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Toward a Holistic Approach in Medical Education

Reema Safadi and Lubna Abushaikha

Abstract

In this chapter, we briefly present the case of medical practice and education as they evolved through history until modern times. The history of medical practice and education portrays a transformation from unstructured spiritual and apprenticeship practice of the older days transitioning toward the current biopsychosocial medical model that is based on scientific evidence-based methods and practice. Educational methods have also developed from didactic traditional pedagogies and passive learning to more interactive methods and technologies based on andragogy. A preview of theoretical frameworks sets the ground for a discussion about medical schools' curricula, values, and mission statements. The purpose of the frameworks is to illustrate the basic concepts on which a curriculum is constructed, and thus employ this in assessing whether these frameworks would fulfill the core values of medical practice as a holistic, bio-psychosocial science and practice; conceptual values that could address the communities' current needs and rights to care. The chapter concludes with an analysis of few examples of mission statements that reflect the existent medical schools' programs, values, and outcomes that are sought in future medical practitioners. A program that results in graduating competent, knowledgeable, and humanistic medical practitioners is the goal of all medical schools.

Keywords: Communication, cooperation and collaboration, medical education, research paradigms, transformative leadership

1. Introduction

This chapter is a discussion of medical schools' education curricula in preparing medical doctor practitioners to practice medicine in their countries and globally. The discussion will answer the questions about whether the worldwide medical schools' curricula are responding to the communities' needs with consideration of the most recent up-to-date evidence in the medical sciences and the psychosocial sciences combined. It will also answer the question of what kind of theoretical frameworks are being in use, and are these frameworks considering a comprehensive and holistic view of the beneficiaries of health care.

The idea of this discussion has emerged after a long-life career in health care as nurses working closely with doctors in primary, secondary, and tertiary care settings. Our long experience of over 30 years' duration as nurses and faculty members exposed us to practicing doctors as we were student nurses, as graduate nurses practicing nursing in multiple care settings, as academics (faculty members) teaching medical students some of their non-medical courses, and as

colleagues working with medical doctors on research projects on different topic areas and research designs. This journey has enabled us to capture some crucial areas of strengths and weaknesses in the preparation of medical doctors that may benefit from using a critical lens that exposes issues of concern for the sake of the wider community and the beneficiaries of medical healthcare services. In this chapter, our aim is to elucidate these points by referring to the historical development of medical practice and education, to medical schools' curricula and mission statements in general without reference to any program or school in particular, and to explain the theoretical models of teaching and practice that have been in place over the last few decades at schools of medicine. This will be a critical eye of how medical education and medical practice have evolved (or not evolved) to meet the psycho-socio-cultural changes that occurred over time. What is presented in the following pages is not a definitive argument of medical education but rather a case that draws heavily on our observations that have long been echoed elsewhere.

2. A historical view of medical practice and education

2.1 Medicine in ancient times

The history of documented medical practice and medical education goes back to ancient times of great empires of China, Babylon, Egypt, and India [1]. The ancient history of medicine informs us of the culture and the conceptualization of health, disease and illness that were prevalent at those times. Ancient Egyptians (3300–525 BCE) used prayers as solutions to health problems, and had natural, practical remedies such as herbs to cure their ill people [2]. In traditional Chinese culture, medicine is traced back to 14 and 11th century BCE. Treatment of illnesses had no logical mechanism and they did not have a concept of medicine as distinct from other fields. Ancient Babylonians medicine and culture revolved around magic, supernaturalism and the absence of scientific methods. In India, medicine was known as Ayurveda [3, 4]. Ayurveda is a Sanskrit term in which Ayur means life and veda means science. Physicians used to prescribe individualized herbs, diet and exercise along with lifestyle recommendations. Ayuerveda physicians believed in environmental factors or forces such as weather, diet, work, society, the economy, and lifestyle as influencing one's health – the state of mind, body and soul. In one of the more recent times of ancient medicine, stories of the well acknowledged Greek physician Hippocrates (400 BCE) became familiar in the medical arena. His ethical Oath and code for practicing doctors was originated and taught then and remains until today as a code that is recited in graduation ceremonies in schools of medicine across the globe [5].

2.2 The middle ages

The Middle Ages have seen more formal recognition of medicine in Europe. Medicine was practiced as apprenticeship training in monasteries under the control of hospitals and churches. This period, 1220s, was the beginning of medical education where a medical school was established in Southern Italy and was followed by further expansion of medical education throughout Italy and Europe. Additionally, and during this period, medicine and medical education were growing in the Muslim world with more centers established in Baghdad, Cairo and Cordoba [6]. The Islamic Umayyad and Abbasid caliphate periods added further to western medicine by the translations of the works of Hippocrates and Galen. In fact, during

the medical Islamic period (900 C.E.), the medieval Islamic doctors in their communities recognized the roles of causes of illness and possible treatments and cures. This period demonstrated the rise of known medical scientists such as Al-Razi, Ibn al-Nafis and Ibn Sina (Avicenna) [7].

2.3 Twelve to sixteenth centuries

The years between the 12th to 16th century demonstrated a great stride in the establishment of medical schools across Europe and other regions such as India and Egypt. Schools in hospitals and more medical schools at universities were established in the United Kingdom, Italy, Portugal, Germany, Czeck republic, Austria, Poland, Switzerland, Sweden, Denmark, and Spain. One of the earliest of these schools was established at the University of Oxford, UK [8]. In 1310, Dr. Gaddesden published *Rosa Anglica* the earliest surviving medical textbook in Britain. This period showed the rise of licensing and structured educational programs that involved years of study after the first degree of Master of Arts. The educational preparation of doctors involved studying for six years and undergoing practical training and lecturing for another two years once licensed. In 1421, the British Parliament petitioned the passing of a law that restricts medical practice to qualifications granted by university education only. In 1518, the first professional body, the Royal College of Physicians of London, was established as the oldest British professional membership body and medical college dedicated to improving the practice of medicine, and a medical society that regulates medical practice by licensing proficient and punishing pretending doctors [9].

2.4 Medical education between the seventeen and nineteen centuries in the United States

During the 17th to 19th century, and in the same line, the history of medical education took similar strides in the United States. The early 1750s saw informal classes in anatomy that were unstructured and run by doctors who traveled to Europe bringing back with them a series of anatomy lectures that were taught to gentlemen who could afford the fees of a reputable practitioner. The beginnings showed apprenticeship system where apprentices were trained in doctors' offices who had their private venture, in menial and pharmaceutical therapies. Although emulating the British medical system in practice and educational institutions, the American educational system remained unstructured and without formal legislation. The first theory and practice College of Philadelphia was founded by John Morgan in Philadelphia in 1765, and New York in 1768 [10]. Many more schools of medicine grew between 1810 and 1840 resulting in twenty-six new medical schools, and grew even more and doubled until 1876. Teaching at these institutions was at its beginning, and barely founded with some inexpensive anatomy benches and with little investment in teaching that was focused on didactic methods, except for the anatomy sessions. A school diploma was the license to practice after a brief, oral examination as no state boards were yet in place. During this period, teaching circumstances were not ideal with minimal clinical facilities and didactic teaching in badly lighted amphitheaters [10, 11].

In the United States, the beginnings of the 1800s showed the opening and merging of many medical schools including the medical department of King's College and the medical department of Harvard College. During the midst of the 19th century (1835), the American situation of unsuitable distorted mode of education endured protests from different medical education institutions in request

of legislations and improved structured standards of education to earn a degree in medicine. These protests ended with the formation of the American Medical Association in 1847 that committed the profession to the requirement of suitable education and standards for the degree.

In the 1850s onward, the time for change was achieved by the dissolution of the preceptorship system where the medical schools of Harvard, Yale, Pennsylvania, became independent of the institutions with which they were legally united. At the time of commercial exploitation, schools were controlled by owners of these institutions and bestowed professorships by common agreement, segregating and dividing fees, along proprietary lines. These independent irresponsible conditions remained as such until the eighties. During this time, medical education was based within medical schools, using didactic methods of teaching that were focused on the chemical, biologic and physical sciences, and personal contact between teacher and student, and between student and patient were lost [12].

This time of medical institutions' wide spreading was associated with the new medical discoveries and the invention of the stethoscope in 1816, that came into fruition in the establishment of the first bachelor's degree at John Hopkins Medical School in 1893. This was the first school with adequate preparations of well-equipped laboratories run by modern faculty and hospital training for physicians. The school provided a standard for medical schools with a scientific curriculum [12].

The conditions of medical education were criticized calling for reforms of medical education. In 1910, Abraham Flexner, an educator, and not a physician, issued his report on the state of medical education after a comprehensive review of and visits to schools of medicine [13]. In his report, he declared that medical education in the USA and Canada must be an educational system by instituting standardized quality education that is university-based only and underpinned by a scientific foundation. Additionally, the report emphasized that students must be educated to be qualified and granted a degree in medicine [14]. This revolutionary report resulted in a decline in the number of commercial medical schools, and the establishment of the residency training and specialization and sub-specialization among American doctors by the 1930 and 1940s, and the foundation of four years' education that are completed with internship and residency programs and board examinations. The role of basic sciences flourished after the Flexner report (1910) which provided the grounds for designing undergraduate medical curriculum followed by clinical experiences and in academically oriented hospitals [15].

The publication of Flexner report was a turning point in medical education: the preclinical and clinical divide [10, 12, 14]. This divide of preclinical and clinical medical education that started in the 20th century showed another form of shortcomings in educational programs. With this polarity, the delivery of basic sciences teaching was more focused on scientific facts rather than the context of medical practice. Additionally, there were notions of poor retention of basic knowledge as students started clinical experiences as described by Pawlina [16].

By the 1960s and 1970s and after the transformative changes that were initiated by the Flexner report, medical education in schools has evolved from a haphazard, unstructured classes for interested gentlemen form to a scientific model of the late 20th century and early 21st century [12]. By the 1980s, education became more structured and clinical training was instituted and delivered by attending physicians in hospitals, ambulatory settings, and physicians' offices. However, training was not well served because physicians did not have enough time to train students and there were recommendations for more change in future doctors' education and training.

2.5 The twentieth century: the value of other than the scientific science in the curriculum

As medical education was established in universities with emphasis on a scientific base, there were critiques about the intensity of the focus on the biosciences and the absence of subjects such as the history of medicine and social ethics as part of the curriculum. Rajan [17] argues that in the first two years, medical students sit in lecture rooms learning about DNA replication while it is more important to learn the interpersonal skills to be a good doctor. The medical historian Eugene Cordell, in a speech at the State of Maryland, in 1913, criticized the lack of any formal teaching on the history of medicine [18] and emphasized the importance of this knowledge throughout all stages of the educational program. A century later, and in support of Dr. Cordell presidential speech, Yarnall [18] emphasized the importance of studying the history of medicine because we learn from our successes and failures and many time scientists' names are associated with disease discoveries such as Cushing disease and Boerhaave syndrome. Yarnall quotes Maxmilien Littre as, "There is nothing in the most advanced contemporary medicine whose embryo cannot be found in the medicine of the past".

Besides history, El-Moamly [19] emphasized the importance of integrating medical humanities in medical curriculum and the use of the psychosocial-biological approach in understanding health, illness, life and death. To address the global new trends in medical practice, Irby and Wilkerson [20] suggested reforms in many directions. One of these areas involve the integration of multiple disciplines to be congruent with the current change in the meaning of human health and disease. The authors presented six core competencies that are necessary for practicing physicians: patient care, knowledge, practice-based learning and improvement, interpersonal communication skills, professionalism, and system-based practice. Need for reforms became imperative because of the new science of learning and technology, the changing communities' needs, and required skills in managing new patterns of health problems, examples of which are the recent COVID-19 pandemic, chronic diseases, pain management, and complementary medicine that is expanding widely recently. To conclude this section, a paradigm shift is now required as we quote from Gwee et al.: *"From students receiving intensive instruction of in-depth scientific facts derived from disciplinary courses, to student acquisition of scientific competencies required for the development of the desired habits of mind, behavior and action for medical practice in the 21st century"* [14].

In light of the worldwide historical evolvement of medical education with its ups and downs, the Association of Faculties of Medicine in Canada [21] has published its vision of undergraduate education in the collective report of the future of medical education in Canada (FMEC). The 10 recommendations address aspects of: "1. Address Individual and Community Needs 2. Enhance Admissions Processes 3. Build on the Scientific Basis of Medicine 4. Promote Prevention and Public Health 5. Address the Hidden Curriculum 6. Diversify Learning Contexts 7. Value Generalism 8. Advance Inter- and Intra-Professional Practice 9. Adopt a Competency-Based and Flexible Approach 10. Foster Medical Leadership". In this view, questions are raised as to how should the medical curriculum be redesigned to serve the scientific foundations of medicine in the 21st century [14].

3. Health and the biomedical model

As preceded in outlining the historical development of medicine and medical education, it is observed that medical education has transitioned from being

unstructured and designed by individual endeavors, known as healers in offering holistic health services [22], to become more structured, institutionally-based and regulated by members of professional medical practice. In other words, the transition emphasized the biomedical model, as the sole path to improving health in the community.

The biomedical model is the most prevalent in medical practice and educational institutions in the western countries and other parts of the world [14, 23]. Cockerham [24] revealed that ignoring the social role in studies of health and illness is a sign for the pervasiveness of the biomedical model in conceptualizing sickness. According to Cockerham, this model is based on the concepts of pathogens as causes of disease that are prevented or controlled by medical interventions such as medical procedures and medications. In an argument to dispel the current prevalent role of the biomedical model, Roy Porter [25] argued that "Basic research, clinical science and technology working with one another have characterized the cutting edge of modern medicine" (in Cockerham, 2021, p.10). In a counterargument of the benefit of the biomedical model, Cockerham argued that the biomedical model was useful when infectious diseases were most prevalent as it provided the right drugs to treat these infections. However, in the recent days, with the changing patterns of disease outbreaks as in the most recent Corona Virus pandemic, and the emergence of chronic diseases, such as heart diseases and cancer as a result of the increasing life span of the population, there are new factors to consider. Globalization, modernization of life styles, economy, and the quality of working environment which also have influenced the kind of diseases and health problems that people suffer from, imply the need to revisit medical treatment management strategies, schools' curricula and instructional methods.

Understanding the past control of infectious diseases (i.e., small pox and poliomyelitis), the recent emergence of viral infections, concerns about chronic diseases, and the increased life span of the people, together with modern life and environmental and work conditions change call for an alteration in medical approaches to treat health problems. A more holistic approach of care that deals with the whole person became more eminent. In this regard, the biomedical model which dealt with microorganisms, pathology and biochemistry falls short of providing care based on humanistic modes of care, and suggestions of a replacement model with new strategies for treatment should emerge to meet this change in the healthcare needs.

4. Current medical education and adult learning theories

Medical education has undergone significant transformations reflecting the changes that have occurred in global healthcare as well as educational systems [26]. One of the most significant changes is the shift from passive learning to active learning using a variety of teaching and learning strategies. These strategies include case-based learning, experiential learning, peer problem solving, and project-based learning [26]. However, many challenges were associated with this shift that are related to the organization, resources, staff, and students [27]. The traditional medical model focused on passive learning and emphasized biological aspects of diseases and disorders with total disregard to psychological, social, behavioral, and spiritual aspects and responses [28, 29], while active learning focused on the implementation of adult learning theories.

Adult learning theories based in "andragogy", provide a guiding framework for all types of higher educational programs, including programs for healthcare professionals. Andragogy focuses on viewing the "adult learner" as a partner in the

teaching-learning process who possesses the ability to determine his/her learning needs based on various experiential backgrounds, skills, and motivations. Educational programs for healthcare professionals usually stem from different philosophical and theoretical frameworks that provide curricular guidance in the formulation of educational programs and their contents. There are several adult learning theories based on a constructivist philosophy which entails building new knowledge on previously existing knowledge and is congruent with the views presented in andragogy which was established by Alexander Kapp in 1833 and revived and modified by Malcolm Knowles in the 1980s. Modern andragogy is based on five assumptions which are self-concept, experience, readiness to learn, orientation to learning, and motivation to learn [30]. Adult learning theories include instrumental, humanistic, transformative, social, motivational, reflective, and constructivist theories.

Instrumental theories include behavioral theories, cognitivism, and experiential learning [31]. Behavioral theories stipulate that learning happens as a result of the influence of environmental stimuli on the individual which manifests in behavioral changes. Cognitivism focuses on the cognitive processes such as perception, memory, and reflection that are precursors to knowledge acquisition and retainment. In experiential learning, knowledge is constructed through interactions and active experiences with the individual's environment. Humanistic theories focus on viewing the learner through a humanistic lens that emphasizes student-centered, self-directed learning and views educators as facilitators. Transformative theories focus on empowering the learner to evaluate and reflect on previously held assumptions and meanings to transform to a new level of knowledge. Social theories focus on acquiring knowledge and learning through social interactions. The main premise in motivational theories stipulates that motivation and reflection are precursors to learning. Reflective theories are based on two types of reflection: reflection-on-action and reflection-in-action which help the learner to test knowledge and learn from experience and practice. Constructivist theories focus on the sociohistorical and situated dimension of learning. The learner acquires new knowledge through social interactions with their peers and instructors and builds upon previously acquired skills.

The use of varied adult learning theories, which have both strengths and shortcomings, in medical education programs around the world has led to varied instructional methods employed by faculty and ultimately varied levels of achievement of learning outcomes.

5. Current medical education and communication skills

In the traditional medical model, effective and proper clinical communication was not valued nor was it included in the curriculum of many medical programs. The paradigm shift occurred during the eighties when consumerism in health care became a prevalent phenomenon. During this shift, consumers of health care became partners in the health care industry and the dynamics between health care providers and "clients" witnessed significant changes from the traditional medical model where "paternalistic" physicians were in control of all aspects of health care delivery including health-related decisions, and health-care recipients had very minimal roles and input, if any. The focus on including effective communication skills in medical curricula has emphasized the need for fostering positive physician-patient dyads in different clinical settings and contexts which results in the professional confidence and satisfaction of physicians [32–34]. Effective communication skills (e.g., empathy, breaking bad news, theater, and drama-based educational

methods) in medical education should be taught, modeled, and re-demonstrated [33, 34]. However, even if communication skills such as interview skills and non-verbal behavior are taught and practiced, retention of these skills over time has been shown to fluctuate when physicians start practicing in the "real world" [34]. Relevant literature indicates that undergraduate medical students attain clinical communications skills along with other medical skills, but these skills are not fully maintained or retained when transitioning from medical student to practicing physician, or from the preclinical to clinical years of study, or even when transitioning from one course to another, [16, 34, 35].

6. Current medical education and research

In medical education, up-to-date research evidence informs and directs medical science and clinical practice. As in other disciplines, medicine struggles with finding a research culture that enhances the medical profession as well as academia. Moreover, ethical approval, adequate funding, publishing, authorship, plagiarism, redundant publication, ethical conduct in research, and conflict of interests remain extant issues for both novice and expert researchers in medicine [36]. Historically, physicians from all subspecialities have had access to patients in clinical settings. There is a non-spoken norm that a physician's patients are automatically considered his/her research "subjects" and are under his/her will when recruiting patients in different research studies as well as granting or denying others (e.g., other health care team members such as nurses, pharmacists, dentists) access to these subjects.

Traditionally, research in medicine has been mostly quantitative designs, such as observational and cross-sectional studies [37]. The most common new trends of medical education research topics reported in the literature have been curriculum and teaching issues, skills and attitudes relevant to the structure of the profession, individual characteristics of medical students, and the evaluation of students and residents [36, 38, 39].

A fairly recent trend in medical research has been shifting to qualitative research methodology and employing different qualitative research designs stemming from a social sciences framework and interpretive paradigm. Physicians and educators in medicine have come to appreciate the richness and holistic viewpoint innate in qualitative research especially in investigating and comprehending complex phenomena such as health, illness, and team-based care [40]. Qualitative methodologies have also helped medical educators to gain insight and understand the experiences of medical students, teamwork dynamics among different health professionals as well as between students and faculty, and identify appropriate instructional methods in medical education [40].

7. Current medical education and leadership

In medical education, a sense of leadership and what it entails is first acquired, appraised, and evaluated in many forms during undergraduate studies. These forms include group academic and clinical assignments with an assigned leader, the leadership of faculty in their respective courses, the leadership of the school administrative team, the leadership of professional medical associations, and the local, regional, and/or international leadership of the medical profession.

Leaders initiate and sustain change and direction in individuals and organizations. Leaders, as opposed to managers who run the day-to-day administrative activities and functions of an organization, inspire, motivate, set direction, and

focus on achieving organizational goals and aspirations [41]. In clinical practice, medical leaders focus their efforts toward achieving positive patient outcomes as well an organizational autonomy, accountability, and sustainability. The new trends in leadership in healthcare are now known as "transactional" and "transformative" leadership. Transactional leadership establishes a more authoritative relationship between leader and followers to achieve specific goals. The downfall of transactional leadership includes lack of innovation, incentive, and motivation has given rise to the adoption of "transformative leadership" in healthcare disciplines.

Transformative leadership focuses on influencing and "transforming" individuals in an effort to achieve organizational goals. The most recent trend in leadership is "team leadership" or "shared governance" in which the focus has shifted from the leader to the team. In this type of leadership, roles and responsibilities are shared by interdependent team members [41]. Thus, team collaboration is the main tool that can be used to achieve expected and desired outcomes. New leadership styles fit with the concept of "teamwork" since physicians realistically do not work in isolation of the other members of a health team including nurses, pharmacists, nutritionists, anesthetists. Etc.

8. Current medical education, simulation, and technology

After medical students acquire basic knowledge in the first few years of medical school, they begin to acquire clinical skills through the different clinical rotations either in simulation labs or actual clinical settings (e.g., hospitals, clinics, private offices). The use of simulation and clinical focus have been used to meet arising societal and global needs [42]. For example, in the past 15–16 months of the COVID-19 pandemic, healthcare professional schools, including medical schools, have somewhat altered their rotation schedules and have used new and creative venues to meet the clinical training needs of their students, while keeping them safe and sound. This included online instruction and online clinical simulation using available technologies such as Microsoft Teams, Google Meet, and Zoom. So basically, the whole world was united in higher education teaching methods during the global pandemic. The new trend now, is to move away from traditional in-class instruction to more hybrid strategies such as blended learning and flipped learning methods in both theoretical and clinical courses at the university level, across the globe, where it may be available. However, simulation and new technologies are still considered poor substitutes to actual live, face-to-face, doctor-patient interactions in which communication and practical skills are applied and refined.

9. Current medical education, ethical and legal issues

During the course of their study, medical students become aware of a wide array of ethical and legal issues which present learning opportunities on how to manage once they become licensed practitioners. In the literature, authors report that medical schools and residency programs expose medical students to common ethical issues that they may encounter in their future professional life [42]. However, schools and programs do not prepare graduates to adequately understand and deal with the legal or regulatory aspects of medical practice [43]. Some of the challenging, complex, and multidimensional ethical and legal issues in medical practice are how to understand and deal with insurance companies' modes of action, malpractice, patient safety, organ transplant, prescribing controlled substances, and licensure [43, 44]. Some authors have concluded that the current state of medical

education does not prepare graduates to tactfully tackle ethical and legal issues that are prevalent in current medical practice and need to include courses that explore these issues in more details [45, 46].

10. Medical schools' curricula: mission and core values

A curriculum is a universally acknowledged course of study or training of an educational program [47]. All educational programs must have a set curriculum plan. In an introduction to highlight the importance of writing a curriculum in educational programs, Parkay, Anktil, and Hass [48] as cited in Iwasiw [47] offered a very relevant curriculum definition to the context of this chapter. This definition emphasizes a written plan that considers the theoretical and research aspects of the courses besides the social context such as the classroom experiences. "The curriculum is all of the educational experiences learners have in an educational program, the purpose of which is to achieve broad goals and related specific objectives that have been developed within a framework of theory and research, past and present professional practice, and the changing needs of society [47]. According to Simiao Li-Sauerwine and Andrew King [49], a curriculum is a map that can help both educators and learners to be oriented to the key elements of a curriculum and the role of each during the learning process [49].

A curriculum is composed of essential components that reflect its construction, purposes and outcomes. The principle component of the curriculum is a strategic plan that consists of a mission statement and a vision statement [50–53]. Campbell [54] defined a mission statement as a reflection of the institution's purpose, values, strategy and standards and behaviors. A mission statement is also described as defining the organization's scope of business operations/activities, provides a common purpose/direction, promotes a sense of shared expectations, and guides leadership styles [55].

A vision statement is a visual statement that describes where the organization wants to be in the future or what it hopes to achieve. Vision statements are broad and do not provide specific targets [56, 57].

The values statement, also called the code of ethics, provides a moral direction for the organization that guides decision making and establishes a standard for assessing actions. A value can act as an ultimate control system when there is a need for control [58, 59]. Although it is essential to have a vision and a value statement in a curriculum, we decided to exclude these components as they do little contribution to the aim of this discussion.

Having introduced the meanings and definitions of the core concepts in a curriculum plan, herein we discuss examples of mission statements of some medical schools as our guide to understand the current medical schools' programs and the focus of the educational programs run by some medical institutions.

In one statement, it is stated that the school's mission is "to improve the health of the community through a set of medical education, research and clinical care". The statement continues to put more focus on the provision of patient-centered 'medicine' that aims at preventing, diagnosing and treating illness. On the positive side, this statement includes 'the health of the community' and to 'preventing, diagnosing and treating illness' as elements of care that are parts of today's emphasis on primary health care, and it uses the concept of illness rather than disease in recognition of the subjective dimension of human's wellbeing. However, this statement falls short of recognizing the social contextual factors that perceives health as a 'whole' and places more emphasis on diagnosing and treating illnesses. Although community was the target of care management, the community or social structure were not

recognized as factors contributing to illnesses and should be considered in preventing and diagnosing illnesses. Socio-cultural factors, economy, lifestyle, individual responses, and social support as contributing to illnesses were kept implicit in this statement.

In a second mission statement that aims "to improve human health through …, and the delivery of outstanding patient-centered care", it is noted that human health is distinct for its social context, and the effect of the environment or the external influences. This is also emphasized when it singles out care as patient-centered ignoring the role of the community as a factor in influencing health and illness. In other words, there is no recognition of the clients as being a family, a larger community, and probably not having a disease, but having a social and psychological issue that needs to be tackled to prevent an illness as in primary care services.

In a third example of a medical school, the mission statement specifies clearly its graduate preparation by stating: "to educate health science professionals in biomedical and social sciences, and model the best practices in clinical care and public health". In this statement, we see the recognition and inclusion of social sciences and public health as part of the learning content material and context of care.

A fourth example of a stated medical school mission is from another region of the world. The mission has stated its aim as: "providing the society with qualified physicians that are capable of delivering quality healthcare services" at more than one level, that is the national, regional and international". In this statement, it has ignored the kind of service and the targeted people of this service, i.e., the individual client and the community. The focus of this mission is to prepare scientists that are specialized in higher studies and engaged in scientific research, and interacting with the world medical community". This mission statement is limited in identifying its target group, in its instructional strategies, and the kind of service provided by its graduates (bio-psycho-social). Many questions would be raised regarding the complexity and diversity of meeting the national, regional and the global needs in one single program. A major goal of the curriculum reformers is to produce physicians who can deliver an individualized plan of care that reflects the physician's mastery of basic anatomy and physiology, awareness of the best current evidence, skillful patient communication, and shared decision-making [43, 44].

A final and more comprehensive and holistic mission statement was that which stated, "nurturing a diverse, inclusive community that is dedicated to alleviating suffering and improving health and well-being for all through excellence in teaching and learning, discovery and scholarship, and service and leadership". In this statement, we captured more than one concept that recognized a more holistic and advanced meaning in the type of service and pedagogy in the program and the program's graduates. The statement recognizes "nurturing", "alleviate suffering", (and not treating disease), "improving health and well-being" (Well-being as more of a subjective nature of a definition of the health status). It also acknowledges a more active role of learners by identifying teaching and 'learning' excellence, besides adding other than the biomedical clinical skills by including discovery, scholarship and leadership.

With this analysis of a few examples of mission statements, although not many to make conclusions from, we think it is appropriate to reflect on the theoretical frames of the caring sciences explained earlier in this chapter. These frameworks set the floor for a more holistic caring approach that considers both the learners as active participants, and the teachers employing the most recent andragogy and sources of online, interactive, and blended learning strategies in the learning process. It is also central in today's medical caring professions to be more considerate of the bio-psycho-social aspects of care by the judicious use of the modern technological advancement of sciences within a contextual and global aspects of care.

11. Conclusion

Modern medical education has witnessed significant changes and developments throughout the past 30 years while retaining the core values and identity of the medical profession. These changes have taken on many forms represented in the shift from pedagogy to andragogy, as well as keeping up with the latest discoveries in medical sciences and technology and their applications. The rapid leaps in sciences, technology, and medical practice must not divert our track away from the humanistic sense of the profession in caring for patients, their families, and the community at large. Adopting and utilizing various educational philosophies; applying diverse learning theories and frameworks; establishing distinct mission and vision statements congruent with the relatively novel biopsychosocial medical model; and creating educational programs that focus on producing graduates that become practitioners who are guided by a holistic, interdisciplinary, and humanistic framework is the responsibility of the medical profession. Maintaining up-to-date status that is congruent with the everchanging world of sciences and technology in both medical education and practice remain a big challenge for many schools of medicine around the world.

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