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An Insight about the Referral System in Health Care Network: Flaws with Recommendations for Improvement

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Short Communication

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ABSTRACT

Healthcare network is composed of primary, secondary and tertiary care centers. Purpose of each unit in this sophisticated zone is to allow steady and smooth delivery of healthcare to optimum level without wasting essential resources or time. If, primary care centers are not able to fulfill the needs of any health issues then, patients are referred to more advanced setup where their health issues can be timely addressed in a proficient way. Referral system forms an important component of healthcare network and it should be formulated in such a way that it can bring fruitful results with the proper use of time, energy, man force as well as technical resources without compromising patient's health. In this paper, we discussed the core of healthcare network in the city, working with primary as well as referral health care centers, flaws affecting the referral system and recommendations to improve them.

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Keywords: Primary care physician; referral system; tertiary care centers.

ABBREVIATIONS

PCP : Primary Care Physician
ED : Emergency Department

1. INTRODUCTION

Patient referral services form an integral and essential part of any healthcare system. In general, healthcare network is organized into three levels worldwide based on the level of sophistication of care provided. Primary health care provides most basic health services and usually practiced in the form of outpatient clinics. Secondary health care delivers specialized and more advanced health care and involves more detailed knowledge of the diseases with enhanced management. Primary health care can refer the patients to secondary health care when needed. Finally, tertiary health care encompasses most critical and extensive health care issues and is equipped with state-of-the-art modalities and receives referrals from the primary as well as secondary health care network: depending upon the extent of the disease.

In Karachi, health care is covered and provided to the population by means of government–owned hospitals, private as well as non–profit organizations (NGOs). These differ from a standard tertiary care network in regard to the quality of care provided, availability of the expertise, cost of services, up-to-date modalities, accessibility, workplace environment, availability of vacant beds, and wait time for a chief complaint to be addressed. Based on the aforementioned factors, there is an increased demand for the referrals to tertiary care hospital, which holds the highest level of advancement and sophistication when health care services are concerned. The reasons for referrals are an initial assessment with provisional diagnosis, and information about any treatment given is unavailable, most of the time. This leads to the utilization of resources available at the tertiary center for those patients which could have been managed if treated at appropriate health care center rather than being referred improperly to tertiary health care center. This also compromises the golden hour concept of managing critical patients arriving at the ER.

1.1 Objectives

To study the basics of health care system, working with the referral system, common flaws in the referral system which leads to excessive use of resources available at the tertiary care center and compromising the health of those who need immediate attention for their severity. At the end, few recommendations are mentioned, which we think can bring fruitful changes to the health care system in my country, if applied. This fact should be highlighted over here that there has been no research project carried out locally on such attention seeking issue, as per best of writer's knowledge. So, it is a novel intervention that has been carried out at least at this end of the world named, Pakistan.

2. PATIENTS AND METHODS

This was a cross-sectional study designed to evaluate the above-mentioned objectives. All the data was collected and analyzed during given period of time without having any follow up data collection or observation for any phenomenon to occur. Referred patients were interviewed using structured questionnaire with the special focus on demographic attributes, the chief complaint about visiting hospital/physicians, and on proper case note. This study was carried out in the Emergency Department of Jinnah postgraduate training center, Karachi, Pakistan. The study was conducted from the month of Jan to Feb 2015 after the approval of synopsis.

2.1 Sample Size

A probability consecutive sampling technique was applied to select the cases. Total of 859 patients were enrolled in the study and encompass both genders with a wide range of clinical cases and with different extent of the severity to minimize the confindings.

2.2 Ethical Issues

The research followed the tenets of the Declaration of Helsinki. Informed consent was obtained from every patient and study was reviewed and approved by the Ethics Committee of Jinnah Postgraduate Training Center, Karachi, Pakistan.

2.3 Data Collection Procedure

Respondents of the study were either patients or attendant coming along in the emergency department referred to any hospital. There was no limit with regard to disease suffered, age or ethnicity. Any patient who would consent to the interview was included in the study. Data were collected by interviewing the respondents (technique) as per the question that is included in the survey questionnaire (Instrument). Those responses were recorded, processed and analyzed accordingly.

2.4 The Survey

The questionnaire that was used for this study was formulated and drafted in English containing 10 items. To overcome the language barrier, each item in the survey questionnaire was explained to respondents in common and easily communicable language to avoid cultural bias. For the purpose of the study, Emergency department of tertiary care hospital was selected as sample location, which is among the hospitals with a wide range of expertise availability. Using Emergency Department as sample location also helped to avoid recall bias because respondents had recently exposed to referral phenomenon from other health care centers.

2.5 Data Analysis

Data were analyzed using SPSS version 21.0. Descriptive statistics were run to determine the age and gender of patients while frequency table was run for the determination of the reasons for referrals and on referral forms. Data were analyzed and presented according to the type of variable.

3. RESULTS

3.1 Patient

Out of a total of 859 sample, male responders were 54.8% whereas female responders were 45.2% of total sample included in the study. Mean age for male responders was 45 yrs with SD of 5 while mean age for female responders was 39 yrs with SD of 3.5.

3.2 Referral

Out of 859 sample, 64.1% of patients were referred from private hospitals, 29.9% of patients were transferred from government hospitals, and 5.9% of patient were recommended to go to tertiary care center from non–profit institution.

3.3 Disease Spectrum among Those who were being Referred

There were 76 variables for the reason of referral which was further summarized into 14 broad categories. Out of 859 sample, respiratory problems made the major bulk with the percentage of 34.7% in patients coming to the ER with the trauma of any kind being the second highest with the percentage of 16.6%. Other diseases include neurological as well as OB/GYN with the percentage of 7.8% for each. Table 1 elaborate the description in the more detailed way. 29.3% of the patient came in with the proper case summary sheet provided by the referring hospital. 70.7% of patients visited ER directly with chief complaints which can be addressed at primary health care center or outpatient clinics, thus, overburdening the resources and compromising the outcome for those who need immediate attention because of the seriousness of health.

4. DISCUSSION

Referral system is an integral part of healthcare network. It serves as a connection between different levels of health care facilities i.e. primary, secondary and tertiary care centers. Usually the chain of events begins when a patient visits primary healthcare center to see a physician for any illness, and if the physician is incapable of addressing the patient's concern properly due to either lack of academic or technical expertise, the patient is then referred to a more advanced health care center which has necessary competencies required to tackle issues. The core of any referral is based on certain crucial elements that include geographical access to referred healthcare facilities, well-equipped transportation system, proficient and skilled staff, timely referral, and cost-effective quality of care. If the patient's condition is already critical, then, it could worsen during transportation if appropriate measures are not met [1].

In most countries, there are two major types of health facilities—primary care facilities and hospitals [2,3]. Healthcare systems are often designed to encourage patients to seek care first at the primary level and then be referred, if necessary, to a higher level of care. This helps to

minimize the cost of care also [4]. However, people often bypass primary care facilities and seek care directly at tertiary care hospitals for illnesses that could be easily treated at the primary care facility [5]. This can overburden the referral facility and is often costlier for the caretaker and the healthcare system. The reason for this could be the perceived thinking that they would receive much better care if they directly visit a specialist center and assuming that PCPs do not have requisite proficiencies to address their health issues [6,7]. Other reasons include avoiding wastage of extra time by visiting PCPs, poor awareness about the referral system, and perceived medical necessity to see a specialist rather than a PCP [8,9]. The unavailability of PCP after regular working hours is also an important factor in contributing the increased patient load in tertiary care centers [10]. Furthermore, keeping in mind that facilities with advanced health care services do have rapid and easy access to laboratory and radiological investigations. This also serves as a driving force for self-referral [11].

Table 1. Condition for which patient were referred

Variables	% (n)
Respiratory problem	34.7 (298)
Trauma	16.5 (142)
GYNE & OBST	7.8 (67)
Neurological	7.8 (67)
GIT	5.9 (51)
Other	5.1 (44)
ALOC	4.9 (42)
Hypertensive	4.3 (37)
Fever	3.0 (26)
Cardiopulmonary arrest	2.9 (25)
Hepatobiliary	2.0 (17)
Poisoning	1.9 (16)
Renal problem	1.7 (15)
Endocrinological	1.4 (12)

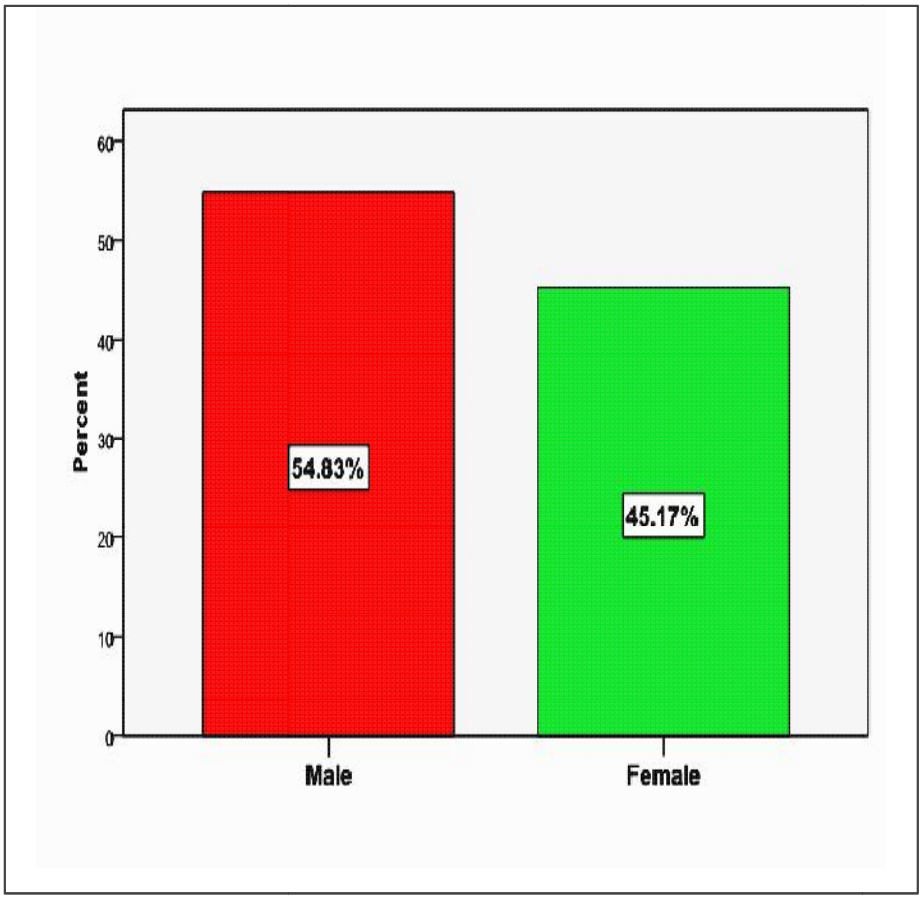

Fig. 1. Gender distribution

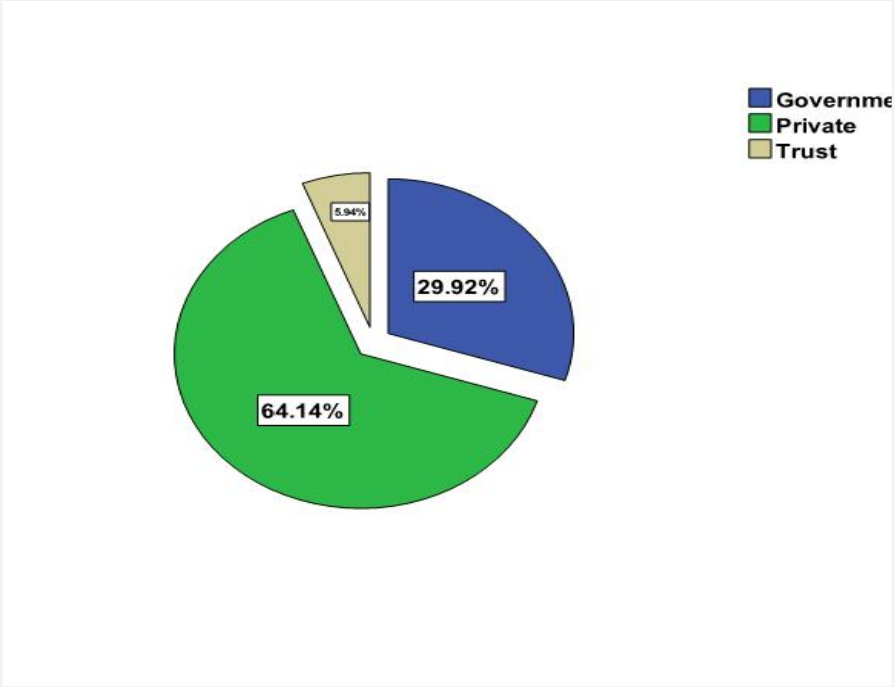

Fig. 2. Type of referring facility

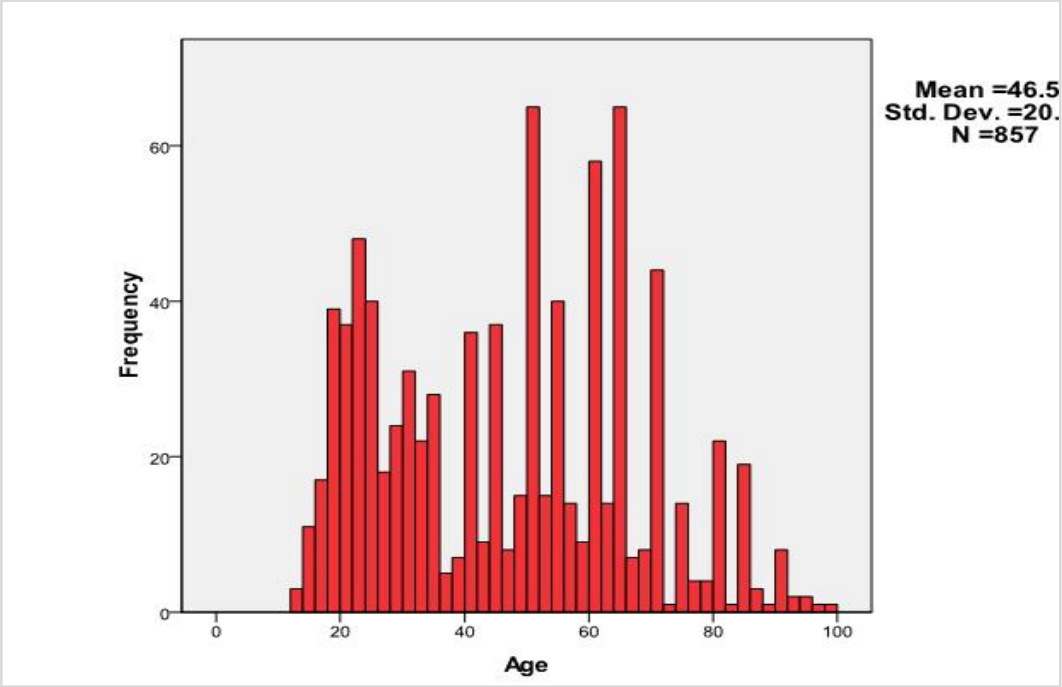

Fig. 3. Age distribution of the patients

In our study, many patients were referred from private clinics. O'Donnell reported that referrals were more common when the specialist hospitals were located closer to the GP practice [12]. This highlights the importance of private sector in health services.

Easy accessibility to tertiary care centers is another reason for the public to bypass PCPs as they can get appropriate treatment within a short span of time. A study from Tanzania showed that 91% of sick children and 75% of admissions to the referral hospital came from within a 10-kilometer radius. Only 235 out of the 7,989 children (3%) had been referred to the hospital [13]. A referral assessment in Ghana showed a similar finding with only one out of 34 (3%) caretakers interviewed in the OPD at referral sites having been referred. Of the children admitted to the inpatient ward, only 11% had been referred to the hospital [14].

There are many flaws in current referral system which is affecting health care framework negatively and leading to the excessive utilization of resources. Patients are referred with incomplete case history which leads to the consumption of extra time. At the same time, many patients are referred with minor ailments like the fever which can be treated at primary care setups. Flawed referral system not only causes problems to patients but it also increases the workload of tertiary care centers [15,16]. Bed occupancy and availability in tertiary care hospital is a major problem in our part of the world, also when the patients come with an improper referral or for minor complaints that easily can be treated at the primary and secondary care, the load of patients in tertiary care hospitals becomes colossal and the quality of care comprises [1]. The Little research effort has been made in the past to statistically, quantitatively and academically document the everyday observation regarding patient referrals in our population. The societal and economic burden of these deaths and injuries are huge and it poses greater financial and social cost of the national infrastructure by creating a population of individuals who get handicapped as a result of these incidents and eliminating present and potential workforce by means of death of those individuals.

There are several ways to improve healthcare framework and associated referral system. It includes, yet not limited to, improvement in the coordination between three levels of the referral system, reinforcing public sector health care services, educating about the importance and proper use of referral system among the society, and precluding self-referential [17].

Role of PCP should be enhanced in a way that they should be the one dealing with the major bulk of health-related problems except those requiring prompt management. They should be acting as a gatekeeper and their approval should be mandatory in order to avail specialty health care services [6].

A proper inter-hospital communication system should be established. Patient's case history should be discussed with the doctor himself to the referring doctor before actually shifting the patient. Groundworks and arrangements should be made to enhance skills and facilities of primary and secondary health care centers to cater for minor ailments so that undue burden on tertiary care hospital can be prevented.

Proper implementation of triage system can also assist in timely addressing patient's health problems and refer those who require the more sophisticated level of management [18]. To counteract overcrowding in ED, primary care health services can be provided alongside or within hospital EDs, thus, targeting those with non-urgent problems [19].

5. LIMITATIONS OF THE STUDY

Patients coming to ER without the prior visit to any health care center or outpatient clinic face several issues which may be the limiting factor as it was not included in the objectives of this study i.e. to study those who have been referred from other health care centers to the tertiary care center. The reason behind their visit was either the awareness of getting addressed with minimal wait time as compared to their visit to an outpatient clinic or other suboptimal health care center where human resources and expertise were limited. It was found out that their presenting complaints were of less seriousness which could have been addressed at an outpatient clinic or secondary health care center. Thus, overburdening the resources and compromising the outcome for those who need immediate attention because of the seriousness of health.

6. CONCLUSION

It is important to restructure and formulate the referral system in our country so that health care framework can work in an efficient way with proper usage of adequate resources. Primary care network should be strengthened and encouraged so that it can bear the major bulk of health concerns, and if needed, only primary care physicians can serve as sole authority to

refer for further management to specialty centers except those requiring immediate medical attention. The concept of providing PCPs within or alongside the ED can also help to mitigate the workload and minimize the utilization of resources. In case of any referral, patients should be provided with proper documentation of their case and treatment which was addressed by the referring health care center.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the authors.

ETHICAL CONSIDERATION

Ethical issues (including plagiarism, data fabrication, double publication) have been completely deserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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