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SELF-ACTUALIZATION OF PHARMACY IN ERITREA

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ABSTRACT

Self-actualization is the achievement of one's full potential. There is no doubt that pharmacy has the potential to serve the public better, but since its potential has not been materialized, there is currently a huge mismatch between what pharmacists learn and practice. Like many developing countries, this is the case in Eritrea. Nonetheless, the current status of Eritrean pharmacy can be seen as an opportunity to mold the profession to whatever shape is deemed important. The operational definition of self-actualized pharmacy is as follows: "Self-actualized pharmacy is the one that fulfills all the drug-related needs of the society and performs public health functions." Preventing or alleviating drug-related morbidity and mortality and their economic consequences is the motive behind self-actualization of pharmacy in Eritrea or elsewhere. Several studies attest that pharmacists can tackle drug related problems effectively and that the magnitude of the benefit is gigantic. To utilize its potential properly, and serve its purpose, however, pharmacy needs to change using change management strategies from its current state of affair. Eritrean Pharmaceutical Association, the school of pharmacy, the Ministry of Health and individual pharmacists are the stake holders in this process. The self-actualized form of pharmacy cannot be attained overnight. Rather pharmacy needs to be engaged in a continuum of change for its achievement. In other words, step wise approach has to be employed and foundational services should come first. It is imperative to change the profession now before unbearable consequences of drug-related problems ensue in this poor country that can make matters worse.

KEYWORDS

Self-actualization, Drug, Change, Morbidity and Mortality.

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INTRODUCTION

Self-actualization is simply defined as the achievement of one's full potential[1]. There is no doubt that pharmacy has the potential to serve better, but since its potential has not been materialized, there is currently a huge mismatch between what pharmacists learn and practice. Like many developing countries, this is the case in Eritrea.

Pharmacy has been practiced since antiquity. Babylon, China, and Egypt are the prominent countries where pharmacy was practiced in its

earliest form[2]. Later on, many advances were made between 400AD and 900AD, especially in the Islamic civilization[3]. By the mid-13th century Frederick II separated the practice of pharmacy from medicine for the first time in Europe[3]. After 1850s, the scientific discipline of pharmacy began to become more professionalized in colleges and manufacturing concerns[3]. Pharmacy has been evolving throughout its history experiencing several kinds of practice. The pace of this evolution was hastened during the 19th and 20th centuries. Between 1860 and the late 1990s, the profession's preferred orientation has moved from manufacturing, to compounding, to distribution, to a more clinical role, and finally to pharmaceutical care[4]. The social value of pharmacy was prominent in the manufacturing and compounding stages, then it gradually waned until pharmaceutical care came in to picture to revive it. Thus, to varying degrees pharmacists are currently recognized as drug experts whose role is to work in collaboration with patients, physicians and other health care professionals to optimize medication management and to produce positive health outcomes[5]. In Eritrea, this stage has not been attained.

The concept of self-actualization has been discussed in several pharmacy writings. Hepler and Strand described the period of clinical pharmacy movement as a period of "…… professional transition in which pharmacists sought self-actualization - the full achievement of their professional potential"[6]. In other publications, it was stated that "Pharmacists have the potential to improve therapeutic outcomes and patients' quality of life within available resources"[7]. This shows that the challenge lies before us and we need to find ways to involve pharmacists in patient care (and to relocate them from unproductive tasks) in order to aggrandize the profession's ability. Consequently this work was done to bring the concept to Eritrea by devising a pragmatic model guiding pharmacy's attempts to realize its dreams. It was done after approval of the Ethics committee of Asmara College of Health Sciences on February 10, 2010.

Why self-actualization?

Drugs are the most frequently used form of treatment intervention in any health practice setting. However, their rational use remains the exception rather than the rule, globally[7]. Hence, drug related problems are commonplace. A drug related problem (DRP) is an event or a circumstance involving drug treatment that actually or potentially interferes with the patient's experiencing an optimum outcome of medical care[6]. It comprises eight categories; untreated indication, improper drug selection, sub therapeutic dosage, failure to receive drugs, over dosage, adverse drug reactions, drug interactions and drug use without indication.

DRPs result in drug related morbidity and mortality along with substantial economic consequences. According to several studies, the magnitude of drug related morbidity and mortality is in the order of hundreds of thousands up to millions and the cost associated with them is estimated to be in millions and billions[8-14]. In Eritrea, such data do not exist due to lack of research in this area. However, there is a general consensus among health professionals that DRPs do occur in our health care system. Thus, preventing or alleviating drug-related morbidity and mortality and their economic consequences is the motive behind self-actualization of pharmacy in Eritrea.

Can pharmacists tackle DRPs?

The logical question that comes to one's mind is whether pharmacists can tackle DRPs and thus prevent or minimize their consequences. The good thing about the above mentioned drug-related problems is their preventability[6]. Several studies attest that pharmacists can deal with such problems effectively and that the magnitudes of the benefits are gigantic[15-18]. They indicate pharmacists' potential for benefiting their society, clinically and economically. However, this happens only if they use their full potential. Pharmacists handle DRPs in collaboration with other health care professionals. Studies show that new pharmacy services are welcomed by other health professionals[19,20].

Potentials

In order to self-actualize pharmacy needs to capitalize on two potentials: in-depth drug knowledge and accessibility to the public. Pharmacies are open all day, are convenient for most people to get to, and there is no need for an appointment to see the pharmacist. All this makes pharmacies the natural first port of call for help with common ailments[7]. Thus pharmacies can be utilized for public health programmes, apart from providing drug related services.

The Eritrean situation

In Eritrea, pharmacy is in its early stage of development. Formal education of pharmacy, at bachelor level, began in 1997. There is lack of adequate personnel and the health care system is not well developed. Pharmacists do not have a clearly defined role. Eritrea has relatively high number of customers per pharmacist, higher number of prescription items per pharmacist, less space per customer[21]. Eritrean population was about 4.93 million in 2008 according to the data from World Bank and the number of registered pharmacists was 180 in 2010. Thus the pharmacist to population ratio is estimated to be 1: 27, 372. Eritrea is a late comer as a nation which provides the opportunity to learn from the experiences of other countries. Therefore, the current status of Eritrean pharmacy can be seen as an opportunity to mold the profession to whatever shape is deemed important.

Stake holders

It is needless to say that professional pharmacy associations can play a vital role in the self-actualization of pharmacy. The national association especially should act as a leader in such endeavors. So far, Eritrean Pharmaceutical Association (ERIPA) has accomplished a lot. It has issued thirteen volumes of a periodical entitled *'Pharma Focus'*. It has organized 13 scientific conferences (between 1991 and 2010), several pharmacy week programmes directed to the public, and numerous continuing education programmes. However, in order to play its vital role in self-actualization of Eritrean pharmacy, it needs to stretch its capacity significantly. Apart from ERIPA, the school of pharmacy is another key participant. It must revise its curriculum continuously to reflect the mission and objectives set by ERIPA. The Ministry of Health and individual pharmacists are other important stake holders.

How self-actualization?

Here is an operational definition of self-actualized pharmacy: *"Self-actualized pharmacy is the one that fulfills all the drug-related needs of the society and performs public health functions."* Drug related needs range from accessibility of safe and effective drugs to handling of drug related problems (for instance through pharmaceutical care).

The self-actualized form of pharmacy cannot be attained overnight. Rather pharmacy needs to be engaged in a continuum of change for its achievement. In other words, step wise approach has to be employed and foundational services should come first. The rationale for this suggestion lies in the fact that changing current pharmacy practice in Eritrea might be difficult in terms of manpower, acceptance and capability. Since there are few pharmacists, starting with services that do not create chaos in the pharmacy work force is strategic. Services like drug information are acceptable with this regard than clinical pharmacy or pharmaceutical care.

Acceptance of new services by pharmacists themselves, other health professionals and the government is another problem. So starting by services that are readily acceptable is advisable. For instance drug information would be more appropriate than clinical pharmacy or pharmaceutical care. This also helps to gradually inculcate the benefits of extended pharmacy services to other health professionals and the government, hence avoiding the uncertainty accompanying change involving paradigm shift.

Capability of pharmacists towards the new service should also be considered seriously. It is easier to train pharmacists to be drug informants than pharmaceutical care providers.

Thus, strategically (see Figure No.1), the first thing that should be done, in the effort to self-actualize pharmacy, is identifying the drug-related and public

health-related needs of the society through research. However, all the identified needs cannot be implemented at once. So, they should be prioritized according to their importance and the feasibility of the services that can be employed to fulfill the needs, the matter which can be objectively judged on the basis of availability of pharmacists, acceptance of the services and capability of pharmacists to provide such services. Once the top priority is established, the requirements to institutionalize that service should be identified and relevant bodies convinced to secure resources, legal backup, etc. Thereafter, objectives should be set, and strategies and plan of action devised. Careful implementation of the new service by applying change management strategies follows. This is the most difficult step deserving extreme vigilance. As it was once noted, Developing effective methods to drive change in the profession of pharmacy is our number one challenge[22]. There are several change management models that can serve as a guide[22].

After implementation, measurement of progress using the appropriate indicators is necessary as it heavily determines the course of action. List of indicators should be prepared at the appropriate time. At last, the service could be established by aligning the behavior, attitude, knowledge and skills of pharmacists with it. Then a return back to the first step is required to identify any other unmet needs.

This completes the cycle. In this way, pharmacy can identify and fulfill all the drug- and public health-related needs of the society that it can handle, and at the end of the day it will be self-actualized. Pharmacy managers, ERIPA, School of Pharmacy, individual pharmacists, other health professionals and the Ministry should introduce their inputs into the steps wherever they are required. Nevertheless, ERIPA should act as a leader and organizer of the process. This model can serve anywhere other than Eritrea.

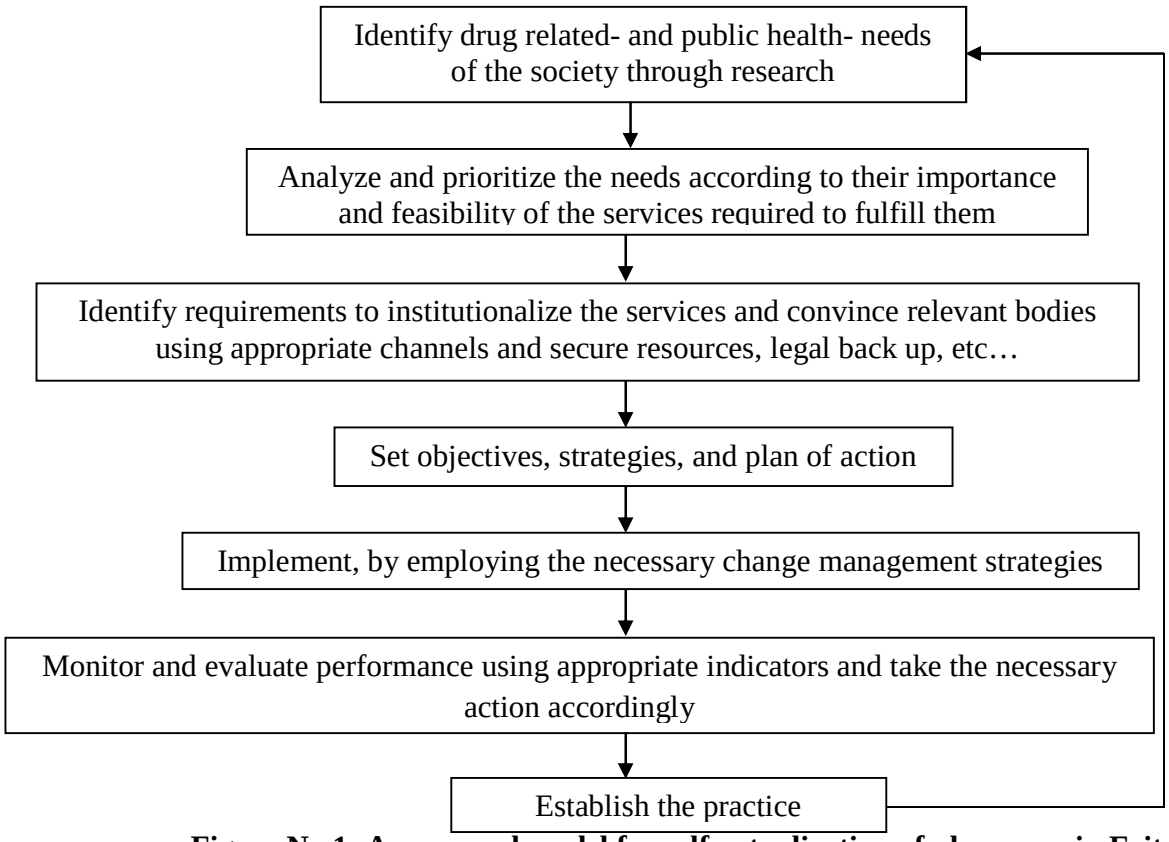

Figure No.1: A proposed model for self-actualization of pharmacy in Eritrea

CONCLUSION

Therefore pharmacy in Eritrea can be self-actualized if the right inputs are introduced at the right time wisely according to the aforementioned model to realize its potential, as pharmacy in the western world did or is doing. Eritrean Pharmaceutical Association (ERIPA's) role is vital in this process. Any obstacle can be overcome by evidence, education, negotiation and legislation. It is noteworthy that prosperity lies at the heart of change since it urges the abandonment of less important functions and consideration of more important ones. It is imperative to change the profession now before unbearable consequences of drug-related problems ensue in this poor country that can make matters worse.

CONFLICT OF INTEREST

[1,2]Board members of Eritrean Pharmaceutical Association.

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BIBLIOGRAPHY

1. The Free Dictionary.com, *Pennsylvania: Farlex, Inc.,* 2010.
2. Bender G A, Thom R A, Parke. Davis and Company, Great Moments in Pharmacy: The stories and paintings in the series, a history of pharmacy in pictures, *Detroit, Michigan: Northwood Institute Press,* 2nd edition, 1966.
3. Higby J G. Evolution of Pharmacy, In: Gennaro A R, Chase G D, eds. Remington: the science and practice of pharmacy, *Easton (PA): Mack publishing company*, 1995, 7-17.
4. Holland R W, Nimmo C M. Transition's part 1: beyond pharmaceutical care, *Am J Health Syst Pharm,* 56, 1999, 1758-64.
5. Hepler C D, Strand L M. Opportunities and responsibilities in pharmaceutical care, *Am J Pharm Educ,* 53(suppl), 1989, S7-15.
6. Hepler C D, Strand L M. Opportunities and responsibilities in pharmaceutical care, *Am J Hosp Pharm,* 47, 1990, 533-43.
7. Wiedenmayer K *et al*. Developing pharmacy practice: a focus on patient care, *Netherland: World Health Organization and International Pharmaceutical Federation,* 2006.
8. Lazarou J *et al*. Incidence of adverse drug reactions in hospitalized patients, *J Am Pharm Assoc,* 279, 1998, 1200-05.
9. Aparasu R R. Visits to office-based physicians in the United States for medication-related morbidity, *J Am Pharm Assoc,* 39, 1999, 332-37.
10. Phillips D P *et al*. Increase in US medication-error deaths between 1983 and 1993, *Lancet,* 351, 1998, 643-44.
11. Johnson J A, Bootman J L. Drug-related morbidity and mortality: a cost-of-illness model, *Arch Intern Med,* 155, 1995, 1949-56.
12. Ernst F R, Grizzle A J. Drug-related morbidity and mortality: updating the cost-of illness model, *J Am Pharm Assoc,* 41, 2001, 192-99.
13. Bootman J L *et al*. The health care cost of drug-related morbidity and mortality in nursing facilities, *Arch Intern Med,* 157, 1997, 2089-2096.
14. Bates D W *et al*. The costs of adverse drug events in hospitalized patients, *JAMA,* 277, 1997, 307-311.
15. Bluml B M *et al*. Pharmaceutical care services and results in project Impact: hyperlipidemia, *J Am Pharm Assoc,* 40, 2000, 157-165.
16. Wasteland T, Marklund B. Assessment of the clinical and economic outcomes of pharmacy interventions in drug-related problems, *J Clin Pharm Ther,* 34, 2009, 319-27.
17. Schumock G T *et al*. Economic evaluations of clinical pharmacy service - 1988-1995, *Pharmacotherapy,* 16, 1996, 1188-208.
18. Cranor C W *et al*. The Asheville project: long-term clinical and economic outcomes of a

community pharmacy diabetes care program, *J Am Pharm Assoc*, 43, 2003, 173-84.
19. Leape L L *et al*. Pharmacist participation on physician rounds and adverse drug events in the intensive care unit, *JAMA*, 282, 1999, 267-270.
20. Fairbanks R J *et al*. Medical and nursing staff highly value clinical pharmacists in the emergency department, *Emerg Med J*, 24, 2007, 716-719.
21. Van Mil J W F. Pharmaceutical care: the future of pharmacy, theory, research and practice, Drukkerij De Volharding, Groningen: University of Groningen, 1999 (dissertation). Tsuyuki R T, Schindel T J. Changing pharmacy practice: the leadership challenge, *Can Pharm J*, 141, 2008, 174-80.

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