

SHORT COMMUNICATION

FAILURE TO FOLLOW UP SPECIALIZED TEST RESULTS OF ADMITTED PATIENTS IN PRIMARY CARE HOSPITAL-AN UNRECOGNIZED PROBLEM

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A number of laboratory investigations are advised for admitted patients for screening, diagnosis and monitoring of the treatment response. Most of these tests are performed in the laboratory of the same hospital and their results are usually seen by the concerned doctors during patients' stay in the hospital. Some specialized tests are sent to reference laboratories and most of these test results are received in laboratory after patients are discharged from the hospital. The World Alliance for Patient Safety has pointed out failure to follow-up test result as one of the major processes contributing to unsafe patient care¹. A number of studies have been carried out in the west about the frequency of pending laboratory test results and their adverse effects on the patients' management^{2,3,4}. There has been no published study in Pakistan to find the magnitude of this problem of failure to follow up pending test results for admitted hospital patients. Armed Forces Institute of Pathology (AFIP), Rawalpindi is a reference diagnostic laboratory of the Pakistan Armed Forces and specialized tests which are not carried out in peripheral hospitals are sent to AFIP. This study was carried out to find the frequency of failure of follow up test results sent to AFIP Rawalpindi from CMH Attock. Specimens for tests which are not carried out in the laboratory of CMH Attock are sent to AFIP Rawalpindi. These specimens from the wards/departments are sent to the hospital laboratory and laboratory staff is responsible for their delivery to AFIP Rawalpindi and receipt of test results. Later these test results are collected by the patients, their attendants or ward staff from the hospital laboratory. A total of 507 consecutive specimens of admitted

patients in CMH Attock were sent to AFIP Rawalpindi for different tests from 1st Jan 2011 to 31st Dec 2011. In February 2012, an audit of all the tests sent to AFIP Rawalpindi during the said period was carried.

A variety of investigations were sent to AFIP Rawalpindi as shown in table-1. Histopathology was the most heavily used service, comprising 46.55% of all the tests, followed by endocrinology (38.26%) and biochemistry (9.47%). Out of 507 tests, results of 128 (25.25%) were not collected from the laboratory of CMH Attock. Out of 48 biochemistry tests, 22 (45.83%) were not followed up. Out of 236 histopathology specimens, 41 (17.37%) tests results were not seen by concerned specialists.

After admission to hospital, patients are often subjected to laboratory tests. It is the responsibility of the prescribing doctor or ward staff to ensure proper sample collection, transportation of specimen, receipt of result and ensure follow up of the patients in the light of test results. There is evidence to suggest that the proportion of missed test results is a substantial problem globally which have impact on patient safety. However, there was enormous variability reported on the extent of the problem which has been reported as a proportion in patients or of tests. Roy *et al* revealed that out of 2644 patients discharged from the hospitals during the study period,

Table: Frequency of the pending specialized test results at the time of discharge of admitted patients

Tests	Total Specimens	Pending Reports
Histopathology	236	41 (17.37%)
Endocrine	194	56 (28.87%)
Biochemistry	48	22 (45.83%)
Virology	19	6 (31.58%)
Immunology	10	3 (30%)
Total	507	128 (25.25%)

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1095 (41%) patients had a total of 2033 (61%) test results pending on the day of discharge and out of 2033 pending test results, 877 (43%) results were abnormal⁵. Kelly and Barber studied the communication of test results to 155 patients in an urban practice. Only 61% of patients knew their test result and 34 abnormal results were not communicated to patients⁶. Another study showed that only 51% of laboratory results indicating potentially life-threatening conditions were followed-up by appropriate treatment⁷. In our study 25.25% test results were not collected by the patients or hospital staff. The highest percentage (45.83%) of pending results was of biochemistry followed by virology (31.58%), immunology (30%) and endocrinology (28.87%). The least pending reports (17.37%) were of histopathology because majority of the histopathology specimens were deposited in laboratory of the hospital by patients' attendants and each patient knew that some specimen has been taken during operation/procedure and its results must be collected and shown to concerned specialist. Timely knowing the test results reduces the chances of missed diagnosis and minimizes suboptimal clinical outcome^{8,9}. Poor follow-up of tests for malignancies, cardiovascular disease and other diseases causes higher morbidity and mortality from these conditions A meta-analysis of 87 studies in various countries in 1999, comprising over 100,000 breast cancer patients, showed that women who had experienced a delay of 3-6 months between symptom and start of treatment had a 12% lower 5-year survival rate than women with a delay of less than 3 months¹⁰. Poor test follow-up is also a major contributor to litigation, as one-fourth of diagnosis-related malpractice suits have been attributed to avoidable failures in the follow-up system¹¹. Medical related litigation is an emerging issue in Pakistan and this failure in follow up test results is to be avoided in future. In developed countries test results are communicated by mail, telephone or e-mail^{12,13,14}. In our institution collection of result

and its follow up is thought to be the responsibility of the patient particularly in outpatient. There is no clear policy regarding collection of the pending test results at the time of discharge from hospital. The patient / attendant should clearly be informed about the importance of the pending test result and it should be endorsed in the discharge summary for appropriate follow up.

Failure to follow up tests results for hospital patients is a substantial problem and there is a definite need to formulate an standard operating procedure (SOP) regarding pending test results so that a better follow up of the patients can be carried out.

REFERENCES

1. World Alliance for Patient Safety: Summary of the evidence on patient safety: Implications for research. Geneva: World Health Organization, 2008.
2. Poon EG, Gandhi TK, Sequist TD, Murff HJ, Karson AS, Bates DW. "I wish I had seen this test result earlier!" Dissatisfaction with test result management systems in primary care. *Arch Intern Med.* 2004; 164(20):2223-8.
3. Bird S. Missing test results and failure to diagnose. *Aust Fam Physician* 2004; 33:360-1.
4. Wahls TL, Cram PM. The frequency of missed test results and associated treatment delays in a highly computerized health system. *BMC Fam Pract* 2007; 8:32.
5. Roy CL, Poon EG, Karson AS, Ladak-Merchant Z, Johnson RE, Maviglia SM, Gandhi TK. Patient safety concerns arising from test results that return after hospital discharge. *Ann Intern Med*, 2005, 143:121-8.
6. Kelly MH, Barber JH. Use of laboratory services and communication of results to patients in an urban practice: an audit. *J R Coll Gen Pract* 1988; 38: 64-6.
7. Tate KE, Gardner RM, Weaver LK. A computerized laboratory alerting system. *MD Computing*, 1990, 7:296-301.
8. Lawrence J. Do you always make sure patients get test results? *Manage Care* 1996; 4:37-41.
9. Bates DW, Leape LL. Doing better with critical test results. *Jt Comm J Qual Patient Saf* 2005; 31:66-7.
10. Richards MA, Westcombe AM, Love SB, Littlejohns P, Ramirez AJ. Influence of delay on survival in patients with breast cancer: a systematic review. *The Lancet*, 1999, 353:1119-26.
11. Risk Management Foundation. Reducing office practice risks. *Forum*, 2000, 20:6.
12. Meza JP, Webster DS. Patient preferences for laboratory test result notification. *Am J Manag Care* 2000; 6:1297-300.
13. Couchman GR, Forjuoh SN, Rascoe TG, Reis MD, Koehler B, Van Walsum KL. E-mail communications in primary care: what are patients' expectations for specific test results? *Int J Med Inform* 2005; 74:21-30.
14. Boohaker EA, Ward RE, Uman JE, McCarthy BD. Patient notification and follow-up of abnormal test results. A physician survey. *Arch Intern Med.* 1996; 156(3):327-31.