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TO IDENTIFY THE GAPS IN TEACHING-TRAINING AND THE ACTUAL REQUIREMENTS OF FIELD PRACTICE OF ORTHOPAEDICS

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ABSTRACT

The teaching and the skills training imparted to post graduate residents of Orthopaedics should ideally conform to the actual requirements of the field practice. It's time we align our teaching and training with the needs of field practice so that the postgraduates of today are competent practitioners of tomorrow. The objective of the study is to analyze the feedback of Orthopaedic surgeons in order to chalk out the skills required to be taught to postgraduates for making them competent Orthopaedic surgeons. This pilot project was taken up by the department of Orthopaedics, after seeking due ethical clearance. Needs assessment was done through stakeholder's feedback analysis. Of the 109 questionnaires mailed, only 84 participants responded. A "Fishbone diagram" was developed to analyze the responses from the practicing Orthopaedic surgeons (n=33). Two major categories of problems identified in this group were: "inadequate knowledge" and "legal issues". Based on feedback from the stakeholders, gaps in postgraduate training were identified. The responses to the questionnaire received from teaching faculty, senior residents, alumni and post graduate students of Orthopaedics department and from practicing orthopedic surgeons helped us to identify the broad categories of necessary skills that must be taught during the three-year residency.

KEYWORDS: Competency, Postgraduate training, Orthopaedics, Surgeon, Skills, Questionnaire.

1. INTRODUCTION

Curriculum is the backbone of teaching and training programs in medical schools for graduate and postgraduate courses across the globe. [1-3] In India, the postgraduate program is being regulated by National Medical Commission (NMC) of India. The postgraduate medical education regulation (PGMER) 2000 of the National Medical Commission of India states that the postgraduate curriculum should be competency based and that each department must train their postgraduates, keeping in mind the competency framework. [4] However, in real practice, such competency based curriculum does not exist for postgraduates in most medical colleges across India. Though the medical colleges have their own curriculum, there is lack of uniformity in most postgraduate training programs, including Orthopaedics. It's time we identified the existing gaps in postgraduate training programs and make efforts to rectify the same through careful planning of a competency based curriculum for postgraduates. [5]

2. METHODOLOGY

This pilot project was taken up in the department of Orthopaedics, after seeking ethical clearance from the Institutional Ethical committee. Needs assessment was done through various stakeholders. The need assessment questionnaires were developed separately for faculty, senior residents, Alumni, 2nd and 3rd year post graduate students of our department and for other practicing Orthopaedic

surgeons. The questionnaire was then validated. A pilot test run was done and the questionnaires were further refined.

The validated questionnaires were then mailed to 109 participants which included the faculty members (n=08), senior residents (n=06), alumni (n=34), postgraduates (n=10) of the department of Orthopaedics of our Institute and practicing Orthopaedic surgeons (n=51). Of the 109 questionnaires emailed, only 84 responded. Those that responded to the questionnaire included teaching faculty (n=08), senior residents (n=05), alumni (n=28), postgraduates (n=10) and practicing Orthopaedic surgeons (n=33).

3. RESULTS AND DISCUSSION

The responses from all stakeholders were analyzed and the responses were categorized as those received from practicing Orthopaedic surgeons while the second category included the feedback from the teaching faculty, senior residents, postgraduates & alumni. Both categories of feedback were analyzed separately.

All responses from the practicing Orthopaedic surgeons (n=33) were coded and themes and sub themes were generated, which led to the emergence of two major problems: (a) inadequate knowledge and (b) Legal issues. Hence, a fishbone diagram was developed to assess the cause factors which were directly responsible for these two major problems (Figure1 & Figure2).

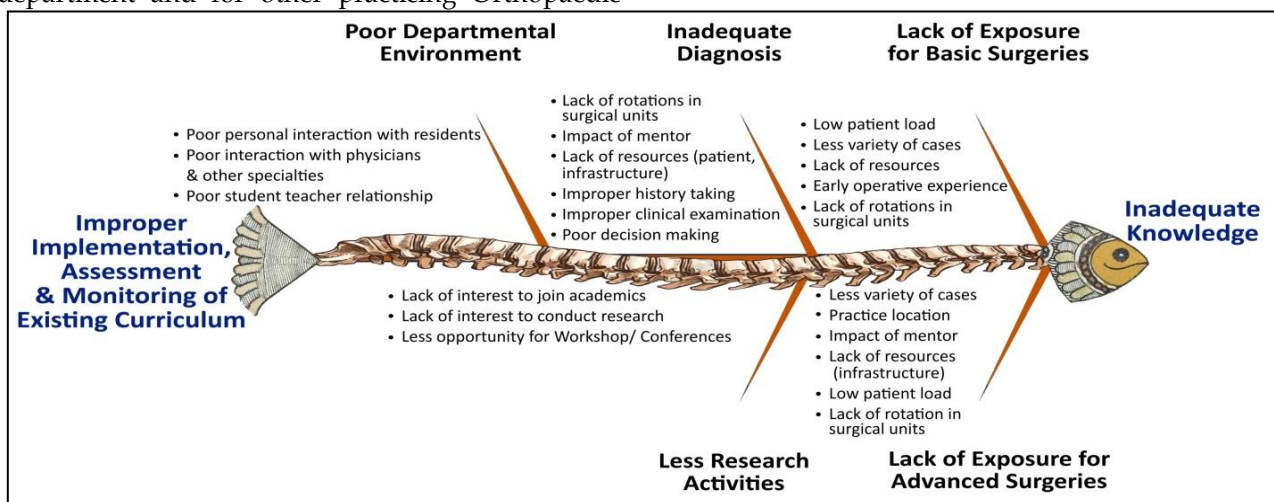


Figure 1: Fishbone diagram showing inadequate knowledge and its related cause factors among practicing orthopaedic surgeons (n=33)

The fishbone diagram (Fig. I) shows that there were mainly five factors responsible for the inadequate knowledge: lack of exposure for basic surgeries and advance surgeries, inadequate diagnosis, less participation in research activities

and poor departmental environment and the root cause was improper implementation assessment & monitoring of existing curriculum while they were pursuing their post-graduation.

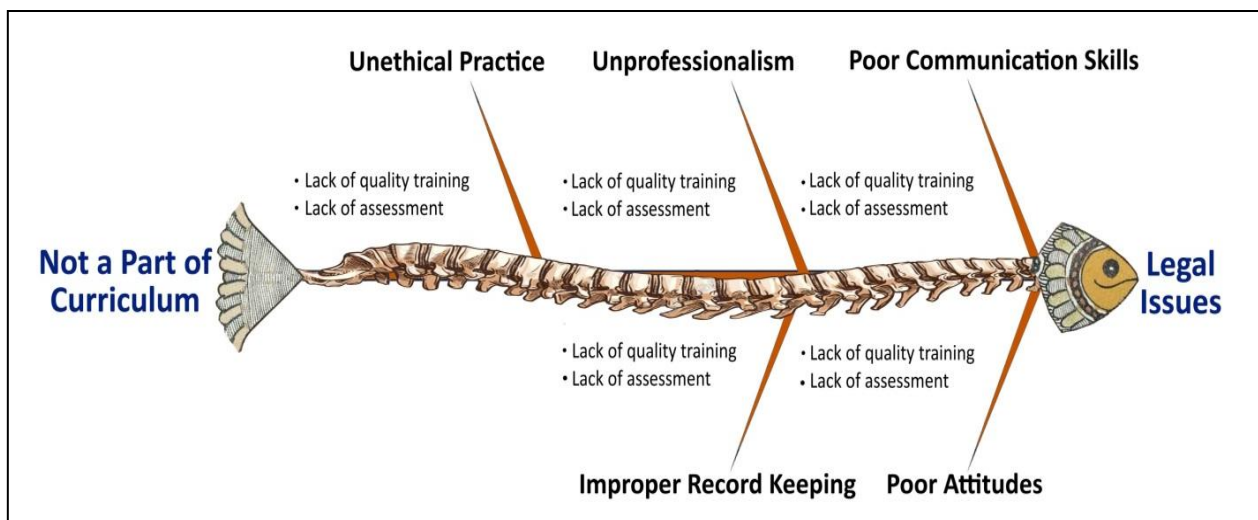


Figure 2: Fishbone diagram shows legal issues and its related cause factors among practicing orthopaedic surgeons (n=33)

The medico legal issues faced by the practicing Orthopaedic surgeons, as identified on analysis of their feedback, mainly arose due to poor communication skills, attitudes, unprofessionalism, improper record keeping and unethical practice (Figure 2).

Further sub analysis of the two root causes revealed that most of the practicing Orthopaedic

surgeons confessed that these problems can be attributed to either improper training or no training in communication skills (82.8%), attitudes (78.5%), research oriented activities (78.4%), record keeping (78.0%), professionalism (69.5%) and also due to poor exposure to advanced (69.5%) as well as basic surgeries (52.2%) and other causes (Table 1).

Table 1: Extent of the problems contributing to inadequate knowledge and legal issues among practicing Orthopaedic surgeons (n=33)

Common Problems identified	Percent Response (%)
Communication skills	82.8
Attitudes	78.5
Research oriented activities	78.4
Record keeping	78.0
Professionalism	69.5
Poor exposure to advance surgeries	69.5
Diagnosis and treatment	62.2
Ethics	55.6
Poor exposure to basic surgeries	52.2

The second category included the teaching faculty (n=08), senior residents (n=05), postgraduates (n=10) & alumni (n=28). Their feedback helped us to identify

the broad category of skills that must be taught and deemed necessary for a competent Orthopaedic surgeon (Table 2).

Table 2: Broad category of skills identified by teaching faculty, senior resident, post graduate and alumni for which training must be imparted during three year residency program (n=51)

Skills	PG Students (%) (n=10)	Alumni (%) (n=28)	Senior Residents (%) (n=05)	Teaching Faculty (%) (n=08)
Basic surgical skills	100.0	100.0	94.2	100.0
Communication skills	66.7	38.9	44.6	57.1
Clinical skills	33.3	48.9	77.6	85.7
Advance surgical skills	22.2	16.7	39.5	42.9
Research	33.3	61.1	31.2	44.3
Ethics	22.2	38.9	24.5	28.6

4. DISCUSSION

The skills required of a practicing Orthopaedic

surgeon often do not match well with skills taught in the three year post graduate residency programs. Hence, we conducted a need assessment by taking

questionnaire-based feedback from various stakeholders namely, the teaching faculty (n=08), senior residents (n=05), alumni (n=28), 2nd and 3rd year orthopaedic residents (n=10), and the practicing Orthopaedic surgeons (n=33).

The questionnaires were analyzed in detail and the feedback thus received from 33 practicing Orthopaedic surgeons who responded to our questionnaires, revealed two major problems namely- 'Inadequate knowledge' and 'Legal issues'. The five factors which contributed to inadequate knowledge were lack of exposure to basic surgeries and advance surgeries, improper training to solve diagnostic dilemmas, lack of robust research activities and a non-congenial environment in the department at their respective medical colleges where they were trained as postgraduates (Fig-1). Besides these, poor infrastructure, lack of mentorship program and improper rotation of residents to different units also became a limitation. Exposure to a variety of cases during the training period was compromised as the residents did not get a fair chance to be posted to all the component units (Fig-1). Another very interesting sub-factor, the 'impact of a mentor' also came up during analysis of responses to the questionnaire (Fig-1). Though we could not dig further on the impact of mentor, but studies have revealed that a good mentor can support, guide and provide appropriate professional opportunities to learn [6]. Improper rotation of postgraduates to various surgical units in their respective medical colleges, during post-graduation, may have led to disproportionate exposure to different types of cases and a missed opportunity to learn from all teaching faculty in the department. The enormous patient load in India could have been an advantage in terms of number and variety of cases that each resident comes across, but it turned into a disadvantage due to lack of rotations and poor or no mentorship program.

The doctor: patient ratio in India is critically low, more so in Orthopaedics [6]. Though this ratio is an advantage as it gives ample opportunities to be exposed to almost all basic surgeries during the postgraduate training tenure but at the cost of enormous workload. This excessive workload may have compromised the time that could have been dedicated to skill acquisition in both basic and advanced surgical skills across different hospitals where these surgeons were trained. The lack of skill labs further restricts the basic training in a step-wise manner during the initial stages of skill acquisition; these are very modifiable factors and can be worked upon in residency programs. Poor access to advance surgeries in the three-year residency program can be

partly attributed to non-availability of specialty clinics, poor infrastructure and nearly non-existent mentorship program in most medical colleges.

The cause factors for legal issues among practicing Orthopaedic surgeons were very different from the factors related to inadequate knowledge. They felt that legal hassles were primarily due to poor communication skills, inappropriate attitudes, lack of professionalism, improper record keeping and unethical practices. These concerns are quite similar to those raised earlier by Raveesh et al. [7] We deciphered that the probable reason could be non addressal of issues pertaining to ethics, communication, professionalism and record keeping in postgraduate curriculum.

A conscientious practice where the practitioner establishes appropriate communication, explains prognosis and refrains from blaming his co-practitioners can prevent most legal issues. [8]. It has been suggested that a doctor must avoid defensive practice. [9, 10]

Sub analysis of these 2 major problems - 'inadequate knowledge' and 'legal issues', as identified by practicing Orthopaedic surgeons, further revealed the probable causes contributing to these problems was poor communication skills (82.8%), surprisingly one of the greatest contributors, followed by lack of training in soft skills like attitudes (78.5%), professionalism (69.5%) and ethics (55.6%). One of the barriers for acquisition of these skills is lack of a formal curriculum in India mandating the incorporation of non-technical skills in the residency programs. [11, 12].

Basic surgical skills followed by communication skills and clinical skills were identified as the most important skill for a competent Orthopaedic surgeon in questionnaires from **faculty, senior residents, postgraduates and alumni** (Table 2). For practicing Orthopaedic surgeons, the need to be trained in 'affective domain' came even before the training at basic and advanced surgical skills (Table 1). However, the teaching faculty, senior residents, post graduate students and alumni expressed a higher preference for training in basic, clinical and advanced surgical skills along with training in affective domain (Table 2). The difference in the concerns indicated the need for laying greater emphasis on the neglected and undermined affective components during the three year postgraduate training program as they are of great relevance in professional practice. Specific instruction and evaluation modules for communication skills must be designed as good communication is the most effective link between a clinician and his patients, colleagues and all other

health professionals. [13, 14, 15, 16] Interpersonal skills must be taught and assessed in order to strike a greater balance between educational outcomes and needs of field practice. [17, 18]

The need for training in ethics was pointed out by all stakeholders. Ethics is a neglected area in postgraduate training programs. [19, 20] Walsh BC et al used ethics module to teach professionalism to orthopaedics residents and found them extremely valuable [20]. They introduced a variety of ethical scenarios that one may encounter in clinical practice. Similar modules can be used in Indian scenario too. The need to pursue ethics and philosophy is deemed necessary to maintain integrity and dignity of the profession. [19]

Poor documentation and less exposure to research were also some of the concerns raised by most practicing Orthopaedicians in our study. This may have been due to lack of emphasis on documentation during post-graduate training. Documentation when truthful and accurate, holds immense legal credibility and must be taught and formally assessed. [21] Poor infrastructure and lab facilities have been used as an alibi for the staggering pace of research in India and this may lead to poor quality research and needs greater emphasis. [19]

Besides improvising on the clinical skills, basic surgical skills & research, there is a pressing need to formulate and assess non-technical skills like: communication skills, professionalism, attitudes,

record keeping and ethics. The residency programs must be uniform, need-based and tailored to suit the needs of the Indian scenario. [12, 15, 16, 22, 23]

4.1. Limitations

Not all people responded to the questionnaire. It was a herculean task to obtain responses from practicing orthopaedic surgeons.

5. CONCLUSION

There has been a global concern regarding the need to match the needs and expectations of the patients. Needs assessment from the stakeholders enabled us to identify the gaps in the existing postgraduate Orthopaedic training program when compared with the needs and challenges of the field practice. Our study highlighted the need to explicitly teach and assess non-technical skills in India as several accreditation bodies across the world treat them as core competencies. It's time that outcomes of teaching are aligned to societal needs in the traditional curriculum based teaching.

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