

The implementation of community mobilisation to prevent and manage pediatric CNS disorders in sub-Saharan Africa.

Lujain Ammar¹, Ahmed Ammar²

¹Departments of Psychology and Psychiatry, King Fahd University Hospital, Al Khobar, Saudi Arabia.

²Department of Neurosurgery, King Fahd University Hospital, Al Khobar, Saudi Arabia.

Abstract

The health care services offered in the northern hemisphere, or even the Republic of South Africa, or countries in northern Africa, the quality of the health care in SSA is severely deficient and an incredibly complex issue. Therefore, in absence of significant financial support, mobilization of community services and improve the awareness of the people may play significant role to prevent some disorders and help in find ways of treatment via good communication.

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The continent of Africa is hugely varied in its' people, cultures, history and territories [1]. It is widely agreed that health care within sub-Saharan Africa (SSA) is poor and accounts for more than 90% of global maternal deaths (approximately 530,000 women/year) [2]. When compared with the health care services offered in the northern hemisphere or even the Republic of South Africa, or countries in northern Africa, the quality of the health care in SSA is severely deficient and an incredibly complex issue.

There several factors contributed for this complexity, such as:

1. Health-economic factors such as lack of funds to build well equipped hospitals and medical centers and train enough physician, surgeons and nurses.
2. Manpower, there is a serious shortage of physicians and particularly neurosurgeons in this very wide area.
3. Attitude, culture, customs and habits which may hinder the modern treatment as other traditional ways to treat diseases are popular.
4. Geo-political factors, most of these countries have recently established borders, which in many cases are not respected or recognized by the inhabitants.
5. Lack of public awareness about the different health problems, and preventative medicine
6. The nature of endemic and congenital diseases.

7. Serious deficit in neurological expertise and technologies. For the 650 million inhabitants, who lives in Sub-Saharan countries, there is not a single facility, hospital or center specialized and designated to manage different CNS disorders, on the level of criteria followed in countries of the Northern hemisphere.

- a. Ratio neurosurgeon per capita-1:3,000,000 (Northern Hemisphere 1:200,000) [1].
- b. Ratio neurologist per capita-1:3,000,000 (Northern Hemisphere 1:40,000) [1].
- c. Ratio of medical imaging-1 MRI per 25 million inhabitants (Northern hemisphere-25 MRIs per 1 million inhabitants) [1].

Analysis of Current Status of Neuroscience Medical Problems in SSA

There is reportedly an increased prevalence of neurological disorders in SSA, in part due to the high incidences of malnutrition, HIV/AIDS and poor perinatal conditions. Data outlined in the 2006 World Bank Report outlines that over three years, 16.2% of new referrals to a child neurology clinic were of patients with cerebral palsy, 63% of which were deemed as environmentally preventable [3]. Rates of epilepsy vary from 2.2% to 58% in different areas of SSA, owing in large to the varying parasitic infections and perinatal and obstetrics care conditions. Viral encephalitis is increasingly prevalent in areas with high incidences of HIV infection. The neurological complications of syphilis

and other STDs such as HIV are still common, as is cerebral malaria (which causes hundreds of thousands of pediatric deaths each year). TB, Pott's disease, variations of meningitis and leprosy also claim the lives of a significant number of the SSA populations, and causes life-long complications for others.

In response to the distressing mortality statistics in SSA, many researchers and scholars have suggested infrastructure development, financing, focusing on women's rights and combatting corruption in the government to manage this crisis [2,4]. However, such actions are unlikely to create a measurable effect on the current health care conditions.

Various studies have been conducted on alternative methods to create an immediate effect on health care in SSA particularly through the use of community resources and mobilization [2-7]. A systematic review carried out by Wekesah et al. [2] outlines the various ways in which peer-support, mobile health and community health workers to improve maternal care. Makate and Makate [5] state that while, individually, community level factors may not all significantly influence the use of pre-natal care, when combined they become statistically significant. This highlights the need for interventions that utilize the existing resources within the communities. We propose a combination of community interventions may be effective in the prevention, diagnosis and management of pediatric CNS disorders in SSA.

Discussion

Public Awareness Through Community Engagement

Community engagement is defined as working in conjunction with and through members of the community, be it the geographical, religious or situational community, to address issues that are detrimental to the health and wellbeing of those community members [8]. Manikam et al. [9] state that steps towards improvements in health care, such as public awareness campaigns, research and interventions should be taken with the input of the community members that the changes will influence. Manikam et al. [9] found that religious composition was positively correlated with the implementation of prenatal care in Zimbabwe and speculated this was due to the strong influence of religious organizations in developing countries. Not only do these organizations offer opportunities for peer support and transfer of information, they also often offer educational programs to members of the community. McCauley et al. [10] state that community leaders often act as 'gate keepers' to information, as their opinions are often highly regarded, and their acceptance and legitimization of certain issues raise the issue in the public awareness and knowledge by utilizing the existing circles of influence of these community leaders and organizations, we would be able to reach a significant percentage of the population, either directly or through peer information transfer.

Training

Tying in with the above strategy is the need for appropriate training. The HeadSmart: Be Brain Tumour Aware [11] campaign created informational pamphlets, symptom checklists, awareness materials and a medical assessment that was distributed to general practitioners, health organizations and professional bodies. The mean time between first presentation to a health professional and diagnosis was reduced by almost 4 weeks between 2011 and 2012-2013. They were able to present a clear improvement in the awareness of the presentation of brain tumors among pediatricians within the UK, using this method. Somwe et al. [6] were able to trigger an alteration in the standard guidelines for the treatment of pediatric asthma in Zambia. They achieved this, in large part, through the training programs they developed and delivered to health care professionals and patients correcting prejudices and improving their understanding of the disease. They also provided training to a small group who then delivered that training to various other, larger groups, in order to create a larger effect. Since this training, the care of asthma in Zambia has improved, which is remarkable as prior to this the Zambian health care system was largely focused on the treatment of infectious diseases, with the non-communicable disorders receiving far less consideration. Developing a training program along the lines of symptom recognition, preventative treatments in the prenatal stage, and pediatric care and management of disorders, to be delivered by other health care professionals would, in our opinion, be beneficial in combating CNS disorders in SSA.

Community Health Workers

Wekesah et al. [2] described task shifting interventions, which recruit workers from other specialties and train them in specific tasks or fields, in order to improve maternal care in SSA. We propose that such interventions could be used to train community health workers, who could travel between areas in their countries, distribute information, assess living situations, and provide advice and supplements such as folic acid to expecting mothers. Effective utilization of these health workers could improve public awareness, reduce incidences of pediatric CNS disorders, and improve maternal health outcomes. One role of the community health workers, would also be to identify cases that need specialist care and make that referral. Although, it is acknowledged that the neurological and neurosurgical facilities, equipment and specialists in the region are severely deficient [1].

The value of an effective communication and referral process is evidenced in various studies into the improvement of health care and outcomes [2,11]. However, as outlined by Dechambenoit [1] the ratio of neurological and neurosurgical facilities and expertise per capita in SSA is astonishingly low. Most people within the region would not be able to access these facilities easily, if at all, furthering the risk of complications and

increasing mortality rates. Using indigenous community resources to help bridge the gap and provide much needed health advice and preventative medication, will, in our opinion, help mitigate these risks. If there is not enough funding or specialists to create a neurosurgical center, raising public awareness of simple hygiene, or the value of prenatal vitamins and supplements will take large steps in decreasing the prevalence of pediatric CNS disorders in SSA.

Conclusion

In 21st century the gap is widening between the western countries and all SSA countries. It is not acceptable at all from ethical or human viewpoint that patient with simple neurological or neurosurgical disease die because are unable to access a place for treatment or surgery. Any delay to improve the health care systems in these countries is no longer tolerable. Therefore, in absence of significant financial support, mobilization of community services and improve the awareness of the people may play significant role to prevent some disorders and help in find ways of treatment via good communication.

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Correspondence to:

Ahmed Sabry Ammar,
 Professor and Consultant Neurosurgeon,
 Department of Neurosurgery,
 Faculty of Medicine, King Fahd University Hospital,
 Saudi Arabia.
 Tel: 0966506806381
 E-mail: ahmed@ahmedammar.com