

Original Research Article

Benchmarking Naturopathy Education; Comparing the Indian and Ghanaian Curricula

ABSTRACT

Ghana has developed two significant programs for modern naturopathic education in Africa.

Comment [h1]: please describe briefly what research methods have been used in this study

This success story makes Ghana one of the first countries in the West African sub-region to promote and advocate for the standardized structured naturopathic practice. This also makes Ghana join the likes of countries with a well-defined Naturopathic education such as South Africa, India, North America, and the like. In the case of South Africa, the Naturopathic program is offered at the School of Natural Medicine at the University of the Western Cape, a public institution. However, in the case of Ghana, there is a dedicated university for the promotion of naturopathy and Holistic Health programs. This, therefore, makes Ghana the first on the African continent to have a dedicated university to teach Naturopathy and Holistic Medicine. With a team of Naturopathic and Biomedical Science professionals in both clinical and academic practice, the Nyarkotey University College of Holistic Medicine & Technology (NUCHMT) provided a roadmap in this area. National Occupational Standard was further developed at the Higher National Diploma (HND) and Bachelor in Naturopathy and Holistic Medicine approved by the Commission for Technical and Vocational Education and Training (CTVET) for training two different cadres of Naturopathic Professionals. The HND aims to train Naturopaths and Bachelors to train Naturopathic Physicians. As part of training professionals to meet

international standards, the curricula were benchmarked as part of approval requirements. In this paper, we undertook an in-depth curricula evaluation and comparison with the Ghanaian Bachelor of Naturopathy and Holistic Medicine and the Indian Bachelor of Naturopathy and Yogic Sciences(BNYS).

Keywords: Naturopathy, Ghana, Indian, Nyarkotey, Bachelors

Introduction

In India, the guidelines for Naturopathic Practitioners' registration and Accreditation of naturopathy institutions document define Naturopathy as[1]: “drugless, non-invasive, a system of therapy involving the using of natural materials in its treatments based on the theory of vitality, the theory of toxemia, the theory of the self-healing capacity of the body and the principles of healthy living.”

In Ghana, there has been some light shed on the Ghanaian law definition of Naturopathy as espoused in the Traditional and Alternative Medicine bill[2]. The bill defines Naturopathy as a system of healthcare usually drugless, which uses a wide variety of therapies including hydrotherapy, heat, massage, nutritional supplements, and herbal medicines with the purpose of stimulating optimum functioning of the whole person and supporting the person's own innate healing capacity.” Additionally, the bill explained what constitutes “natural forces” in law and states: “means energies derived from light, heat, air, water, and physical manipulations that are used to stimulate the immune system to treat diseases[2]”

The manifesto of the British Naturopathic Association also states[3]:“Naturopathy is a system of treatment which lays emphasis on the existence of the vital curative force within the body.”

The Ministry of AYUSH[4] also defines Naturopathy as the most ancient health care mechanism

Comment [h2]: what does the mean "as" mean in this sentence?please correct the wording in this paragraph

that amalgamates modern scientific knowledge with traditional and natural forms of medicine”.

This exposition means that modern naturopathy foundation is clothed with modern science with natural therapies. Naturopathy, therefore, believes in the healing power of nature, Naturopathy stimulates the human body’s ability to heal itself. It is the science of disease diagnosis, treatment, and cure using natural therapies including dietetics, botanical medicine, homeopathy, fasting, exercise, lifestyle counseling, detoxification, and chelation, clinical nutrition, hydrotherapy, naturopathic manipulation, spiritual healing, environmental assessment, health promotion, and disease prevention. Naturopathic practice is therefore eclectic and jurisdiction plays an integral role in shaping naturopathy to meet modern healthcare standards.

Naturopathic education is pivotal in reshaping modern Naturopathy. It takes the efforts and leadership of modern Naturopathic leaders to help streamline the profession.

In the case of Ghana, Nyarkotey University College of Holistic Medicine and Technology (NUCHMT) took the bold step to change the naturopathic education status quo. The college, a private initiative is devoted to higher education in Competency-Based Training (CBT) in the field of Naturopathic and Holistic Medicine[5].

The college in collaboration with the Commission for Technical and Vocational Education and Training(CTVET) team developed Ghana’s first Higher National Diploma and Bachelor of Naturopathy and Holistic Medicine for the Ghanaian Naturopathic Community. In the case of India, there has been Naturopathic education for years. Rajiv Gandhi Health University is the foremost standardized university which is taken as guidelines for registration and also policy making[6].

National Institute of Naturopathy (NIN)[7], Pune, revised the Bachelor of Naturopathy and Yogic Sciences (BNYS) syllabus, to standardize BNYS syllabi with uniform durations and

course contents across the country in 2012. It was implemented by Rajiv Gandhi University of Health Sciences (RGUHS) in the academic year 2013-14. Given new regulations, University restructured the BNYS course and issued an ordinance year-wise of the course in 1996. The present volume is published incorporating the amendments made by the National Institute of Naturopathy, Pune, to the regulations of the BNYS course and the addition of certain topics to the syllabi, as well as a change in duration from 5 years to 5½ years which includes 1-year internship program. Hence, we found the need to compare the Ghanaian Bachelor of Naturopathy and Holistic Medicine to the National Institute of Naturopathy (NIN), Pune, revised Bachelor of Naturopathy and Yogic Sciences (BNYS) syllabus being used at Rajiv Gandhi University of Health Sciences (RGUHS), in this research.

Comment [h3]: what research problem? what solutions can be offered? why choose this topic? please explain clearly

Methodology

We conducted a comparative document examination of the National Institute of Naturopathy (NIN)[7], Pune, revised Bachelor of Naturopathy and Yogic Sciences (BNYS) syllabus, which is being used at Rajiv Gandhi University of Health Sciences (RGUHS) in the academic year 2013-14. Given new regulations, University restructured the BNYS course and issued an ordinance year-wise of the course in 1996. The Ghanaian Bachelor's naturopathic curricula were approved in 2021 by the Commission for Technical and Vocational Education and Training (CTVET) and are being implemented by Nyarkotey University College of Holistic Medicine & Technology (NUCHMT) promoter of modern naturopathy in Ghana and West Africa for the academic year 2023-2024.

Comment [h4]: what type of these research? what is the research variable? how to collect and process the data? Please explain clearly

Results

Comparison of the Indian and Ghanaian Bachelors Naturopathic Medicine Curricula

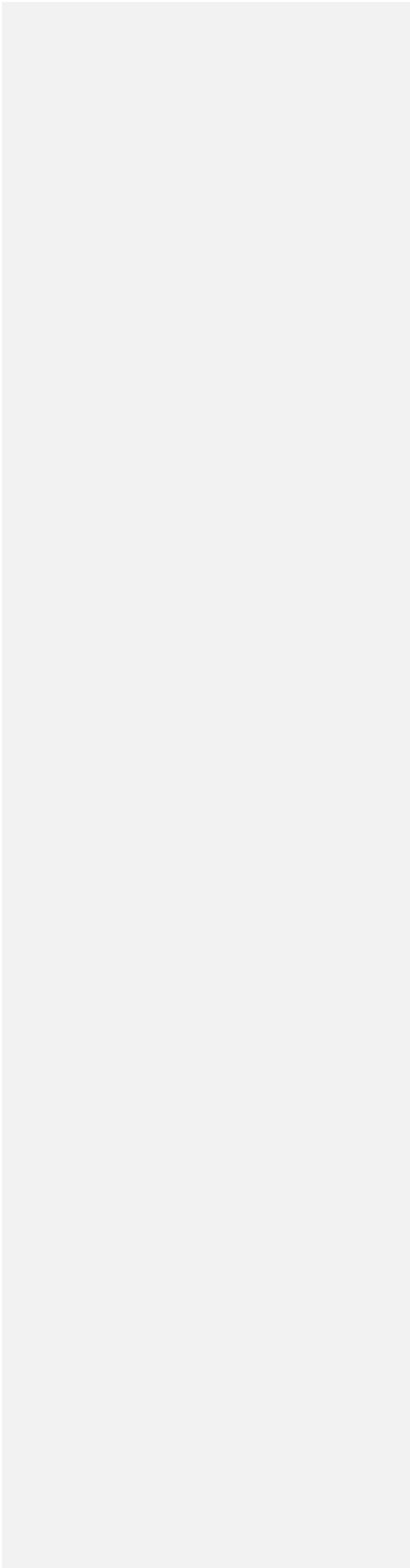
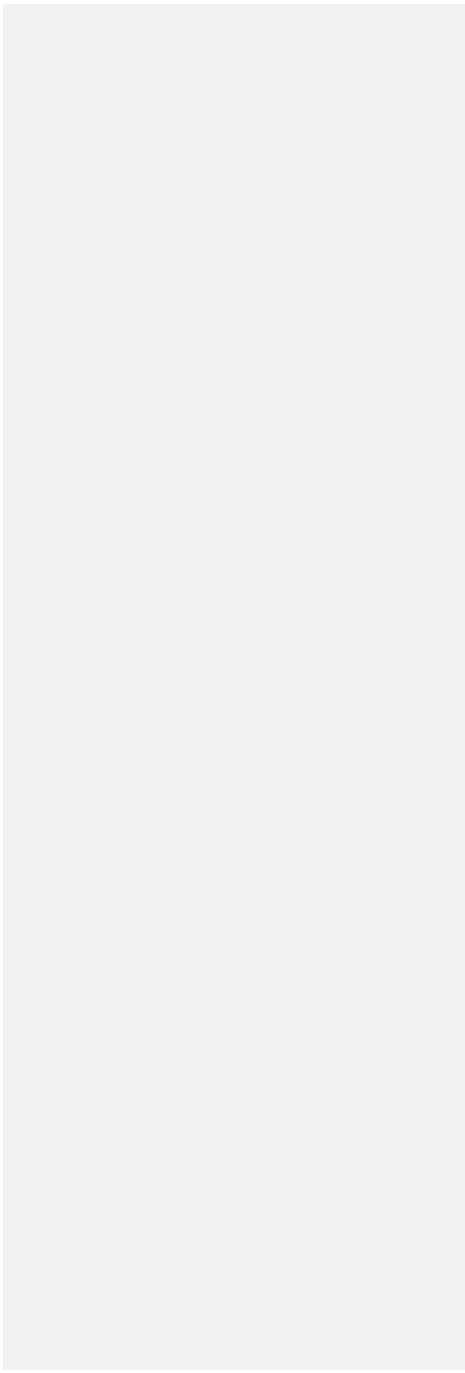


Table 1: Outline of the course content for the Indian (BYNS) and Ghanaian Naturopathic Medicine Programme (Btech)

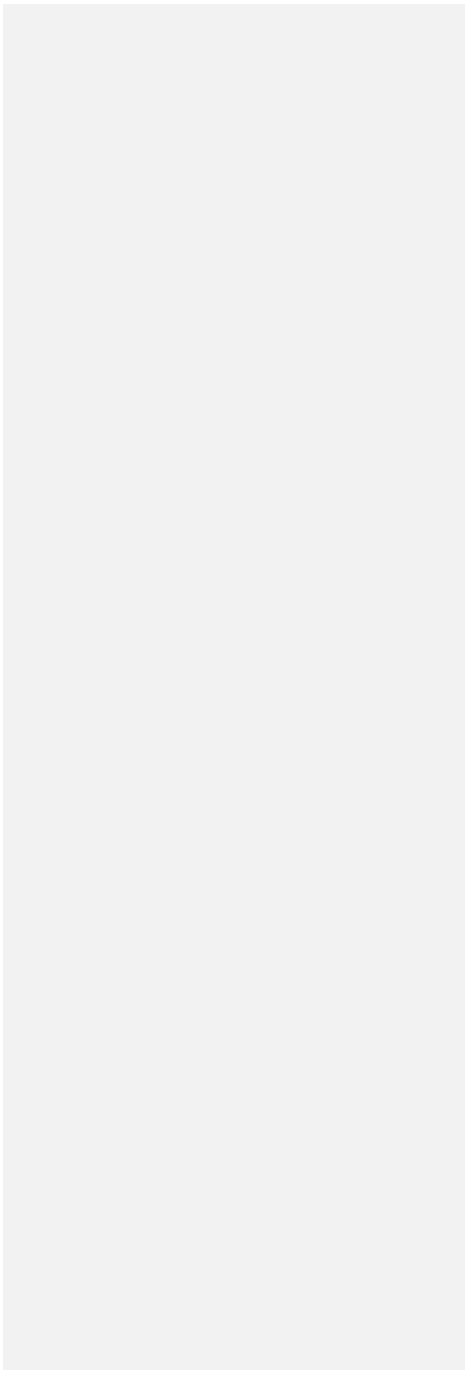
BACHELOR OF NATUROPATHY & YOGIC SCIENCES INDIA		BACHELOR OF TECHNOLOGY NATUROPATHY & HOLISTIC MEDICINE-GHANA	
Course Title	Course Title	Course Title	Course Title
YEAR 1 SEMESTER 1 & 2	YEAR 3 SEMESTER I & II	YEAR 1 SEMESTER ONE	YEAR 3 SEMESTER ONE
Anatomy I	Manipulative Therapies	Anatomy I	Public Health & Health Promotion
Anatomy II	Acupuncture & Acupressure	Physiology I	Laboratory Investigation I
Physiology I	Yoga & Its Applications	Pathology I	Clinical naturopathy II
Physiology II	Nutrition & Medicinal herbs	Medical Terminology	Biostatistics and Bioinformatics
Biochemistry	Diagnostic Methods-I (Naturopathy)	Healing Systems I	Internal Medicine I
Philosophy of Naturopathy	Diagnostic Methods -II (Conventional Medicine)	Naturopathic History, Philosophy	Clinical Nutrition I
Principles of Yoga	Psychology & Basic Psychiatry	Principles, and Theories I	Applied Nutrition
Sanskrit (Non-Exam)		African Studies/ICT	
YEAR 2 SEMESTER 1 & 2	YEAR 4 SEMESTER I & II	YEAR 1 SEMESTER TWO	YEAR 3 SEMESTER TWO
Pathology	Fasting Therapy & Dietetics	Anatomy II	Internal Medicine I
Microbiology		Physiology II	Clinical Nutrition I
Community Medicine		Pathology II	Homeopathy I
Yoga Philosophy		Chemistry & Biochemistry I	Herbal Medicine I
Basic Pharmacology		Naturopathic History, Philosophy	Naturopathic Physical Medicine I
		Principles, and Theories II	Detoxification, Hydrotherapy, and

Colour Therapy and Magneto biology Forensic Medicine & Toxicology	Obstetrics & Gynecology Yoga Therapy Hydrotherapy & Mud Therapy Physical Medicine & Rehabilitation First Aid and Emergency Medicine Clinical Naturopathy Research Methodology & Recent Advances	Healing Systems II First Aid & Emergency Medicine YEAR 2 SEMESTER ONE Health Communication and lifestyle counseling Microbiology & Parasitology I Clinical Examination/doctoring skills Chemistry & Biochemistry II Naturopathic History, Philosophy Principles and Theories III Medical Humanities Traditional Chinese Medicine/Acupuncture	Toxicology Clinical Training I Nutrigenomics & Nutrigenetics YEAR 4 SEMESTER ONE Internal Medicine II Clinical Nutrition II Homeopathy II Herbal Medicine II Naturopathic Physical Medicine II African Naturopathic Pharmacy Ayurveda Clinical Training II YEAR 4 SEMESTER TWO Pharmacognosy Research Methods/project writing Bach Flower Remedy Mind Body Medicine Functional and Integrative Medicine Medical Law and Ethics
	YEAR 5 COMPULSORY INTERNSHIP PROGRAM		
	Each successful trainee who completes the core subjects of the BNYS Course will undergo clinical training with		

	<p>provisional registration provided by State AYUSH Boards.</p>		<p>Therapeutic Exercise and Massage Clinical Training III</p> <p>YEAR 5 COMPULSORY INTERNSHIP PROGRAM</p> <p>Each successful trainee who completes the core subjects of the BTech Course will undergo clinical training with provisional registration provided by the Traditional Medicine Practice Council(TMPC) of the Ministry of Health, the caretaker body of CAM in Ghana based on the Ministerial directive used in 2010.</p> <p>There is also a professional qualifying Examination(PQE) to be conducted by the Council to</p>
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			<p>graduands known as the Ghana Naturopathic Physicians Qualifying Exams, a replica of the North American NPLEX model.</p>
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	<p>YEAR 2 SEMESTER TWO</p> <p>Microbiology & Parasitology II</p> <p>Pharmacology &Pharmacotherapeutics</p> <p>Neuroscience</p> <p>Naturopathic Assessment and Diagnosis</p> <p>Applied Nutrition</p> <p>Clinical Naturopathy I</p> <p>Entrepreneurship and Health Administration</p>
<p>BNYS-Rajiv Gandhi Health University</p> <p>CTVET Bachelors-Nyarkotey University College of Holistic Medicine & Technology</p>	

Comment [h5]: the table is written not neatly, please correct it according to the journal guide

Discussion

The Indian BNYS has total clock hours of 6525 for a 4 ½ + 1-year internship program at the faculty level[7]. The Ghanaian Bachelor of Technology Naturopathy and Holistic Medicine has a total of 5,979 for a five-year duration. Four years at the faculty level and one year of mandatory supervised clinical training[8]. In the case of the India program, the first-year BNYS is 1½ years duration and consists of pre-clinical subjects and subjects describing Yoga and Naturopathy principles, Anatomy, Physiology, Biochemistry, Philosophy of Naturopathy, Principles of Yoga, and Sanskrit.

The Ghanaian program also has the following subjects in the first year: Anatomy, Physiology Pathology, Medical Terminology, Healing Systems, Naturopathic History, Philosophy Principles and Theories, Chemistry and Biochemistry, First Aid and Emergency Medicine, African Studies, and Information Communication Technology(ICT).

Second-year BNYS is of 1-year duration and consists of Para-clinical subjects and subjects describing philosophies of Yoga and Naturopathy clinical subjects, Pathology, Microbiology, Community Medicine, Yoga Philosophy, Basic Pharmacology, and Colour therapy, and magneto biology. The second year of the Ghanaian program also consists of the following subjects and is one duration. Health Communication and lifestyle counseling, Microbiology & Parasitology, Clinical Examination/doctoring skills, Chemistry & Biochemistry, Naturopathic History, Philosophy Principles and Theories, Medical humanities, Traditional Chinese Medicine/Acupuncture, Pharmacology & Pharmacotherapeutics, Neuroscience, Naturopathic Assessment and Diagnosis, Applied Nutrition, Clinical Naturopathy and Entrepreneurship, and Health Administration.

Comment [h6]: I don't see any discussion here, just describing the results, please add a discussion according to the topic being discussed, please use references from the latest scientific journals

Third-year BNYS is of 1-year duration, and consists of Para-clinical subjects and Yoga and Naturopathy clinical subjects, Forensic Medicine and Toxicology, Manipulative Therapies, Acupuncture and Acupressure, *Yoga* and its applications, Nutrition and Medicinal Herbs, Diagnostic Methods (I and II) Naturopathy and Conventional Medicine, Psychology and Basic Psychiatry, and Fasting therapy and Dietetics. The third year of the Ghanaian program is also a year duration with the following subjects: Public Health & Health Promotion, Laboratory Investigation, Clinical naturopathy, Biostatistics and Bioinformatics, Internal Medicine, Clinical Nutrition, Applied Nutrition, Homeopathy, Herbal Medicine, Naturopathic Physical Medicine, Detoxification, Hydrotherapy, and Toxicology and Nutrigenomics & Nutrigenetics.

The final year of BNYS is of 1-year duration, and consists of clinical subjects and Yoga and Naturopathy clinical subjects Obstetrics and Gynecology, *Yoga* therapy, Hydrotherapy and Mud therapy, Physical Medicine and Rehabilitation, First Aid and Emergency Medicine, Clinical Naturopathy and Research Methodology, and Recent Advances. The Ghanaian final year program contained the following subjects: Internal Medicine, Clinical Nutrition, Homeopathy, Herbal Medicine, Naturopathic Physical Medicine, African Naturopathic Pharmacy, Ayurveda, Pharmacognosy, Research Methodology/project writing, Bach Flower Remedy, Mind Body Medicine, Functional and integrative Medicine, Medical Law and Ethics, Therapeutic Exercise and Massage. The fifth year in the Ghanaian program is for the mandatory clinical training which is structured into two parts: The first part exposes the students to the mainstream

and allied health sciences and the second part exposes the students to the Naturopathic sciences. The students undertake six weeks of departmental rotation in obstetrics and gynecology, surgery, pediatrics, and general medicine in the designated government hospitals. The naturopathic rotation also exposes them to homeopathy, traditional Chinese medicine/acupuncture, herbal medicine, physical therapies, and many more.

The Indian clinical training is scheduled into monthly departmental areas. A candidate after passing the final B.N.Y.S. Medical Degree Examination shall undergo the compulsory rotatory internship of one-year duration, which shall consist of work/duty postings in the following sections/departments for the period specified against them. Below is the Indian structure:

Table 2:

S.No.	Department	Duration
1.	Philosophy of <i>Yoga</i> and Naturopathy	1 Month
2.	<i>Yoga</i> and Mind-Body Medicine	1 Month
3.	Pathology and Microbiology	1 Month
4.	Community Medicine	1 Month
5.	Energy Medicine	1 Month
6.	Manipulative Therapies, Physical Medicine & Rehabilitation	1 Month
7.	Fasting, Dietetics, Nutrition, & Medicinal Herbs	1 Month
8.	Diagnostic Methods	1 Month
9.	Obstetrics & Gynecology	1 Month
10.	Hydrotherapy & Mud Therapy	1 Month
11.	Naturopathic Medicine	1 Month
12.	Allied Health Sciences	1 Month

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	TOTAL	12 Months
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Credit: Bachelor of Naturopathy & Yogic Sciences (B.N.Y.S.) Five and half years' Undergraduate Medical Degree in Yoga and Naturopathy (2014) Rajiv Gandhi University of Health Sciences (RGUHS) Revised Ordinance Governing

The difference between the Indian and Ghanaian programs is that the first year is extended in the Indian BYNS program for additional 6 months. The Indian BYNS revised course contents contain the following subjects: Pharmacology, Forensic Medicine and Toxicology, Sanskrit, Principles of Yoga, Herbology, Clinical Naturopathy, Psychology, and Basic Psychiatry, Clinical Naturopathy, Research Methodology, and Recent Advances as well as medical ethics. The Ghanaian curriculum was developed and approved in 2021 by the Commission for Technical and Vocational Education and Training (CTVET).

Conclusion

The Ghanaian Naturopathy and Indian Programs both have many similarities with biomedical and naturopathic knowledge. Unlike the Indian BYNS, the Ghanaian program is based on Competency-Based Education (CBT) which brings flexibility for students and practitioners to choose any subject to end award. Indian program is based on the traditional system of education where exams are conducted. In CBT, there are no arranged examinations. It is whether the student achieved or not achieved a particular module.

BNYS in India is structured in such a way that theory: practical is 60:40 ratio in every clinical

subject right from their third and the fourth year of BNYS while the last year is devoted as 8 hours of a clinical internship program to be undergone after successful completion of the core subjects until fourth BNYS. A student is required to pass all subjects in a single attempt in the final year and clear all pending subjects until the fourth year which will enable the student to undergo an internship. To start an internship or fifth BNYS, every successful BNYS pass out is required to apply for provisional registration (something like a learner's license) with their state AYUSH board and after securing that provisional registration he/she could start his internship program which lasts for 365 days. After successful completion of the internship he /she could apply for his degree certificate with the university and also he/she would be eligible to apply for a state/ central registration/ practice license. Without a state/central registration/practice license no doctor is allowed to carry out any clinical practices.

In the case of Ghana, a student is supposed to achieve a particular module or subject before moving on to the next subject or module. CBT delivers similar to the Indian 60:40; practical and theoretical. CBT is hands-on and practically oriented. Students also undertake compulsory supervised clinical training in the fifth year after achieving all modules. Each successful trainee who completes the core subjects of the BTech Course will undergo clinical training with provisional registration provided by the Traditional Medicine Practice Council(TMPC) of the Ministry of Health, the caretaker body of CAM in Ghana based on the Ministerial directive issued in 2010. The Bachelor's certificate is awarded by the Commission for TVET for the academic aspects.

Ghana has a professional qualifying Examination(PQE) to be conducted by the Council to graduands with the proposal name Ghana Naturopathic Physicians Licensing Exams(GNPLEX),

a replica of the North American Naturopathic Physicians Licensing Examination(NPLEX) model.India is currently considering such a national Naturopathic Physicians examination in the National Commission of Yoga and Naturopathy bill if passed in Parliament.

Comment [h8]: the conclusion in this manuscript is too long, it is enough to present the main purpose of this study whether it has been answered in the hypothesis or research question

References

Comment [h9]: too few references for a scientific journal, please add the latest references that can enrich the discussion

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