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STUDENT'S AND TEACHER'S PERSPECTIVE OF AYURVEDA SYSTEM OF MEDICINE AND ITS CHALLENGES

Jaiswal Kalpana Motilal[1], Shah Charusmita[2], Gogate Varsha[3]

[1]BAMS,MD Professor and Head, Dept of Rognidan and Vikritivigyan, Jupiter Ayurveda Medical College , Shankarpur,Nagpur India

[2]BAMS, Panchakarmalogist and General ayurvedachary, Amravati, Andhra Pradesh, India

[3]BAMS,MD, Professor and Head, Dept of Dravyaguna, Jupiter Ayurveda Medical College , Shankarpur Nagpur, India

ABSTRACT

Background: Ayurveda system of medicine is indigenous to India but is recognised world-wide. At the same time it is being perceived in several differing ways. There is paucity of information regarding the perception of this system of medicine by the students and faculty of ayurveda.**Objective**: The aim of the present study was to evaluate the opinion of ayurveda students perusing the course of Bachelor of Ayurveda Medicine and Surgery (BAMS) and teachers teaching in the Ayurveda institute regarding ayurveda education and challenges faced by them. **Materials and Methods:** A cross-sectional, observational, questionnaire based study conducted in respondents of 22 ayurveda colleges/universities of central india recognised by Central Council of Indian Medicine (CCIM). **Results:** The mean scores for both the groups are greater than 3 for all the 19 items in three different tables, indicating an inclination towards agreement for different issues by the participants. The highest mean item score was for 'Less number of authentic websites providing updated knowledge in Ayurveda hosted by ayurvedic institutions is found in literature.' Significant difference of opinion was found between teachers and students regarding agreement of some statements like 'A small number of Ayurveda academicians voluntarily participate in international platforms to present their research data.' This may be due to experience of teachers in their long tenure. **Conclusions:** From the present study we find both teachers and students are concerned with job prospects and certain other issues in great field of ayurveda which needs to be addressed urgently and measures to be taken by the authority to increase the longevity of ayurveda .

Keywords: questionnaire based study, job prospects in ayurveda, issues in ayurveda

INTRODUCTION

In India with a rural population of 68.8%, affordable and effective health care is still beyond the reach of vast sections of the population. In November 2009, the Government of India has taken a step to promote "Indian Systems of Medicine" by the promotion of ayurveda, yoga and naturopathy, unani, siddha and homeopathy. India is known for its traditional medicinal systems—Ayurveda, Siddha, and Unani. These systems are found mentioned even in the ancient Vedas and other scriptures. The Ayurveda concept appeared and developed between2500 and 500 BC.in India [1].The literal meaning of ayurveda is "science of life," because it focuses on health care focused on views of man and his illness. Perceptions about ayurveda in

India and overseas have undergone a remarkable change during the last 20 to 25 years. A large population from all over the world is attracted towards the herbal drugs because it is considered free from side effects . '*Panchakarma* therapy' in ayurveda is getting good response. There are many reports of usage of Ayurveda medicines globally in literature.[2] The major pharmaceutical firms have changed the marketing strategies and they have 'ayurvedic sections.' Recently many licensed Ayurveda pharmacies have come up with a large turn over, which accounted for nearly a third of the total pharmaceutics business of the country.[3] Many medical schools and other institutes all over the world have started offering some degree or diploma in ayurveda. Several reputed international journals have started publishing literature related to Ayurveda. Even the people with no formal ayurveda education have started showing interest in authoring books and research papers on ayurveda.[4] Ayurveda is being seen as a rich resource for new drug development by modern day pharmacologists.[5]

On the contrary, questions on safety and efficacy of Ayurveda products are also being raised. Some papers published in international journals revealed that some marketed herbal products contained potentially harmful levels of heavy metals[6,7,8,9].Consequently certain countries curtailed the import of Ayurveda preparations from India The National Policy on Indian Systems of Medicine and Homeopathy, 2002 is not assured about quality of Ayurveda drugs being manufactured.[10] The number of colleges imparting formal education in Ayurveda has increased after 1980. Though the Central Council of Indian Medicine (CCIM) has implemented various educational regulations to ensure minimum standards of education, there has been growth of sub-standard colleges, this may be due to liberal permission by the state Governments.[11]

Very few studies report about opinion of faculty of Ayurveda [12)]. Considering all the above facts and paucity of information regarding the perception of this system of medicine by the students and faculty of ayurveda the present study was to planned to evaluate the opinion of undergraduate ayurveda students and teachers teaching in the Ayurveda institute regarding Ayurveda education and challenges faced by them.

MATERIAL AND METHODS The study was carried out after approval from the Ethics Committee. This was a survey-based study in which a self -developed pre-validated questionnaire consisting of both open-ended and close-ended items was used. Study population (respondents) consisted of two groups.

1. Undergraduate ayurveda students perusing the course of Bachelor of Ayurveda Medicine and Surgery (BAMS) from colleges/universities recognised by CCIM and who have successfully passed their third professional BAMS examination were included in the study
2. Teachers working in Ayurveda colleges/universities recognized by CCIM who possess at least a MD or BAMS/ equivalent degree were included in the study.

   Thus teachers and students of 22 Ayurveda colleges of central India were included in the study.

Exclusion criteria:

1. Students who have not yet passed their third professional examinations were excluded from the study to avoid possible immature and biased perceptions

Written informed consent of all participants was taken and they were informed

about the nature of the study and also they were made aware about their voluntary participation and concealed identity.

Duration of study was from July 2010-Dec-2011.

Preparation of the Questionnaire

A preliminary list of items was prepared on the basis of interactions we had with the students and teachers of several educational institutions. Diverse sources of literature like reports of various committees, journals, news reports, national health policy documents and other articles were referred to for collecting the items.

The questionnaire consisted of three parts.

1. Demographic information of participants
2. Questions seeking knowledge of Job prospects after BAMS', 'Entrepreneurship' and 'Global challenges'
3. Offer their own suggestions/remarks apart from answering the questions.

The questions in second section consist of 7 point likert scale, 1 meaning absolutely disagree and 7 meaning absolutely agree. The participants were asked to by record a check mark (√) in the respective column provided for the purpose.Respondents were also allowed to offer their own suggestions/remarks apart from answering the questions. Information was obtained by a direct face-to-face interview or by post. The questionnaire was first pretested in five participants, and suitable modifications were accordingly done. Appropriate instructions about filling the questionnaire were given.

Statistical analysis

At the end of the study, all the data were pooled and expressed as counts and percentages. Graph pad prism software version 5.01 was used to analyze data. A value of $P < 0.05$ was considered as statistically significant

RESULTS: Table 1 shows the demographic characteristics of participants. A total of 400 participants from 22 institutes responded to the questionnaire. The response rate for the student group was 63.75% and for the teacher group it was 36.25%. This number included 255 students and 145 teachers. Among the respondents 55.6% were men and 44.4% were women. 63% of the participants were aged <40 years and 37 %were >40 yrs of age.

Table 2 indicates replies of the participants to the statement related to the 'Job prospects after BAMS'. Table 3 shows responses of the participants to the objects related to the 'Entrepreneurship /Business opportunities' after the BAMS course. Table 4 shows responses of the participants to the items related to the issues concerned with Ayurveda .The Mean ±SD scores of Individual statements was calculated. Mean item scores ranged from 3.53 to 6.05 on the 7- point likert scale. As per the scoring pattern followed in the study, the Mean ± SD scores greater than 3.5 indicate a tendency towards agreement whereas the mean scores lesser than 3 indicate a tendency towards disagreement. Furthermore the mean scores greater than 5 indicate a strong tendency towards agreement. The result shows mean scores for both the groups are greater than 3 for all the 19 items in three different tables, indicating an inclination towards agreement for different issues. In table 4 both the students and the teachers show a strong tendency towards agreement of different issues.

Table 1: Demographic characteristics of respondents

Characteristics	percentage(*n*=400)
Age	
<40yrs	63
>40yrs	37
Gender	
Men	55.6
Women	44.4
Designation	
Students	63.7
Teachers	36.3

Table 2: Indicates replies of the participants to the statement related to the 'Job prospects after BAMS course'

Sr no	Statements	Students (n=255)	Teachers (n=145)	P value
1	BAMS graduates and post-graduates are not the first choice as medical officers in govt hospitals as compared to MBBS graduates	4.34±0.83	4.69±0.81	0.004
2	BAMS graduates and post-graduates are not the first choice as medical officers in multi-speciality private hospitals as compared to MBBS graduates	4.31±0.88	4.43±0.87	0.016
3	In Ayurveda educational institutions only post-graduate doctors are employed and not BAMS degree holders because of less sanctioned posts	4.17±1.06	3.86±1.16	0.013
4	Most of the Ayurveda research institutions prefer post-graduate doctors and therefore job opportunities for undergraduate(BAMS) in these institutions are limited.	4.16±0.83	4.36±0.73	0.004
5	Even in government sector BAMS graduates/post-graduates are not treated at par with MBBS graduates and therefore job opportunities are limited in certain sectors e.g. railways,factories	4.53±0.61	4.70±0.71	0.003
6	Ayurveda pharmaceutical firms prefer post-graduate candidates to BAMS degree holders as experts.	3.53±0.66	4.05±0.80	0.021

The mean scores for both the groups are given , mean score >3.50 correlates with agreement

Unpaired't' test used

Table 3: Responses of the participants to the objects related to the 'Entrepreneurship /Business opportunities' after the BAMS course.'

Sr no	Statements	Students (n=255)	Teachers (n-=145)	P value
1	Students are not trained in management skills required to introduce a new Ayurveda centre/*panchakarma* center/Ayurveda pharmacy after BAMS course	4.09±0.72	4.56±0.98	0.004

2	Students are not exposed to the fundamentals of monetary aspects related to healthcare sector during BAMS course.	4.02±0.69	4.23±0.77	0.003
3	Students are not exposed to knowledge of ayurvedic pharmaceutics/marketing and therefore unable to explore pharmaceutical industry and placements in these multinationals.	4.08±0.89	4.38±0.80	0.001
4	Students are not introduced to the skills related to the management of health tourism and consequently not exposed to emerging opportunities in this field during BAMS course	4.18±1.05	4.32±084	0.003
5	Students are not exposed to agricultural and marketing aspects of medicinal plants making it difficult for them to go for cultivation or marketing of these herbs	4.39±0.67	4.22±075	0.002

The mean scores for both the groups are given , mean score >3.50 correlates with agreement

Unpaired 't' test used

Table 4: Responses of the participants to the items related to the issues concerned with Ayurveda

Sr no	Statements	Students (n=255)	Teachers (n=145)	P value
1	Queries are being raised on the safety profile of ayurvedic preparations in some countries including India posing a menace to the Ayurveda system of medicine.	4.33±0.02	4.01±0.03	0.003
2	Standardization of ayurvedic preparations is still a problem that needs to be addressed seriously	3.67±0.78	4.06±0.18	0.004
3	Possible entry of foreign universities in India may pose a threat to the existing educational institutions.	4.34±0.88	4.45±0.07	0.002
4	Few Ayurveda academicians figure in authoring the scientific and evidence-based papers in reputed national/international journals	4.03±0.55	5.59±1.01	0.0053*
5	Ayurveda scholars are not exposed to knowledge regarding 'Intellectual Property Rights' and other patenting procedures	4.09±0.03	5.01±0.89	0.001
6	A small number of ayurvedic academicians voluntarily participate in international platforms to present their research data.	4.58 ± 1.69	5.31 ±1.55	0.0052*
7	Less number of authentic websites providing updated knowledge in Ayurveda hosted by ayurvedic institutions. is found in literature	5.87±0.68	6.05 ±0.85	0.0489*
8	Few standard indexed and peer-reviewed journals are published by ayurvedic institutions making it difficult for ayurvedic researches have global attention.	4.44 ± 2.15	5.02± 1.81	0.0487*

Mean score >4.0 correlates with agreement .Unpaired't' test used .* P value<0.05,statistically significant

DISCUSSION:

Ayurveda finds an important place in the health care system of India, since the government here has taken a step to endorse 'Indian Systems of Medicine', by the promotion of Ayurveda, yoga, unani, siddha and homeopathy(AYUSH).It is relevant to conduct such a study in our set up as it might help initiate a thinking process within the Ayurveda fraternity about different issues related to their field. The present study mainly explored the perceptions of the final BAMS students who are the future health care professionals and teachers training them .

Job opportunities

The observations related to the section of job opportunity questionnaire indicate that there is a real problem related to the job prospects for BAMS graduates. The tendency for agreement towards all the items related to job is more among teachers than the students. This means that teachers perceive this problem to be a more serious one in comparison to pupils. Kishore Patwardhan et al, who reported in their study that students feel the magnitude of this problem to be higher, indicates that students are more concerned about job. From our findings we can say teachers are worried about the placements of students perusing BAMS due to upcoming saturation in job sectors. The Government should give priority to this subject and sanctioned posts in government and private Ayurveda hospitals covering rural and urban areas. This will also promote AYUSH and improve health care services In teaching institutions too, more posts of post-graduates and teachers(class I and class II) should should be created which will definitely improve imparting education of Ayurveda and research activities. If the quality of education is improved, some job opportunities may open up in research institutes and in other places in the healthcare industry as well. The teachers and students also feel the need of exposure to marketing strategy of Ayurveda drugs so that there is career in this sector.

Entrepreneurship/Business Opportunities

The observations related to the section of entrepreneurship opportunity questionnaire indicate that participants feel that they are not trained / exposed to management skills monetary aspects and marketing skills. Unlike conventional medicine, pharmaceutics has been a part of Ayurveda education in India in the form of 'Rasashastra'. There is a need of training to be imparted in the basic knowledge related to pharmaceutical industry during graduate level Ayurveda education. Furthermore, ayurvedic pharmaceutics is based on a large number of medicinal plants and the basic knowledge related to the cultivation and marketing of these plants is required to be passed on during Ayurveda education. This will make a BAMS graduate have a lot of employment opportunities other than private practice. But, as the table 3 suggests, such entrepreneurship opportunities are scarce for BAMS graduates because of poor training during their education. As a solution, some basic management skills that are essentially required to launch a new Ayurveda hospital / *Panchakarma* center / Ayurveda Pharmacy etc, may be included in the curriculum. Also, basic cultivation and marketing aspects of medicinal plants are needed to be introduced at BAMS level.

Global Issues

As the Table 4 shows, both the students and the teachers show a strong tendency towards agreement that the issues related

to safety profile and standardization of Ayurveda products are serious ones. Also, there is a general tendency towards agreement that Ayurveda academicians figure less in authoring the scientific and evidence-based papers in reputed national/international journals and hence could not present their research work on platforms . These findings are coinciding with results of other studies. For the following three statements as shown in table 4 there is statistical difference between responses by teachers and students . 1)'A small number of Ayurveda academicians voluntarily participate in international platforms to present their research data' 2)'Less number of authentic websites providing updated knowledge in Ayurveda hosted by Ayurveda institutions is found in literature.'3)'Few standard indexed and peer-reviewed journals are published by Ayurveda institutions making it difficult for Ayurveda researches have global attention'. This difference of opinion may be due to more experience of teachers of their field and they are now facing the lacunes of their stream. The respondents agree to the statements which state that the current curriculum of BAMS/MD does not include the relevant and essential topics like laws governing the intellectual property rights, patenting procedures ,basic methods of standardization of medicinal products, fundamental principles of evaluating the toxicity of the medicinal products and basics of pharmacovigilance. All above problems can be resolved by increasing the continued medical education (CMEs) in form of seminars, conferences, workshops where Ayurveda academicians are taught to follow international standards while planning the protocols of research projects and while writing research reports. In such activities Ayurveda scholars can peruse knowledge regarding 'Intellectual Property Rights' and patenting procedures also.

The present study reveals that participants feel that few authentic websites providing recent advances in Ayurveda are available. In this regard, the educational institutions are required to be encouraged to host authentic websites giving information related to various aspects of Ayurveda. More classical textbooks of Ayurveda may also be made available online at these websites along with the information related to recent advances. The government should take initiative in this regard and launch many more authentic websites. A significant number of participants in the study tend to agree that limited standard national/international indexed and peer-reviewed journals are published making it difficult for Ayurveda researches have world-wide attention to their research. However, recently, some journals have been launched which is a welcoming change. National Institute of Ayurveda (NIA), Jaipur and Institute of Post-Graduate Teaching and Research in Ayurveda (IPGTandRA), Jamnagar have launched their own peer-reviewed journals which is a positive sign. The department of AYUSH has recently taken initiative in this regard by launching an online journal A majority of students and teachers in the present study tend to agree that safety of Ayurveda formulations are yet to be established making it difficult for experts in conventional medicine to accept Ayurveda. Some of the suggestions offered by the respondents in section three were as follows 1)incorporation of the basic topics related to these issues into the curricula of BAMS and post-graduate courses of ayurveda which will help the graduates and post- graduates of ayurveda to carry out research work efficiently 2)Incentives in the form of credit hours should be given for attending CMEs,

workshops and conferences which will compel the students to attend these activities and also keep them updated.

CONCLUSIONS

To, conclude, this study reveals that both teachers and students are concerned about job prospects in field of ayurveda. The participants strongly agree that the issues related to safety profile and standardization of Ayurveda products are serious ones. They also agree to the fact that Ayurveda academicians figure less in authoring the scientific and evidence-based papers in reputed national/international journals. Imparting training as mentioned above will be beneficial to overcome the drawbacks.

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CORRESPONDING AUTHOR

Dr Jaiswal Kalpana Motilal
Professor, and Head, Dept of Rognidan and Vikritivigyan,
Jupiter Ayurveda Medical College , Shankarpur,Nagpur, India
Email: kalpanajaiswal777@yahoo.com

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