

Poster number: 21

Experiences and Perceptions of Doctor of Pharmacy Students in India on Practical Skills and Education Provided by Mentors during Clinical Rotations

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Background

- Pharmacy mentors have a crucial role in providing clinical skills to enhance the knowledge and confidence of Doctor of Pharmacy (Pharm.D) students during their clinical rotations.
- Continuous evaluation of knowledge and practical skills of mentors at clinical sites, a crucial factor for delivering quality education and developing a strong and effective clinical pharmacy workforce in India.

Aim

- To investigate the overall clinical experience of Pharm.D students during their clinical rotations and evaluate their mentors' abilities to provide them with the intended clinical skills.

Methods

- **Study Design:** PROSPECTIVE CROSS-SECTIONAL STUDY
- We conducted a ethically approved survey on senior Pharm.D students (fourth, fifth and sixth year) undertaking experiential clinical rotations in hospitals from 72 institutions across India from November to February 2015.
- We focused to obtain feedback regarding their clinical experiences and ability of their primary mentors in effectively honing their practical skills in the clinical sites to meet the curriculum goals.

Survey questionnaire

- Likert scale was used to assessed the overall satisfaction of clinical training program (1-least satisfied to 4-highly satisfied) and recognition of clinical pharmacy services at their clinical sites (highly accepted=5 to not accepted=1).
- One question was related to identifying common drug-related problems in their clinical sites

Survey questionnaire

- To assess the extent of which clinical sites provided opportunity to achieve competent Pharm.D goals, a 13-item questionnaire listing specific goals with a 4-point Likert scale ranging from '4-definitely occurred, 3-partially occurred, 2-did not occurred and 1-not applicable was utilized.
- Ten items asked to evaluate their primary mentor in his or her abilities to provide them the intended experiences by means of 5-point Likert scale (1-not applicable to 5- Strongly agree)

Statistical analysis

- Sociodemographic characteristics were summarized as descriptive statistics and inferential analysis.
- The percentages were computed for all the survey statements

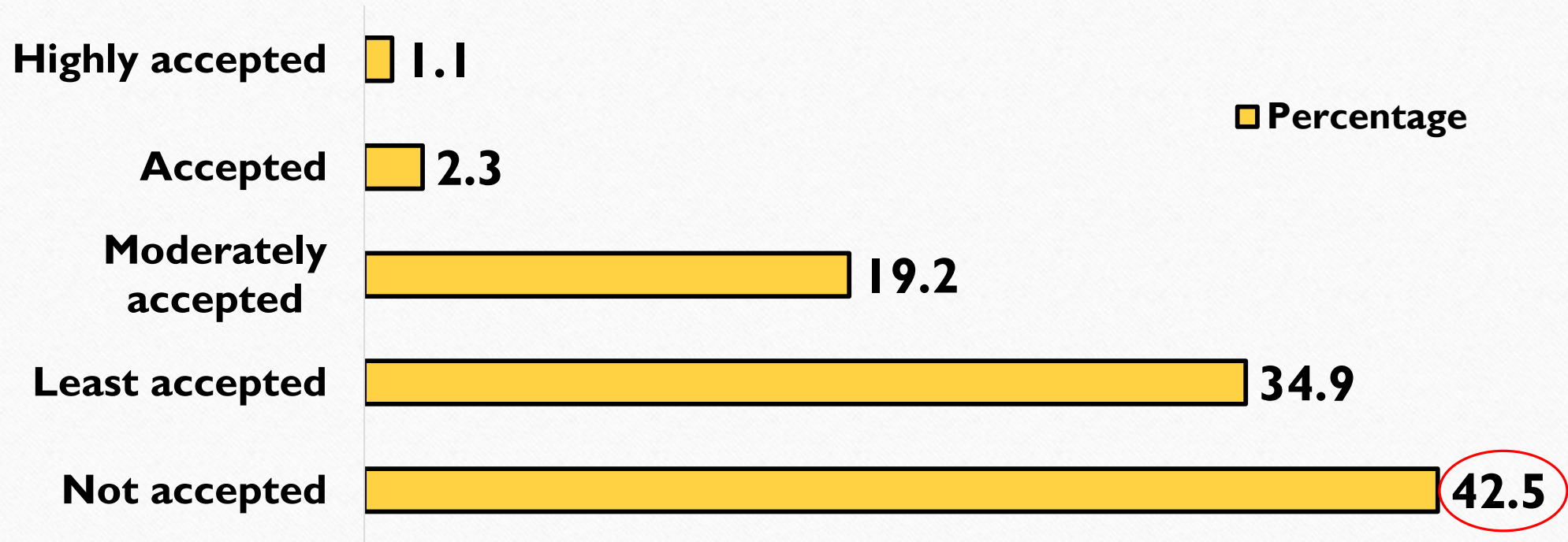
Results

- Of 415 senior Pharm.D students, 261 completed the survey (62.9% response rate) and slightly more than half (53.6%) were males. The mean (SD) age of sample is 23.5 ± 0.5 .
- An average of 4-6 clinical mentors were present in their institution with a primary mentor holding masters degree of pharmacy practice (60.9%).
- Of the surveyed participants, nearly three-fourth (74%) were fifth and final year interns and undertaking clinical training in private hospitals (60.9%).

Satisfaction of Pharm.D students on clinical training provided



Acceptance of clinical pharmacy services in their hospitals



Pharm.D students opinion on clinical training opportunities received

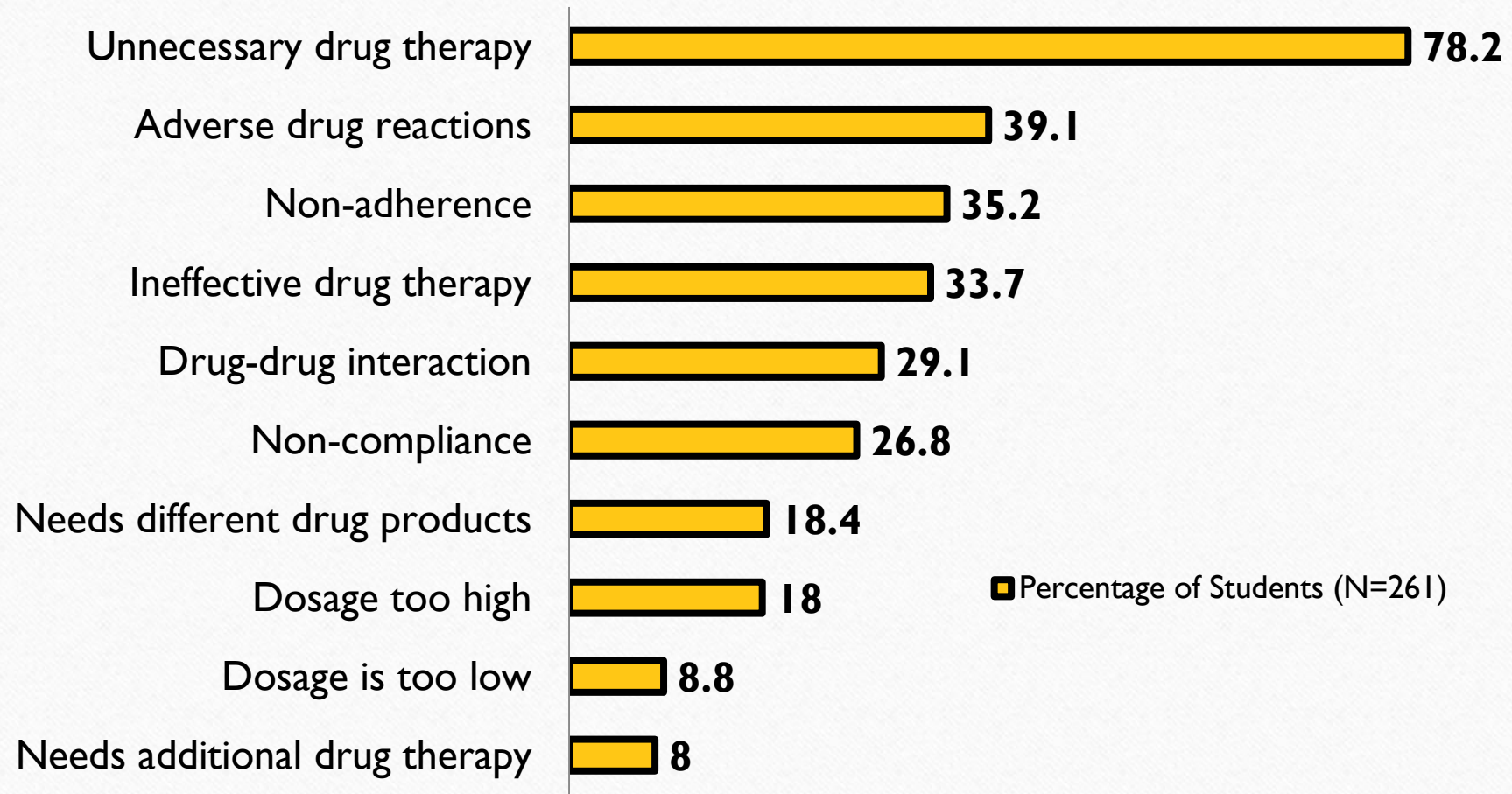
Extent of which these occurred (%)	DO	PO	NO	NA
Develop professional maturity and responsibility to contribute to patient care	34.9	39.5	23.8	1.9
Develop communication skills to establish pharmacist–patient therapeutic relationship and empathy	30.3	43.3	25.3	1.1
Develop ability to interview patients to obtain relevant information	26.8	51.0	15.3	6.9
Develop problem solving skills to assess patient’s drug therapy and medical conditions to identify drug-related problems	20.7	44.4	32.2	2.7
Develop ability to prioritize the identified drug-related problems in the order to be addressed	22.2	39.1	34.9	3.8

DO- definitely occurred; PO-partially occurred; NO-did not occur; NA-not applicable

Extent of which these occurred (%)	DO	PO	NO	NA
Integrate the theoretical aspects learned in the Pharm.D program for the assessment and resolution of drug therapy problems	19.9	46.0	30.3	3.8
Develop documentation skills using pharmaceutical care plans, including the drug-related problem, recommendations, monitoring plans and follow-up	18.0	42.1	35.6	4.2
Develop growing knowledge base of disease processes and therapies	31.8	42.5	22.2	3.4
Develop inter-professional communication skills and working relationship	14.6	52.5	30.3	2.7
Expanded exposure to patient records and their utilization to provide care	21.5	41.0	34.5	3.1
Expanded understanding of real and perceived barriers to providing pharmaceutical care in practice and how these may be overcome.	11.1	43.3	41.4	4.2

DO- definitely occurred; PO-partially occurred; NO-did not occur; NA-not applicable

Most commonly identified Drug-related problems by Pharm.D's during their clinical attachments



Opinion of Pharm.D students on their primary mentors

Extent to did these occurred	SA	MA	MD	SD
Provided adequate orientation including clinical setting expectations, introduction to ward staff, review of student's learning process	11.1	52.1	16.1	19.5
Provided opportunities to engage in all mandatory curricular activities	6.9	37.5	21.8	25.3
Met with students regularly to review work, provide direction and feedback	11.5	34.5	26.1	23.8
Gave clear instructions to students before entering clinical rotation sites	4.2	36.4	34.5	23.4
Involved students in active discussions and problem solving by the bedside	11.1	23.8	19.9	38.7
Was readily available to answer questions in wards	8.8	18.4	23.4	42.1
Demonstrated pharmaceutical care processes effectively	9.6	24.9	35.2	24.9
Encouraged students to use resource materials and learn on their own	14.6	29.9	26.8	26.1
Encouraged students to express opinions in patient drug-therapeutic issues	11.5	35.2	28.0	24.1

SA-strongly agree, MA-moderately agree, MD-moderately disagree, SD-strongly disagree, NA-not applicable

Conclusion

- This investigation revealed a majority of the Pharm.D students were least satisfied with their clinical training programme and identified deficiencies in its quality and reliability.
- One-third of the students expressed that their clinical sites did not provide them opportunity to hone pharmaceutical care skills, and more than 40% stated that their mentors were not available in the wards and did not provide patient-centered education.
- We highly recommend that the mentors should invest more time in clinical sites to provide adequate practice-based clinical training and patient-centered education for the Pharm.D students in India.



Thanking you
