EVALUATION OF HEPATITIS-B TESTS DOCUMENTATION AT A TEACHING HOSPITAL IN KHYBER PAKHTUNKHWA, PAKISTAN.

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ABSTRACT

BACKGROUND: Viral hepatitis is a global problem and one of its types, Hepatitis B has remarkable morbidity and mortality. WHO classifies countries as low, intermediate and high endemicity regions on the basis of Hepatitis B carrier rate.

OBJECTIVE: To find out any gaps in the recording of data on Hepatitis-B tests

MATERIAL AND METHODS: Data from previous record of five years (2010-14) was collected through structured proformas from the laboratory of a teaching hospital in the central districts of Khyber Pakhtunkhwa and analyzed through MS Excell 2007. Descriptive measures were calculated. Name of the hospital is not disclosed for ethical reasons.

RESULTS: Mean of tests performed was 3081 per month. A total of 1757 (0.95%) tests were positive for Hepatitis B in five years data. Lowest number of tests was noted for 2010 and highest for 2014.

CONCLUSION: Information on Hepatitis B suspected and confirmed cases is insufficient.

KEY WORDS: Hepatitis B, Documentation, Teaching Hospital, Immunochromatography

INTRODUCTION

Viral Hepatitis is regarded as a serious global public health problem^{1,2}. Hepatitis B is one of the six types (A, B, C, D, E, G) of viral hepatitis and like types C and D, is blood born and can cause chronic infections¹. Approximately 2 billion people in the world have evidence of past or present Hepatitis B Virus (HBV) infection and around 360 million are HBV carriers while more than 1 million die each year from Hepatitis B and C^{3,4}. In Pakistan, approximately 4 million people are infected with HBV⁵. According to World Health Organization, countries with a carrier rate of less than 3% fall in low endemicity zone, those with rates between 3-5% fall in intermediate endemicity zone and those above 5% fall in high endemicity zone⁶. Pakistan falls in intermediate endemicity zone⁵ but a recent

study suggests a prevalence of 2.5% and thus places Pakistan in low endemicity zone⁷.

Currently, three commonly used methods for the diagnosis of Hepatitis C are immune chromatography (ICT), Enzyme Linked Immunosorbent Assay (ELISA) and Polymerase Chain Reaction (PCR), of which ELISA is the most preferred screening technique having an accuracy of about 99.9%⁸.

Inappropriate documentation and recording system means wastage of resources⁹.

Recording system serve to find out disease frequencies like incidence and prevalence on one hand while cause of disease for control and prevention on the other hand¹⁰. Keeping these facts in view, this study was conducted to find out whether any gap existed in the

documentation of data on tests performed for HBV at that specific hospital.

MATERIALS AND METHODS

This cross-sectional analysis of secondary data from the laboratory record of a teaching hospital in the central districts of Khyber Pakhtunkhwa was conducted in the month of January & February 2015. Because only one hospital was sampled purposively, name of the hospital is kept confidential for ethical reasons but report will be shared with the Medical Superintendent of that hospital. All legible information available on Hepatitis-B tests performed from 1st January 2010 till 31st December 2014, round the clock, in that hospital was recorded on a pre-designed proforma. Research associates visited hospital during day time from 9am to 2pm for data collection. Collected Data was analyzed through MS-Excel 2007 for obtaining descriptive measures and figures. Ethical approval was obtained from the IRB of Women Medical College Abbottabad and proper permission was granted by the Medical Superintendent of that hospital.

RESULTS

According to the five years record, 184854 tests were performed for hepatitis B, out of which, 1757 (0.95%) turned to be positive. Mean of tests performed was 3081 per month.

Table 01: Data Available on Hepatitis-B tests

Year	Months
2010	April, May, June, July, Aug, Sept, Oct, Nov, Dec
2011	Jan, April, May, June, July, Aug, Sept, Oct, Nov, Dec
2012	All months
2013	All months
2014	All months

An upward trend was noted both for the tests performed and positive tests.

Figure 01: Hepatitis-B Trendline

Table 02: Characteristics of Patients recorded with Hepatitis-B tests.

Variables	2010	2011	2012	2013	2014
ID/Ref Number	x	x	x	x	x
Name	✓	✓	✓	✓	✓
Fathers Name	x	x	x	x	x
Age	x	x	x	x	x
Sex	✓	✓	✓	✓	✓
Address	x	x	x	x	x
Contact Number	x	x	x	x	x
Method(ICT/ELISA)	✓	✓	✓	✓	✓
Computerized Record	x	x	x	x	x

✓ = yes

x = no

DISCUSSION

Proper documentation provides reliable data for future policy making and the quality of data directly affects evidence based decision making¹¹. In this study, missing data was noted for few months in 2010 and 2011. Rest of the three years i.e. 2012, 2013, 2014 had complete records available (Table:01). Multiple registers were used for year wise data recording. Though it facilitates easy data retrieval for multiple purposes, but an assessment report of UNFPA¹² says that in Pakistan, several registers are used causing confusion, inconsistency, and data deficits. Nothing of the sort was noted by

researchers during data collection stage of this study.

Analysis of five years data showed an upward trend; both for the total tests and number of positive tests (Fig:01). This could either be due to public awareness, demanding HBV screening or laboratory staff determination to do proper record keeping. A steep rise was observed for HBV tests from 2011 to 2013. A government sponsored free screening program during those years at the hospital might be a possible explanation. After 2013, trend remained nearly constant.

Only two variables were noted for patients in the registers; name and sex, while method used was verbally communicated by the laboratory staff at the time of data collection (Table:02). Usually sex can be recognized by the name in our culture so we can assume that the only valuable information regarding patients was their names.

Another study in Pakistan highlighted that record keeping was non-standardized and records were of poor quality and that important information was often missing from records, even in teaching hospitals¹³. Same fact is established by this study. Missing of some attributes like age, reference number, contact information dwindled rigor in research as rigor is attributed to accurate record keeping¹⁴.

When records are accurate and complete, they furnish a basis for evaluating hospital activities¹⁵ and planning disease prevention and control programs for the community⁹. Due to missing addresses, no estimation of prevalence could be made about the population of that specific district because teaching hospitals receive patients not only from other districts but also from other provinces and countries as well. Non availability of computerized record is also a potential gap in the record keeping of data on HBV. Readily available computerized data makes it easy to conduct research being translated to health policy. Electronic Health Record (HER) adoption is the need of the day¹⁶

and Laboratory Information System (LIS) is evolving as an important entity that directly manages the workflow within a clinical laboratory and stream lines data for research and policy formulation¹⁷.

For a better hepatitis B control, proper training of the laboratory staff on record keeping, inclusion of important variables like age, father name, and contact information about patients may be deemed necessary. EHR system may be introduced through computerizing laboratory record keeping to ensure the potential for more efficient and rapid measurement of services delivered, and the ability to identify groups of patients to target for specific interventions, such as preventive services. It is necessary to establish a central provincial laboratory with an electronic data base system receiving data on confirmed HBV positive tests from all public and private setups in order to get exact estimates of hepatitis B burden.

This study has some limitations; no prevalence of HBV is calculated for any year because the count is not of patients but positive tests and there is possibility of repeated tests for same individual. Further, no defined catchment area of the hospital is fixed to get a proper denominator.

CONCLUSION

Though monthly count of tests is available, laboratory record keeping of HBV tests is not sufficiently maintained in terms of information on patients to warrant proper evidence based decision making and calculation of certain morbidity indicators.

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