ORIGINAL ARTICLE

ROUTES OF ADMISSION IN TERTIARY CARE IN NORTH WEST PAKISTAN; AN AUDIT AND FUTURE STRATEGIES

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ABSTRACT

Objectives: To assess appropriate use of various routes of admission in Khyber Teaching Hospital (KTH), Peshawar and reasons for using a particular routes of admission by patients and/or attendants so as to identify weak areas for targeted, cost effective measure to improve efficiency.

Material and Methods: Four hundred patients, admitted to five medical units of Khyber Teaching Hospital, Peshawar, from November 2015 to January 2016, participated in the study who were admitted through various routes Emergency Department (ED), Out Patients Department (OPD), Private Clinic and Direct-admission). Patients of both genders were randomly included in the study by going on their bedside on random days. Data was collected on a predesigned Proforma.

Results: The patients admitted through ED, OPD, Clinic and direct-admission were 170 (42%) patients, 28% (112 patients), 27.3% (109 patients) and 2.3% (09 patients) respectively. Of 170 patients (42.5%) admitted through ED, 79 patients (46.47%) were emergency and 91 patients (53.53%) were non-emergency. Only 4.70% patients used ED for the sake of convenience as compared to 28.57% patients who thought OPD was convenient.

Conclusion: Majority of patients use emergency department to get admitted to hospital while other routs of admission are underutilized which adversely affects patient care.

Key Words: Admission, Emergency, Out-patient, Direct admission, Overcrowding, Patient care.

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INTRODUCTION

Developed countries are increasing their health expenditure year by year while the case is not so in Pakistan and India. The total health expenditure of Pakistan in the year 2000 and 2012 was 3% and 2.8% of the gross domestic product (GDP) respectively. It was 4.3% in 2000 and 3.8% in 2012 in India[1]. Health care services, in public sector, in developing countries, including Pakistan, are performing poorly because of poor governance and lack of accountability. The range of frequency of informal payments is enormous; ranging from 3% in Peru to 96% in Pakistan. The poorest countries have the highest out-of-pocket spending as a percentage of their income[2].

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Pakistan is a resource limited country. The same is the case in our province Khyber Pakhtunkhwa where health budget for the current fiscal year (2015-16) is 29.95 billion; 6.15% of total budget of 487 billion[3]. Khyber Teaching Hospital, Peshawar is a 1202 beds tertiary care facility where people from all over the province visit to seek medical care. In the year 2014, a total of 643,226 patients (56.46%) visited emergency department (ED), 496,027 patients (43.54%) were seen in the Outpatient Department (OPD), and 77,912 patients (6.89%) were admitted in different units[4]. This data clearly indicates that tertiary hospitals are overcrowded. According to S Siddiqi et al, 75% patients attending the secondary level hospitals and 44% patients attending the tertiary level hospitals have problems that can be managed at primary level hospitals[5]. Overcrowding is not limited to the public sector hospitals but it is also faced in private sector hospitals. About 410,000 patients/year, visit Agha Hospital, Karachi, out of which 70% belong to low and middle income groups[6].

Access to both emergency and elective care, quality of care, patients safety, job satisfaction of the staff and patients satisfaction, and trainee education;

all are adversely affected in overcrowded hospitals[7]. While growing population may be one reason for overcrowding but hospital occupancy is posing a challenge; high occupancy may add to overcrowding, adversely affecting quality of care and restricting access to in-patient care while low occupancy reflects inefficient use of resources. Scheduled admissions contribute to mid-week crowding[8] as patients and staff tend to avoid weekends. There is also seasonal variation in hospital occupancy in Khyber Pakhtunkhwa as people tend to avoid elective procedures in extreme weather and during the time of religious celebrations including Ramadan (month of fasting).

Our study has generated evidence that may be used by decision makers to take evidence based targeted and cost effective steps to improve efficiency of various routes of admission to hospitals.

MATERIAL AND METHODS

Four hundred patients, admitted to five medical units of Khyber Teaching Hospital, Peshawar, from November 2015 to January 2016, participated in the study. Patients of both genders were randomly included in the study by going on their bedside on random days. A proforma was used to collect data of patient, including demographics, route of admission, reason of using a particular route, symptoms of the patient and provisional or final diagnosis.

RESULTS

Out of 400 patients, 212 (53%) patients were female and 188 (47%) patients were male; with minimum age 12 years, maximum age 116 years and Mean age 55.78 years. The routes through which patients were admitted are given in Table 1. The reasons given by the patients or attendants for using different routes are summarized in Table 2, 3 and 4.

DISCUSSION

Assessment of hospital admission and bed occupancy help optimize patient flow in to and within the hospital[9,10]. Efficient use of routes of admission will facilitate hospital admission and placement of patients with reduced inconvenience. Patients are admitted to tertiary care hospitals, including Khyber Teaching Hospital, Peshawar, round the clock through ED, OPD and private clinics of consultants, practicing outside the hospitals. However there is also a trend of admitting patients directly when a consultant or sometime a trainee examine a patient in ward and advise admission. The rout of direct admission is usually offered to those with higher social status, friends, relatives or acquaintances of attending consultant or hospital staff. Leyenaar JK

Table: 1 (N=400): Routes of admission (Overview)

S. No.	Route of admission	Number of patients with percentages
1.	ED	170 (42.5%)
2.	OPD	112 (28%)
3.	Private Clinic	109 (27.3%)
4.	Direct admission	09 (2.3%)
	Total	400 (100%)

Table 2: Reasons for admission via emergency department (N=170)

S. No.	Reason	No. of patients	Emergency	Non-emergency
1.	Serious condition of patients	79	79 (46.47%)	—
2.	OPD closed	67	—	67 (39.41%)
3.	Official/ unofficial holiday	05	—	05 (2.94%)
4.	Convenient	08	—	08 (4.70%)
5.	Unaware of OPD	09	—	09 (5.29%)
6.	Other	02	—	02 (1.17%)
	Total (percentage)	170 (100%)	79 (46.47%)	91 (53.53%)

Table 3: Reasons for admission via OPD (N=112)

S. No.	Reason	No. of patients with percentages
1.	For consultant advice/ checkup	35 (31.25%)
2.	Better checkup than casualty	21(18.75%)
3.	Referred from other department	05 (4.46%)
4.	Convenient	32 (28.57%)
5.	Other	19 (16.96%)
	Total	112 (100%)

Table 4:Reasons for admission via clinic (N=109)

S. No.	Reason	No. of patients with percentages
1	Good private practice	11 (10.09%)
2	Proper time given	09 (8.25%)
3	Choice of consultant	61 (55.96%)
4	Bad experience in OPD/ Casualty	10 (9.17%)
5	Other	18 (16.51%)
	Total	109 (100%)

et al reports that increasing rates of direct admission among children reduced hospital costs and the volume of patients in the ED though it was usually offered to white children or those with private health insurance[11]. We found that the route of direct admission is underutilized as only 2.3% were admitted through this route.

Based on eligibility criteria, formalization of direct-admission policy and familiarity with both patients and referring doctors, extra bonuses to consultants who accept direct-admission from referring doctors/ hospitals, and 'a phone call away' policy will make direct-admission process convenient, faster and safe to both patient and referring doctor[12]. Direct Admission Zone (DAZ) within the ED where patients is phoned in, marked as a direct-admission and seen by the admitting consultant, would be another way to make direct admission a success and safe. Jeffrey R et al reported the success of formalized direct admission and reduction in unnecessary attendance at ED[13].

Majority of patients (42.5%) got admitted through ED. Absence of triage, attendance by non-emergencies, limited hours of OPD and underutilization of direct admission are the causes of ED overcrowding. In our study more than half of the patients (53.53%) admitted via this route were non-emergency cases, confirming the misuse of this important route. The assumption that ED is overcrowded by non-emergency patients due to illiteracy in the community, is wrong as only 09 (5.29%) patients admitted via emergency were unaware of the OPD services. Sixty-seven patients (39.41%) used ED for admission because OPD services were closed; one of the reasons for overcrowding of ED. Extending and ensuring uninterrupted operational hours of OPD services will reduce ED burden by around 40%. It is to be noted that patients did not use ED for admission merely because of convenience as only 4.70% of patients used this rout for the reason whereas 28.57% patients used OPD for convenience. This is understandable as staff at ED is geared for emergency relief and are not expected to give much time to nonemergency patients while the reverse holds true for OPD.

Because of overcrowding, general public does not rely on ED for quality and timely emergency care. Overcrowding is related to the likelihood of patients sustaining serious harm because of increased health care error due to inability of support services to cope with increased requests from caregivers[14]. Leyenaar JK et al reported 36% direct admission and 64% admissions through ED[11]. Improving patient flow is critical in ED[15] where overcrowding leads to poor patient satisfaction[16,17]. Model of Emergency Department team, consultant-led “bed management rounds”, combined ED/inpatient unit and three-way conversation between Patient Placement Manager, emergency physicians and hospital consultant has been cited to improve patient flow and satisfaction[18-21].

In our set up, instead of using various routs of admissions appropriately, the crowding is shifted to in-patient premises with the result that admitted patients lying on bare floor is a common scene. We have also tried to improve ED by expanding its capacity. Gigantic building of Emergency Department at Lady Reading Hospital, Peshawar and the one coming up in Khyber Teaching Hospital, Peshawar has not solved this problem. ED expansion alone does not appear to be an adequate solution to ED overcrowding[22].

Boarding (patients on stretchers in ED hallway) causing ED overcrowding[23] may be helped by the addition of transition in-patient care facility to the preference of majority of patients prior to bed availability[24]. Overcrowding is caused by a complex web of interrelated issues and is associated with patient's poor outcome, prolonged suffering, longer waiting time, dissatisfaction and reduced productivity of the staff with consequent frustration and violence[25].

In our study, the number of patients admitted through OPD (28%) and private clinics (27.3%) were almost equal. The OPD duration in our tertiary hospitals is only 6 hours from 8 a.m. to 2 p.m. whereas actual OPD runs for about 5 hours from 8:30 a.m. to 01:30 p.m. on working days. The net result is that the patients with minor illness, either visit ED or attend the private clinics. Those using ED do so at the cost of care of patients genuinely requiring emergency care while those consulting doctors at their private clinics do so at enhanced out of pocket spending. Health care, in most of the developing countries, suffers from managerial failure and ineffective audit of the processes in place and resources (financial and human) at hand resulting in informal payments to physicians and paramedical personnel[2] with out of pocket spending as high as 83% in Khyber Pakhtunkhwa[26]. Most patients coming to public sector hospitals belong to low and middle income groups who often borrow money or sell their property. Same is the case in our neighboring country India where >40% patients admitted to hospitals, borrow money or sell their property to cover the expenses of their medical care[27]. Out of pocket spending is a menace that affects the socioeconomically vulnerable, the most. Extending OPD hours along with support services will reduce ED congestion and out of pocket spending. Four "Ps" of NHS, UK (Pleasant, Polite, Privacy, Professional); Group medical appointments for

greater patient satisfaction, Computerizing medical records and coded access to such records to enhance communication and efficiency; Electronic Consultation in securing second opinion, tele-diagnosis and helping administrative roles (eg e-referral) and Quick diagnosis clinics to asses patient with aim to treat them safely as outpatient[28] would go long way to improve efficiency of Outpatient Department.

Current private health facilities are expanding and new ones are being established in Khyber Pakhtunkhwa as well as in the country. People often visit consultant's clinic to get admission in public sector tertiary hospitals with convenience and to have extra care and attention. In our study, over a quarter of patients (27.3%) got admitted from private clinics; ironically through ED. Admitting patients from private clinic through direct-admission will be safe, convenient and help reduce congestion at ED. Institution based private practice (private consultation within the hospital premises) will provide an alternative subsidized route with reduction in out of pocket spending.

Thirty-six patients (0.09%) with illnesses not requiring tertiary care were admitted during the period of our study. Off these, 20 (0.05%) patients had simple urinary tract infection and 16 (0.04%) had Vivax malaria. It is often thought that facilities at District level are very much limited in terms of specialist doctors, laboratory facilities and imaging tests due to which patients with mild diseases are admitted in tertiary care hospitals and occupy beds which need to be given to patients with serious illnesses or requiring multidisciplinary approach for diagnosis and management. Our study does not support this as only 0.09% admission accounted for such admissions. It means that people do get health care services at district level either through public sector facilities or through private sector.

CONCLUSION

Most patients are admitted through emergency because of underutilized OPD services and direct-admission leading to overcrowding of ED with consequent adverse effect on emergency care. Admissions from private clinic through ED makes situation worse. Further, admission from private clinic is almost equal to admission through OPD, adding to enhanced out of pocket spending. The assumption that emergency department is overcrowded because our patient population is illiterate and cannot differentiate between emergency and non-emergency, is not correct.

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AUTHOR'S CONTRIBUTION

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

Iman N: Concept development of proforma, references, manual script writing.

Khan ZU: Data collection, statistics.

Ahmad MS: Data collection.

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.