**Ayurveda Education in India: Addressing the human resource issues for assuring the qualitative gains**

**Abstract**

During past few decades, Ayurveda took great strides to gain a global popularity. Its growth during the same time in terms of its qualitative delivery of health care and education however had not been promising. Ayurvedic education across the country is strikingly marked with qualitative and quantitative deficits of human resource eventually giving out the suboptimal delivery. Those who are in are unable to deliver to their fullest extent on account of limitations related to exposure, capacities, skills and working environments. In India efforts are continuously made to promote Ayurveda among common people by increasing its visibility, much is left to be done to improve the quality of its actual delivery. A quality driven human resource development had been one most neglected area in policies related to Ayurveda, accounting for its dismal show at the fronts like Ayurvedic education, practice and research. Ayurveda in India is still striving to achieve the minimal standards in all such areas through its countrywide institutional net work. Uncertain career opportunities, poor recruitment and discriminatory promotional policies, erratic salary structures, meager opportunities for early and mid career advancements and negligible resources for in job skill enhancements are the reasons of underutilization of human resource in Ayurveda. Ayurveda teachers further suffer with an identity crisis for being misfit in the community of higher education or of medical education. Eventually, they lose the privilege of sharing the legacy of being the part of these teaching communities without finding any such privilege adhered to their own community.

Ayurveda can genuinely be promoted only through showing its strength via tangible and dependable delivery endorsing its own principles. Teachers as the service providers and educators are the real stakeholders who can take this charge of carrying Ayurveda forward.

Teachers are the spine of any step related to qualitative benchmarking of Ayurveda in the national or the global scenario and hence their miseries and misappropriations are needed to be accounted and addressed well. Ayurvedic teachers are needed to be nurtured for allowing them to bloom to their fullest potential to become an enthusiastic and self motivated crusader fighting for the cause of Ayurveda.

1. **Introduction**

Ayurveda education and consequently its practice and research in India are facing a big human resource crisis. This crisis is multidimensional spanning through the spectrums of its quality and quantity. Ayurveda educational institutions in the country by and large have shown over 50 % deficit in their total teaching faculties required comprising mainly of the higher faculties. Comptroller and Auditor General of India (CAG), 2018 report on social, general and economic sectors in National Capital Region points out a soaring 37-52% deficit in the sector. ( 1) A recent two year moratorium on the opening of new AYUSH colleges announced by Ministry of AYUSH, Govt. of India although aims to stop mushrooming of substandard colleges, it also has to do with the human resource crisis in Ayurveda. (2) Multitudes leading to the countrywide human resource crisis in Ayurveda education include uncertain career opportunities, poor recruitment policies, erratic and malignant growth of new institutions, poorly operating career growth and enhancement opportunities and discriminative salary structures in the sector across the country. Private educational institutions barring a few, have made the scenario worst by setting the higher standards of faculty exploitation and no actual role to play in quality driven Ayurveda education.

Besides the crisis of numbers, the quality of what is delivered is more worrisome. Education in Ayurveda is therefore facing dual strains in terms of its quantity as well as quality and ultimate utility. (3) The quality of Ayurveda education and its eventual utility has been brought under the scanner many times and suggested for large scale reforms. Such reforms however are needed to be looked beyond curricular and pedagogic reforms and to heed seriously at the human resource management reforms. ( 4)

In modern India, due to the poor career opportunities associated with Ayurveda, for a young higher secondary student seeking a career in health care, Ayurveda rarely arrive as a primary choice. Ayurveda is largely disowned as a pragmatic career option and this feeling of disowning do not change much even when someone picks Ayurveda in the absence of finding any better opportunity. The distraction continues during the course of the studies and often spans up to the professional levels where people holding responsibilities in Ayurveda are found not truly connected with the subject.

For a post graduate student of Ayurveda, in the absence of other promising opportunities, teaching comes as a default choice to ensure their livings. Obviously, many who choose teaching as a profession in Ayurveda, do not necessarily do this out of passion, inclination or motivation towards the subject and its teaching but rather do it as a survival exercise. This may not be much difficult to speculate the outcome of the scenario where education is imparted by the unwilling teachers. (5, 6) We are enumerating, in forthcoming passages, various human resource related issues affecting the quality of education in Ayurveda and subsequently have suggested few possible remedial measures required to be taken to improve the scenario.

1. **Ayurveda education in India: Current infrastructure and governance**

With a large congregation of undergraduate and post graduate colleges, India is the largest Ayurveda related human resource producer in the world. There are 338 under graduate Ayurveda colleges in the country having yearly intake capacity for 21387 students. Similarly, 138 Ayurveda colleges in the country have post graduate teaching facilities with intake capacity for 4269 students. Ayurveda educational institutions in the country have grown by 7.2% in number in last 25 years (1992-2017). (7 ) Ayurveda education delivery in the country is regulated by Central Council of Indian Medicine (CCIM), functioning as a statuary body responsible for standards and uniform deliverance of Ayurveda education in the country. CCIM executes its function by enacting regulations which are mandatory in nature for every educational institution belonging to Ayurveda. Infrastructural requirements including the human resources needed to run an Ayurvedic teaching institution are determined and regulated by CCIM through its minimum standard (MSR) guidelines. Such MSR however is supposed to be the guiding principle determining the bare minimum needs to ensure the basic standard of teaching in an Ayurvedic institution.

**2.1 Standardizing Ayurveda education through appropriation of Human resources: Minimal faculty requirements and teacher-student ratio**

To ensure quality driven education in Ayurveda, Indian Medicine Central Council (Post Graduate Ayurveda Education) Regulations, 2016 (8) proposed the faculty requirement in PG education proportionate to the number of intake capacity in respective PG departments. Teacher – student ratio is recommended to be 1:1 for lecturer, 1:2 for reader and 1: 3 for professor respectively. Taking this ratio as the primary parameter for quality of Ayurveda specialty education, considering 4269 PG students getting enrolled in a year, we may require 4269 lecturers, 2134 readers and 1423 professors to comply with teacher student ratio as proposed by CCIM.

Although, any such teacher student ratio is not proposed for the undergraduate education in Ayurveda, Indian Medicine Central Council (Minimum Standard Requirements of Ayurveda Colleges and attached Hospitals) Amendment Regulations, 2013 ( 9) identifies the need of minimum 27 faculties to run an undergraduate college in Ayurveda for less than 60 students. Out of these faculty positions, minimum 12 are required to be from the higher faculties (reader or professor). Calculating the minimum faculty requirement in Ayurveda UG colleges considering them having the minimum intake capacity, 9126 teachers are minimally needed of which 4056 are needed to be the higher faculties. For the convenience of calculation, if we equally divided the higher faculty needs among readers and professors, we need 2028 each as reader and professors (Table 1). Summing the needs of UG and PG education together, about 16979 teachers are needed to fulfill the minimal requirements of UG and PG education of Ayurveda in the country and of whom 3451 professors are needed to comply with the existing minimal norms . This may be a great revelation that in 2019, the number of total teachers on role is just enough to meet the bare minimum necessities of running a college without looking at actual deliverance of the quality ( Table 2) ( 10 ). We wish to reiterate that we are talking here about the bare minimum needs to run a college. Obviously, the quality of education with minimum number of faculties cannot be equated with the quality of education if greater numbers of faculties are available in a college to share their wisdom with the students.

**Table 1. Postulated minimal faculty requirements in existing Ayurveda teaching institutions as per the current CCIM norms**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Number of existing colleges | Minimum number of required lecturers | Minimum number of required readers | Minimum number of required professors | Total faculty positions minimally required |
| UG colleges | 338 | 5070 | 2028 | 2028 | 9126 |
| PG Colleges | 138 | 4296 | 2134 | 1423 | 7853 |
| Total |  | 9366 | 4162 | 3451 | 16979 |

Table 2. Actual Number of existing teachers in Ayurveda Institutions (Session 2019-2000)

|  |  |
| --- | --- |
| Faculty Position | Number |
| Lecturer | 8116 |
| Reader | 4645 |
| Professor | 3953 |
| Total | 16714 |

**2.2 Handling the faculty deficit: CCIM and administrative approaches**

Faculty deficit in Ayurveda educational institutions is rampant despite the large number of qualified post graduates from various specialties passing out every year. Recognizing the faculty deficit , CCIM MSR 2013 granted special relaxation allowing the colleges to operate despite them not meeting the desired faculty numbers. The colleges were therefore allowed to run with 90 % of the faculties needed as per the MSR. Sustained unavailability of qualified professionals in various subject areas to be taught in BAMS courses compelled the appointing authorities to make interim arrangements such as cross appointments between concerned and allied subjects, increasing the age for retirement till 65, filling the posts on contractual basis as a stop gap arrangement and opening the academic positions for people from research. Such approaches although served to relieve the crisis temporarily, it also delayed the effective actions aiming to finding the causes and to eradicate the problems.

Despite such flexible measures, over 80 % senior teaching positions in Ayurvedic colleges in India are still lying vacant. Faculty deficit therefore emerged as one single largest factor for non grant of permission to run an Ayurvedic institution in India. In 2018-19 alone, over 26% Ayurveda colleges across the country have not been granted to operate on account of their severe faculty deficit. (11 )

**2.3 Finding the most suitable: Essentials and desirables needed for Ayurveda teachers**

CCIM in furtherance to its powers of assuring quality education in Ayurveda prescribed the minimum qualifications and experience required for various teaching positions. To become a teacher in Ayurveda at its entry position, a post graduate qualification in the concerned subject is the minimum required. For higher faculty positions, additional teaching / research experience and publications are required which are 10 years and 5 papers in case of professor and 5 years and 3 papers in case of associate professor. The publications are required to be from recognized journals although CCIM do not explains what it considers to recognize a journal. ( 12 ) For administrative positions like Director, Principal, Hospital superintendent or Dean, no specific desirables are recommended by CCIM and their requirements are similar to what is needed to become a professor.

What actually missing in the current method of faculty recruitment in Ayurveda is to see the real teaching acumen of the candidates. Desirables like experience in teaching, research and publications although appear as filters to choose the one with desired abilities, in the absence of clear and focused guidelines, this also serve as a a bonus for candidates who have accumulated experience from private institutions and have published in predatory journals or in mass media. ( 13 ) This is obvious to see that unless the mechanisms to appraise the quality of experience and publications in terms of ‘what published?’ and ‘where published?’ is developed, such parameters will remain deceptive for their ability to work as benchmarks of qualities desired in an aspiring candidate.

Once recruited, such candidates directly enter into the teaching profession without getting oriented to teaching methodologies. Magnanimous technological advancements have occurred in teaching methods recently. Unless the aspiring teachers are exposed well to such technologies, they may not efficiently use their knowledge and skills to spread the knowledge of Ayurveda. Subject related competence of the recruits also becomes a matter of concern in the absence of appropriate mechanisms to improve the competence, what delivered remains of questionable quality.

**2.4 Recruiting Ayurveda teachers: Discrepancies across the country**

Although CCIM had set its own recommendations about recruitment of Ayurveda teachers for different levels, various universities, states and center follow their own policies on such matters. For example All India Institute of Ayurveda (AIIA), an apex post graduate teaching and training center for Ayurveda has set its rules for recruiting the faculty positions much higher than what are laid by CCIM.( 14 ) AIIA justifies its higher entry benchmarks by proposing it a super specialty teaching institution at par with AIIMS. This is however noteworthy to see that barring a huge infrastructure comparing to other Ayurveda institutions in the country, nothing like a super specialty currently exists at AIIA in either of the domains of education, practice or research in Ayurveda.

The experience of recruiting faculties at AIIA has shown that conventional static filters like entry level qualification, experience and number of research publication do not work efficiently to screen the most promising candidates among all and also do not eliminate the possibilities of choosing the inappropriate ones in the absence of a dynamic filter focusing upon the quality and not on the quantity.

Parameters sounding similar have also been adopted by the universities, central institutes and states with little modifications in the recruitment rules without any real idea of how to choose the best among all potential candidates.

**2.5 Inequity at workplace: salary structure of Ayurveda teachers across the country**

Despite the near uniform essentials and desirables for various teaching positions in Ayurveda proposed by CCIM, we see that salary structure in Ayurveda teaching cadre is highly discriminative across the country (Table 3) . Currently AIIA offers highest pay slab in the country to its faculties at all levels. Second in the pay slab comes the universities like Banaras Hindu University, Rajasthan Ayurveda University, Uttaranchal Ayurveda University and also the central institutes of Ayurveda like IPGT& R, Jamnagar and National Institute of Ayurveda. Following this, comes Delhi government salary structure for Ayurveda teaching faculties. States like Uttar Pradesh, Madhya Pradesh and Odisha rank lowest in the tally for offering lowest in the pay slab to Ayurveda teaching faculties. Possessing the similar essentials and desirables and holding the same rank but paid differently is inequity and against the fundamental right of ‘same rank same pay’. A lower payment for the same rank and work acts as a repulsive force hindering the people to excel in their respective fields. In the worst scenario, this also becomes a driving force for switching the jobs, places and positions for want of better opportunities.

Table 3. Salary structure of Ayurveda faculty positions at various places

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | State or Institution | Professor | Reader | | | Lecturer | |
| 1 | AIIA, New Delhi | Rs.37400-67000+GP Rs.10500(PB4)+NPA |  | Rs.37400-67000+GP Rs.9000(PB4)+NPA |  | Rs.15600-39100+GP Rs.8000(PB3)+NPA |  |
| 2 | BHU, Varanasi | |  | | --- | | PB-4 (Rs. 37400-67000) + AGP Rs. 10000/- | |  | |  | | --- | | PB-4 (Rs. 37400-67000) + AGP Rs. 9000/- | |  | |  | | --- | | PB-3, (Rs. 15600-39100) +AGP Rs. 6000/- | |  |
| 3 | Uttar Pradesh | GP 7600/- |  | GP 6600/- |  | GP 5400/- |  |
| 4 | Rajasthan Ayurveda University | Rs. 37,400 – 67,000/- + Grade Pay Rs. 10000/- |  | Rs. 37,400 – 67,000/- + Grade Pay Rs. 9000/- |  | Rs. 15,600 – 39,100 + Grade Pay Rs. 6000 |  |
| 5 | Odisha | - |  | - |  | 9300-34,800/- GP 4600/- |  |
| 6 | Delhi NCR | PB-IV Rs 37,400- 67,000 + Grade Pay Rs 8,700 + NPA ( revised) |  | PB-III 15,600- 39,100+ GP 7600 + NPA ( revised) |  | PB-III 15,600- 39,100+ GP 5400 + NPA (revised) |  |
| 7 | IPGT&R, Jamnagar | 37400-67000/- +GP 10,000/- |  | AGP 9000/- |  | 15,600-39,100/- AGP 6000/- |  |

**2.6 In job growth opportunities: How do we nurture our teachers to excel?**

How do we identify our best employees and project them as the examples to motivate others? This is a key management issue which every HR manager is well aware of. Keeping the staff motivated to perform their best and to retain them in the organization is a major task most HR managers are engaged with. A dedicated worker is an asset which no one can afford to lose.

This is interesting to see, how this human resource task is actually taken up in Ayurveda services. In majority of the states, universities and institutions, the Ayurveda teaching cadre is open vertically at the entry level and all higher positions are subsequently filled in a hierarchical manner through departmental promotions or career advancement scheme (CAS) based on performance based appraisal system (PBAS).In some states the departmental promotions are limited to 50% of the available vacancies and rest 50% are kept open to be filled laterally by direct recruitments. In principle, the exercise of recruiting the faculty either through direct means or through CAS or DPC is recommended to be done simultaneously to avoid any delay by either means. In practice, however we do not find such principles actually operating. Both of these ways of recruiting the higher faculty in Ayurveda suffer huge administrative delays and hence the higher faculties are rarely recruited in time. In states like Uttar Pradesh and Delhi, the situation is pathetic where the recruitment and promotional delays are extended to 12-15 years. The result of this short fall in faculty number comes oblivious in the form of non grant of permission to take the admissions at many colleges. Non identification and elimination of the causes of such delays and adoption of interim approaches like enhancing the retirement age, shifting the people from one place to other and contractual recruitments have only deferred the decisive actions by diluting the attention to the real crisis. This is not overemphasizing to reiterate that timely in-job career advancement is a big motivational mechanism available in the public sector. Its absence or unjustified delays triggers the demotivation and hinders the people to give their best.

**2.7 The faculty number crisis in Ayurveda: AIIA as a case study**

AIIA can be taken as a revealing case study in the context of faculty crisis in Ayurveda. AIIA started its actual functioning in 2016-17 with admission of its first batch of MD in Ayurveda. In 2018 it had 84 MD seats which is dealt by its 31 member faculty team.( 10, 15) Among the existing regular faculties at AIIA, 5 are professors, 10 are associate professors and remaining 13 are assistant professors. 3 additional are the contractual *faculties.* If the teacher student ratio for PG education in Ayurveda as proposed by CCIM is to be believed as a reliable parameter for the deliverance of quality education, AIIA would have required a battery of 154 teachers ( comprising of 84 lecturers, 42 readers and 28 professors) to meet the existing educational needs of its enrolled students. With its current strength of 31 which is 80% deficient to the actual need, the quality of education imparted at this premier institution remains questionable. The faculty crisis of AIIA therefore poses a serious question that despite its high status and best salary structure in the segment across the country, what is limiting it in meeting the desired numbers. The primary limitation seems to be about the parameters set for the purpose of faculty recruitment. Although attempts have been made to invite the people from research and analogous positions to join AIIA, it did not help much resolving the situation. The problem of higher faculty deficit seem also linked to the deficit in the feeding cadre filling the faculty position in a hierarchical manner. In states like Uttar Pradesh and many others, Ayurvedic teachers remain stagnated for long at entry positions without any career advancements. Eventually, these people, despite their rich and long experience at primary positions, and ability and willingness to join the higher positions at the places like AIIA, can’t do so for being failed in meeting the essentials required.

1. **Faculty crisis in Ayurveda : Impacts and the solutions**

Looking back at country wide faculty crisis in Ayurveda, most apparent causes seem to be the one related with delayed recruitments through vertical or lateral means and delayed or absent mechanisms of in job career advancements. Discriminative salary with poor structures in various states add further to the crisis by making the existing faculties highly demotivated. How tempting the profession of teaching in Ayurveda is? can easily be judged by a simple question if asked from the current teachers of Ayurveda. If asked about how strongly they agree to bring their next generation in Ayurveda teaching, it would be hard to find someone who really wishes to bring their wards to come in this profession. This state of dissatisfaction among its existing stakeholders raises two serious questions. One is about the quality of the services delivered by the people who are in the state of sheer unhappiness with their profession and second more serious is about who is really going to shoulder the responsibilities of Ayurveda education in future if we continue with the current state of affairs.

Looking back at the primary issue, this seems simple to propose that to minimize country wide hiccoughs on recruitment related matters in Ayurveda teaching cadre, a uniform stature is urgently required to be formed. There shall be a central recruiting body for the purpose which may look after all recruitment and promotion related issues pertaining to the Ayurveda teaching cadre. This recruitment body may further be made responsible to frame its own methods of recruiting the best among all on the basis of their dynamic credentials rather than considering the publication number and experience year alone as the determinants of merit. Such policies shall also be made flexible to accommodate those having exceptional skills and expertise in various domain areas even if they do not fit into the experience criteria. Academic institutions and universities may be allowed to take the services of their faculties till they find them suitable for the job. Naturally, it should not be guided by the age alone. The people of exceptional qualities may be allowed to remain engaged in the various capacities in academic institutions. Positions of national professor, distinguished professor, and emeritus professor are such propositions which can also be adopted in Ayurveda at par with other streams of study. The salary structure is essentially required to be made uniform in order to minimize the expatriation of existing faculties from one state to other and rather be made more attractive to invite more talents to come and join( 16). Mechanisms like performance based salary and career advancements have also shown promises to improve the education standards .( 17) Early and mid career advancements schemes are required to be proposed for Ayurveda teachers at par with teachers of higher education or the medicine. Factually, either Ayurveda teachers should be treated at par in every matter in terms of the opportunities and benefits enjoyed by the teachers from any other stream or there should be a separate nationwide regulation allowing such benefits to be bestowed upon Ayurveda teachers across the country.

1. **Conclusion**

If we want to get the best from our teachers, undoubtedly we need to give them the best. There are examples from the countries like Korea, Germany, US and Japan who have done so to build their knowledge capital. Although there can be the argument that the driving force for quest of knowledge should not be governed by materialistic benefits, unfortunately living in miseries without a hope of changing the things for better may neither be a good proposition to prosper the quest for knowledge. Ayurveda teaching fraternity has long been secluded from the world of higher education. The simplest proposition to bring this huge knowledge capital in real use is to bring its stakeholders at par and to assure them of getting every assistance needed to bloom them to their fullest potential. Helping Ayurveda teachers to do their best by treating them equitably is possibly one best proactive measure to better Ayurveda in coming years.

This however should also be understood that the misery of Ayurveda education is not going to end merely by treating its teachers with best perks and packages. There are numerous examples of individuals and institutions who had been able to perform extraordinarily despite the limitation of resources. The quality of education is determined by many complex factors of which infrastructure and number of faculties make a small tangible section. Large part of education quality is intangible and relates to self motivation and high morale of a teacher. One unwilling tutor is sufficient to create a large bulk of faithless, unwilling, unenlightened, ignorant and helpless budding graduates in Ayurveda which would be the future generation of this field. It’s a vicious cycle, which is ultimately bound to deteriorate the whole education system unless remedial steps are not taken timely.

A real time feedback system is often suggested as an effective counter measure for poor delivery. For a physician, the patient can be the best judge and for a teacher it is the student. A blind feedback system to evaluate the teacher’s performance can be a good way to enhance the performance if it is linked with appraisals. This can be done on individual basis at colleges or collectively for a subject, state or whole country. Rewarding the better performers can be more motivational comparing to punishing the defaulters. (18) This would also be the best motivation for the young talents to join this once most respected profession of the human history.

10.R1. Information obtained through RTI dated 10.06.2019 to CCIM, responded through ref. no. 20-50/2019-(RTI)-VII Dated 15.07.2019

**References**

1. Lack of staff and infra structure in Ayurveda Hospitals and colleges in New Delhi : CAG, available at [http://www.uniindia.com/lack-of-staff-and-infrastructure-in-ayurveda-hospitals-and-colleges-in-delhi--cag/india/news/1188289.html (Last](http://www.uniindia.com/lack-of-staff-and-infrastructure-in-ayurveda-hospitals-and-colleges-in-delhi--cag/india/news/1188289.html%20(Last) accessed on 13.11.2018)
2. Freeze on all new Ayush instts for a period of two yrs, available at[**h**ttps://punemirror.indiatimes.com/pune/civic/freeze-on-all-new-ayush-instts-for-a-period-of-two-yrs/articleshow/65745628.cms](https://punemirror.indiatimes.com/pune/civic/freeze-on-all-new-ayush-instts-for-a-period-of-two-yrs/articleshow/65745628.cms)( Last accessed on 13.11.2018)
3. Patwardhan K, Gehlot S, Singh G, Rathore HCS, The Ayurveda Education in India: How Well Are the Graduates Exposed to Basic Clinical Skills? Evidence-Based Complementary and Alternative Medicine, Volume 2011, Article ID 197391, 6 pages doi:10.1093/ecam/nep113
4. Narayan JP, Teaching reforms required for Ayurveda. *J Ayurveda Integr Med*. 2010;1(2):150-7.
5. Vyas MK, Reforms in Ayurveda education; the challenges ahead. *Ayu*. 2015;36(3):231-2.
6. Singh RH, Exploring issues in contemporary Ayurvedic education. *Ayu*. 2015;36(4):361-363.
7. AYUSH in India 2017, Available at <http://ayush.gov.in/genericcontent/ayush-india-2017>( Last accessed on 13.11.2018)
8. Indian Medicine Central Council (Minimum Standard Requirements of Ayurved Colleges and attached Hospitals) Regulations, 2016, available at <https://ccimindia.org/rul-reg-msr-2016-9-7> ( Last accessed on 13.11.2018)
9. Indian Medicine Central Council (Minimum Standard Requirements of Siddha Colleges and attached Hospitals) Regulations, 2013 Notification, available at <https://ccimindia.org/rul-reg-msr-2013-4.php> ( Last accessed on 13.11.2018)
10. Information obtained through RTI dated 10.06.2019 to CCIM, responded through ref. no. 20-50/2019-(RTI)-VII Dated 15.07.2019

# List of Not Permitted 13-C ASU colleges 2018-19, available at <http://ayush.gov.in/event/list-not-permitted-13-c-asu-colleges-2018-19>( last accessed on 13.11.2018)

1. Rastogi S, Recognizing Ayurveda journals: Who will bell the cat?, J Ayurveda Integr Med, <https://doi.org/10.1016/j.jaim.2019.03.001>
2. Rastogi S, Plight of Indian Ayurveda Journals, Current Science, 2019 , 116 , 1617
3. All India Institute of Ayurveda – Ministry of AYUSH , Available at <http://ayush.gov.in/sites/default/files/Final%20Adv%20with%20terms%20and%20conditions%20PDF.pdf> ( Last accessed on 13.11.2018)
4. Academic Staff , All India Institute of Ayurveda , Available at <http://www.aiia.co.in/department_staff.html>( Last accessed on 13.11.2018)
5. Britton J, Propper C, Teacher pay and school productivity: Exploiting wage regulation, Journal of Public economics , 2016; 133,75-89,<https://doi.org/10.1016/j.jpubeco.2015.12.004>
6. Woessmann L, Merit pay International, available at <https://educationnext.org/files/ednext_20112_Woessmann.pdf> ( Last accessed on 4.6.2019)
7. Rastogi S, Bhattacharya A, Singh RH, Consortium for Academic and Research Ethics (CARE) to refine and strengthen research publication: Time for Ayurvedic academics to get overhauled , Annals of Ayurvedic Medicine ,2019, 8 ( 1-2) , 2-5