

## Importance of Incorporating Social Pharmacy Education in Yemeni Pharmacy Schools Curriculum

Mohammed Alshakka<sup>1\*</sup>, Adel Aldubhani<sup>2</sup>, Huda Basaleem<sup>3</sup>, Mohamed Azmi Hassali<sup>4</sup>, Mohamed Izham Mohhamed Ibrahim<sup>5</sup>

<sup>1</sup>Assistant Professor, Faculty of Pharmacy, Aden University, Yemen

<sup>2</sup>Ministry of Health and Population, Sana'a, Yemen

<sup>3</sup>Associate Professor, Head, Dept. Community Medicine and Public Health, Director, Aden Cancer Registry and Research Center Faculty of Medicine and Health Sciences, Aden University, Yemen

<sup>4</sup>Professor and Deputy Dean (Student Affairs & Networking), Discipline of Social and Administrative Pharmacy, School of Pharmaceutical Sciences, Universiti Sains Malaysia,

<sup>5</sup>Professor of Social & Administrative Pharmacy, College of Pharmacy, Qatar University, Doha, Qatar

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\*Correspondence to:

Dr. Mohammed Alshakka, PhD

Department of Clinical Pharmacy, Faculty of

Pharmacy, Aden University, , Yemen

Email: [alshakka400@gmail.com](mailto:alshakka400@gmail.com)

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### Abstract

Social and behavioral science has been acknowledged to offer a remarkable contribution in pharmacist training. The main aim of this article is to highlight the importance of incorporating social pharmacy education in Yemeni pharmacy school curriculum. The article discusses the concept of social pharmacy, contribution of social pharmacy to pharmacy practice, pharmacy education in Yemen and the need of social pharmacy in Yemen with the Faculty of Pharmacy, Aden University as an example. In conclusion, the act of incorporating social pharmacy will add more advantages to the existing pharmacy education in Yemen. Therefore, there is a strong urge to train future pharmacists in the multiple aspects of social pharmacy.

**Keywords:** Social pharmacy, Education, Curriculum, Yemen.

### INTRODUCTION

There has been a very clear need to make a shift of the pharmacy practice to a more patient-centered care.<sup>[1,2]</sup> This further suggests on the expansion of the pharmacists' role beyond the traditional tasks of dispensing and distributing medicines and health supplies. Instead, today, the pharmacists' services include serving healthcare that is more patient-centered, administrative and covering public health functions, and the extension of roles entails pharmacists' direct interaction with the general public, offering various services including diagnostic testing, giving advice on healthcare, providing information, therapeutic recommendation, directions and instructions,

as well as making sure that people receive medicines that are right and suitable for them and who have the knowledge of using medicines correctly.<sup>[3]</sup> The integration between pharmaceutical care and medicines management has been received well, despite it not being fully grasped by the government and the pharmacists via drug therapy.<sup>[4]</sup> All the same, it can improve patients' lives. As pharmacists are becoming more responsible as 'healthcare professionals' instead of being seen as the dispensers and deliverers of medicines and medical kit and appliances, the pharmacy students are called for to acquire new skills as communicators, problem-solvers, educators and advisers.<sup>[5]</sup>

Social and behavioural science has been acknowledged to offer a remarkable contribution in pharmacist training. The term 'behavioural science' refers to the scientific study of



human behaviour, and while it is very commonly linked with the psychology discipline, it also takes into account other disciplines that study the people and the society like sociology and anthropology.<sup>[4]</sup> It has been explained that sociology encompasses a set of actions done by individuals as social phenomena. Put simply, people's behaviour is justified and moulded by the society we live in. Through time, we have come to realise the fundamental need for pharmacists and generally all health professionals to adopt an approach towards healthcare that is sociologically informed, due to the fact that sociology unravels the facts about nature and health, exposes the causes behind diseases and death, brings in the power factors and the dilemmas rife in healthcare products and further creates an amateur practitioner at first, who (then is a more focused and competent decision-maker-cum-pharmacist.<sup>[6]</sup>

Long before pharmacy was established, the medical field has confirmed the need to look at health and illness from a sociological stance. As a result, or in this vein, 'sociology applied to medicine' has been included and taught as a routine in various UK nursing, medical and dental schools from the 1970s.<sup>[3]</sup> In subsequent years, the introduction of medical sociology into preclinical medical courses had been a significant departure from the subjects previously taught in the courses. Back then, teaching had been based very much on detailed or thorough studies of anatomy, histology and physiology in light of the tissues and organs in the human body.

A few developing countries, such as Malaysia have also recognized through time, that pharmacies carry the potential to provide enhanced contributions to primary health care, and have considered social pharmacy to be an essential subject. Since the 1992-1993 academic year, social pharmacy related courses have been included into the undergraduate pharmacy curriculum of Universiti Sains Malaysia (USM).<sup>[7]</sup> In Malaysia, the introduction of social pharmacy courses into the study of pharmacy has been recognized for successfully increasing students' knowledge of human behaviour, and the development of models for studying patient and consumer behaviour.<sup>[3]</sup> In the Malaysian context, the following are the current courses taught under the Social Pharmacy Discipline from the USM: Research Methodology and Statistics, Pharmacoepidemiology, Communication Skills, Pharmacoeconomics, Public Health Pharmacy, Pharmacoinformatics, Drugs in Developing Countries, Drug Abuse and Society, Pharmaceutical Marketing, Pharmaceutical Management and Forensic Pharmacy.<sup>[8]</sup>

In our context in the Faculty of Pharmacy, Aden University; none of such courses is included in the curriculum. Therefore, the current article is at:

- discussing the concept of social pharmacy and its contribution to pharmacy practice
- describing pharmacy education in Yemen
- highlighting the importance of incorporating social pharmacy education in pharmacy school curriculum.

## SOCIAL PHARMACY DEFINITIONS AND CONCEPT

Concisely, social pharmacy has been defined as a discipline that deals with the behavioural sciences relevant to medicine by both consumer and healthcare professionals. Extended from the behavioural and psychological aspects relevant to pharmacy,<sup>[9,10]</sup> the areas of pharmacy administration such as pharmacy management and marketing were also taken in as some of the basic components in social pharmacy.

During its pioneering years, social pharmacy is synonymous with the social distribution of drug use and "pharmacoepidemiology", and today, it is recognised as involving considerably more than mapping drug usage in the population.<sup>[4]</sup>

In its conception, social pharmacy offers a perspective on pharmacy which completes the behavioural and physical science component of the pharmacy curriculum. As a whole, social pharmacy incorporates the social implications that have to do with the therapeutic and non-therapeutic benefits of pharmaceutical preparations as examined from the perspectives of individual and group behaviour and the social systems that have long existed between them.<sup>[3]</sup>

## THE CONTRIBUTIONS OF SOCIAL PHARMACY TO PHARMACY PRACTICE

Efforts were undertaken to unravel which areas of pharmacy practice could offer good contributions to pharmacy training. As behavioural sciences can help demystify the nature of health and illness, ascertain the social cause of diseases, and identify lay population health beliefs, such afield is basically needed by all health care practitioners, including pharmacists for optimal treatment outcomes.<sup>[3,11]</sup> Because of the importance of this issue, institutions such as the schools of pharmacy and the Royal Pharmaceutical Society of Great Britain suggested that aspects of

behavioural sciences and sociology should be brought into pharmacy<sup>[3,12]</sup> undergraduate curriculum to prepare pharmacy students for their future practice adequately.

It can also contribute to an understanding of the political context in which policies on the promotion of health and the prevention of disease are developed and implemented. Social pharmacy can also ensure proper and systematic development of effective counselling and communication skills, sound enhancement of medication compliance, patients being able to be motivated to consult professionals for their healthcare, patients being able to grasp the nature of their diseases, patients being able to be assisted in making sound decisions, the both improvement in both pharmacy professionalism and leadership, and last but not least social pharmacy can contribute in ensuring that pharmaceutical products would be of better quality and subsequently, the whole pharmacovigilance would be more trustworthy and credible.<sup>[3]</sup>

## PHARMACY EDUCATION IN YEMEN

On the surface, maybe it is fair to say that Pharmacy education in Yemen has been facing various obstacles and challenges through the years and it is somehow hand in hand with the continuous crisis that has emerged in the country. While many public and private pharmacy departments and colleges have already been built in Yemen since 1970 up until now, the pharmacy education in Yemen still lags behind their counterparts in various developing and developed countries.

In dwelling into the history of the pharmacy education in Yemen, the first pharmacy college was founded in 1978 in Sana'a university. Prior to this, it was a department in the Faculty of Medicine and Health Sciences and later, in 2002, it had become a separate college. The second public pharmacy college was established in 1995 in Aden. Just like the first college, it was initially a department in the Faculty of Medicine and Health Sciences at the University of Aden, then it became an independent college in June 2009. Next, Yemen had the third and fourth pharmacy programs in Tamar, Hodeidah and Hadhramout Universities in 2005, in 2011 and in 2012 respectively.<sup>[13-18]</sup> Additional to these five public faculties, there are 19 private pharmacy colleges are officially licensed to start pharmacy teaching by the Ministry of High Education and Scientific Research.<sup>[13-18]</sup>

Yemen also has Bachelor's and master's programs in Pharmacology, Pharmaceutics, and Pharmacognosy

as offered in Sana'a University. For other universities, bachelor degree is the highest degree offered. Of all the programs, only the department at the Hodeidah University and one of the private colleges offer a Doctorate in Pharmacy (PharmD) degree. The bachelor's degree program in all public and private colleges lasts for 5 years. It is taught in English, with Arabic language becoming the medium of instruction in a few courses such as Arabic and Islamic subjects.

The admission requirements criteria are very different between the public and private sector colleges. At present, the competition for admission to pharmacy programs is found to be very intense, as the positions in the public colleges are very limited. To choose the best candidates, colleges generally adhere to the selection criteria that have been predetermined by the Acceptance Committee supervised by the Ministry of Higher Education and Scientific Research (MOHESR), which was established in 1990 to facilitate the administrative aspects of the higher education system in Yemen. Students are accepted after reference is made to their past academic achievement and their performance on the college's acceptance examination. The private colleges have their own criteria of acceptance. These criteria include the requirements that should be found in every pharmacy student or a minimum passing grade on the high school exit examination and their ability to pay for their tuition fees, imposed annually.<sup>[19-23]</sup>

Although most public colleges have basically referred to the same MOHESR admission criteria, the validity and the outcome evidence indicating the relationship between admission criteria and pharmacy graduate performance in pharmacy practice is still frail and inconsistent. Moreover, to address the educational challenges already existing in the country, there is no clear evidence that students enrolled in these colleges make good, let alone, the best, pharmacists.

Both public and private pharmacy colleges have fitted their curriculum with that of the Faculty of Pharmacy, Sana'a University. The pharmacy curriculum was designed to provide students with all the essential information and knowledge in both basic and pharmaceutical sciences to help them in the practice of pharmacy. Knowledge of basic sciences, such as chemistry, biology, physics, and mathematics, is deemed a necessity not only for education at the pharmacy college but also for pharmaceutical research. As the effect, the patient-cantered education is fast becoming an indispensable component of pharmacy education

Nonetheless, pharmacy education in Yemen cannot escape various problems. Several numbers of pharmacy colleges are found to have suffered from a shortage of faculty members. Many faculty members are not contented with their work in Yemen and they have named several factors: Low salaries, high cost of living, lack of adequate facilities in the colleges of pharmacy, lack of jobs, lack of resources to attend conferences and workshops, lack of research facilities and funds, lack of teaching facilities, lack of electronic and print materials, poor work environment, and attractive work environments outside Yemen (phone/ in person interviews conducted over the course May 1-20, 2013). Accordingly, the number of academic staff who migrated from Yemeni universities, including pharmacy colleges, have increase, based on the report by the Ministry of Immigration Affairs.<sup>[24]</sup>

Yemeni pharmacy colleges adopt the methods of traditional lectures, tutorials, seminars, laboratories, and research. E-learning is not available in the public higher education sector. The students do not normally have computers at their place of study and do not have easy access to the Internet. Simply put, the lecturers still do not have the problem writing on a chalkboard and asking students to take notes or giving out articles or practice pages to the students. Unfortunately, there are no updated references in the college or university libraries. Quizzes, mid-term, oral examinations, small research projects are some of the assessment methods used. The examinations are usually in English.

The students need to get the passing grades in all courses and complete the research project in the final year. The research project must be in pharmacognosy, pharmacology, medicinal chemistry, pharmaceuticals, or public health. Because of the large number of students and as the faculty members are insufficient, students collaborate in groups of 10 under the supervision of 1 faculty member to conduct their research project.<sup>[24]</sup> There is lacking of social pharmacy components in the present pharmacy Yemeni curriculum. In Yemen, however, as it is, social pharmacy was overlooked and neglected in Yemeni pharmacy schools and the academics did not teach courses related to social pharmacy in their institutions. Hence, there is a pressing need to train future pharmacists in all aspects of social pharmacy in Yemen.

### THE NEED OF SOCIAL PHARMACY IN YEMEN

At this juncture, we can say that new directions in health policy, the changing needs and expectations of the population, the structural, economic, social and cultural

contexts of healthcare, and the aspirations of pharmacists for a greater role in its delivery all provide the background and frameworks for the initiation and setting up of social pharmacy courses in many pharmacy schools globally.<sup>[3]</sup>

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However, as an important reminder, pharmacy students in Yemen really have to understand that patients will have their own beliefs, views, and perspectives about their health and the use of medicines. Their perception and perspectives toward medications can stand prominent as important determinants of the success of health intervention strategies.

Another point worth mentioning is that professional pharmacists in Yemen need to be well prepared on how to deal with the patients' behaviour and psychology. The understanding of patient socio-behavioural aspects in the medication use process is the overriding factor: towards achieving optimal clinical and humanistic outcomes from therapy.

The notion of social pharmacy, the key concept that enabled pharmacists in the developed countries to become active health care managers, is still a mystery in most parts of the developing world. A common characteristic of these countries is that health care systems are generally underprovided for, and the number of health care professionals is simply not enough to meet increasing health needs.<sup>[3,10]</sup>

One way to overcome this impediment would be for relevant parties or authorities to endorse holistic health services, and for pharmacists to deliver holistic health services- the latter, who had received some sort of training in the field of social and behavioural aspects of illnesses and health. The knowledge of social pharmacy courses will facilitate the development of personal and interpersonal skills which are linked with effective counselling and communication in improving the medication use process in the society. The enhancement of pharmacy professionalism and leadership qualities can also be made possible through this measure. This reiterates the importance of incorporating social pharmacy education in the curriculum of pharmacy schools in developed and developing countries in generally, and in Yemen specifically.



In order for this to happen, understandably, it would be essential to incorporate more pharmaceutical sociology components into the current pharmacy curriculum.

### PLAN TO START SOCIAL PHARMACY IN YEMEN PROPOSED

In The Faculty of Pharmacy, Aden University, there is a need to pursue now to change the pharmacy administration course to Social and Administrative Pharmacy and teach it in the first year and in the third year.

In the first year we propose to teach them history of pharmacy, pharmacy provision and introduction to statistics and the rest is to be taught in the students' third year.

Course content: Introduction to Social and Administrative Pharmacy

The objective of the introductory course in Social and Administrative Sciences in Pharmacy (SAS) is to equip students with some independent, theory-based research leading to new knowledge and understanding of drug use, patient and provider communication and behaviors, health outcomes, pharmacy practice, patient care systems, and the pharmacy profession. This is accomplished by integrating the knowledge of pharmacy and pharmaceuticals with theories and concepts from a wide range of disciplines such as economics, sociology, psychology, management sciences, education, epidemiology, history and law.

- Introduction to Country Healthcare System (2 hrs)
- Pharmacy Systems and Organizations (3 hrs)
- Pharmacy and Medicines Policy (3 hrs)
- Pharmacy Management,(3 hrs)
- Pharmacy Economics (3 hrs)
- Pharmacy Marketing (2 hrs)
- Patient/Provider Perceptions and Behavior (4 hrs)
- Pharmacy and Health Communications (2 hrs)
- Humanistics Studies of Pharmacy (3 hrs)
- Client Outcomes (2 hrs)

### CHALLENGES OF IMPLEMENTING SOCIAL PHARMACY IN YEMEN

It is a fact that future health care practitioners need to understand not only the clinical origin of diseases and treatment modalities but also the importance of understanding the social and behavioural aspects of health care needs; understanding these aspects will enhance patients' treatment outcomes.<sup>[3,10]</sup>

Implementing change to pharmacy practice in recent decades has required a pharmacist not only to have to be trained in traditional areas of pharmacy such as pharmacology and physiology, pharmaceutical chemistry, pharmaceuticals, clinical pharmacy but the next challenge is to add other courses such as social pharmacy.<sup>[3]</sup>

Health care practitioners in Yemen are faced with the problem of treating patients whose beliefs and behaviour about health and illness may not be the same as their own. There are a wide variety of people with different cultures or belief systems, which can present a challenge in health care delivery because of differences in health care need based on their belief systems.

In developing nations, pharmacy curricula differ a great deal from one to another. This is mainly because of the fact that the roles of pharmacists within these countries differ in a significant manner, and the traditional role as a dispenser or medicine seller still prevails because of the lack of recognition of their role by the general public, other health care professionals, the government, and payers, in specific.

Also, another challenge lies in the lack of well-adopted definition, as well as the lack of perceived relevance of social pharmacy to the field of pharmacy. There is also inadequate number of experts with the expertise to teach social pharmacy notions and topics, and this highlights the weakness of the pharmacy faculty.

### CONCLUSION

The act of incorporating social pharmacy will add more advantages to the existing pharmacy education in Yemen and because of this; there is a strong urge to train future pharmacists in the multiple aspects of social pharmacy. Proper and thorough training can help pharmacists comprehended how people are relatable to health, illness and disease.

### REFERENCES

1. Worley MM, Schommer JC, Brown LM, Hadsall RS, Ranelli PL, Stratton TP, Uden DL. Pharmacists' and patients' roles in the pharmacist-patient relationship: Are pharmacists and patients reading from the same relationship script? *Res Social Admin Pharm.* 2007;3:47-69.
2. New tool to enhance role of pharmacists in health care, Available at <http://www.who.int/mediacentre/news/new/2006/nw05/en/index.html> [Accessed September 1, 2015]
3. Hassali MA, Shafie AA, Al-Haddad MS, Abduekarem AR, Ibrahim MI, Palaian S, Abrika OSS. Social pharmacy as a field of study: The needs and challenges in global pharmacy education. *Res Social Admin Pharm.* 2011;7: 415-420.

4. Harding G, Taylor K. Defining social pharmacy. *Int J Pharm Pract* 1995;2:62-63
5. World Health Organisation. The role of of the pharmacist in th health care system. Preparing the future pharmacist: curricular development [Internet]. Available at: [http://whqlibdoc.who.int/hq/1997/WHO\\_PHARM\\_97\\_599](http://whqlibdoc.who.int/hq/1997/WHO_PHARM_97_599) [Accessed September 1, 2015]
6. Morrall P. *Sociology and Nursing*, London, Routledge. ( 2001)
7. Ibrahim MIM, Awang R, Razak AD. Introducing social pharmacy courses to pharmacy students in Malaysia. *Med Teach* 1998;20:122-126
8. Discipline Of Social & Administrative Pharmacy. Available at <http://www.pha.usm.my/index.php/en/services/discipline-of-social-administrative-pharmacy> [Accessed September 1, 2015]
9. Wertheimer A. Social/behavioural pharmacy: the Minnesota experience. *J Clin Pharm Ther.* 1991;16:381-3.
10. Manasse HR, Rucker TD. Pharmacy administration and its relationship to education, research and practice. *J Soc Adm Pharm* 1984;2:127-35.
11. Abrika OSS, Hassali MA, Abdulhakem AR. Importance of social pharmacy education in Libyan pharmacy schools: perspectives from pharmacy practitioners. *J Educ Eval Health Prof.* 2012; 9:6.
12. Basak SC, Social pharmacy concept in pharmacy education, Available at <http://pharmabiz.com/ArticleDetails.aspx?aid=69533&sid=9> [Accessed September 1, 2015]
13. The Ministry of Higher Education and Scientific Research. 2010. Available at <http://www.yemen.gov.ye/portal/Default.aspx?alias5www.yemen.gov.ye/portal/mohe>. [Accessed September 1, 2015]
14. Sana'a University. Available at [www.su.edu.ye](http://www.su.edu.ye) [Accessed September 1, 2015]
15. Aden University, Faculty of Pharmacy. Available at <http://www.aden-univ.net/pharmacy.aspx>. [Accessed September 1, 2015]
16. University of Thammar. Available at <http://www.thuniv.net/sitedata.php?pid517>. [Accessed September 1, 2015]
17. Hodeidah University. <http://www.hoduniv.net.ye>. [Accessed September 1, 2015]
18. University of Science and Technology, College of Pharmacy. Available at <http://www.ust.edu/pharm/programs.php?id55>. [Accessed September 1, 2015]
19. Queen Arwa University. Available at <http://www.y.net.ye/arwauniversity/english/>. [Accessed September 1, 2015]
20. Dar Alsalam International University for Science & Technology. Available at [http://www.dsuye.com/college.php?college\\_cat53#UnpjzHBHK-k](http://www.dsuye.com/college.php?college_cat53#UnpjzHBHK-k). [Accessed September 1, 2015]
21. Lebanese International University(LIU). Available at <http://liuyemen.com/Admissions/undergraduate-admissions.php>. [Accessed September 1, 2015]
22. Al-Nasser University. Available at <http://www.al-edu.com/bachelor-of-pharmacology/>. [Accessed September 1, 2015]
23. Azal university for human development. Available at <https://www.facebook.com/azaluni>. [Accessed September 1, 2015]
24. Al-Worafi YM. The Challenges of Pharmacy Education in Yemen. *Am J Pharm Educ.* 2014; 78 (8) Article 146.

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