

The Brain Drain of Qualified Clinical Pharmacy Professionals in Pakistan's Pharmacy Education: A Retrospective Study

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Abstract

Introduction: The pharmacy education environment of a developing country like Pakistan is on course of development. Progress was made in 2004 to incorporate the courses of clinical pharmacy in the Doctor of Pharmacy (Pharm.D) degree with a health care insight. Failure to develop a teaching workforce prior to initiation of the above said plan rendered clinical pharmacy to be taught by non-clinical pharmacy professionals who have impinged the course throughout country's pharmacy academia. They assume the foreign qualified clinical pharmacy professionals as a professional threat.

Methods: A retrospective study was conducted in Pharmacy teaching universities of Karachi, Pakistan. Data of the last 10 years of different pharmacy teaching institutes in Karachi, Pakistan was sought.

Results: A total of 4 private and 1 public university data was available which showed that the total number of qualified clinical pharmacists increased from 2 in 2004 to 3 in 2004 and remained at 4 till 2011, the highest number of clinical pharmacists were seen teaching in pharmacy institute were 7 in the year 2012. However the number again dropped to 6 in 2013 and to just 1 in 2014. All of them reasoned the pharmaco-political situation of the country's pharmacy education.

Conclusion: The study highlights the current dilemma of the brain drain of clinical pharmacy professionals from the pharmacy education environment of the country and is a wakeup call for the Pharmacy Council of Pakistan (PCP) and the Higher Education Commission (HEC) to formulate legislations and guidelines in the said regard.

Keywords: Clinical pharmacy; Brain drain; Pakistan

Introduction

Pakistan is a country where the pharmacy education is in transition. In 2004, the educational authorities i.e. Pharmacy Council of Pakistan (PCP) and the Higher Education Commission (HEC) of Pakistan upgraded the curriculum from a 4 year Bachelor of Pharmacy B. Pharm degree to 5 year Doctor of Pharmacy (D. Pharm) degree [1]. The reason for the upgradation was to incorporate the patient oriented clinical pharmacy courses in the degree program, and to transform it from a solely industrial oriented degree to a more comprehensive degree with a health care oriented focus [2]. The innovation behind this modification was the fact that pharmacists in the developed countries were associated with health care and the pharmaceutical care offered by the pharmacists was very helpful in augmenting the positive patient outcomes [3].

The idea was the same in Pakistan's pharmacy education as the authorities wanted the pharmacy graduate to be empowered to orient, acquaint and work in health care system of the country. The educational authorities though taking an encouraging and positive step however failed to address a major issue of creating a workforce for the said purpose. Pakistan's pharmacy education was then new to the concept of clinical pharmacy, the country lacked clinical pharmacy professionals who can teach subjects which were made a part of the curriculum. As a result the highly specialized subject was left to be taught by those pharmacy professionals who were specialized in an entirely different domain of pharmacy such as pharmaceuticals, pharmacology and pharmacognosy [4].

Over the last decade these non-clinical pharmacy professionals continued to encroach the domain as majority of pharmacy universities of the country employs non clinical pharmacists to teach clinical pharmacy in undergraduate pharmacy curriculum. Recently the clinical pharmacy module was grouped with miscellaneous subjects of pharmacy such as pharmaceutical mathematics, statistics, marketing, etc. in to a new department known as Pharmacy Practice which rendered it to further intra-departmental encroachment [4]. It

was observed recently that few clinical pharmacy professionals who specialized in the said domain from abroad teaching in pharmacy institutes alike those practicing in health care system of the country, were also assumed as a professional threat to the non-clinical pharmacy professionals [5].

This situation has revealed negative outcomes as many clinical pharmacy professionals fell victims to the encroachment and politics in pharmacy education system and were recently noticed leaving the country's pharmacy education set up due to the ongoing pharmaco-political situation. The results of this misperception have been devastating as majority of clinical pharmacy professionals left the country due to this prevailing situation.

The focus of the study was to gather the data retrospectively from pharmacy institutions of Karachi, Pakistan and present a current picture of the pharmacy education institute of the country with regards to brain drain of professionals related to the clinical pharmacy education. Karachi being the biggest and most advance city of Pakistan has more number of pharmacy institutes alone and also those which offer specialization in clinical pharmacy. Therefore, it was believed the data of pharmacy institutions of Karachi can depict a picture of the whole pharmacy education of Pakistan.

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Methods

A retrospective study was conducted for a month in the pharmacy teaching universities of Karachi, Pakistan.

Study duration

The study was conducted for a month i.e. November 2014.

Data gathering

Data of the last 10 years of different pharmacy teaching institutes in Karachi, Pakistan was sought. The number of clinical pharmacists teaching in the faculty of pharmacy of different universities in Karachi year wise was noted and documented.

Inclusion and exclusion criteria

Qualified clinical pharmacists were identified as the ones who were specialized in the field of Clinical Pharmacy from outside Pakistan. All other pharmacy teaching professionals were excluded.

Study instrument

The study instrument was in the form of a checklist which consisted of demographic variables such as type of university, departments/division of teaching, qualifications and credentials of respondents as well as department heads, date of commencement and termination of teaching services in the university, teaching courses, reason for leaving and current destination.

Data analysis

The data was analyzed and expressed in numerical values in the results.

Result

A total of 4 private and 1 public university data was available which showed that the total number of qualified clinical pharmacists increased from 2 in 2004 to 3 in 2004 and remained at 4 till 2011, the highest number of clinical pharmacists were seen teaching in pharmacy institute were 7 in the year 2012. However the number again dropped to 6 in 2013 and to just 1 in 2014. Graph 1 demonstrates the number of qualified clinical pharmacists chronologically over the last 10 years.

Furthermore, it was also observed that in the course of 10 years, the private sector universities had the major chunk of the clinical pharmacists in the teaching faculty (N = 7, in 2012) as compared to the public sector university which is only 1. (N = 1, 2013-14)

In addition to this, chronologically it was observed that the private sector had the first qualified clinical pharmacist in 2004 (N = 2), and a surge in number was reported in 2009 (N = 3), in 2010 the number increase and remained the same till the next year (N = 4, 2010-11). The highest number of clinical pharmacist reported to work in the private sector universities was in 2012 (N = 7), however in 2013 the number dropped (N = 5) in private sector and public sector university was reported to incorporate a clinical pharmacist (N = 1) which remained the same in 2014. However, no clinical pharmacist was reported to work in private sector in 2014 (N = 0). Furthermore, the qualified clinical pharmacists were reported to leave the country for different destinations in the world. Table 1 tabulated the percentages of brain drain of qualified clinical pharmacists from Pakistan with their destinations.

When the clinical pharmacists were asked about their reason for leaving, all of them reasoned the pharmaco-political situation of the country's pharmacy education. Further to this, the study also gathered

the data related to the current head of department of Pharmacy Practice departments in those institutes. It was reported that no qualified clinical pharmacist who can justify their position in the department currently holds office.

In addition, after gathering the qualification credentials of the current department heads of various institutions, it was observed that all positions were held by those who were not related to the pharmacy practice domain, the pharmacy professionals were from Pharmaceutics, Pharmacognosy and Pharmacology.

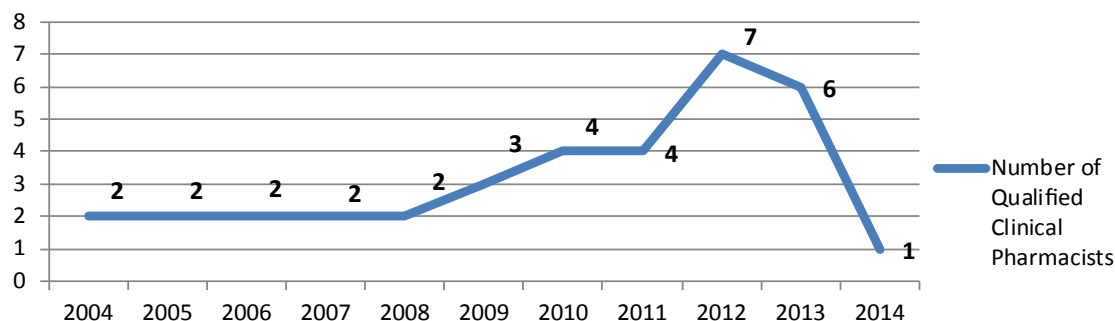
Discussion

Clinical pharmacy is a new notion in the pharmacy education of Pakistan and this has become the core reason of charm and attraction of many pre-medical students to pursue higher studies in the subject after the introduction of Doctor of Pharmacy (Pharm.D) program in 2005. The degree program upgraded from a Bachelor (B.Pharm) of 4 years duration to Doctor of Pharmacy (Pharm.D) of 5 years duration [1]. The purpose of upgrading the curriculum was to address the health care associated issues and to empower the pharmacists in the field of health care. The upgradation of the degree program distinguished it from the former by the inclusion of the subject titled, 'Clinical Pharmacy.' This module was not at all the part of the previous version of the degree program. Hence, the novel module required professionals of the clinical pharmacy to provide knowledge to the students. The educational authorities did not devise a strategy for creating a workforce before addition of the said module. Since Pakistan's pharmacy education system did not produce any professionally qualified clinical pharmacist, the responsibility was left for those who were qualified in the subject from abroad and for that, some of the pharmacy institutions of Pakistan took advantage of those pharmacy professionals who were qualified and specialized in the domain of clinical Pharmacy [4].

However, the pharmacy education system of Pakistan once again found itself at the wrong end, recently in 2012-13 the authorities, instead of formulating a strategy for promoting locally educated clinical pharmacists for teaching, formulated a separate domain of Pharmacy Practice Department in which Clinical pharmacy was grouped with some of the entire differently fields of pharmacy such as pharmaceutical mathematics, statistics, marketing, law, etc. [6]. This step of grouping the highly specialized subject with other non-alike ones in a new department has so far seen rather devastating as the results indicate a surge in brain drain after the formation of the new department i.e. from 2013-2014. Hence a new law has begun in the pharmacy education system of Pakistan as the clinical pharmacy professionals who were already less in numbers are facing an atypical situation of departmental encroachment of non-clinical pharmacy professionals in Pharmacy Practice department [4,6]. The educational authorities have again failed to address the issue. The upgradation of the course was carried out to make it more patients oriented rather than industrial oriented and thus for hospital practice, clinical pharmacy skills are a must but the encroachment of pharmacy professionals specialized in industry oriented domains such as Pharmaceutics and Pharmacognosy will only add to the already worsening situation.

The present study deals with the ground breaking realities of the institutions of Pakistan over the last decade regarding the subject. Among the five institutions of Pakistan the number of clinical pharmacist in academics increased gradually by the passage of time and the number of clinical pharmacist from 2 to 4 in few years and later the number was steady, by the end of 2011 and beginning of 2012, the number of qualified clinical pharmacy professionals in institutions was noted at 7, the highest in the whole decade. The quantitative and

10 year data of qualified clinical pharmacists in pharmacy teaching institutes of Karachi, Pakistan



Graph 1: Number of qualified clinical pharmacists teaching in pharmacy institute over the last 10 years

Destinations	Brain drain from Pakistan (%)
United Kingdom	16.6
United Arab Emirates	33.3
United States	16.6
Saudi Arabia	16.6
Malaysia	16.6
Total	100

Table 1: Percentage of brain drain of qualified clinical pharmacy professionals from Pakistan with their destinations

qualitative data show that majority left the country for their career as Pakistan's pharmacy institutes are not orienting their paradigm towards quality clinical pharmacy teaching.

One of the proposed solution to this brain drain as presented by Abbas A, 2014 is to formulate a special board or platform for this domain by Pharmacy Council of Pakistan (PCP) or Higher Education Commission (HEC) which serve as a discussion forum of all the clinical pharmacists currently present in the whole country to gather information and individual expertise and formulate a collective teaching strategy. Secondly, regulations must be made by the authority to strictly limit the encroachment of non-clinical pharmacy professionals in this specialized subject [4].

Furthermore, those pharmacy teaching institutes which unfortunately do not have services of qualified clinical pharmacist can employ the teaching strategy of pharmacy institutions of Malaysia, Gulf countries and United Kingdom by either hiring qualified individuals from abroad, inviting qualified personals working in different health related areas of Pakistan as visiting lecturers or implementing the concept of e-learning through internet.

This article is a wakeup call for the authorities to investigate the issue, the educational authorities should make prompt measures to stop and reverse the brain drain and make decisions for the revival of clinical pharmacy in Pakistan by promoting professionals with in the institutions so that the future pharmacists can deal with the daunting issues of Pakistan's health care system and justify their Doctor of Pharmacy (Pharm.D) qualification ethically.

Conclusion

The study highlights the current dilemma of the brain drain of clinical pharmacy professionals from the pharmacy education environment of the country. The educational authorities have to look into the matter and devise a strategy to dilute the threat perception,

strive to help foreign qualified clinical pharmacy professionals acquaint pharmacy education of Pakistan and develop a localized workforce of those professionals in the country. Continuing trend of this brain drain of clinical pharmacy professionals from Pakistan's pharmacy education would be detrimental for the future of pharmacy education in Pakistan.

Conflicts of interests

The authors declare no conflict of interests exists.

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