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HIV/AIDS Education in Traditional Indian Systems of Medicine: Faculty Perspectives

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Abstract

Background and objective: There are over 500 colleges within the Indian System of Medicine and Homeopathy (ISM & H) that includes Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy (AYUSH). Therapies from AYUSH are widely utilized throughout India for both acute and chronic illnesses and may be an important source of care for HIV-infected individuals. This qualitative study documents faculty perspectives within AYUSH institutions of higher learning to understand how the etiology, diagnosis and treatment of HIV/AIDS is taught within their curriculum.

Methods: Thirty-three faculty and student informants from five AYUSH institutions in Pune and one College of Siddha in Chennai were interviewed from June 2009-August 2010. Topics included etiology, pathogenesis, diagnostics, treatment and management of HIV/AIDS within each system.

Results: Thematic analysis revealed that although generally biomedical textbooks were used to provide the background training on HIV/AIDS and diagnostics, the pathogenesis and symptomatology allowed the disease entity to fit into established disease concepts within the relevant AYUSH system. Each AYUSH system viewed HIV as an amalgam of conditions and abnormal lifestyles leading to the disease. In general, in AYUSH, there was greater reference to religion and a moral component in disease management and prevention. Faculty from Ayurveda, Unani and Siddha faculty stressed the need for positive health promotion through lifestyle changes in diet and adherence to healthful daily routines. AYUSH faculty believed in referring patients to biomedicine for antiretroviral therapy (ART), although indicated that alternative treatments may be provided in addition to ART.

Conclusions: There is no formal inclusion of AYUSH treatments within the national Indian HIV health policy, yet AYUSH practitioners exceed that of medical doctors. Greater efforts are needed to identify areas of collaboration between experts in biomedicine and AYUSH medical systems in India.

Keywords: Complementary and alternative medicine & HIV/AIDS; HIV/AIDS; HIV/AIDS teaching; Indian traditional medicine; Traditional medicine; ISM&H

Introduction

In India, HIV-infected individuals face numerous challenges in their search for treatments. Currently, western allopathic medicine (hereinafter 'biomedicine') offers antiretroviral therapy (ART) for HIV/AIDS and associated co-morbidities that have prolonged survival and improved quality of life [1-3]. Estimates of ART coverage are between 39%-54% and significant numbers of HIV-infected individuals continue to explore alternative treatment options due to ART toxicities, resistance and associated expenditures [4-7]. The Indian System of Medicine and Homeopathy includes multiple medical systems as Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homeopathy (AYUSH) and has existed for centuries before the rise of biomedicine. While there is a dearth of current data available, it is estimated that almost 65% of India's rural population uses AYUSH for primary health care [8] and 70%–80% of the general population uses AYUSH at some point [9-11]. In recent years the numbers of registered AYUSH practitioners have begun to decline (after experiencing a peak in 2010) but are still roughly equal to the number of biomedical doctors at over 600,000 for the country [12-14].

In areas of medical innovation and expertise, it is generally accepted that academic institutions are most likely to have consolidated, reviewed and tested the most effective approaches to healing. Institutes of higher learning for AYUSH are well established throughout India, with over 254 Ayurvedic medical colleges, 185 Homeopathic colleges, nearly 40 Unani colleges and 7 Siddha colleges [15]. The objective of this paper is to document the role of AYUSH for HIV/AIDS in India from the perspectives of faculty and students within a sample of institutions of higher learning.

Methods

Study design

Qualitative methods were used to interview 26 faculty and 7

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students from five AYUSH institutions in Pune, Maharashtra (three Ayurvedic, one Homeopathic and one Unani College) and one Siddha College in Chennai, Tamil Nadu. The 33 key informants were from a range of departments and included department heads, professors, lecturers and students with at least two years of learning. The faculty and students were chosen based on their knowledge of HIV/AIDS education or clinical exposure to HIV-infected patients.

All interviews were conducted by trained data collectors using structured discussion guides and written consent was obtained from all respondents. Interviews were taped if prior consent was obtained. Interview guides were prepared for each branch of alternate medicine after several consultations with the collaborating AYUSH faculty from Pune.

Period

Data collection was purposive and carried out between June 2009 and August 2010 in Pune and Chennai, India with the following number of interviews: Ayurveda: 11 faculty and 3 student; Homeopathy: 9 faculty and 1 student; Unani: 5 faculty and 1 student and Siddha: 1 faculty and 2 student. If there was difficulty in understanding certain concepts at the time of transcription, participants were contacted for a second interview to seek clarifications. Translated transcripts were used for analysis from these interviews. Secondary data such as course plans, syllabi, degree programs, textbooks, etc. were also reviewed.

Data processing and analysis

Every interview was read twice and a summary of its salient points made along with the background information of the respondent. Using these summaries, a master list of codes was drawn up separately for each alternate system of medicine. Coding of the interviews and qualitative data analysis was done manually by two coders. Reliability testing was done on 10% of the interviews and discrepancies were reviewed and resolved through discussion. Data were coded, codes were grouped into categories and emerging themes were then identified iteratively following the general principles of grounded theory [16]. Results are presented as broad themes related to the relationship between biomedicine and AYUSH as well as specific data on the nature of the teachings of HIV/AIDS within AYUSH.

Ethical approval for study

This study was approved by the HMSC and the ethical committees of BJ Medical College and Sassoon General Hospitals, Pune, India, YRG Foundation IRB, Chennai, India and the Johns Hopkins IRB, USA.

Results

The role of biomedicine in AYUSH is central in the teaching of HIV/AIDS

There has been intention to integrate biomedicine within AYUSH in India by teaching the principles of the former to the graduates of AYUSH and vice versa [17]. AYUSH systems are required by the national government to cover certain 'biomedical concepts' including cell biology, germ theory and immunology. In addition, many students of Ayurveda and Unani intern for about six months, at a biomedical hospital. Ayurvedic and Unani practitioners are fully licensed to practice and prescribe medicines both from Ayurveda/Unani and biomedicine.

Respondents confirmed that students are given a background in the biomedical understanding of HIV, including modes of transmission, pathogenesis and prevention. However, they emphasized that this information was to supplement the specific AYUSH conceptualizations of HIV infection, so that students can have a fundamental grasp of the principles of biomedicine in order to function effectively in India's modern medical system. HIV is a new disease and is therefore not mentioned in any of the classic texts on which these systems are based and none of these systems utilize the concepts of infection and germ theory to explain the etiology of specific diseases. While students are taught the basics of biomedical therapy, patients are advised to visit a biomedical physician for ART.

Ayurvedic principles for the treatment and management of HIV

Explanation of HIV etiology: In Ayurveda, the concept of AIDS falls under decreased immunity by disturbances in *dhatu, dosha, Agni* (biological energy system of the body responsible for transformation as the various enzymes present in the elementary canal, liver and the tissue cells that helps with all kinds of metabolic and digestive activity of the body), and *mala* (waste products). The *dhatu*, responsible for overall process of regeneration of all the tissues in the body (governs or controls phenomena of cell reproduction), is also co-related with the pathogenesis of HIV/AIDS. In the case of HIV the initial imbalance in the body is thought to come from improper sexual behavior that oversteps the normal guidelines established in the Ayurvedic treatises.

Improper sex that oversteps the guidelines of *brahmacharya* is defined as 1) sex with too many partners, promiscuity 2) sex without urge 3) sex with an inappropriate partner (such as a commercial sex worker) and unnatural sex (such as between two men). There is also the concept of "*Sadvartan*" (good behavior) that is taught to first, second and third year students.

Diagnostic tools and treatment: The Ayurvedic diagnostic approach is independent of a patient's HIV status and does not depend on laboratory tests or imaging. It consists of patient's history and physical exam from which a practitioner infers the state of the *doshas*, *dhatu* and *Agni* in a patient. Then, along with medicine, the patient is counseled about the "*Aahar*" (diet), so that many follow "*Pathya*" (Things we should eat that would be helpful to our constitution) and "*Apathya*" (Things we should avoid eating as they could be harmful to our constitution) diet. Patients are also told about "*Vihar*" (behavior, movement).

Relevant curriculum: Most faculties expressed that Ayurveda has expanded to include newer or emerging infections such as HIV and AIDS that are generally discussed for two or three lectures. Students are taught the diagnosis, clinical features, treatment and management of the disease using both biomedicine and Ayurvedic principles in their undergraduate years.

Unani principles for the treatment and management of HIV

HIV etiology: Before HIV was properly understood among Unani physicians, it was considered an *Amraz-e-Zohriya* (Peeth), a venereal disease. *Zohriya* translates as backside, since HIV was originally a disease of homosexual men and hence this disease was placed in this category.

The Unani faculty generally accepts the biomedical model of HIV etiology as the correct way to interpret disease causation. The term *Qillat-e-Manaat* (immunity power) was in use long before the discovery of the immune system or the development of germ theory, and was originally used to simply denote someone who seemed to get sick more than was normal. When dealing with HIV in the present day,

many Unani physicians (hakims) will send patients for a laboratory test of CD^{4+} counts and then will use the results as a more quantitative indicator of the patient's *Qillat-e-Manaat*. Faculty indicated that Unani attaches a negative moral appraisal to all sexually transmitted infections (STI) and considers them a punishment for improper sexual behavior.

Diagnostic tools and treatment: Unani students are taught to fit HIV into the humoral theory of disease. Most of the Unani physicians agree that imbalance of the humor blood causes HIV infection; however, the symptoms a patient presents will determine particular diagnosis and treatment and may differ by individual. Additional supports include: 1) Cupping (*Hijama*) given to alleviate pain 2) *Maqqavi Aza-e-Raeesa advia* tonics to support vital organs and immunity and 3) *Ilaj-bil-giza* special diet therapy.

Relevant curriculum: HIV is included in the curriculum during the pathology course, first when the students discuss the etiology of the cold, wet temperament (*balgham*) with which HIV is usually associated, and when students discuss immunity problems or *Qillat-e-Manaat*. There is also time set aside to address HIV as a specific disease. This is done from a biomedical approach, and then again from a Unani approach as part of the section on STIs. Students learn about the Unani concept of pathology, based around the theory of four humors and an individual's temperament. In general, HIV is usually associated with a switch in a person's temperament towards one that is colder and wetter, more phlegmatic, as patients usually present with cough and cold.

Siddha principles for the treatment and management of HIV

HIV etiology: HIV is taught as "*vettai noi" or 'theivu noi"*. From the original Siddha literature, *Theivu Noi* "will make our body to give up all good cells". This disease will make the body "like a dry tree". Other names mentioned are: "*vellai noi, mega noi"*. *"Vellai"* is white discharge and "*mega noi*" is an STI. Faculties also mention male and female genital disorders of 21 types, most of which are caused due to wrong diet and excessive sex causing depletion of *prana* (life force). By stating this, Siddha medicine does not mean to judge people or make a moral stand but it is argued that meaningless sex depletes a person emotionally, physically and spiritually. It emphasized that the fundamental concept of the body's immunity is heavily depleted by excess indulgence as stated by the Siddhars. Siddhars have evaluated that Azhal thathu (same as dhatu) is responsible for the defense of the body.

Diagnostic tools and treatment: In response to general treatment for HIV that includes other chronic illnesses, a faculty detailed that a primary treatment includes *Rasa Gandhi Melugu,* a mercury preparation with some additional 40 drugs. Other drugs like Kodiveli, (*Plumbago zeylanica Linn*, belonging to the family Plumbaginaceae), *Panaivellam* (palm jaggery), Garlic, Sukku (dry ginger), *Melagu* (wax), and *Thippili* (Indian long pepper or piperum longum) are also added to that so it comes into a form of *melugu*. Rasam means mercury and Kandhagam means sulphur that is used as broad spectrum antibiotic. The need to enhance immunity in the body, through diet and medication was also stressed.

Relevant curriculum: There is no specific place for the teaching of HIV in the Siddha curriculum. However, there is a special out-patient department for HIV-infected persons and students are taken to observe the wards. Undergraduate students are usually taught the basics about HIV in their final year. Mostly the focus is on prevention, since that is thought more important than understanding what is needed for a cure. For example, adolescents are counseled practice abstinence to focus on their career since HIV "will spoil the future". Use of condom and clean needles is also mentioned.

Homeopathic principles for the treatment and management of HIV

HIV etiology: The concept of HIV etiology is the same in homeopathy and biomedicine except that infection occurs when the vital force is weakened. The faculty interviewed identified the major difference between homeopathy and biomedicine as different approach to treatment, rather than different explanations of biological phenomena. Homeopaths place emphasis on the supposed miasm (susceptible constitutional types) when treating a patient, and will identify the miasm based on the symptoms that are presenting at the time, rather than on the diagnosis of a particular disease such as HIV. HIV is considered a mixed miasm disease, with different miasms presenting at different times depending on the characteristics of the patient.

Diagnostic tools and treatment: Homeopaths use both case histories and biomedical laboratory tests to track the progress of HIV treatment. There is no such homeopathic medicine "for" HIV. The prescription of medications is based only on a patient's presenting symptoms, not on the presence of the virus. The strength of the vital force or the susceptibility governs whether a person will contract HIV, when and how opportunistic infections will manifest, and when a patient will progress from HIV to AIDS.

Relevant curriculum: Most of the information students receive about the conceptualization and management of HIV under the AYUSH systems comes from their professors' own understanding, journal articles, booklets published by faculty members and websites or are interpreted from the AYUSH reference books. In Homeopathy, HIV is formally discussed under the section for skin and venereal diseases. Students learn the pathology of HIV from a biomedical perspective. The clinical features of HIV are discussed in the subject of Medicine, including presenting symptoms, etiology, common complications and aspects of prevention.

'Morality' and 'class' of society and HIV in India

One interesting finding that emerged during the in-depth interviews from all the examined medical systems was the 'moral' and religious association with HIV and its spread. According to one Ayurvedic respondent, an important way to way to reduce HIV "is imparting education about moral values." When asked about preventive measures used in their field, a Homeopath says: "basic ethics, condom" When asked if an entity such as HIV or AIDS exists in Unani: "This entire thing (HIV) is in Unani, it is sexually transmitted, it is there, and if it is done with the wrong female or male, 80% people gets that who does wrong. We have gonorrhea, syphilis in the main diseases here and we correlate it with this and according to that, and it is a punishment to that person that he cannot save his life".

Discussion

A growing number of studies have investigated the role of AYUSH for HIV/AIDS [6,18-23] but few have examined AYUSH educators understanding of HIV/AIDS [24] despite the fact that AYUSH practitioners nearly equal that of biomedical doctors.

The proportion of HIV-infected adults who access traditional medicines in developing countries is estimated to be very high [6,7,21,22,25]. Across all AYUSH systems, biomedical concepts were central to the teaching and discussion of HIV/AIDS. While each

AYUSH system begins with grounding in biomedical theory and treatment, these concepts are placed within the larger construct of their specific medical tradition. AYUSH systems teach students about HIV/AIDS using biomedical texts and tools diagnostics but have found a place in their own texts to support the causation and treatment of the various symptoms that are manifested in HIV-infected individuals.

The systematic nature of learning and practice in each AYUSH tradition differs from what has been reported elsewhere where HIV is a significant public health issue [26]. However, the curriculum on HIV/AIDS with AYUSH institutions is still developing and relies in large part on the faculty efforts to incorporate this information in their training.

Each AYUSH system focuses on understanding a deeper root cause of disease that exposes patients to infection or disorder, generally referred to as "vital force" that leave a person susceptible to disease. Although treating disease in the biomedical sense may ameliorate symptoms, it does nothing to correct the vital force itself and therefore does not address the true cause of illness, leaving the patient open to relapse or future infection [27]. While vital force many be considered generally by the biomedical community to correspond to the strength of the immune system, vital force is much more encompassing with respect to the overall health of the person and includes both body and mind. This more holistic view of the body thus lends itself to public health directives that include an array of moral and lifestyle choices.

The idea of moral or lifestyle choices that have led to the vital force imbalance is not for the purpose of condemning individuals who are ill; on the contrary, it is designed to help ameliorate the spread of illness and disease due to risky health behaviors. However, due to the language used to discuss these issues, it is likely that the biomedical public health community will have the concern of moral judgment and discriminatory actions that may result. In addition, while no faculty expressed the relationship between health and religion, the links between living a 'moral' life according to ancient teachings remain.

On the other hand, the integral nature of AYUSH traditions to consider both mind and body as well as clear directives for lifestyle choices may be more effective for patients to understand, manage and treatment their ailments. The long history of Indian medical traditions, dietary suggestions, and lifestyle directives are well imbedded in much of Indian culture. The biomedical public health community could certainly benefit from this more holistic approach. Based on faculty reports, there are many AYUSH treatments that appear to demonstrate positive impacts on individuals infected with HIV. For example, Rasa Gandhi Melugu, which is used effectively in Siddha medicine is widely available in both powder and pill form. There is evidence of limited efforts to examine potential Ayurvedic, Homeopathic and Siddha medicines [23,28-31] and considerable financial and management support is still needed to conduct systematic research.

Limitations and Conclusions

While this study has been able to elucidate some important aspects of the role of AYUSH systems for the management and treatment of HIV/AIDS in India, there are still several limitations. Primarily, we investigated only a few AYUSH institutions in Maharashtra state and 1 Siddha institution in Tamil Nadu. However, we believe that this study is the first of its kind to examine AYUSH traditions from the perspective of the faculty and students from institutions of higher learning. Moreover, all the Colleges of Indian Systems of Medicine are affiliated to various Universities in the Country. These Colleges are following the minimum standards of education and Curricula and Syllabi, prescribed by Central Council. Revision and updating the Curriculum and Syllabus is a regular process and CCIM aims to achieve quality education and best standards for ISM students.

Additional research is needed to examine specific formulations that hold promise of enhanced immunity and possible interactions between traditional formulations and ART. Further, AYUSH's holistic approach that focuses on improved lifestyle and dietary choices may be an important complement to existing biomedical treatments. Greater efforts are needed to identify areas of collaboration between experts in biomedicine and AYUSH systems in India.

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