Social Work in Egypt: Experiences and Challenges

Medhat Abo El Nasr^1* and Nada Eltaiba^2

^1Faculty of Social Work, Helwan University, Cairo, Egypt.
^2Social Work, Qatar University, Qatar.

Author’s contribution

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

Article Information

DOI: 10.9734/BJESBS/2016/25882

Editor(s):
(1) Stan Weeber, Professor of Sociology, McNeese State University in Lake Charles, Louisiana, USA.

Reviewers:
(1) Jan-erik lane, Public Policy Institute Belgrade, Serbia.

Complete Peer review History: http://sciencedomain.org/review-history/14611

Received 24th March 2016
Accepted 27th April 2016
Published 13th May 2016

ABSTRACT

Social work is a dynamic profession, which endeavors to adapt and interact with the surrounding societal circumstances and contemporary challenges. This article will focus on some contemporary trends in social work education and practices in Egypt, such as: authentication, community development, teaching orientation, social work practice, formal association, and an examination of what the future direction of social work is. Much of the discussions put forth in this paper were remised on examining and understanding the Egyptian experience. The analysis of this article drew mainly on the information provided by the author’s experience in teaching in Egypt.

Keywords: Social work; indigenization; community development Egypt; culture.

1. INTRODUCTION

The social work profession can be characterized as being a caring profession practice that places great emphasis on reflecting on humanistic values. Social work endorses “social change,” “social cohesion”, and the “development” of individuals and societies. Moralities of “social justice”, and “human rights” are fundamental to the practice of the profession. It emphasizes the shared and diverse joint accountability on a regional and global level [1].

*Corresponding author: E-mail: profmedhat@hotmail.com, nada.eltaiba@qu.edu.qa;
The social work profession is one that has an important function in societies and that is influenced significantly by environmental variables. It is important to note that social work should be understood within a political, social, and economic context. It is inaccurate therefore to consider the role of social work in isolation from the surrounding environment in which it operates.

Social work is a dynamic profession which endeavors to adapt and interact with the surrounding societal circumstances such as globalization, the information ‘revolution’, professionalization and contemporary challenges. Also, it attempts to transform and improve circumstances by working with cliental agents. Hence, the area of social work aims to being an agent of change and looks to effectively respond to the needs and problems of society, organizations and clients. It is important to note that these needs and problems are typically multiple, diverse and variable. This in turn demands that social workers are well aware of the social factors in their environments and that they have effective skills needed to provide proper, appropriate, and quality services and programs in light of social, economic, and political changes and developments. Global Social Work emphasized the endorsement of social economic equivalences among societies and the “dignity” and “worth” of peoples. It also stressed sustainability, collaboration, and social interaction [2].

Egypt continues to play a pivotal role in the Arab world owing to its rich historical, religious, geographical, economic, social and political positioning. The exponential population growth of Egypt’s 90 million and it being amongst the largest Arab countries in land mass makes it a nation whose importance cannot be overlooked. Historically, the advent of social work in the Middle East as a profession began in Egypt and thereafter the study of social work spread to other countries in the region. However, social work in Egypt continues to boast being the largest in terms of the number of social work schools, agencies and practitioners. It is incumbent that social work in Egypt is critically assessed and courageously be moved forward by undertaking a leading role in adopting new trends in social work education and practice. By Egypt taking the necessary steps in improving and advancing social work, it is hoped that this progress will positively impact not only on Egypt but also other Arab countries in the region. This is because advancing social work in diverse societies helps to promote sustainability and capacity building on a local and global level which are important essential components of social work practice [3,4].

1.1 Objectives of the Paper

1. The analysis of this article relies mainly on the information provided by the first author’s extensive experience in teaching in Egypt and in other Arab countries as reflexive approaches are considered important sources of knowledge and methodologies [5]. In the following, the article will review

2. Some important aspects of social work in Egypt in relation to its education and practice which are related to “authentication” of social work, community development, advocacy and human rights were examined.

3. The teaching approaches in social work academia and some future directions for social work in Egypt were also highlighted.

2. THE AUTHENTICATION OF SOCIAL WORK

There has been a long-standing issue in academic literature about whether social work is a universal profession which has common values, common basic assumptions, and similar methods of operation in human societies, or whether it is a particularistic unique profession which derives its values, aims and methods of operation from the traditions, the social and political structure, and the historical background in each and every society. Historically, the social work profession was dichotomized in where the profession was characterized as being non-western but traditional in the societies [6,7,8,9,10,11].

Historically, social work developed in the West as a culturally responsive system of human services. Subsequently, western models of social work were implemented in many developing countries of the world, including Egypt. As such, there were concerns which were expressed earlier by many scholars about the ‘exporting’ of the western based social work model about the extent of adequacy of western social work approaches to culturally diverse societies [12,13,14,15]. This argument continues to be part of the greater international debate by social workers from around the world weigh in on the
discussion [16,17,18,19]. In fact, Egypt was amongst the first Arab nations to embrace the social work model transported from the West. Thus, it can be argued that Egypt went through three main stages of the development of social welfare and social work, namely ‘transmission’, ‘indigenization’, and ‘authentication’.

2.1 Transmission

This refers to the era after World War I and World War II when developing countries such as Egypt transferred or imitated the western model of social work in education and practice. During this stage, most schools of social work in developing countries were dependent on western literature. This stage was criticized by earlier scholars and another stage of indigenization was then introduced [20].

2.2 Indigenization

The first mention of indigenization in the field of social work was in 1971 when the Fifth United Nations international survey of social work training made reference to indigenization as it explained the inappropriateness of American social work theories to other societies. Since this period, this term has been referred to greatly by social workers in developing countries [21] such as is the case in Egypt. Midgley (1981) explained that “Indigenization means appropriateness which means professional social work roles must be appropriate to the needs of different countries and social work education must be appropriate to the demands of social work practice” [22].

Indigenization is also referred to as importing of ideas to respond to local needs. These meaning outlines that there is a process whereby a western model of social work is transplanted to another environment but thereafter making some modifications to enable the model to be applied within a different cultural context. Moreover, one can also argue that this stage implies that indigenization involves adaptation to the political context as well as the socio-cultural patterns in the host nation where social work has been transported.

2.3 Authentication

In contrast to the concept of transmission and indigenization, authentication has been defined earlier as “the identification of genuine and authentic roots in the local system, which would be used for guiding its future development in a mature, relevant, and original fashion” [23]. Another way of describing the process is to view it as the creation or building of a domestic model of social work in light of the social, cultural, political, and economic characteristics of a particular country. The emphasis on social work in the developing countries should focus more on community development rather than orthodox direct practice that is found western approaches [24]. While such an approach does not exclude all use of theory or experiences from other countries, it does means however that the driving force for the development of theory and practice model is generated internally as a response to social conditions and needs, and in particular to the specific patterns of economic and social development [25].

With Egypt having its own unique cultural and political identity, the notion of imitating a western model of social work in its totality is inherently problematic as the western model was born out of their holistic experiences comprised of its unique social, economic, political, historical, and geographical context. The adaptation of any ‘imported’ social system would ignore the nature of Egyptian society and its various societal factors and would thus be incompatible with the needs of service users.

Presently, social work in Egypt is placing immense efforts on establishing the authentication of social work rather than concentrating on transmission and indigenization of theory and practice that was derived from western sources. Hence, while Egypt can greatly benefit from studying the experiences of other nations, it should not however look to ‘foreign’ models to be crudely adopted and implemented. Indeed, social work theory and practice must reflect the nature and circumstances of Egyptian society and as such present social work practice and theories in Egypt need to be modified to be more reflective. Furthermore, recent review of social work in Egypt seek in having the authentic foundations in the local ecological system to create and build a domestic model for social work that more accurately reflects the needs, problems, and circumstances prevailing in Egypt.

In summary, for social work to be an effective system in society, it must actively participate in the developmental processes and functioning in
addressing social problems [26]. These aims can be achieved through the continuous efforts to authenticate the profession. The process of authentication is dynamic in its very nature and it takes into consideration the economic [27] and social development unique to the country [28,29,30].

3. COMMUNITY DEVELOPMENT, ADVOCACY AND HUMAN RIGHTS CONNECTION

An example of the current orientation of the social work profession is the common view held amongst social work educators and practitioners in Egypt in that social work focuses on areas of practice relevant to the social and economic needs of society. Some of the social problems such as poverty, inequality, health issues etc. are all part of the lack of planned social economic system which fail to reflect the unique and distinct needs of the society [31]. Community social workers or community organizers have important roles to play in advancing the authentication process to respond to these needs.

In Egypt, community development is mainly concerned in bringing about citizen participation. Social change in Egypt aims at alleviating poverty and in overcoming any obstacles to development, rather than focusing on the adjustment to the societal process. This reason for this reason, social work approach in Egypt is mainly due to the fact that the state in Egypt is unable to provide all of the necessary social services. The Egyptian federal government is committed to a policy of encouraging community and citizens’ participation in order to initiate development projects, in enhancing resources, and in working towards improving the quality of services. Therefore due to lack of financial resources and the insufficient quality of services which are currently provided by the state, social workers as a result have had to encourage and sustain voluntary work and community participation [32]. In short, the main aspect related to community development is the concept of social action and advocacy.

Since the 1960s, numerous social workers and agencies in the West especially in the U.S.A. have assumed an encompassing social action role calling for advocacy on behalf of clients. These concept are congruent with strength based perspective to social work [33]. This pattern of social action and advocacy spearheaded by social workers and private agencies will likely continue to increase in the future.

Community social work practice in Egypt focuses on community development and social planning at the local level rather than at the regional and national levels. Social workers do not tend to practice social action using conflict strategies for many reasons. One reason for this is that the political context prohibits regional and national level interventions. Another explanation is that many social workers and agencies assume conflict strategies which do cause disorganization and fraction in society, thus causing dysfunction within the social system. Still, others cite reason is that social work students know little about social action and conflict strategies [34]. This is due to the content of social work courses in faculties and institutes of work in Egypt which have given little attention and time to these topics. A debate which was pointed out by early academics in the 1990s [34] but the concerns persist is where there continues to be gap in the curriculum due to political and economic policies which have essentially hindered social work advancement in Egypt.

After January 25th 2011 and June 30th 2013 revolutions and the masses agitated for bread, dignity and social justice, the role of social workers were transformed. The revolutions called for social workers in Egypt to take a more influential role and become more active in political movements and politics in order to help to bring about changes in the political, social, and economic arenas. Social workers in Egypt’s education system adhere to the notion that social workers within the community should implement the profession’s ethics and values and that they have a fundamental responsibility to promote social justice; in relation to society at a general level and in relation to the people with whom they work. Thus, Social workers in Egypt had to draw upon the International Federation of Social Workers (IFSW) (2004) and International Association of School of Social Workers IASSW in defining their roles as an advocate for social justice [35].

Some of these concepts are related to challenging discrimination, challenging unjust policies and practices and the obligation to challenge social conditions that contribute to social exclusion, stigmatization or subjugation, and to work towards an inclusive society [36,35,37,38]. However, it should be noted that
there is not enough research literature available that indicates how these principles are applied in practice within the community.

There is a dialogue taking place among social work educators and practitioners that the implementation of these values should be linked to the contemporary political changes of the January 25th, 2011 and June 30th, 2013 revolutions or uprising in Egypt where the majority of the people called for provision of bread, dignity and social justice. Social work in Egypt is expected to put emphasis in these areas and work diligently in order to convey these important revolutionary concepts. These are the important roles for the social work profession in order that they contribute to the advancement of society and this in turn will help the 202 profession become recognized and appreciated in Egyptian society.

4. TEACHING APPROACHES IN SOCIAL WORK ACADEMIA

Beginning in the 1990s, social work education in Egypt has been gradually adopting the generalist practice orientation approach in teaching at the undergraduate and graduate levels. The generalist approach is reflected through both the formal instructional courses and the field practice training. Robert Barker (2003) defines the generalist practice of social work as an orientation that emphasizes a common core of knowledge and skills associated with social service delivery [39]. In other words, a generalist social worker possesses basic knowledge that may span several methodologies and approaches in social work. In this way, a social worker would not necessarily be a specialist in a single field of practice or profession technique but would be instead capable of providing and managing a wider range of client’s needs and services and intervening in a greater variety of systems. However, the majority of social work schools have not fully emphasized the generalist approach and continue in many cases divide the social work focus on dividing the social work practice models according to 7 individual work, group work and community work. A possible reason for resistance of change might be related to a lack of understanding of the contemporary curricula and the anxiety of undertaking a system which is unfamiliar. The main aspect of the generalist practice of curricula in Egypt is emphasizing preventive practice. The major elements of the generalist practice of social work are:

1. A person in environment perspective that is informed by ecological systems theory;
2. An emphasis on the development of a good helping relationship that fosters empowerment;
3. The flexible use of a problem-solving process to provide structure and guidance to work with clients;
4. A holistic, multi-level assessment that includes a focus on issues of diversity and oppression and on strengths;
5. The flexible / eclectic use of a wide range of theories and techniques that are selected on the basis of their relevance to each unique client situation [40,41].

The preventive social work model is considered an important adoption within social work education. The aim is for enhancing human potentials, human maintenance and protecting the individual’s psycho-social resources, and promoting competencies that enable people to avoid or overcome the predictable and unexpected problems of living. This approach emphasizes habilitation rather than rehabilitation and uses proactive rather than reactive measures in helping healthy clients remain that way. In a broad context, prevention encompasses societal non-specific factors, such as: social counseling, health education, social and community development, adequate housing, good nutrition, the reduction of opportunities for offending, and provision of an environment which is both physically and emotionally safe.

Prevention is stressed as one of the basic functions of social work practice in social work in Egypt and within Arab societies. In 1996, the first book in Arabic language in the Arab world was published about “Preventive Social Work” by Abo El Nasr, M. [42], and this was included in the curriculum of some universities such as the Department of Social Work in the U.A.E. University since the academic year 1996 and until now.

The delivery of current and contemporary social work education in Egypt has been a challenge [43]. Some of these challenges are due in part to the large classes and also as a result of the lack of utilization of modern technological teaching tools in teaching. It cannot be overstated in that technology has radically changed the manner of education and practice for all professions including the social work profession. For instance, over the past two decades, many opportunities have emerged for social work
educators to use technology for classroom and fieldwork instruction. To date, the profession has utilized audiotapes, videotapes, computers, and email.

In addition, web-based social work education is growing in popularity because new technology provides greater accessibility in connecting with students, particularly for students who reside in rural, desolate, or remote areas who otherwise would not have access to social work programs. Online education also allows students who cannot afford to quit their jobs by utilizing the internet as part of an instructional inventory [44]. Unfortunately, the use of the internet as a supplementary information source is limited to social work research and education in Egypt. In fact, there is no distance education (internet based) presently for social work education in Egypt [45,46].

Spirituality has become an area of interest in the general public and in social work education in particular. Since social workers are committed to a whole person in environment perspective, and as such should to take a bio-psycho-social-spiritual view. This is why some writers consider the social work as fundamentally a spiritual profession [47].

There is an increasing interest in approaches that utilize cognitive, physical, emotional, and spiritual components in assessment and treatment [48]. A number of studies have also appeared in the professional literature advocating for the inclusion of spirituality in both social work education and practice [49,48,50].

The focus on including the teaching of spirituality and religion in the curricula is deemed as necessary, as religion plays a central part in Egyptian culture. In Egypt and most Arab nations, many social services are provided through the religious form of charity or ‘zakat’/‘sadaqa’ and ‘waqf’ (endowment trust). Also, there has been an effort to reintroduce religion and spirituality as tangible constructs into social work education and practice.

There is growing research literature that explores the relation between Islam and social work practice and that examine how Islam functions as an important source for formulating principles, ethics, and values for social work, such as democracy, acceptance, equality, cooperation, altruism, respecting the dignity of human beings, understanding the 9 human diversity and rejecting discrimination [51,52]. It is noteworthy that adoption in Islam is unacceptable in Islam and therefore proposing such a practice in Egypt is problematic where the dominant faith is Islam. However other child care provisions such as foster families and child care institutions are acceptable in Islam. However these efforts to promote an Islamic approach to social work have faced many difficulties and obstacles such as the lack of social work educators and practitioners’ limited knowledge on this subject and its application to practice.

5. SOME FUTURE DIRECTIONS FOR SOCIAL WORK IN EGYPT

5.1 The Need for International Social Work Linkage

Robert Barker (2003) defines International Social work as a term loosely applied to international organizations using social work methods or personnel, social work cooperation between countries, transfer between countries of methods or knowledge about social work [53]. Social work in Egypt has been attentive to collaboration with other Arab societies, especially within the Arab gulf countries. There is also an interest to incorporate the international content to social work curricula. But there is much more work to be done if Egyptian social workers seek to effectively address issues that are global in scope, such as health, child protection, aged care and human trafficking. Social work educators need to integrate more international content into foundation-level classes and increase opportunities for students to do international-related field placements. All social workers should be exposed to an international environment, whether they are interested in careers in international social work or not.

5.2 The Need for Private Practice in Social Work

Robert Barker (2003) defines private practice in social work as a provision of professional services by a licensed / qualified social worker who assumes responsibility for the nature and quality of the services provided to the client in exchange for direct payment or third – party reimbursement. Also, private practice implies that it is the process in which the values, knowledge, and skills of social work, acquired through sufficient education and experience, are used to deliver social services autonomously to clients in
exchange for mutually agreed payment. Private practice services may extend beyond the office to such settings as primary care, courts, schools, and nursing facilities [54]. Private practitioners (also known as independent practitioners) may also contract with organizations to provide employee assistance services, which may be provided within the organizational setting. In the years ahead, there is likely to be an increase in private practice. Since several social work associations in the world has given its approval to private practice, more practitioners are moving into this area either on a full-time or part – time basis. It is a well-known fact that, social workers in Egypt and all the Arab countries until now are rarely engaged in any kind of private practice of social work. Despite clear patterns which show a consistent upward trend in the proportion of social workers abroad such as in the U.S.A, U.K, Canada and Australia where social workers are increasingly engaging in private practice of social work. The majority of social work staff and social workers who the author of this paper has met call for opportunities to establish private practices in offices/centers/clinics that can provide specific social services which governmental institutions cannot provide it or are unable to provide fully.

The main possible reasons for not starting a private practice in Egypt is the lack of proper professional preparation for social work students, insufficient field training, shortage of professional training programs and other legal and administrative obstacles or constraints. In Egypt, like the rest of the Arab countries, the current legal, political and economic environment raises substantial questions about the nature and breadth of this component of social work practice in the future. The reality in Egyptian society is in dire need for private practice. Egypt needs private practice in social work by giving social workers a real chance to establish social work offices or centers. For examples, there is need for private family counseling offices, child care centers, elderly care centers, addiction treatment centers, autism care centers, and disability care centers.

5.3 The Need for More Knowledge in Some Areas of Social Work Practice

There are many areas of social work practice in Egypt such as in health, child protection, orphan, forensic, elderly, and schools of social work that need to be expanded. Two areas will be explored, schools of social work and elderly care. These are areas where social workers have more presence in terms of numbers and defined roles.

5.4 School Social Work

Schools of social work are to deal with extraordinary issues that vary from child poverty to school violence. Social workers have began taking a more comprehensive approach, analyzing all aspects of a student's environment related to their school, home and community as these factors help in understanding the student's behavior and mental health, more social workers working in the school field should ideally work as advocates for students’ rights, and in supporting and developing programs and policies that would help more students and their families. Also, school social workers need to work collaboratively with teachers, special education teachers and administrative staff to help students. The role of school social workers is dynamic and continues to change. Issues like health care reform, changes in the law, decreasing school budgets, increased poverty among children and families, and increase in school violence are forcing school social work to respond and adapt with more circumstances.

A recent law that gives disabled students the right to an education has caused the role of school social workers to change even more. Now, school social workers are looking at the way a student’s particular culture influences his/her behavior. The latest trend in school social work involves looking at the school as being part of the community and not as being separate from it. Students with their families and school personnel are seen as part of this larger community that continually grows. In other words, social workers provide a link between the school and other social agencies and serve as brokers for the services provided for pupils and their families. Allied with the community, they engage in activities for developing new resources to support schools and their educational objectives. The challenge for school social workers in 359 the 21.

5.5 Social Work with Older Adults

The number of Egyptian aged 60 and above has increased. In response, the demand for social workers to provide services to older adults has grown significantly. Not only has the number of older people seeking social work services increased, but several trends have affected how services to these clients are delivered. These
trends include a shift in care away from the nuclear family to society at large and also a move away from institutional care to community-based care. Social workers no longer can see older adults as one homogeneous group. Working with today’s older adults requires social workers to be able to serve specific populations, such as older adults with health problems, those with mental health conditions and older adults needing end-of-life care. We can say that the need is going to increase for social workers with specialized skills to work with older adults.

5.6 Formal Profession Association

The association of social workers in Egypt (its name is the Social Professions Union) has recently been reinstated and additional efforts have been exerted by some of the social workers to further develop the profession through active involvement within the Association. The main reason for this is that social work in Egypt has focused more on field practice than building its professional components and identity. Also, its professional organizations are still not well established. This is due to many factors such as many social workers abstaining from joining the Association. Even, some social workers join other professional associations such as the School Teacher Union, and due to very few members being active in the Association. Consequently, the Association is handicapped in fulfilling its role as a result of lack of resources and the inactive action support of its members. This is an issue which was pointed out earlier by some authors [55] and continues to pose a problem.

The Association was established in the year 1973. Some of the Association activities include linking with international associations and to provide a space for social workers to meet and to discuss issues related to the profession. One of the major activities was the establishment of a social work journal which allows not only scholars from Egypt but also scholars from other Arab nations to publish their discoveries.

One of the main concerns for the Association is to work on establishing a code of ethics. A written code of ethics is considered by many social workers as being a crucial component of the profession. The code of ethics is to indicate values, purpose, knowledge, methods and main components for social work profession. Indeed, code of ethics is considered a major part of the value base for any profession [56]. This is because code of ethics reflects the values of a profession such as: worth, dignity and respect of the individuals.

Professionalization can be defined as the process by which an occupation attains characteristics or traits assumed to be possessed by the traditional professions (e.g., medicine, law). Those traits generally cited as integral to professionalization include a systematic body of knowledge; an advanced education code of ethics that is sanctioned by the society.

In spite of the importance of having code of ethics, there is until now no written code of ethics for social workers either in Egypt or in the majority of the Arabic country and there is not enough interest and effort in this matter on a professional level in these countries. While professional social work in Egypt has a long history since the nineteen thirties, there is no written code of ethics for social work professionals in Egypt, the majority of the Arab countries and developing countries at large. In the light of the non-existence of code of ethics for social workers in Egypt, practitioners depend on and have adopted the International Code of Ethics for Social Workers (Statement of Ethical Principles) which was issued in 2004 (the latest version) by the IFSW (International Federation of Social Workers).

5.7 Professional Licensing

Another interest of the Association is related to licensing of social workers in order that there is formal professional authority service [57]. Since the 1960s, social workers in the U.S.A. have taken several steps toward professional licensing in social work. In the 1970s, licensing for social workers became a reality. In Egypt, like in the rest of Arab societies, there is no keen interest within the profession in developing professional licensing in social work. Any social work graduate can practice social work without licensing and without having his/her membership in the social professions/union in Egypt and all Arab countries.

6. SUMMARY

Generally speaking, the social work profession in Egypt has been considered until now a relative profession without having a clear public image and seen as having weak organization. It is not deemed by many to be of equal professional
status and prestige when compared to other professions such as medical doctors, engineers and economists. Much of social work practice has been offered by voluntary associations. In 1939, the state introduced the Ministry of Social Affairs which focused on providing social services in addition to the voluntary sector. State intervention in the social services field has weakened the voluntary and the religious character of social work. Egyptian society is still unclear about the role of social work and the profession continues to struggle in establishing itself in the private or governmental organizational settings.

Nonetheless as a social work educator since 1975 and professor in social work since 2000, I can say that the need for professionalized social work in Egypt is now more than ever before and the need is likely to increase. Edwin Thomas asserted that "social work is still in the early stage of defining its domain of intervention, its techniques, its principles of practice, as well as its conception of human behavior" [58]. This is still true of social work today, both in the developed and the developing countries.

Finally, the current trends which have been presented in this article put forth projections of what the future of social work might look like. The potentialities seem generally favorable for social work and social workers. Some difficult challenges lie ahead, but professional training and services are likely to be consolidated, increased, and improved.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

18. Midgley J. Perspectives on globalization, social justice and welfare. Journal of


45. Siegel E, Jennings JG, Conklin J, Napoletano FSA. Distance learning in social work education: Results; 1998.


48. Leung PPY, Chan CLW, Ng SM, Lee MY. Towards body–mind–spirit integration:


© 2016 Abo El Nasr and Eltaiba; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
http://sciencedomain.org/review-history/14611