

Invited talk on WPD - 2017

Rejuvenating Indian
Pharmaceutical Education –
“Sankalp Se Siddhi”
***Determination to
Accomplishment***



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Disclaimer

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Presentation

1. **Pharma Education Structure- Diploma, Graduation, Post-Graduation, Doctoral**
2. **Problems** – as per level
3. **Solutions** – as per level
4. **Takeaways from this talk- 12 points**



Problems

1. Less jobs, more Pharma professionals!
2. Cocktail- no separation of needs of Academia, Pharmacy practice and Industry
3. Very less openings in Govt. Sector
4. Poor communication skills
5. Foreign Languages-nil
6. Foreign University Collaborations- Nil
7. Syllabus not aligned with industry needs



D. Pharm. – Problems

1. Stagnation
2. No access to knowledge up gradation in easy and affordable manner
3. No access to global placements
4. Limited jobs in govt. and private sector



D. Pharm. – Solutions

1. Preparation of online 'knowledge up gradation' modules by Universities / NIPERs for pharmacists'
2. Easy access through smart phone
3. Regular online tests to check knowledge levels- quiz etc. using standard, globally accepted tests
4. ADR (Adverse Drug Reaction) database – online submissions / patients / doctors / pharma professionals



B. Pharm. – Problems

1. **Poor Skills** - industry needs to re-train, since industrial exposure is lacking
2. **Poor global acceptance** - syllabus not harmonized with global standards
3. **Foreign languages-NIL**
4. **Global degrees / international exposure - NIL**



B. Pharm. – Solutions

1. **Industry Faculty-**
empanelment of industry
professionals as adjunct faculty
2. **Structured industry
internships-** industry
empanelment through pharma
industry organizations viz.
OPPI, IDMA etc. / Hospitals
3. **Foreign languages** –on
campus, integrated learning
over 4 years
4. **Global degrees / international
exposure-** dual degree
programs



B. Pharm. – Solutions

5. **Focus on audio-visuals-**
camera based transmission
showing industrial
operations/you-tube lectures
6. **Augmented learning-**
individual capacity based,
modular learning. Stress free,
quality progress.
7. **ISO certification** of institutes-for
quality improvement.
8. **Integrated degrees- B. Pharm.
+ MBA, B. Pharm. + Law**



M. Pharm. – Problems

1. **Over-qualified for industry / pharmacy practice -**
Not needed.
B. Pharm. OK.
2. **Under-qualified for academia / research positions –**
more focused study required.
Ph.D. required.



Perennial Dilemma

M. Pharm. – Solutions

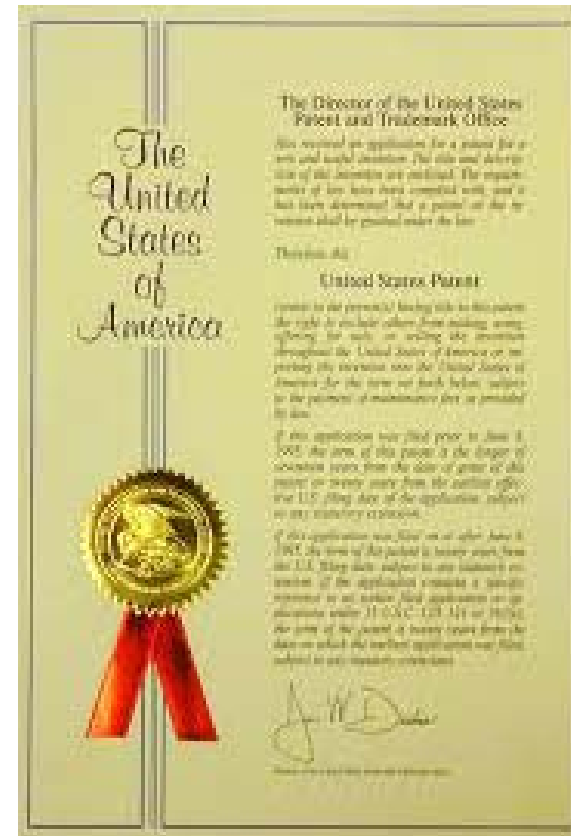
1. **Dual degree with foreign universities** - global exposure and opportunities
2. **Faculty exchange** - empanelment of foreign teachers as adjunct faculty
3. **Global internships** - trainings across the world, in industries and in hospitals. Why only India?
4. **Foreign languages** –on campus, integrated learning over 2 years



M. Pharm. – Solutions

5. New Specializations-

- Patent drafting (M. Pharm. - IPRs),
- Dossier Making (M. Pharm. - regulatory affairs)
- Clinical Research
- Research Commercialization / Licensing (International organizations e.g. LESI, AUTM etc. offer learning materials)



Ph. D. – Problems

1. **Limited employment opportunities at home** - indian industry focus is on generics, not research.
Govt. teaching jobs less; Govt. positions do not need Ph.D.
2. **Not qualified for global placements and opportunities** -
Poor communication skills, lack of foreign languages, less exposure to advanced research due to poor infrastructure.



Ph. D. – Solutions

1. **Teach foreign languages to open global opportunities** - access to the world!
2. **Make doctoral programs collaborative** - foreign guide / co-guide.
3. **Encourage Entrepreneurship and on-campus incubators** - focus on translation of doctoral research to products
4. **Patent drafting-** Ph. D. with skills in high demand



12 - POINT REJUVENATION FORMULA

1. **Online learning modules database for pharmacists**
- smart phone access even in chemist shops / villages.
Upgrade skills and knowledge while on job
2. **Interactive online databases for pharmacists- ADRs etc.**
3. **Setting up of National Pharmaceutical Employment Exchange (NAPEX) - [PCI or IPA can take the initiative]**



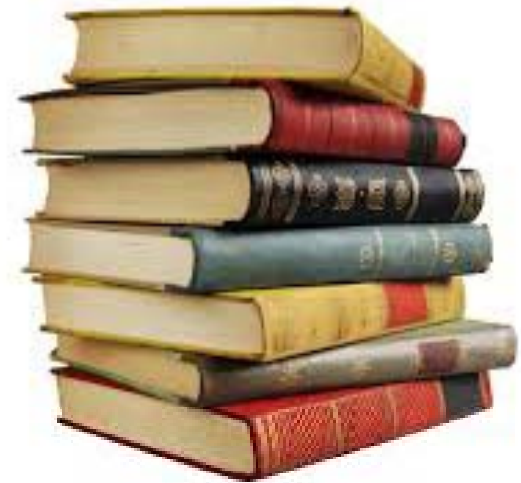
12 - POINT REJUVENATION FORMULA

4. Audio-visual based lectures
5. Augmented learning
6. Structured internship
7. Adjunct faculty from industry
8. ISO certification of institutes
9. Focus on teaching foreign languages at UG/PG/Doctoral levels
10. Dual degree programs with foreign universities
11. Hybrid degrees- Pharm + MBA, Pharm + Law
12. New Specializations in M. Pharm. e.g. IPR, Regulatory affairs, Clinical Research, Research commercialization



Suggested Reading

1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2879119/pdf/ajpe68.pdf>
2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3249748/pdf/JYPharm-3-334.pdf>
3. <http://www.jpsr.pharmainfo.in/Documents/Volumes/Vol6Issue08/jpsr06081404.pdf>
4. <http://ijpi.org/pdf/6.pdf>
5. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3471162/pdf/smr-02-011.pdf>



“Sankalp Se Siddhi”
Determination to Accomplishment
- so that we can stand tall in the world





Jai Hind!
HAPPINESS AND PEACE TO ALL

Prof. Raghuram Rao Akkinepally
25-9-2017