

Addressing Health Disparities in Haiti through Nursing Education and Technology

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Abstract

This paper seeks to highlight a program designed to address health disparities in Haiti through nursing education and technology by empowering Haitian nurses to provide evidence-based care. Haiti carries a heavy burden of disease compared to the rest of the world; infant and maternal mortality rates are the highest in the Americas and life expectancy the lowest. Haiti has a long history of misfortunes that lead to its current overwhelming health disparities including poverty, social policies, and natural disasters. These, in addition to inadequate regulatory standards and lack of practice guidelines present challenges to nurses practicing in Haiti. Although the majority of health care in Haiti is provided by nurses, there has been little attention given to continuing nursing education. Through sharing of knowledge during seminars and mentoring, foreign nursing faculty in collaboration with nurse educators on the ground, the nurses at one hospital are exposed to continuing education on a regular basis. The program consists of week-long educational seminars addressing specific topics and access to nursing information through iPads provided by a non-profit organization. A needs assessment precedes each educational trip. The local nurse educator works with the staff nurses to identify topics based on health care issues in the population and the educational needs of the nurses. The most common admitting diagnoses also serve as a guide for continuing education topics. Each presentation is preceded by a pre-test and followed with a posttest to evaluate the impact on nursing knowledge. Our findings indicate that the seminars have a significant impact on nursing knowledge, as evidenced by a 40% increase in post-test scores on average. Culturally congruent programs that enhance nursing knowledge provide the first step toward improving nursing practices directed to improve health care outcomes in Haiti.

Introduction

Multiple factors contribute to health disparities in Haiti. These include poverty, limited access to western medicine, lack of resources, and poorly managed social policies. In addition to these, one must consider the impact of the natural disasters that remain a constant threat to the island and its people. The 2010 earthquake was the worst natural disaster to strike Haiti in over 200 years; more than 220,000 people died, and 300,000 were injured [1]. The earthquake had a catastrophic impact on an already fragile healthcare system, including the total destruction or damage to 30 out of the 49 hospitals in the disaster zone, and the destruction of Ecole Nationale des Infirmières de Port-au-Prince (Haiti National School of Nursing in Port-au-Prince) where 90 students and their instructors died that day [1,2]. Haiti's geographical position in the Caribbean Sea makes it vulnerable to hurricanes, which pose a constant insult to the country. Every year on average 1-2 hurricanes strike the island, making it hard for Haiti to recover or flourish, as it keeps Haiti in a constant crisis mode.

The overwhelming health disparities in Haiti present challenges to nurses that are amplified by a grossly under funded healthcare system and disorganized infrastructure. Harsh economic conditions and inadequate regulatory standards hamper nursing education, while a lack of clinical practice guidelines and adherence to evidence-based standards compromise nursing practice [3-5]. Nurses comprise the majority of the healthcare labor force worldwide [6], and in Haiti there are communities where nurses deliver the majority of care [7,8], yet nursing education has been historically inadequate [4,9]. Continuing nursing education for nurses in Haiti is one way to tackle these challenges. Success for continuing education programs is enhanced by an understanding of the culture and the needs of the population [10]. The aim of this paper is to describe a continuing education program for nurses in Haiti that is culturally congruent and evidence-based.

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Background and History

Haiti gained its independence from France in 1804, making it the first independent black nation and the second independent nation in the Americas after the United States. Located between the Caribbean Sea and the North Atlantic Ocean, Haiti is the size of Maryland with a land mass of 27,700 km². With a population of 10.8 million inhabitants, Haiti occupies one-third of the island of Hispaniola sharing it with the Dominican Republic [11,12].

Access to healthcare for all of its citizens has long been the goal of the Haitian government, and that goal was reinforced by Pan American Health Organization (PAHO) in a declaration in 1998 [13]. However, this is far from reality. Scarce resources and many other challenges have hampered the promise of universal healthcare. Health expenditure is still only 7.6% of Haiti's GDP [14].

Haiti's public health data is dismal. Life expectancy is 62 for men and 66 for women [12]. Haiti has the highest rates of infant, children

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under-five and maternal mortality in the Western hemisphere. Although the infant mortality rate is 46.8/1,000, down from 62.3 in 2013, it is still the highest rate in the Caribbean [8, 11]. Several factors including poverty, political unrest and Haiti's customs and culture contribute to its health outcomes [15].

Poverty leads to poor health worldwide, and it is the leading cause of the healthcare problems in Haiti [16]. The vast majority of Haitians live in a precarious state, existing in poverty and conditions of marginalization [11]. Over six million of Haitians live below the poverty line of fewer than two dollars a day [17]. The gross domestic product (GDP) per capita in Haiti is \$1,800 which is very low when compared to its next-door neighbor, the Dominican Republic, which has a GNP per capita of \$16,100 and the United States which has a GNP per capita of \$ 57,60 [11].

Since gaining its independence from France 213 years ago, Haiti has experienced political turmoil and unrest. Unstable, weak and abusive governments have been in power since the independence. Foreign occupations and the financial burdens of gaining its independence have contributed to Haiti's poor economic condition. France charged Haiti 150 million Francs for reparations to accept Haiti's independence [16], and the United States during its occupation of Haiti gave the country's treasury to a New York bank and imposed a debt of 40 million dollars to Haiti [18]. Haiti is also faced with a high rate of unemployment, underemployment, and migration. The unemployment rate is 40.6 percent in Port-au-Prince, the capital of Haiti, 37 and 36 percent in other urban and rural areas respectively [11]. Every year, 10,000 Haitians seeking jobs moved from the rural to the urban areas contributing to the urban area's rate of unemployment [17]. All these factors coupled with many natural disasters have contributed to Haiti's poor economic condition and greatly impacted the health of the nation in negative ways. The levels of poverty in Haiti are generally regarded as among the most severe in the western hemisphere.

The relationship between poverty and healthcare is multifaceted and linked to Haitian culture. Many Haitians have tremendous faith in informal healing practices; they tend to seek care from informal healers before accessing western medicine because the former is cheaper and more accessible. Accessing western medicine is often late during the illness and results in poor outcomes contributing to a vicious cycle of delayed access, poor outcomes and fear of accessing western care.

Challenges to Nursing Practice

There is a worldwide shortage of nurses; this shortage is more acute in the developing world and is particularly severe in Haiti [6]. Nursing personnel makes up the majority of the healthcare labor force in Haiti. Already scarce, the healthcare resources including human resources are distributed unevenly in Haiti, with most hospitals, physicians and nurses located in the urban areas and very few in rural communities [4,19]. According to the latest report from Haiti's ministry of health [Ministère de la Santé Publique et de la Population (MSPP)] the ratio of healthcare workers to the population is only 6.34 per 10,000 [19]. Improving access to continuing nursing education would be an important strategy toward improving health outcomes in Haiti.

Nurses in Haiti face many challenges and obstacles to practice including poor working conditions, lack of professional autonomy with little interdisciplinary collaboration, no access to continuing

education and opportunities for advancement and a health care system crippled by pervasive poverty [5, 9]. This is further exacerbated by the nursing shortage and nursing migration to higher resource countries that offer better opportunities [7]. In spite of the influx of money and aid from the international community following the earthquake, these conditions are slow to improve. Nurses remained poorly compensated for the work they do under extreme circumstances [2].

Nursing Education

Nursing education has been affected by structural and economic factors that have a direct impact on nursing practice and healthcare outcomes. These include limited access to technology, limited funds for current teaching materials, lack of qualified faculty, inadequate clinical sites and clinical instructors, and overcrowded classrooms [3, 9, 20]. There are 5 public schools and 5 major private schools in Haiti, as well as numerous non-credentialed private schools [5]. The public schools lack funding, and the curriculum is in need of reform [5]. In addition, there is a lack of regulation for non-credentialed nursing schools whose graduates are not prepared for practice [2, 5]. It is evident that both nursing practice and nursing education are under a lot of strain.

Continuing Education and Technology

Offering nurses continuing education is one way to address the gaps in education as well as the problem of migration. Historically, there has been little opportunity for continuing education for nurses in Haiti [21]. Yet continuing nursing education has been shown to improve nursing practice, retention and motivation in the developed world as well as in low resource countries [7, 22-25].

The use of educational technology involving the internet as well as other electronic devices has been shown to improve outcomes for continuing educational programs in low-resource countries [3]. The ability to access learning resources electronically allows nurse educators in high resource countries to share essential knowledge with nurses in low-resource countries like Haiti [26]. The use of these technologies is relatively new to educators in Haiti and may require the assistance of faculty with international experience [5]. It is postulated that advancing nursing education through continuing education initiatives utilizing modern educational technology will improve nursing practice and ultimately reduce nursing shortage in Haiti, which in the final analysis will improve patient outcomes.

The effectiveness of continuing education is enhanced by an understanding of cultural traditions, beliefs and language as these can pose a barrier to success [3, 10]. In addition to this, continuing education programs require an understanding of the working conditions and population needs that are best understood by nurses working in Haiti [3]. Each continuing education program must be approached in a culturally sensitive manner to affect change. Toward that end, nurses in Haiti need to have access to culturally congruent continuing education opportunities that reflect the needs of the population they serve.

Conceptual Framework

Leininger's Theory of Culture Care Diversity and Universality provided a guide and conceptual framework for this program. Culturally congruent care occurs when the healthcare practitioners and educators know the individual, community and institutional

care values and culture, and they can apply this knowledge in meaningful ways [27]. The goal of the educational program was to help Haitian nurses provide culturally congruent care that contributes to the well-being of the Haitian people. The educators worked with Haitian educators and nurses as they took into consideration the social dimensions described in the Sunrise Enabler and incorporated them into the design of the program. The social dimensions include technological factors, religious & philosophical factors, kinship & social factors, cultural values, beliefs, & lifeways, political & legal factors, economic factors, and educational factors [27]. The collaborative design of this program promotes nursing care practices that respect the cultural and social dimensions of the Haitian nurses and the population they serve.

Program Design

Nurse educators and leaders must work together to develop standards of care and competencies when developing continuing education programs that address health disparities in Haiti. Multiple programs are currently operational in Haiti that contribute to improving nursing education and nursing practice. This article describes a program that addresses health disparities in Haiti through education and technology by empowering Haitian nurses to provide evidence-based care. The team of educators participating in the program work with the nurses in Haiti to determine the best evidence-based care that is also culturally congruent. The Health eVillages Regis Outreach (HERO) project provides evidence-based, culturally congruent nursing education centered on the population needs by focusing on the cultural belief and values of the Haitian population.

The HERO initiative was designed to help meet the urgent need for improved health care delivery in Haiti through a collaborative approach between Health eVillages and Partners in Health, two nonprofit organizations in Boston, and Regis College. Through that initiative, nursing faculty from Regis College work with a nurse educator in Haiti to provide continuing education for the nurses at Sainte Therese Hospital on a regular basis. Sainte Therese is a 186-bed hospital run by Haiti's Ministère de la Santé Publique et de la Population (MSPP) and a non-governmental organization, Zanmi Lasante (ZL). The hospital employs 27 RNs, 66 auxiliaries (equivalent to LPN's), 4 nurse midwives and 2 nurse anesthetists. Sainte Therese Hospital is located in the town of Hinche and serves the central plateau of Haiti, home to 50,000 residents in 54 communities. The hospital cares for patients with HIV/AIDS, hypertension, diabetes and cardiac disease, and many more diagnoses, including children who suffer from severe malnutrition. The hospital also offers women's health and maternity services. In addition, the hospital has a five-bed adult intensive care unit and a four-bed neonatal intensive care unit.

The HERO program consists of week-long educational seminars that address specific nursing topics, mentoring of the local nurse educator, and global health exposure of Regis College graduate nursing students. The nurses are given access to current nursing literature and clinical decision support systems through iPads provided by Health eVillages. These tablets are infused with French and Haitian Creole content. Internet access with SIM cards is also available for more up-to-date nursing information. Multiple applications including Playbook, Omnio, Ipansement, Safe delivery, medications and disease dictionaries populate the tablets and serve as a mobile medical library for the nurses.

Over the four years that this project has been in existence, there have been countless continuing education opportunities including seven

week-long seminars provided by expert faculty from the United States to the nurses of Sainte Therese Hospital. These week-long programs covered topics such as: Basic Life Support (BLS), wound care, pain management, EKG training, chronic illness management, physical assessment, and cardiac disease management. The nurse educator provides the day-to-day nursing education, ranging from hand washing, proper technique of monitoring and documenting vital signs, how to write end of shift nursing reports, care of patients with chikungunya fever and cholera and other prominent problems affecting the Sainte Therese Hospital population using multiple formats from lectures, nursing grand rounds, bedside teaching, one to one, and group teaching. On average, the nurse educator spends 30 hours per week on nursing education. Over the course of one year (2016 for example), 34 lectures, 54 grand rounds, 47 one-to-one, 17 group and 25 bedside educational sessions were offered to the nurses and nursing students at the hospital.

A needs assessment preceded each week long educational trip, and the local nurse educator worked in collaboration with the staff nurses to identify topics related to the healthcare issues in the population and the educational needs of the nurses. The most common admitting diagnoses also serve as a guide for continuing education topics. Each presentation is preceded by a pre-test and followed with a posttest to evaluate the impact on nursing knowledge.

The use of technology has facilitated access to continuing nursing education. With a total of 28 tablets currently in use at St. Therese Hospital, the role of technology in the advancement of nursing knowledge and practice is enriched. The tablets, loaded with nursing content, have facilitated on-site trainings, mentoring, knowledge growth and sharing. The nurses treat their tablets as their mobile library for every educational need, including nursing research and patient teaching.

Program evaluation included an assessment of the effect each seminar had on the knowledge nurses have on the topic presented by administering a pretest and a posttest. Assessment of the effect of each seminar on nursing practice was evaluated by administering an anonymous questionnaire. For example, the mean pretest score preceding the seminar on cardiovascular nursing was 40.62 and the mean posttest score was 76.09 indicating a 35.44-point increase in nursing knowledge. The average increase in knowledge between the pretests and posttest over the last four years has been forty percent. Over 95 percent of the nurses who attended the physical assessment seminar indicated that the seminars have a positive impact on their practice.

Conclusion

All the nurses working at Sainte Therese Hospital have access to this culturally centered continuing nursing education. "I can save more lives now" a direct quote from one of the nurses who have benefited from this continuing education program attests to the role that such a program plays in the advancement of nursing practice in a small community. In Haiti, where continuing nursing education is not easily accessible nor valued, the nurses at Sainte Therese Hospital are grateful to have this made available to them during week-long seminars presented by educators with expertise in their fields, the support of a dedicated nurse educator at their institution and remote support through internet capable technology. Expanding the knowledge and skills of the nursing staff is vital for the improvement of the population health outcome; the patients of Sainte Therese Hospital are the beneficiaries of such knowledge.

Competing Interests

The authors declare that no competing interests exist.

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