

A QUARTERLY E-NEWSLETTER PUBLISHED BY THE WOMEN'S FORUM



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EDITORIAL'S DESK

Dr.Bharani S Sogali, Editor, APTI Women's Forum Newsletter

Dear women forum members,

A hearty welcome to all the members to the second issue of women's forum newsletter, 2018. I am overwhelmed to share with you that this issue, we are having an invited article on Ethics in teaching and Research from Dr.Shubini Saraf. She is a great researcher and having more than 130 publications to her credit. My sincere thanks to her for her valuable contribution. I would like to thank Dr.Madhu Gupta, Associate Editor, for her contribution of an article on Digital Healthcare, Is it India's new future. It's my pleasure to inform you that we have very inspirational and motivational words from Dr.Suneela Dhaneshwar in this issue. My sincere thanks to her for sharing her experience as a teacher and researcher which can motivate all young women teachers. I would like to thank Dr.Vandana Patravale for advising, suggesting and guiding for the betterment of the newsletter. Apart from this, we have industry updates, pole to pole, women achievements and research grants information. Your suggestions and contributions will help us to improve further. Have a great reading.

INVITED ARTICLE

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ETHICS IN TEACHING AND RESEARCH

At the risk of sounding holier than thou, I venture into writing about ethics in teaching and research. I know that there are a lot of good things happening out there and the ladies are leading the ethical brigade, but this article is just an advisory about what to be alert about. The profession of teaching is all about conveying ethics to the younger generation. I have seen some shining examples of teachers for whom our heads automatically bow down in reverence. Why so? They did full justice to the topics they taught, they mentored their students with valuable advice learnt through life experiences, and never ever expected anything in return, but for respect and affection. One must always lead by example and the trouble starts here. I see teachers accepting packets in the name of travel allowance, gifts in the name of hospitality from managements or *gurudakshina* from students, every time there is an inspection or a visit or a PhD viva. What kind of example are we setting? Agreed that several unethical practices are prevalent in the colleges of pharmacy education mostly because of the management which runs them, but why is it that for them a teacher has been reduced to a commodity whose verdict/comments, can be bought? We need to be fair with marks given in practical exams and theory, without any biases. Let the meritorious accomplish. When we want a corruption free country, it will have to be practised in schools and colleges and homes. Women work with dedication and pay attention to detail. We make better leaders and better managers. Probably what we lack is the aggression to do what we want, and not what the other person wants. We must learn to say No! So, let's avoid the pitfalls and be ethical in teaching and research.

Coming to research, with the advent of computers and the World Wide Web the writing, communicating and publishing of research work has become easier. In the era of snail-mail, sending a hard copy meant many trips to the post office as well as the pocket becoming much lighter at the end of the experience. Researchers can now communicate and publish with ease. Surprisingly, the unethical practices in publishing have risen in direct proportion to this ease.

Before writing a paper, one must organize the research work in the form of aims/objectives, methodology, observations, and results. The salient features of each must be written down in a sequence and then elaborated in such a manner to clearly communicate the research procedures and findings. The text from other sources may then be added only to substantiate the findings or to give reference to context, with due acknowledgments. This practice shall ensure the originality of the manuscript.

Researchers tend to take a published research paper and treat it as a template which simply results in the change of data and names of chemicals, but the rest of the paper remains the same. Such a paper is called "plagiarized".

The guide or mentor should never get tempted to put his/her name as the first author since this privilege ethically belongs to the student/researcher who has performed the bench experiments. The mentor always has a major contribution in conceiving the project, troubleshooting, putting forward theories and explanations and can get equal credit as the corresponding author. All other workers can be given credit as other authors or can be acknowledged for the help rendered. If this help is given in the form of a paid service, then the services can just be acknowledged, and the name need not be included as contributors or co-authors.

A few authors often 'forget' to include the names of their guides/co-guides/co-researchers when they join a new job. They often include their current Head/ colleagues or the new 'place of work'. Such selective 'amnesia' is unethical as per the code of ethics for publishing since it takes away the credit which should rightly have gone to the mentor and the parent lab. Names of authors should only be included when a contribution towards the work/theory has been made by him/her and this should be done in consultation with all other co-authors. Students should also not mislead their mentors with fraudulent data, and their trust should not be misused. There are journals which publish negative results, so why massage data to make it fit? How often do we come across papers that we never communicated, and our name has been used simply like a rubber stamp in a predatory journal which we would never have published in? Here, we need to make our students aware before they leave our institutions that this is the code of ethics that needs to be followed.

In this modern era of 'cut and paste', it is very easy to put together an article. To combat this menace, the anti-plagiarism software has been invented. Turnitin, Eve, My Drop Box are a few software which can be used to detect plagiarism. Such software is available with all reputed journals, and it is difficult to publish without being original. This fact should encourage authors to put down their original findings. Instead of being tempted to copy, one should write in whatsoever manner possible. This can then be checked for mistakes in grammar and spellings. Numerous language editing services are available for authors who have a problem with the English language and tools like 'spell-check' and Grammarly software come handy.

There are other authors who borrow the entire work and re-publish it, as a thesis or paper, with their own names. This is the gravest form of academic plagiarism and can lead to much embarrassment and defame. There is an increasing awareness regarding these issues. I think that it is high time that we limit our thesis and dissertations to only a few pages of original, novel finding and data and completely do away with elaborate introductions and literature searches. We should stop judging quantitatively and should do so qualitatively. Also, why can't our researches be for simple society-oriented projects as well, which may not churn out a lot of data but would be socially relevant?

Pharmacy as well as teaching are both noble professions and we have come here for a purpose. Let us strive to do away with all such unethical practices in our pharmacy fraternity since it brings disrepute to the profession. To sum up, *the light of day test* is what we need to keep in mind. If we are doing something that we do not want others to see or know, then we are being unethical. Something that can be done in broad daylight is ethical!

GENERAL ARTICLE**Dr. Madhu Gupta**

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DIGITAL HEALTHCARE: IS IT INDIA'S NEW FUTURE??

Healthcare is the most contributory area for employment & revenue generation in India. Digital healthcare start-ups are promoting the way of delivery of healthcare in India. Almost 6% of newly founded start-ups in India have been in the Health-tech sector. Although the healthcare industry is complex in nature, especially at the grassroots level, but it equally provides the opportunity for digital health start-ups in India. It is estimated that at 2020, Indian healthcare industry is reached to US\$ 300 billion and country would be needed the almost double workforce by 2022. Health care sector consist of telemedicine, hospitals, medical devices, health insurance, medical tourism clinical trials and medical equipment. One of the main reason for its growing may be its increasing private and public investment in the digital health market, strengthen coverage, and services. The rising development of equity and venture capital investments along with social funding is destined to boost to the already growing sector. Healthcare sector might be a bright future owing to the campaigns like 'Start-up India, Stand-up' and 'Digital India.' In today scenario, Digital Healthcare is the utmost requirement and might be the 'healthcare of the future'. This is the time when healthcare companies to embrace innovation and emerging trends to successfully steer new age technologically driven business strategies by capturing consumer attraction. According to survey

regarding the India Digital Health Report 2017 revealed that 160 healthcare firms in present in India, covering Pharmaceuticals, Medical devices & Equipment, Diagnostics and Hospitals. This is the very right time when we all will aim to capture digital integration required at all steps of a patient's journey, from lookout for symptomatic information, diagnosis, treatment and follow ups.

Digital health has sufficient potential to do the revolutionary changes with populations easily interact and intermingled with national health services policies and strengthening the health systems. In India, our Hon'ble Prime Minister has envisioned for Digital Platform & Electronic Health to be optimally leveraged to meet the key challenges posed to us in health sector e.g. shortage of health human resource, accessibility of healthcare infrastructure, affordability of healthcare services etc. Electronic Health Records (EHRs) of citizens are envisaged to be created for ensuring continuity of care and other associated benefits. Delivery of services to citizens through "online mode" is at core of the overall electronic health ecosystem being talked about.

Digital health is the integration of genomic and digital technologies with health, health care, and to improve the efficiency of healthcare delivery and make medications more precise and tailored.

Healthcare providers and other supporters are using digital health in their continuous efforts to decrease inefficiencies, reduce cost, improve access, increase quality and make more customized care for patients. Several digital health care technologies are being used in India likely, telecare, telehealthcare, video-consultations, m-health and wearable sensors.

There are 4 major areas where we can successfully implemented the digital technology in healthcare sector such as health service delivery, compliances of people towards health and care, engagement of public for partnership of government planning and management of health service delivery and improving governance. Digital health care ecosystem may be built with joint hands of private healthcare providers, academician, health care IT practitioners, industry, patient and their connecting bodies as well as regulatory bodies.

The IT system in India were firstly enrolled for integrated health surveillance program, public health management, hospital information system, supply chain management, online services, tele medicine as well as program monitoring. There are various examples exist such as Dengue mobile application provides interactive information on identification of symptoms of Dengue and links users to nearest hospitals and blood banks, Swasth Bharat (Health India) mobile application provides detailed information on healthy lifestyle, disease conditions and their symptoms, treatment options, first aid and public health alerts. Other mHealth initiatives include National Health Portal, Online Registration System, E-RaktKosh, ANM Online (ANMOL), telemedicine projects (in remote & inaccessible areas), Tobacco Cessation Programme and leveraging mobile phones for reaching patients of Tuberculosis. Soon the Ministry will launch the Stress management app.

All such efforts may also include for getting optimum and reliable information and real time data for policy making, implementation and management. The online registration system (ORS) might be efficiently used for scheduling online appointments in public

sector tertiary care hospitals and all hospitals in India either private or public may have enrolled them and used this ORS application system. In present scenario, approximate 139 hospitals were currently used this ORS system. The hospitals and health service providers may do by employing hem free software systems and data storage facilities. In addition, big data analytics are also in the priority list that becomes proactive in solving healthcare challenges.

To enhance the overall Electronic Health ecosystem further, the Government has envisaged setting up Integrated Health Information Platform (IHIP). This is a major step in the direction of addressing the existing situation of 'electronic silos' in health system. IHIP will be able to facilitate better health services to citizens and improve efficiency of healthcare services and programmes through optimal utilization of resources, availability of information for better decision and reduction in medical errors etc.

Key findings:

- Pharmaceuticals industry leads the way to embrace Digital, with leading number of 14 Primes in its bucket.
- Websites are still the most popular outlet with 100% presence across 160 companies and same time highly preferred by end consumers.
- LinkedIn captures the highest presence with 91% players having their LinkedIn page, but suffers from low engagement with only 11% companies' active on LinkedIn.
- Facebook is the second choice and socially attractive platform with 90% presence rate. Pharma has maximum number of players amongst the 4 categories on Facebook with a presence rate of 86%.
- Twitter is slowly and steadily becoming the favourite and falls under the category of 3rd most preferred platform after LinkedIn and Facebook with a presence rate of 73%. Twitter seems to

attract more hospitals as compared to other categories with a presence rate of 29%

- YouTube is giving a tough competition to Twitter and comes across as the 4th most preferred platform, nearly 70% of the players from all the categories find their presence on YouTube Close to 24% players actively upload videos on YouTube.
- Presence Vs Engagement. While healthcare companies are present on the web across platforms, the level of engagement is very low.
- There is also the habit of initiating and abandoning the platform midway, or selectively utilizing the medium, as and when the need arises.
- With an internet penetration of 35%, Indian Patients and HCPs are Empowering themselves

every day, While Hospitals are spending high on paid promotions, end consumer engagements are very low.

The infrastructure for healthcare delivery should be such type that can meet the standards for expected growth in demand. Trained workforce in each sector must be available across the nation. Consumers will aware and to know the importance of high levels of health responsiveness and should be prepared to take separate responsibility for health conclusions. Healthcare Analytics may be utilized as pillar for effective and efficient application of these initiatives, analyzing the outcomes and providing ailment observation. The Indian government will need to expand the level of cooperation for steady implementation of health care initiatives.

INDUSTRY ROUND UP

• **Zydus Cadila get approval from USFDA for Carbidopa Tablets**

Zydus Cadila get final approval from the USFDA for marketing the Carbidopa Tablets, strength 25 mg. this tablet is a combination of levodopa/carbidopa and ultimately used to treat symptoms of Parkinson's disease or Parkinson-like symptoms. It will be manufactured at the group's manufacturing facility at SEZ, Ahmedabad. The group now has more than 190 approvals and has so far filed over 320 ANDAs since the commencement of the filing process in FY 2003-04. Zydus aspires to be a research-based pharmaceutical company by 2020.

Cipla joins the hands with ManKind for exclusive marketing, distribution of Afrezza (a innovative inhaled insulin)

Cipla joins the hands with Mankind for exclusive marketing, distribution of Afrezza (a innovative inhaled insulin). Mankind is a US-based Corporation for Afrezza in India. Afrezza is the only USFDA

approved inhaled insulin available for patients suffering from diabetes. It is an inhaled insulin, is a cutting-edge product which will increase patient convenience. Such type of innovative drug delivery system will have potential to do the revolutionary changes in the diabetic care in India. This partnership with ManKind is another step from Cipla to cater to the unmet needs of the patients."

• **Zydus receives final approval from the USFDA for Methylprednisolone Tablets USP**

Zydus Cadila get final approval from the USFDA to market Methylprednisolone Tablets USP in the strengths of 4 mg, 8 mg, 16 mg and 32 mg. this tablet is used for treatment of arthritis, blood disorders, severe allergic reactions, certain cancers, eye conditions, skin/kidney/intestinal/lung diseases and immune system disorders. It will be manufactured at the group's formulations manufacturing facility at Moraiya, Ahmedabad.

POLE TO POLE

- **Stand up and walk – prolonged sitting may thin the brain**

Prolonged sitting in middle age is tied to brain thinning, a new study has shown.

Sitting for an average of 7 hours per day was a significant predictor of medial temporal lobe (MTL) thinning and its substructures. Interestingly, physical activity, even at high levels, did not offset the harmful effects of sitting for extended periods. [*PLoS ONE* 2018;13(4): e0195549].

"Apparently, there is a 'brain effect' of sitting on a critical memory centre of the brain," said senior study author Dr David Merrill, from the Division of Geriatric Psychiatry at the University of California, Los Angeles, US. "Sitting is the new smoking in relation to general health ... our hope is that the findings inspire healthy brain habits, at home and work, like taking a 5-minute break to stand up and walk around every 30 to 60 minutes."

"The finding that sitting reduces the thickness of MTL and other brain structures is relevant ... it suggests that reducing sedentary behaviour may be a possible target for interventions to improve brain health in middle-aged and older adults," she said. However, she clarified that they do not mean to imply that too much sitting undermines brain health, only that long hours spent sitting is linked to thinner brain structures.

As to why physical activity did nothing to mitigate the bad effects of sitting, she said: "This is concerning. Sedentary behaviours may be independent of exercise and other physical activities. One can be highly active yet still be sedentary for most of the day."

Future studies should also explore the mechanisms

behind the findings and if there is any causal relationship between prolonged sitting and brain thinning.

- **Prevention of heart failure risk factors in midlife may prolong disease-free survival**

Preventing hypertension, diabetes, and obesity, the major risk factors for heart failure (HF), by ages 45 and 55 years may lower risks of incident HF and prolong HF-free survival, suggests data from the Cardiovascular Disease Lifetime Risk Pooling Project.

"The ability to enjoy more years free of disease is more important for many individuals than simply living longer," said Dr Thomas Wang of the Division of Cardiovascular Medicine at Vanderbilt University Medical Center in Nashville, Tennessee, US, in a separate editorial. [*JACC Heart Fail* 2016;4:920-922]

"Delaying the onset of heart failure should involve not only arresting disease pathogenesis in its early stages (primary prevention), but also preventing the development of key risk factors in the first place (primordial prevention)," he added.

"Diabetes appears to have the strongest association with shorter [HF]-free survival," said the researchers, noting that men and women with no diabetes lived 8.6 and 10.6 years longer free of HF, respectively, than those who had diabetes.

"Although it is not surprising that the avoidance of these [HF] risk factors is associated with lower risk for incident [HF], the magnitude of the associations observed are particularly impressive," the authors noted. "These data underscore the importance of

preventing the development of risk factors in mid-life for decreasing the public health impact of heart failure."

The pooled analysis sampled data from four cohort studies in the US which contained a total of 19,429 participants aged 45 years and 23,915 participants aged 55 years who were followed on incident HF up to 95 years.

"Although advancing the care of patients with established [HF] remains an important objective, figuring out how to maximize the number of years free of disease is just as critical," commented Wang.

- **Isoxsuprine, nifedipine similarly effective in preventing preterm birth**

Treatment with the tocolytic agents isoxsuprine or nifedipine was similarly effective in delaying delivery by 2 weeks among women who were

admitted for preterm labour, according to a study presented at the RCOG World Congress 2018.

"The ideal tocolytic agent should be myometrium-specific, easy to administer, inexpensive, effective in preventing preterm birth, and improve neonatal outcomes, with few maternal, foetal, and neonatal side effects," said lead author Dr Dhanielle E. Garcia-Ramos from the Department of Obstetrics and Gynecology at Far Eastern University – Dr Nicanor Reyes Medical Foundation, Quezon City, Philippines.

"Nifedipine is equally efficacious as isoxsuprine in preventing preterm birth with better maternal tolerability. Therefore, this may result in better compliance to tocolytic therapy which can contribute to a successful outcome," Garcia-Ramos added, who suggested that future research should include women with comorbidities, and those at higher risk of preterm labour such as those diagnosed with multiple gestations and premature rupture of membranes.

WOMEN ACHIEVEMENTS

- **Prof. Harvinder Popli, a DPSRU Faculty features in Express Pharma**



When globally adopted gender diversity and women empowerment as an apex priority in their strategic agenda, there is still a major gap in the percentage of women joining and lead the workforce. It is very surprising that though women have full capability to excel

in every field, but only 30 percent of the world's researchers are women. But, Delhi Pharmaceutical Sciences and Research University (DPSRU) is a unique place that provides full support to their all employees and encourage them to do excel in their field.

Prof. Dr. Harvinder Popli, presently Dean & Principal, Centre of Pharmaceutical Sciences, DPSRU, Govt of NCT, New Delhi. Dr. Harvinder Popli shares her learnings and experiences from her journey as an educationist and pharma technologist with Express Pharma. She said that she could successfully shift to the industry and then back to the academics. Dr. Popli was well determined and converts the challenges into opportunity. She

mentioned that without family support, it is not possible to manage a career and family while maintaining sanity. Women face more demands on time, energy and resources and gender discrimination in workplace. She mentioned that small initiatives of Government can change the whole scenario by setting up day care centres for working women so that they can work peacefully, flexible timings and option to work from home and providing possible incentives.

Her success Mantra

- Listen to the concerns of others, but instead of just giving up on an idea, reassess its value from others' point of view. Do not give up
- Focus on what you are good at and give your hundred percent till you exceed
- Sincerity, hard work and building trusts are few mantras to be successful

• **Congratulations to Dr. Vanadana B Patravale**



Prof Vandana B Patravale, Prof of Pharmaceutics,

Institute of Chemical Technology received Shri Amrut Mody Distinguished Researcher Award 2018 for excellence in pharmaceuticals and for contributing to research useful to society at large. The award was presented by the Chairman and MD of Unichem Labs Ltd, Mr Prakash Mody at Bombay College of Pharmacy on May 26, 2018.

• **Kudos to Dr. Mrudula Deshmukh Bele**



H e a r t i e s t congratulations to Dr. Mrudula Deshmukh Bele for being selected for prestigious Maharashtra Sahitya Parishad's award for her book titled "katha akalechya kaydyachi" received at the hands of Dnyanpeeth award winner, Oriya author, Ms. Pratibha Ray on

26th May, 2018.

Pharmaceutical fraternity is proud of you. APTI women forum also takes pride in all your achievements. We found this book a very interesting read and recommend it to all those novice in the field of intellectual property rights.

MOTIVATIONAL INTERVIEW



Dr. Suneela Dhaneshwar

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Dr. Suneela Dhaneshwar is presently holding a position of Director, Deputy Dean of Research at Amity University. She is an eminent personality in pharma field and having total of 27 years of research, 23 years of academic, 2 years of Industrial experience. She is a consultant for LG life sciences, South Korea and advisor to Sacoor medical group, International Pharmaceutical Industry consultants, West Byfleet, Surrey, UK. She is having many honors and awards to her credit and having more than 70 publications in national and international journals. She held various roles at various national and international conferences.

This is an attempt to inspire all young women pharma teachers and researchers to get motivated and learn from her experiences and follow suggestions to become successful. A detailed interview with her for enlightening us.

1. Please share your teaching philosophy.

I am in teaching profession since the last 23 years by choice and because of my passion for this very noble profession. If someone would have asked me a few years back what you would have been, if not a teacher, of course I would have said a singer but I realize now that I am equally passionate about teaching as well as singing and I can enjoy and manage BOTH.

I am a teacher of Pharmaceutical Chemistry and I feel lucky to have gotten the opportunity to teach Biochemistry, Inorganic Chemistry, Organic Chemistry and Medicinal Chemistry with a brief stint at Pharmaceutical Analysis. Teaching all the possible subjects under the ambit of Chemistry has broadened my perspective and helped me evolve as a teacher

who is better equipped knowledge-wise and has improved my ability to teach by exemplifying across wide range of concepts.

I have immense faith in the future. I know I may not see the fruits of my labor immediately as a teacher or mentor. But I know for sure that the seeds I have planted and nurtured will grow and shape tomorrow into glory.

My first goal when I start teaching a class is to know and understand students, as I know that they do not all learn in the same way or at the same rate. They have been brought up in different cultures and varied environments. I believe that it is my responsibility as a teacher to know students' interests, abilities, and prior knowledge which helps me in planning my teaching pedagogy to both challenge and allow every student to think and grow.

Though I try not to differentiate or discriminate the students on the basis of their learning abilities, sometimes I tend to be more inclined towards the weaklings in my class as I know that the studious ones are any way going to study.

A good teacher is the one who is able to translate his/her knowledge into an interesting and enjoyable experience for the students. A teacher with great knowledge is worthless from the student's point of view if he or she does not reach their level to explain the concepts. I try to make the most difficult concepts easy for the students by taking examples from day to day life with which student relates easily. I ask them a lot of questions emphasizing on them that I am not out

only for correct answers all the time. When they go wrong, that is the time I realize the exact barrier which I need to overcome in order to clear their doubts.

I truly believe that whether the students hate or love a particular subject totally depends on how that subject has been taught to them by the teachers. I use my knowledge to expose my students to varied modes of critical thinking, encouraging them to analyze, apply, synthesize, and evaluate all they read and hear. I love the subjects I teach, and I know how to make them come alive for my students.

I always try to motivate and inspire the students and firmly believe that it is wrong to judge a fish by judging its ability to climb a tree. I encourage the students for creative thinking and give them freedom to express their ideas. Interactive classes are the best to energize the students into positive frame of mind. I eagerly and willingly learn from my students as they learn with me. I am beginning to understand that the teacher's greatest gift to the learner is helping the learner to be motivated to think, and then to want to learn more.

I believe a teacher is the most powerful of role models. If I expect morals and values from them, I must have them first. I am a perfectionist so, I expect the best from myself and others and, therefore, I usually get the best. I try to treat all people with dignity and respect, and I also expect my students to do so.

I have accepted the challenges when I chose to be a teacher & I remain committed to them.

2. Please give some tips about various funding opportunities for women.

A large number of funding opportunities are available for all age groups of women for research and travel. Comparatively more funding is available for young women scientists/teachers/students.

- i. **NASI-SCOPUS Young Scientist Awards 2018** by National Academy of Sciences India & Elsevier for Women in Science who are born on or after 1st Jan 1977.
(<https://www.elsevier.com/en-in/solutions/scopus/scopus-awards-2018>)
- ii **DST-Women Scientist Programs**
([http://www.dst.gov.in/scientific-](http://www.dst.gov.in/scientific-programmes/scientific-engineering-research/women-scientists-programs)

[programmes/scientific-engineering-research/women-scientists-programs](http://www.dst.gov.in/scientific-programmes/scientific-engineering-research/women-scientists-programs))

- **Women Scientist Scheme-A (WOS-A):** Research in Basic/Applied Science
- **Women Scientist Scheme-B (WOS-B):** S&T interventions for Societal Benefit
- **Women Scientist Scheme-C (WOS-C):** Internship in Intellectual Property Rights (IPRs) for the Self-Employment

iii **SERB Women Excellence Award**
(<http://www.serb.gov.in/women.php>)

iv **Women in Science Award**
(<http://www.embo.org/funding-awards/women-in-science-award>)

The FEBS | EMBO Women in Science Award highlights major contributions by female scientists to Life Sciences research. Winners of the award are inspiring role models for future generations of women in science. The award is a joint initiative of EMBO and the Federation of European Biochemical Societies (FEBS)

v **L'Oréal-UNESCO For Women in Science**
(<https://www.forwomeninscience.com/en/home>)

The L'Oréal-UNESCO for Women in Science initiative began 19 years ago. Since that inaugural year, the L'Oréal Foundation and UNESCO (the United Nations Educational, Scientific and Cultural Organization) have strived to support and recognize accomplished women researchers, to encourage more young women to enter the profession and to assist them once their careers are in progress.

vi **National Women Bioscientist's Award**
(<http://www.dbtindia.nic.in/nominations-for-national-women-bioscientists-awards-2017-2018/>)

a. **National Women Bioscientist Award (Senior Category) (one)**

Awarded to senior women scientist for life time contributions, who has done excellent research in the country and has applied the results for benefit of students and society. The Award carries a cash

prize of Rs 5.00 lakh along with citation and a gold medal.

b National Women Bioscientist Award (Young Category) (Two)

Given for outstanding contributions of women scientists below 45 years of age in basic and applied research in the areas of biosciences and biotechnology including agricultural, biomedical and environmental sciences with potential for application/product and technology development.

vii UGC-Post Doctoral Fellowship To Women Candidates

(<https://www.ugc.ac.in/pdfw/>)

For those women candidates, who are unemployed holding Ph. D. degree in their respective subject areas with an aim to accelerate the talented instincts of the women candidates to carry out the advanced studies and research. The total duration of the fellowship is five years with no provision for further extension. The number of slots available under the scheme is 100 per year.

viii Lila Poonawalla Foundation, Fellowships for Indian Women

(<http://www.lilapoonawallafoundation.com/>)

Lila Poonawalla Foundation is an Educational Trust in India whose vision is to contribute to the empowerment of Indian women by supporting academically outstanding and financially deserving girls, through scholarship to pursue higher education. Since its inception in 1996, over 17765 scholarships have been granted to 7396 deserving girls. The foundation gives Scholarships to the girls from Pune, Amaravati and Wardha district. In Pune district LPF supports girls from school level until post- graduation. In Amaravati and Wardha district scholarships are given for undergraduate studies. LPF scholarships are merit-cum-need based scholarships. The highlight of the foundation is that it gives an outright grant to all the girls who are selected by the foundation Trustees.

3. Kindly share some major issues which you faced in your research area.

My research area of interest is prodrug design and development to overcome pharmaceutical,

pharmacokinetic and pharmacodynamic problems of drugs. Prodrug design encompasses expertise in synthetic & analytical chemistry, pharmacokinetics and pharmacology. So being a Medicinal Chemist, I had to develop my knowledge base in these allied fields as well. Collaborative research was not so popular at that time when I started my research and hence I did not want to depend on others for their expertise but developed myself into an independent & self-reliant researcher. Many pharmacological models were optimized by my research group for e.g. 2, 4, 6-trinitrobenzenesulphonic acid induced colitis in Wistar rats and monoiodoacetate- induced osteoarthritis. *In vitro/vivo* release kinetics is an important characterization step for prodrugs. HPLC is very commonly used for this purpose. My research group for the first time developed HPTLC methods for *in vitro/vivo* release kinetics for those prodrugs where HPLC methods could not be developed due to sensitivity to pH. This work was recognized with P.D. Sethi Award.

On a broader perspective, lack of availability of Central Instrumentation Facility, non-availability of funds for the Private Universities by Government Funding Agencies, delay in release of grants/fellowships by funding agencies, engagement of academic researchers in full time teaching as well as additional administrative responsibilities are the major constraints that dampen the spirits and result in decline in interest and progress in quantum and quality of research.

I believe that you need to be very passionate, patient, tenacious, ethical and self- motivated for engaging yourself in fruitful research.

4. In your view, what are the factors which could bring growth in pharma education.

Pharma education in India is suffering from serious flaws and limitations in view of the fast pace of changing paradigms of science & technology, the trend of super-specialization and globalization. Pharma profession has transformed itself from a product- oriented to patient- oriented profession. There is an unmet and immediate need to initiate an academic exercise aimed at revamping the curriculum to align with current and emerging trends and global

standards of pharmacy education.

Professor M.L. Schroff was the pioneer in starting pharmaceutical education in India at the Banaras Hindu University wayback in 1932. From there it has been along journey of almost 86 years and the question is what our standing at the global level is?

Pharmacy Council of India has been successful to some extent in addressing the flaws, revising/upgrading the syllabus by introducing newer subjects/concepts and bringing forth uniformity in the curriculum of B Pharm and M Pharm across the country by making newly developed syllabus mandatory for the Pharma Institutes. But the current framework of pharmacy education in India produces outdated and unskilled professionals. The products of this form of education lack them much needed professionalism. They are neither ready for industry nor for academia. However introduction of Pharm D program has provided excellent platform where the graduates can directly be absorbed for clinical/community/hospital pharmacy-oriented jobs.

There are enormous challenges before us when it comes to providing quality education to the pharma students. Mushrooming of pharmacy institutes, lack of infrastructure and experienced faculty has contributed to the deterioration of standards of pharmacy education in India. There is still a huge gap between the demand, expectations of the industry and the so called skills that our graduates possess. The students do not have the required industrial and clinical exposure. The students are clueless about the practical applications of the courses they are being taught. The students do not get exposure to serious research being carried out at the institutional level except a few elite pharmacy institutes.

Here are some recommendations to improve the situation:

1. Introduction of specialization at graduate level.
2. An effective and productive Industry-Academia Partnership.
3. Total Quality Management (TQM) is a philosophy for perfection and continuous improvement in services offered to someone or one's own

performance. Applying TQM in pharmacy education is the need of the hour.

4. A culture of innovation and entrepreneurship are the two key elements for building successful innovation ecosystems. The Indian universities and institutions should change their minds to be creative and think out of box.
5. More emphasis should be given to industrial and practical exposure.
6. Staff-academy programs to train the fresh & young faculty before they undertake teaching.
7. Up-gradation of knowledge of the faculty through FDPs focused not only on current trends in pharmaceutical sciences but also novel teaching pedagogy.
8. Rational and focused strategies for career development of graduates.
9. Professional and job-oriented approach towards education.

Revival of the pharmacy education in India is the need of the hour and a master plan with an international perspective and its immediate implementation is the only solution.

5. What are major reasons for the gap between industry and academia in India? How this gap can be bridged.

The shortage of appropriately skilled professionals across many industries is emerging as a significant and complex challenge to India's growth and future. It is said that a pharmacy graduate is neither trained nor suitable and employable by the industry.

Universities and educational institutions have a very passive approach towards updating their syllabi in tune with the high pace of alterations in the world of science and technology. The students churned out are not equipped to meet the current industry requirements and often companies have to incur additional expenses (time and monetary) to train new hires. Besides the technology aspect, industries also evaluate the candidates for competencies ranging from soft skills, team building, overall attitude, and values. Unfortunately the importance of training and

developing soft skills in students is a totally neglected aspect by the universities and institutes and takes a back seat. Industrial training made mandatory by Pharmacy Council of India just remains as a part of mandatory eligibility criterion for qualifying the graduate examination but the reality is that, due to large number of colleges and students desirous to undertake industrial training, the industries are finding it difficult to accommodate them for 4 week training. The students instead of getting hands on training are more interested in getting the required certificate. Industries are not so confident about the quality of research being carried out in academia due to which they are hesitant to collaborate with academic institutions for their research problems. Students are not getting the real picture, training or exposure to industries during their tenure which is main reason for a gap between industry and academia.

Every university must have industry experts on their Board of Studies who will explain, discuss, suggest and guide the academicians about expectations & demands of corporate world and will elaborate upon the exact gaps and further lay down the means to fill the gaps. Industrial training, industrial tours, guest lectures by industry experts, workshops and interactive sessions of HR experts with students, personality development workshops, sharing of success stories of alumni at high positions in the industry, summer internships in industries (paid or unpaid), collaborative research projects with industries are some of the means that might help in narrowing the gap. Very strong sense of moral binding among industries for the pharmacy graduates, proactive role of academia to strengthen industry-academia linkages, availability of excellent placement opportunities for the pharmacy graduates are the key features for effective industry –institute linkages.

In response to these challenges, many companies today have intensified their academic interventions in order to tackle the impending shortage of knowledge workers because if not acted in a timely manner, this gap in skilled networking professionals will keep on widening that could arrest the growing

market and threaten India's economic growth plans.

6. Please advise all Women pharma faculty on time management and work life balance.

The number of women choosing to work in pharmacy profession has been steadily increasing. However, while women are out there trying to conquer the world, taking care of their household and family, never ceases to be a priority. And given the fact that they have larger roles in handling household and family responsibilities, maintaining a perfect work-life balance becomes a challenge for almost every one of us.

I was a university ranker at B Pharm but got married immediately after graduation into a joint family. After a gap of 5 years and with my elder daughter born, I started my post-graduation with full-hearted support of my family but with only one condition. The house-hold duties and work should not get affected while I am doing my post- graduation. It was very challenging but with passion in my belly, I used to do all house-hold chores after sending my daughter to school and my in-laws to their jobs. Then attend full-time college and in the evening again after fulfilling my duties used to study late night for the tests, sessionals, preparing notes and completing journals and completed M Pharm with first rank. In the same way I completed my full time PhD as well. Without a Xerox or internet facility I used to do manual literature review at University library which was almost 10km away from my house commuting on a moped, when I was pregnant with my younger son. I have narrated my story here because I want to emphasize here that without time management and support of my family I could not have achieved my work life balance. So the tips I am giving below are from my own experience.

1. We put so many things on our plate because we want to get everything done. But, we can't get it all done as we are unable to focus on anything. So instead pick the top things that you can focus on. Make a to-do-list with top 5-6 things that you want to be done on priority instead of putting 20 things in one go.
2. We have a tendency to let other people's priorities

come before ours because we want to help everybody. Many times we help other people and don't have enough time remaining to get our own jobs done, which might become a pattern because someone else can start expecting you to always help them. As women, we are afraid to say no sometimes because we don't want to hurt other people's feelings. But, they will be fine. So develop a habit of saying NO affirmatively.

3. At the beginning of the week list the things you want to accomplish, then divide your tasks into primary (must do) tasks, secondary tasks (not that important, can be done later), ongoing tasks (which happen every week) and personal tasks (me time) like yoga or reading a book or your hobby or family time.
4. Remember you are not a Superwoman and you need not be! So do not suffer from self-inflicted Superwoman complex. Do not kill yourself by trying to do everything. In organizations, sometimes there are only a few who are doing the work of the many and that can be really annoying. But you have to let go and let someone else do it.
5. Start your day on a positive note with a routine of meditation, yoga, walk or exercise.
6. One of the biggest time management mistakes is just doing whatever comes your way instead of having exact times when you will do certain things in your week. Discipline and planning are required if you want to achieve your career goals. One of the most important time management habits is to categorize your time.
7. **Set Boundaries for Social Media, Family Time, & Personal Time**
8. Group similar tasks into blocks of time. During this time you have no distractions. It is said that every time you are distracted, it takes 15 minutes to regain complete focus again.
9. Delegate less important tasks to your subordinates or team members, through teamwork you can achieve far better results than carrying the load of a huge task alone on your shoulders.

10. Set deadlines, for yourself and others. You or your team cannot spend whole day or week in doing one single task. It will affect other important things that need your equal attention.
11. Always do those tasks first that you hate the most or which are most difficult.
12. Keep a track of important appointments, timelines and deadlines, set reminders.
13. With focus, determination, self- motivation, passion you will be able to handle the most difficult deadlines very easily.
14. Do not feel guilty if sometimes you have to give priority to your family over the career.
15. Most important philosophy that I have followed and still follow which I am sharing especially for all those dynamic, career-oriented, young women pharmacists out there. When during their growing years your kids need you or whenever your family needs you, be there for them. Career, success, money and fame will eventually happen.

7 **Please suggest on how to build a research career to all young researchers.**

It is said that research is not everyone's cup of tea, your need to have research aptitude and passion to do research. But if you have chosen academics as your career option, you are not only expected to teach but undertake fruitful research also. If you look at it with a practical view point, your performance appraisal, increments, promotions, recognition in your profession, everything is decided by your research acumen. Whether you will get approval for guiding PG and PhD students or not also depends on your research profile. In short research has become the most important driver for all those who have chosen academics as their career option. Soon UGC is going to take stringent steps to make PhD as the minimum qualification to become a teacher.

When you start with your M Pharm project, it is the first step that you take towards starting a research project. You are trained for developing skills of searching the databases & patent search for review of literature, drafting and expressing in your own words, presentation skills, statistical analysis, practical

laboratory skills, handling of various sophisticated instruments & equipments, animal handling, interpretation and compilation skills, scientific writing, formatting, MS office and other relevant softwares and the likes. You are now trained to handle small research projects. This is where you realize whether you are made out for research or not. Ph D is an extension of what you do in M Pharm.

So as a faculty when you start independent research, you tend to continue to work in the same area in which you have worked for your PhD because you have the know-how about it. Eventually, as you spend more time, your knowledge base becomes more enriched, you start developing novel ideas around which you can construct your own research projects. In order to encourage the young researchers and tap their potential, most of the funding agencies have schemes for young scientists, career awards, travel grants etc. with an age limit of 35 years and flexibility of 5 more years for women. There are very few takers for these funding opportunities due to lack of awareness. Early start in your career on your research activities will pay great dividends in future. Even if at the start you are not given M. Pharm./PhD students to guide, you can tap the potential of bright, enthusiastic B Pharm students interested in research and give them small lab-oriented projects as pilot studies to develop your ideas and check your hypothesis which may be developed into a full-fledged project, which can be submitted for funding.

The most important tool of research is free access to published research content for reference. Researchers

now enjoy fast and easy access to plethora of information across the globe. Advancement in information and *communication technologies* has transformed the way the world lives and thinks, facilitating the research process as a whole from the funding stages through discovery and publication. But the serious challenges of competitive research environment, rising number of grant applications, declining funding opportunities and stringent requirements and tight control of funding agencies over expected outcomes, cannot be overlooked. Another setback for the young researchers is lack of (or less) experience. Because of which funding bodies are often hesitant to award grants to junior researchers without the presence of senior researchers on their teams. This leaves the young researchers demotivated, resulting in lack of drive, productivity and research contribution. Without mentoring and guidance, they may become complacent and take unnecessary career detours. Therefore I sincerely feel that our country, government, industry and academia all should have strategies and schemes in place to encourage and support our early career researchers.

Young researchers must have a plan for building a successful research career. You must be proactive rather than reactive in how you approach your research career. As I told earlier, though balance between work and life is important, it is up to you to decide how much time you allocate to each part of your research career. No matter what type of research you do or for which organization type, there is really no shortcut for focused, well planned and efficient hard work. I would rather say "work smarter than harder"!



Ph.D Awardees

“Shilpi Prasad, Assistant Professor in "Siddhi Vinayaka Institute of Technology and Sciences", Bilaspur, C.G., has been awarded the PhD degree from Guru Ghasidas Vishwavidyalaya, Bilaspur, C.G. She has done her PhD under the guidance of Dr. J.S. Dangi (Ex CVO, Dean and HOD, SLT Instt of Pharmaceutical Sciences, GGV, Bilaspur, C.G). She has earlier awarded with INSPIRE Fellowship from DST, N.Delhi and also received C.G. Young Scientist Award. She has also been awarded with Excellent paper award in an International Conference held at Doha, Qatar. She has done her PhD on the topic "Development and Characterization of polymeric nanoparticles of SN-38 for Colorectal cancer".

RESEARCH GRANTS

Overseas visiting doctoral fellowship

- Science and Engineering Research Board, Department of Science and Technology, Government of India introducing a scheme "OVERSEAS VISITING DOCTORAL FELLOWSHIP" for support to undertake research training during the doctoral research in overseas countries on a competitive mode is sought from eligible researchers.
- The objectives of this scheme aim to build national capacity in frontier areas of Science and Engineering by providing research training to PhD students admitted in the Indian institutions in overseas universities / institutions of repute. To provide opportunity to performing Indian research students to gain exposure and access to top class research facilities in academia and labs across the world as well as create opportunities to build long-term R&D linkages and collaborations with accomplished scientists and technologists from around the world. Such type of schemes is open for Ph.D. students in two modes and will be sought twice a year.
- The fellowship will be paid a monthly fellowship amount equivalent to US \$ 2000, one-time Contingency / Preparatory allowances of Rs. 60,000/- to cover visa fee, airport transfer charges, medical insurance etc. The selected fellows will also be provided shortest route economy class air fare from their place of work in India to the place of the host institute and back. One additional to and fro travel cost would also be provided to the fellow, if the period of stay is one year or more. Call for proposals under this scheme will be open from 1st May to 30th June, 2018. Eligible researchers are encouraged to submit their proposals through online system (www.serbonline.in).



LOTUS BACKGROUND STORY

As a lotus is able to emerge from muddy waters un-spoilt and pure it is considered to represent a wise and spiritually enlightened quality in a person; it is representative of woman who carries out their tasks with little concern for any reward and with a full liberation from attachment. Lotus-woman in the moern sense of women's qualities: she is superbly intelligent, highly educated, and totally committed to individualism. She is politically astute and works incessantly for a better and more humane society. She is exquisite in her taste for music, art and culture, abounds in social graces and performs brilliantly in communication.

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