback and advices on the analysis of the trend of our data. And most of all, We thank the Almighty Allaah for giving us the knowledge, energy and determination to pursue that in the end we attained the success of the study.

References

1. Lavanchy D. 2004. Hepatitis B virus epidemiology, disease burden, treatment, and current and emerging prevention and control measures. Journal Viral Hepatology. 11:97–107.
2. Perz JF, Armstrong GL, Farrington LA, Hutin YJ, Bell BP. 2006. The contributions of hepatitis B virus and hepatitis C virus infections to cirrhosis and primary liver cancer worldwide. Journal Hepatology. 45:529–538.
3. Wong SN, Ong JP, Labio ME, Cabahug OT, Daez ML, Valdellon EV, Sollano JD Jr, Arguillas MO, et al. 2013. Hepatitis B infection among adults in the philippines: A national seroprevalence study. World journal of hepatology. 2013;5:214-9.
4. Philippine Cancer Facts and Estimates. Available from: http//www.cnetwork org.ph/resources.asp?cat=4.
5. WHO guidelines for the Prevention, Care and Treatment of persons with Chronic Hepatitis B infection. World Health Organization; 2015. WHO Press, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland.
6. Dalmacio LM, Evangelista KV, Kemp K, Campos JR, Kron MA, Domingo EO, Ramirez BL. Prevalence of hepatitis B virus infection among healthy adults and high-risk groups. 2005. Philippine Journal Intern Medicine. 43:301–306.
7. Do EC, Ghany MG. 2010. Hepatitis B virology for clinicians. Med Clin North Am. 14:397–408.
8. Evangelista KV, Dalmacio LMM, Wells J, Kron MA, Ramirez BL. 2006. Prevalence of hepatitis B virus (HBV) infection among Tagalogs and Mangyans in Oriental Mindoro, Philippines. 2006. Philippine Journal Intern Medicine. 44:161–166.
9. Yanase Y, Ohida T, Kaneita Y, Agdamag DM, Leaño PS, Gill CJ. 2007. The prevalence of HIV, HBV and HCV among Filipino blood donors and overseas work visa applicants. Bull World Health Organization. 85:131–137.
10. Lingao AL, Domingo EO, West S, Reyes CM, Gasmen S, Viterbo G, Tiu E, Lansang MA. Seroepidemiology of hepatitis B virus in the Philippines. 1986. American Journal Epidemiology. 123:473–480.
11. Mast EE, Alter MJ, Margolis HS. 1999. Strategies to prevent and control hepatitis B and C virus infections: a global perspective. Vaccine. 17(13-14):1730–3.
12. Beasley RP, Hwang LY, Lee GC, Lan CC, Roan CH, Huang FY. 1083. Prevention of perinatally transmitted hepatitis B virus infections with hepatitis B immune globulin and hepatitis B vaccine. Lancet. 2(8359):1099–102.
13. World Health Organization (WHO). 2016. Hepatitis B control through immunization: A reference guide. Manila: World Health Organization Western Pacific Region.
14. World Health Organization Regional Office for the Western Pacific. Guidelines for certification of achievement of Hepatitis B Control Goal in the Western Pacific Region. 2007. [Accessed 30 November, 2016].Philippine Statistic agency – official website (POPCEN 2015).

© Copyright 2019 BioMedSciDirect Publications IJBMR - ISSN: 0976:6685.
All rights reserved.