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THE JOURNEY OF ETHIOPIAN NURSING EDUCATION: A GLIMPSE OF PAST, PRESENT AND FUTURE

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ABSTRACT

Background: Ethiopia is one of the oldest independent African countries. Illiteracy is the most crucial factor impacting Ethiopians limited health seeking behavior. The country suffers from an enormous burden of preventable communicable and non-communicable diseases and nutritional deficit disorders. The population faces a high rate of morbidity and mortality which needs holistic quality care from health care professionals including nurses. Ethiopia is struggling with an extreme shortage of health care professionals. Official statistics show, that a decade ago there were only 20,000 nurses for 80 million people with 85% of the Ethiopian population living in remote areas which are chronically under-served.

Aim: To describe the development of nursing education in Ethiopia from historical, political and socioeconomic perspectives.

Methods: An extensive literature search was conducted using the key terms, "Nurse", "Education" and "Ethiopia" from the following databases: ProQuest, PubMed, Google Scholar, Ovid Medline. In addition, reports from the governmental health education bureau were utilized to provide relevant information regarding the nursing educational system.

Findings: Globally, nursing education is undergoing modifications, which were never previously imagined, to address the growing complexity in the health care arena, ensure safe delivery of nursing care, promote nursing leadership and evidence-based practice research. To meet today's health care demands, the Ethiopian nursing education system needs to reform.

Conclusions and Implications for Nursing Education: In the light of historical and current nursing situations in Ethiopia, the Ministers of health and education need to reconsider the minimum nursing educational requirement to be at least a baccalaureate degree. Nursing career pathways need to be extended to Ph.D. and DNP. Such nursing career development pathways are needed to prepare future nurses with the abilities to conduct research and quality improvement projects, develop leadership skills, and impact the quality of care. Ethiopian nurses' engagement in the development and application of nursing knowledge will not only impact nursing practice but also improve the quality of nursing education.

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INTRODUCTION

Globally, nursing education trends over the last century has been towards greater professionalization through increasing the training periods and swing from a hospital-based

apprenticeship model teaching to professional education in higher institution learning (Hegarty et al., 2009; Spitzer, 2006). In addition, in the 21st century, nursing education, practice and policy impact nursing roles (Marcus Longley et al., 2007). Nursing education is always rising to the demand of health care delivery by preparing nurses to provide holistic nursing care addressing patients' physical, psychosocial, emotional, cultural, and spiritual needs.

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Even though nursing curriculums have improved and expanded they are limited in incorporating a global health component in the nursing education (Baumann and Blythe, 2008). Particular the importance of nurses in the health care system, changes in the production, scope of practice, and education of the nurse workforce are crucial approaches for achieving improvements in the functioning and impact of health care systems (Frenk et al., 2010). Most studies of nursing practice, nursing education and curriculum development have been done in the United States and they have reflected only Western thought, technology, and culture. However, results of many studies are relevant to nursing and nursing education in other countries. In regions of the world where traditional societies are in a state of transition to the modern world, it is imperative that the emerging nursing profession not be hampered by mistakes made by nursing in Western countries (Esther Louise Mooneyhan, 1973).

As an official paper for the World Health Organization, Lyman, in 1961, prepared a guide for the planning or revision of basic nursing education programs. It was posited that fact-finding is prerequisite to planning since any plan for the education of nurses must be based on local resources and needs and adapted to the community in which placed (Katharan Lyman, 1961). In 1995, the Constitution of the Federal Democratic Republic of Ethiopia (FDRE) guaranteed the right to health for all Ethiopians. Consequently, the Federal Ministry of Health (FMOH) of Ethiopia prepared a comprehensive strategic plan, the Health Sector Development Program (HSDP), in combination with the countrywide Growth and Transformation Plan (GTP). The national health sector development plan of 20 years was divided in four series of five successive years to safeguard the accomplishment of national goals and Millennium Development Goals (MDG) targets. At present, HSDP IV covers a five year period from July 2010 to June 2015 (MOH, 2010).

Nurses played a key role in the achievement of the national health sector development plan. Currently, nurses are the biggest health care labor force in Ethiopia. They work as a clinicians, educators, leaders, and researchers in hospitals, clinics, universities, ministers of health, health centers and nongovernmental organizations. Nurses also play an independent health care provider's roles in health centers, clinics, and regional hospitals. Particularly in outpatient care settings, nurses diagnose, treat, and prescribe medications. Ethiopian nurses are the leaders in promoting health and preventing and treating illnesses including HIV/AIDS, and Tuberculosis (Abdurahman Ali, 2011). Currently there is a significant amount of literature available on nursing educational systems in various countries across the globe but there is no publication describing nursing education in Ethiopia. The purpose of this article is to present the Ethiopian nursing education system by focusing on the country's historical, political, and socioeconomic perspectives.

The history of modern nursing education in Ethiopia

Ethiopia is located in the Horn of Africa and is the oldest independent African country with a total population of more than 73 million according to CSA, 2007 census.

Its population growth rate is 2.6. Based on the United Nation's projection, in 2014 the Ethiopian population was approximately 97,970,452 which makes it the 13th most populous country in the world and second in Africa next to Nigeria. Its total area is 1,127,127 square kilometers (935,183 square miles). Ethiopia is a landlocked country completely surrounded by other states and shares boundaries with Kenya to the South, Somalia to the East, Djibouti and Eritrea to the Northeast, and North and South Sudan to the West. It has a total border length of 5,311 kilometers. The capital city of Ethiopia, Addis Ababa is located in the heart of the country (CSA, 2007; Review, 2014).

Ethiopia is a poor country but extraordinarily rich in terms of history, culture and natural resources. Being the cradle of humanity, it is the home of the earliest known human ancestor; Lucy, 3.2 million years old and also has a unique 34 letter alphabetic. This land developed into a country inhabited by a population more than that of Great Britain or France, along with great ethnic and cultural diversity (Nuria Sanz, 2012). Ethiopia apart from a five-year occupation by Mussolini from Italy, has never been colonized. It served as a symbol of African independence throughout the colonial period, and was a founder member of the United Nation and the African base for many international organizations (Bankston, 2013). In ancient Ethiopia, in most of the ethnic groups, a man or women who gave care and provided treatment to an ill person was called "Wegesha" or "Hakims". He or she used to use various plants and herbal medicine to treat sick persons. The Orthodox Church was also engaged in giving care to the sick or injured in the monks' hospital in Debre Libanos and also used Holy water for exorcism (Pankhurst, 1991; Amsale Cherie, 2006).

Modern nursing was introduced to Ethiopia around 1866 by Swedish missionaries who came to Eritrea (one of the previous countryside of Ethiopia) and started to deliver medical care for very limited members of the society. Afterwards nursing service spread to the other parts of the nation. Then nursing services were provided by Swedish, Russian and French nurses, hence the need for nurses was felt even more than ever. Therefore, nearly 1928 women were selected and given short term training to serve as midwives and nurses (Abdurahman Ali, 2011; Forums, 2008; Oz'anic, 1961).

In 1939, Emperor Haile Selassie's daughter Princess Tsehai became the first national Ethiopian nurse trained in child health in the London school of nursing. Similarly, Sister Meheret Paulos was the second nurse who graduated from Jerusalem and worked not only in the Egyptian British army but also in a number of hospitals in Ethiopia (Abdurahman Ali, 2011; Oz'anic, 1961). In 1949, after World War II, The Ethiopian Red Cross established the first nursing school at Haile Selassie I hospital which was a three-year program. The first batch of 17 female nurses graduated in 1953. In 1951, another nursing school opened under the sponsorships of Swedish Missionaries at the Princess Tsehai Memorial Hospital. These two nursing schools only allowed females in their nursing programs. Males were not admitted to nursing programs until 1954 when Teferi Mekonnen Hospital in Neqamte took the initiative of matriculating males into their

nursing program. In 1954, Haile Selassie I, the first Public Health College, opened in Gondar town. Formerly, the University of Gondar has three departments namely community nurse, health officer, and sanitarians. The first post basic education nursing program, started in 1959, was post basic midwifery with four students. This program was the first of its kind in the country and was inaugurated by Catherine Hamlin and her husband from Australia (Abdurahman Ali, 2011; Oz'anic, 1961; Bethabile Lovely Dolamo and Olubiyi, 2013). In 1950, The Ethiopian Nurses Association (ENA) was established and since 1957 has been a member of International Council of Nurses (ICN). ENA during Haile Selassie's regime played a great role in the formation of a nursing council with self-regulatory responsibilities (Abdurahman Ali, 2011; Oz'anic, 1961).

From 1974 to 1991, during the Derg era (military junta), nursing education somewhat changed as nursing schools required students to be eighteen years of age and to have completed 12th grade. The length of nursing programs was two and half years to receive the highest award i.e., diploma in nursing (Abdurahman Ali, 2011; Bethabile Lovely Dolamo and Olubiyi, 2013). In 1991, after the end of the military junta, nursing education in Ethiopia completely transformed. Many private and government universities opened and offered diploma and baccalaureate nursing programs. The admission criteria to enter a Diploma nursing program was based on the score attained in grade 10 on the Ethiopian general Secondary Education Certificate Examination (EGSECE). To qualify for the baccalaureate nursing program, candidate's 12th grade Ethiopian Higher Education Entrance Certificate Examination (EHEECE) scores were considered. In 2009, a postgraduate nursing educational program was inaugurated in Addis Ababa University. Later, Mekelle, Gondar, and Jimma Universities also launched Masters in nursing degree programs. Currently, the Masters degree in nursing is the highest educational level a nurse can attain in Ethiopia (Bethabile Lovely Dolamo and Olubiyi, 2013; Tsehaie Yohannes, 2002).

Current Ethiopian nursing educational system

Since 1994, the present 8-2-2 formal educational structure has been underway for primary school level with the official admission age of seven and consisting of grades one through eight. Secondary school level is separated into two cycles lower secondary level comprises grades 9 and 10; and upper secondary comprises grades 11 and 12. Primary level education is free and obligatory, while the pre-primary and secondary are not. Students sit for certificate examination at the end of grades 8, 10 and 12. Students who haven't passed grade 10 EGSECE have been admitted to Level II, III and IV nursing programs both in private and governmental health sciences colleges based on the interest of the students. On the other hand students who passed grade 12 EHEECE will go to University based on their interest. Most of the time students with high scores select fields like medicine, pharmacy and engineering while students with medium scores can select a health science focus including Health offices, Nursing, Physiotherapy, Medical laboratory, Anesthesia etc. Ethiopian nursing educational system structure adopted and modified from Ministry of education bureau Ethiopia (Bauduy, 2008).

(See Figure 1) In Ethiopia, the Ministry of Education (MOE) has a primary responsibility to provide direction in formulating nursing curriculum, and offering supervision to colleges and universities in the development of their specific nursing programs. Such process ensures that both private and government nursing institutions are in sync with the nationwide nursing educational mandate (aren Salmo and Gutema Keneni, 2004). Currently, there are five nursing educational levels in Ethiopia, including level II (health care giving), level III (Nursing assistance), and level IV (comprehensive nursing or formerly Diploma nursing), a baccalaureate degree, and a master's degree. The baccalaureate and master's degree programs which are in line with MOE and Ministry of Health (MOH) play a critical role in providing technical support to the regions and through the TVET-reform component they contribute to building the capacity for level II, III and IV programs.

Level II (Health Care Giving)

The level II program is planned to improve the necessary knowledge, skills and attitude of the learners to the standard necessary for the occupation. To enter the level II program, a candidate must at least successfully complete 10th grade general education and possess the minimum requirements or directives of the MOE. The level II program is comprised of a total duration of 800 hours of which 531 hours is in school practice and cooperative training. The contents of this program are in line with the Occupational Standard (OS). Learners who successfully complete the program are health care givers with competencies elaborated in the respective OS. Graduates also qualify to work in the health sector in the field of health care given they pass a Certificate of Competence (COC) exam. They also have a chance to continue to work towards getting into level III programs.

The main objective of the level II training program is to prepare the graduates to meet OS's pre-defined competences. Once completed, level II workers perform a variety of tasks in the health industry such as they are able to comply with infection control policies and procedures, follow the organization's Occupational Health Standard (OHS) policies, handle waste in a health care environment, perform general cleaning tasks in a clinical setting, prepare and maintain beds, collect and manage linen stock at user-locations, and work in team environments (TVET, 2012).

Level III (Nursing Assistant)

Similar to level II, the level III program is designed to develop the necessary knowledge, skills, and attitude of the learners to meet the standard required of the nursing assistant job. The program is comprised of a total of 1550 hours in theory and practice or cooperative training. Out of the total hours, 320 hours (internship) to practice nursing assistance related practice after the completion of all modules at selected hospitals. Learners who successfully complete the program are qualified to work as nursing assistants with competencies elaborated in the respective OS. Graduates of this program are eligible to work in the health sector as nursing assistants after passing COC exam. Those who pass the COC exam also have a chance to pursue comprehensive nursing education.

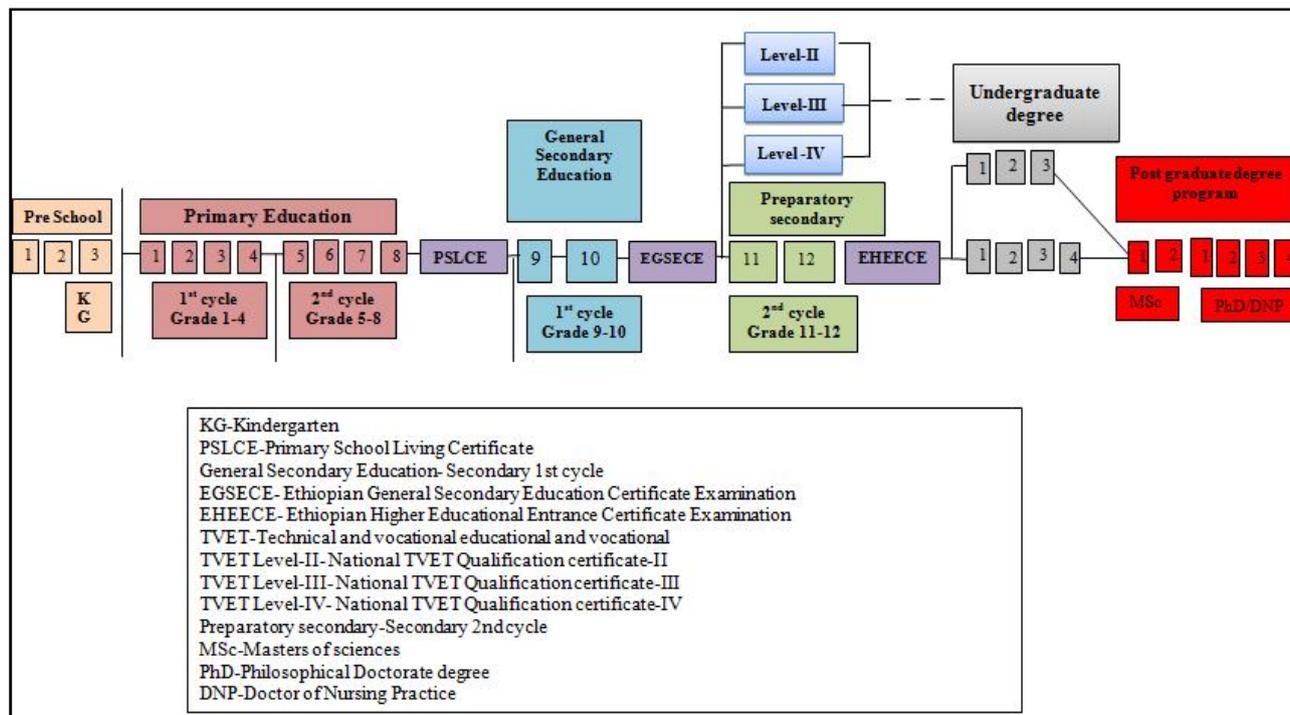


Figure 1. Ethiopian Nursing Educational Structural adopted and modified from Minister of Educational Bureau

The major aim of the level III training program is to provide the learners with the approved competencies stated in the OS. Upon graduation, nursing assistants are expected to implement basic nursing care, administer a range of medication, undertake basic wound care, provide nursing care to mothers and babies, provide and maintain nursing care to aged and disabled patients, provide nursing care in first line emergencies, apply quality control and lead Small Team in accordance with the performance criteria described in the OS (TVET, 2012).

Level IV (Comprehensive nursing or formerly Diploma nurse)

The comprehensive nursing, level IV, program is consistent with the Ethiopian Occupational Standard (EOS). Therefore, graduates of this program are qualified to implement competencies expounded in the corresponding EOS. The comprehensive nursing, level IV, is comprised of a total of 1650 theory hours and 420 hours of internship after accomplishment of all modules at selected Hospitals. Comprehensive nursing graduates are expected to provide Maternal and child health care, and pre/post- and intra-operative nursing care, to implement and monitor nursing care for clients with acute health problems, perform nursing process, administer and monitor medications, work in health care teams and independently within the realm of practice privileges stated in the EOS (TVET, 2012).

Baccalaureate degree

In 1994, the first post basic baccalaureate program in nursing launched in the former Jimma institute of health science (now Jimma University) in Ethiopia. This movement towards the post-basic baccalaureate education was a history making moment for nursing education in Ethiopia. After the initiation of the program the average annual number of nurses who graduated with the baccalaureate education was 30.

Later in 2004, the baccalaureate nursing program became one of the most common academic programs offered by governmental and private universities. The objective of the baccalaureate program is to produce competent professionally prepared nurses to address individuals, families and communities health care needs using scientific and systematic nursing processes and to demonstrate competence in nursing care skills. Furthermore, graduates are prepared to play an active role in the health team to engage in health promotion, disease prevention and tertiary/rehabilitative health care delivery across the nation, demonstrate leadership qualities and decision-making abilities in various situations, demonstrate skills in teaching, management, inter-personal relations and communication and practice ethical values in their personal and professional life.

Initially a baccalaureate nursing program was a three year program which later became a four year baccalaureate program to accomplish the goals of the undergraduate program. One of the baccalaureate entry criteria that were adopted by all governmental and private universities was a successful completion of grade 12 EHEECE. At present, there are a total of 40 or more governmental and private universities and colleges offering baccalaureate nursing programs across the country.

These programs use a variety of teaching and learning settings including classroom, hospital, health centers, clinics, and public health care agencies. The course content of the baccalaureate programs are grouped into three central categories: basic courses, supportive courses, and professional courses. Basic courses, supportive courses, and professional courses have a total of 19, 26, and 104 credit hours respectively. The total of 149 credit hours/4320 academic hours includes 1696 hours of theory and 2624 hours of practicum.

Learners who accomplish these credit hours are awarded the Bachelor of Nursing degree. Upon successfully achieving professional registration and licensing certificate issued by Drug Administration Control Authority and respective regional health bureau, a baccalaureate prepared nurse gets the recognition of a junior clinical professional nurse.

Master's program

In Ethiopia, a master in nursing is the highest level postgraduate program. The first Masters in nursing program started in 2009 in Addis Ababa University and later in 2011 additional masters in nursing programs launched in Mekelle, Gondar, and Jimma Universities. The goals of masters in nursing programs are to prepare expert nurses who are competent to act as nurse instructors, conduct research, influence policy, strengthen nursing leadership, and manage health care delivery settings (Esther Louise Mooneyhan, 1973; Katharan Lyman, 1961). Admission requirements for masters of nursing program include an applicant must have a bachelor of nursing or a midwifery degree, two years' work experience and a successful passing of a university designed entrance exam. The entrance exam covers critical components of nursing and public health including medical-surgical nursing, epidemiology, biostatistics, obstetric-gynecological, pediatrics nursing, community health nursing and English language. The masters of nursing program duration usually ranges from two to two and half year encompassing classroom and clinical practice program consisting of 39 credits. The program encompasses a variety of teaching and learning strategies including lecture, student seminar presentations, and group discussions. In the clinical setting, students are expected to mentor undergraduate nursing students and conduct practice related presentations.

Students have the options to select specialty programs during their masters in nursing education including, medical nursing, surgical nursing, pediatric nursing, adult geriatric nursing and maternity and reproductive nursing. Recently, Mekelle University launched a specialty program in Anesthesia to prepare nurses as anesthesia nurses. In addition, nurses have the choice to do master's in areas like infectious diseases, public health, and health service management. The master's program places heavier focus on academic preparation than clinical preparation of nurses since they are usually hired to serve schools of nursing and regional health bureau offices as experts.

Conclusion and Implications for Nursing

In Ethiopia, the major health problems are preventable communicable diseases, and nutritional disorders. Some of the non-communicable diseases are of concerns as well. The population is still faced with a high rate of morbidity and mortality contributing to poor health status. Nurses have been playing a key role in addressing the population's health related problems making them a key cadre in the health care delivery system of the Ethiopia. In general, accreditation in nursing education endorses quality and is recognized globally as an important, objective method to evaluate professional educational programs.

In addition, accreditation agencies not only find the strengths of the educational programs but also identify areas that can be used as opportunities to upgrade programs, hence, guiding program development and improving related decision making. In Ethiopia, nursing programs were formerly accredited by Minister of Health (MOH) with Drug Administration Control Agency (DACA). Currently, nursing programs are accredited by Regional Health bureau and Technical and Vocational Education and Training (TVET). In 2002, the Ministers Act 72/2002 established the health professional council, which is a regulatory and advisory body and is accountable directly to the minister of health so that the Ethiopian Nursing Association (ENA) has a member of the health professional council involved in registration and licensing of health professionals in Ethiopia but still not yet involved.

Finally, even though nursing education in Ethiopia has made remarkable progress in recent years, it is not without challenges. The first challenge faced by the nursing education is that the minimum educational requirement for a nurse to practice professionally in the health arena is very low. For nurses to develop professionally and meet the health care delivery challenges, they need to go through rigorous academic and clinical preparation.

Hence, it is proposed that MOH with MOE consider the baccalaureate degree as the minimum educational requirement for professional nursing practice to be at par with international nursing education standards. Second and the timely challenge is that there are limited career pathways for professional nurses to pursue after completing their professional nursing education. For nurses to engage in research and hospital based quality improvement projects, to develop leadership skills and to impact the quality of care they need to be prepared at a doctoral level (Ph.D., and DNP).

Ethiopian nurses' engagement in the development and application of nursing knowledge will not only impact nursing practice but also improve the quality of nursing education. Additionally, it will open up the venue for Ethiopian nurses to collaborate with scholars around the world on matters that are pressing to global health. To meet the health care and professional nursing career demands, the Ethiopian nursing education system needs to be reformed, hence, governmental and health sectors related institutions in collaboration with the Ethiopian nursing association and international governmental and non-governmental organization need to make strides towards doctoral education for nurses.

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Author's contribution

YG, AN, MA, AT and NAMAC has made extensive contribution to conception, written, design, acquisition of data, drafting the manuscript or revising it critically for vital logical content. Finally, all authors read and approved the final manuscript.

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REFERENCES

- Abdurahman Ali, 2011. The History of Nursing in Ethiopia, Nursing History Review 19: 158–160)
- Amsale Cherie, Hussen Mekonen and Tsehay Shimelse ; 2006, Introduction to Professional Nursing and Ethics; Addis Ababa University In collaboration with the Ethiopia Public Health Training Initiative, The Carter Center, the Ethiopia Ministry of Health, and the Ethiopia Ministry of Education
- Bankston, J. 2013. We Visit Ethiopia2013: Mitchell Lane Publishers, Incorporated.
- Bauduy, L. 2008. The educational system in Ethiopia, in International Education Association of South Africa–IEASA 12th Annual Conference South Africa.
- Baumann, A. and Blythe, J. 2008. "Globalization of Higher Education in Nursing". *The Online Journal of Issues in Nursing*, 13(2).
- Bethabile Lovely Dolamo and S.K. Olubiyi, 2013. Nursing education in Africa: South Africa, Nigeria, and Ethiopia experiences. *International Journal of Nursing and Midwifery*. 5(2): p. 14-21.
- CSA, C.S.A., The 2007 Population and Housing Census of Ethiopia. Statistical Summary Report at National Level, 2008, Ethiopia: Central Statistical Agency.: Addis Ababa.
- Esther Louise Mooneyhan, 1973. Curriculum Guidelines for Preparation of the Comprehensive Nurse in Ethiopia: Indiana University.
- Esther Louise Mooneyhan, 1973. Curriculum Guidelines for Preparation of the Comprehensive Nurse in Ethiopia: Indiana University.
- Forums, S.M. 2008. The History of Ethiopian Nurses Association (ENA).
- Frenk, J., Chen, L., Bhutta, Z.A., Cohen, J., Crisp, N., Evans, T. *et al.* 2010. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *Lancet* 376: 1923-58.
- Hegarty, J., Walsh, E., Condon, C. and Sweeney, J. 2009. The undergraduate education of nurses: looking to the future. *Int J Nurs Educ Scholarsh*, 6: Article 17.
- Karen Salmon & Gutema Keneeni; Student Nurses' Learning on Community-Based Education in Ethiopia; Education for Health, Vol. 17, No. 2, 2004, 172 – 182
- Katharan Lyman, 1961. Basic Nursing Educational Programs; World Health Organization: Genève.
- Katharan Lyman, 1961. Basic Nursing Educational Programs; World Health Organization: Genève.
- Marcus Longley, Christine Shaw, and G. Dolan., Nursing:: Towards 2015, in Alternative Scenarios for Healthcare, Nursing and Nurse Education in the UK in 2015 2007 UK.
- MOH, 2010/11 – 2014/15. Health Sector Development Program IV, 2010: Addis Ababa.
- Nuria Sanz, 2012. Human origin sites and the World Heritage Convention in Africa.
- Oz'anic', I. 1961. Nursing in Ethiopia:The Ethiopian Nurses Association, Addis Ababa.
- Pankhurst, R. 1991. An Introduction to the Medical History of Ethiopia1991: Red Sea Pr (May).
- Review, W. P. 2014. Ethiopia Population 2014.
- Spitzer, A. and Perrenoud, B. 2006. Reforms in nursing education across Western Europe: implementation processes and current status. *J. Prof Nurs.*, 22: 162-71.
- Tsehaie Yohannes, 2002. Factors That Promoted or Limited the Development of Education In Ethiopia: A Historical Perspective; United States International University, Graduate School of Education, San Diego.
- TVET, E. 2012. System Model Curriculum Health Care Giving Level II Based on Occupational Standard (OS) January Adama.
- TVET, E. 2012. System Model Curriculum Health Care Giving Level III Based on Occupational Standard (OS). January Adama.
- TVET, E. 2012. System Model Curriculum Health Care Giving Level IV Based on Occupational Standard (OS). January Adama.
