GAPS IN THE DOCUMENTATION OF HEPATITIS-C TESTS AT A TEACHING HOSPITAL IN KHYBER PAKHTUNKHWA, PAKISTAN

Saidul Abrar[1][✉], Shahid Khan[2], Rizwan Anwar[3], Wasim Iqbal[4], Kalsoom Zareen[5], Hira Aziz[5]

[1][✉] Assistant Prof, Department of Community Medicine, Women Medical College Abbottabad, Pakistan Email: abrardr@yahoo.com
Cell: 0321-9103569
[2] Department of Community Dentistry, Women Medical College Abbottabad, Pakistan
[3] Department of Community Medicine, Frontier Medical College Abbottabad, Pakistan
[4] Laboratory Technologist Government of Khyber Pakhtunkhwa, Pakistan
[5] Students Women Medical College Abbottabad, Pakistan

ABSTRACT

OBJECTIVE: To assess the record documentation and gaps in the record keeping of data regarding hepatitis-C virus (HCV) infected patients in a teaching hospital of Khyber Pakhtunkwa Pakistan.

METHODS: This cross sectional study was conducted from January to February 2015, on secondary data obtained from the previous five years laboratory record of a purposively selected teaching hospital in the central districts of Khyber Pakhtunkhwa. Name of the hospital is kept confidential but research findings will be shared with the concerned medical superintendent. A pre designed check list was used to collect information from the available record. Descriptive statistics and figures were obtained using MS Excel 2007.

RESULTS: Out of 120133 tests performed for HCV during those five years, 4019 (3.3%) were positive. Mean of all tests performed per month was 2002+1231.17 while mean of positive tests per month was 66.98+49.70. An overall upward trend was observed for HCV tests performed while positive tests showed fluctuation. However the record keeping of the data was poor and data recorded was deficient in terms of reproducibility. Data of three months in 2010 and 2 months in 2011 was missing.

CONCLUSION: Information recorded about HCV suspects and confirmed cases are insufficient and needs improvement.

KEY WORDS: Hepatitis C (MeSH), Documentation (MeSH), Teaching hospital (MeSH)

More than 20 years later, it is now well established that HCV is of global importance.

According to a study conducted by Pakistan Medical and Research Council, prevalence of HCV infection in 2007-8 was 4.8% while that of HBV infection was 2.5%.[7] However, data about recent national level prevalence and risk factors is not available and different studies (hospital based and regional) present different prevalence rate in the country.[8]

Inappropriate documentation and recording system means wastage of resources.[9] Proper 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 hand.[10]

As there are no local studies available on record keeping of data regarding hepatitis C virus infected patients in Pakistan, this study was conducted to assess the record documentation and gaps in the record keeping of data regarding HCV infected patients in a teaching hospital of Khyber Pakhtunkwa Pakistan.

INTRODUCTION

Hepatitis C virus (HCV) is a major public health problem affecting approximately 2-3% (130-170 million) of the world population.[1] It causes acute hepatitis and in 50-80% of cases, the virus can become chronic and may progress to chronic carrier state, chronic liver disease like cirrhosis and hepato-cellular carcinoma (HCC).[2-4] Like hepatitis B virus (HBV), HCV is also a major public health problem especially in Asia, Africa and other developing countries.[5] After its discovery in 1989, HCV was thought to be an infection of minor importance affecting only injectable drug users and blood transfusion recipients. After more than 20 years since its discovery, it was recognized as major global health problem.[6] After the discovery of HCV in 1989 and its linkage to non-A, non-B hepatitis, HCV was first thought to be an infection of minor importance, affecting selected drug user and blood product recipient populations in developed countries.

METHODOLOGY

It was a cross-sectional study. Laboratory record of previous five years (1st January 2010-31st December 2014) of a teaching hospital of Khyber Pakhtunkhwa was analyzed in the month of January & February 2015. Only one hospital was purposively selected for the study and name of that hospital is kept confidential for ethical reasons but final report will be shared with the Medical Superintendent of that hospital. A pre-designed check

list was used to note information like number of total tests performed during each year, tests positive for HCV, age, sex, father name and address of the patient. Researchers visited hospital during day time from 9 am to 2 pm for data collection.

Collected Data was analyzed through MS-Excel 2007 for obtaining descriptive statistics and figures. Ethical approval was obtained from the Institutional Review Board (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, 120133 tests were performed for hepatitis C, out of which, 4019 (3.34%) were positive. Mean of all tests performed was 2002.21±1231.17 per month (coefficient of variation=61.49%) while mean of positive tests was 66.98±49.70 per month (coefficient of variation=74.20%).

Data of three months (January, February, March) in 2010 and 2 months (February, March) in 2011 was missing. Analysis of five years data showed an upward trend for the total tests but fluctuation for positive tests (Figure 1). After 2012, trend remained nearly constant. Positive tests for HCV deceased during the period from 2010 to 2011. Then an upward trend was noted for the period 2011 to 2012. Again a downward trend was noted for the period 2012-13. Afterwards, positive cases increased once again.

Details of the various variables recorded for documentation of hepatitis C patients from the year 2010 to 2014 are presented in Table 1.

DISCUSSION

The quality of evidence based decision making and future policy formulation depends on proper documentation of data.[11] In this study, three months record was missing for 2010 while only two months was missing for 2011. Rest of the three years i.e. 2012, 2013, 2014 had complete records available. Multiple registers were used for year wise data recording. It facilitated easy data retrieval and no confusion, or inconsistency was noted during data collection. A UNFPA report on Pakistan found that presence of multiple registers caused confusion and inconsistency.[12]

Analysis of five years data showed an upward trend for the total tests but fluctuation for positive tests (Figure 1). A steep rise is observed for HCV tests performed during 2011 to 2012. A government sponsored free screening program during those years might be a possible explanation.

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 1). 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, of poor quality and important information was often missing from records, even in teaching hospitals.[13] Same fact is established by this study as well.

Missing of some attributes like age, reference number, address, and contact information weakened rigor in research as rigor in research based on secondary data is attributed to accurate record keeping.[14] Accurate and complete record can better evaluate hospital activities[15] and plan disease prevention and control programs for the community as well.[10] 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

TABLE 1: RECORD OF THE DOCUMENTED DATA OF HEPATITIS C PATIENTS OVER THE ASSESSED PERIOD

Variables	2010	2011	2012	2013	2014
ID/Reference 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 for 100% of tests, x = No for 100% of tests , ICT = Immunochromatograhy, ELISA = Enzyme Linked Immuno Sorbant Assay
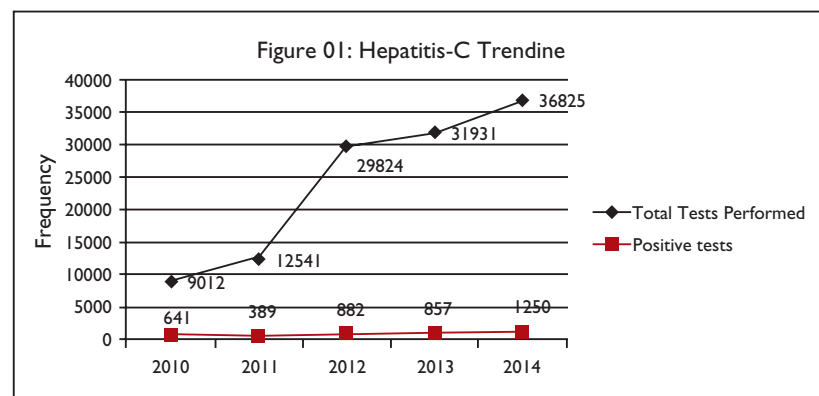

Figure I: Year wise frequency of HCV tests performed according to hospital record

from other provinces and countries as well. Non availability of computerized record was also a potential gap in the record keeping of data on HCV. Readily available computerized data makes it easy to conduct research being translated to health policy. Electronic Health Record (EHR) adoption is the need of the day[16] and Laboratory Information System (LIS) is evolving as an important entity that directly manages the work flow within a clinical laboratory and stream lines data for research and policy formulation.[17]

LIMITATIONS

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

CONCLUSION

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

RECOMMENDATION

For a better hepatitis C control, proper training of the laboratory staff on record keeping, inclusion of important variables like age, father name, address, and contact information about patients

may be deemed necessary. EHR system may be introduced through computerizing laboratory record keeping ensuring 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 HCV positive tests from all public and private setups in order to get exact estimates of hepatitis C burden.

REFERENCES

1. Sharafi H, Alavian SM, Keshvari M. Efficacy of 24-Week Pegylated Interferon Alpha and Ribavirin Combination Therapy in Highly Selected Patients Infected With Hepatitis C Virus Genotype 1. Hepat Mon 2015; 15 (1): e24955. doi: 10.5812/hepatmon. 24955

2. Basit A, Rahim K, Ahmad I, Shafiq M, Mushtaq S, Shaheen H, et al . Prevalence of hepatitis B and C infection in Pakistan. J Inf Mol Biol 2014; 2 (3): 35-8.

3. Maticic M, Zorman JV, Gregorcic S, Schatz E, Lazarus JV. Are there national strategies, plans and guidelines for the treatment of hepatitis C in people who inject drugs? A survey of 33 European countries. BMC Infectious Diseases 2014; 14 (Suppl 6): S14. doi:10.1186/1471-2334-14-S6-S14.

4. Bosan A, Qureshi H, Bile KM, Ahmed I, Hafiz R. A review of hepatitis viral infections in Pakistan. J Pak Med Assoc 2010; 60 (12): 1045-58.

5. Ujjan I, Aurangzeb M, Memon RA, Memon ZY. Prevalence of Hepatitis B Virus (HBV) in association of Hepatitis Delta Virus (HDV). Med Chennal 2012; 4: 53–57.

6. Lavanchy D. Evolving epidemiology of Hepatitis C virus. Clin Microbial Infect 2011; 17: 107–15.

7. Farhat M, Yasmeen A, Ahmad A. An overview of hepatitis B and C in Pakistan. Int J Microbiol Allied Sci 2014; 1 (2): 98–102.

8. Ashraf S, Ahmad A. Viral hepatitis in Pakistan: challenges and priorities. Asian Pac J Trop Biomed 2015; 5 (3): 190–91.

9. Qureshi H, Mohamud BK, Alam SE, Arif A, Ahmed W. Treatment of hepatitis B and C through national programme-an audit. J Pak Med Assoc 2013; 63: 220-4.

10. Ali M, HorikoshiY. Situation analysis of health management information system in Pakistan. Pak J Med Res 2002; 41: 64–9.

11. Ali M, Hotta M, Kuroiwa C, Ushijima H. Emergency obstetric care in Pakistan: Potential for reduced maternal mortality through basic EmOC facilities, services and access. Int J Gynecol Obstet 2005: 91: 105–12.

12. Fauveau V, Donnay F. Can the process indicators for emergency obstetric care assess the progress of maternal mortality reduction programs? An examination of UNFPA Projects 2000-2004. Int J Gynecol Obstet 2006; 93: 308–16.

13. Aziz S, Rao MH. Existing record keeping system in government teaching hospitals of Karachi. J Pak Med Assoc 2002; 52: 163–74.

14. Ali M, Kuroiwa C. Accurate record keeping in referral hospitals in Pakistan's North West Frontier Province and Punjab: a crucial step needed to improve maternal health. J Pak Med Assoc 2007; 57: 443–46.

15. Huffman E. Manual for medical record librarians. 4th edn. Berwyn, Illinois: Physician's Company 1960; pp 31–160.

16. McCullough CM, Wang JJ, Parsons AS, Shih SC. Quality Measure Performance in Small Practices Before and After Electronic Health Record Adoption. eGEMs 2015; 3 (1): 1–11. DOI: http://dx.doi.org/10.13063/2327-9214.1131.

17. Sinard JH, Castellani WJ, Wilkerson ML, Henricks WH. Stand-alone Laboratory Information Systems Versus Laboratory Modules Incorporated in the Electronic Health Record. Arch Pathol Lab Med 2015; 139: 311–18.

AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

SA: Concept & study design, acquisition of data, drafting the manuscript, final approval of the version to be published

SK: Critical revision, final approval of the version to be published

RA & WI: Acquisition of data, drafting the manuscript, final approval of the version to be published

KZ & HA: Drafting the manuscript, final approval of the version to be published

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.