

## Quality of Teaching Provided by Surgical Residents: An Evaluation of the Perception of Medical Students

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### ABSTRACTS

**BACKGROUND:** Surgical residents teach and interact with Medical students during surgery clerkship. However, the quality of teaching by surgical resident as perceived by medical students has not been assessed in our setting. The aim of this report is to evaluate the quality of teaching provided by surgical residents as perceived by Medical students

**METHODS:** This is a cross sectional study involving final year 2005-2006 medical students of Ahmadu Bello University Zaria, Nigeria. The characteristics and skills of surgical residents' teaching role as perceived by medical students were determined. The Information was obtained using a structured questionnaire. Data obtained was analyzed using SPSS version 11.0

**RESULTS:** A total of 120 medical students participated in the study. The age range was 24 - 36years (mean 26.88±2.19). There were 87 (72.5%) males and 33(27.5%) females.

In assessing the qualities of a teacher among surgical residents, 83(69%) of the students believed the surgical resident has good teaching skills, 101(84%) believed they were committed to teaching, 118(98%) they were available, 109(91%) had inspirational ability. In assessing the qualities of a surgeon, 116(97%) believed the surgical resident has enthusiasm for surgery, 106(88%) empathy for patients, 78 (65%) fund for knowledge. Assessment of the qualities of a supervisor revealed 118(98%) Got medical students involved, hands on, 78(65%) set fair expectations, 113(94%) Gave them feedbacks, 118(98%) supervised them adequately. In term of the qualities of the person 107(89%) believed a surgical resident is supportive, 94(78%) considerate, 115(96%) friendly, 108(90%) fun to work with. Overall assessment perceived by medical students revealed Senior Registrar having better qualities of teaching than Registrar. These qualities were rated good and outstanding by majority of the medical students.

**CONCLUSION:** Medical students' perception of teaching provided by surgical residents is encouraging in our setting. This emphasizes the important role of the surgical resident in undergraduate medical training. Thus, the teaching skills of surgical residents should be encouraged and sustained.

**KEY WORDS:** Surgical Residents, Teaching, Medical Students, Perception

### INTRODUCTION

Medical students are usually taught by surgical residents at different levels and fora during undergraduate training. The benefit of surgical residents' teaching role is increasingly being recognized<sup>1</sup>. Surgical residents spend much time, interacting with medical students both during working hours and at call times. It has also been shown that effective education and mentorship of surgical residents influence medical students to pursue a surgical career<sup>2, 3</sup>. All these avenues and others offer opportunities for detailed clinical exposure for medical students during undergraduate training<sup>4,5</sup>. However, the impact of this teaching by surgical residents as perceived by the medical students is yet to be determined in our setting. This report explored students' views regarding the degree of influence, satisfaction and the quality of teaching provided by surgical residents.

### MATERIALS AND METHODS

During the academic year of 2005-2006, 120 medical students completed their third year surgical clerkship (phase III, 600Level) at Ahmadu Bello University medical school, Zaria, Nigeria. On completion of the clerkship, which was the last surgery posting before the final M B; B S examination; students were asked to complete a structured questionnaire regarding the quality of teaching, quality of being a surgeon, supervisory role and interpersonal relationship exhibited by surgical residents. The students were also asked to rate these qualities using a simple scale including horrible, poor, average, good and outstanding. This survey was done on the day after completion of the phase III posting. The phase III posting consisted of 4 weeks on a general surgical team at Ahmadu Bello University Teaching Hospital, (a tertiary referral centre) and 4 weeks at an inner city community hospital in Zaria. In all rotations, students were integral parts of the surgical team with surgical residents active in their teaching. Activities included operating room sessions, outpatient clinics, accident and emergency room sessions and in-patient consultation. They also participated in bed side teaching rounds led by a senior surgical resident. In addition, students were assigned weekly tutorial topics for presentations and discussion. Before this stage (phase III, 600 Level), the surgical postings already completed by the students included; 4 weeks (300Level) introductory posting; 8weeks (400Level) Phase I clerkship; 8 weeks (500Level) Phase II clerkship. In all these rotations, residents were actively involved in teaching the students.

The data was analyzed using SPSS version 11.0. The chi-square test for categorical variables was used to test for significance where appropriate. The significant level was set at 0.05 for all statistical tests.

**RESULTS**

All 120 medical students in the class participated in the study, given a response rate of 100%. The age range was 24 - 36years (median 28years). There were 87 (72.5%) males and 33(27.5%) females.

**Qualities of a teacher:** In assessing the qualities of a teacher among surgical residents, 83(69%) of the students believed a surgical resident has good teaching skills, 101(84%) believed they were committed to teaching, 118(98%) felt surgical residents were readily available, 109(91%) agreed surgical resident have inspirational ability (fig. 1).

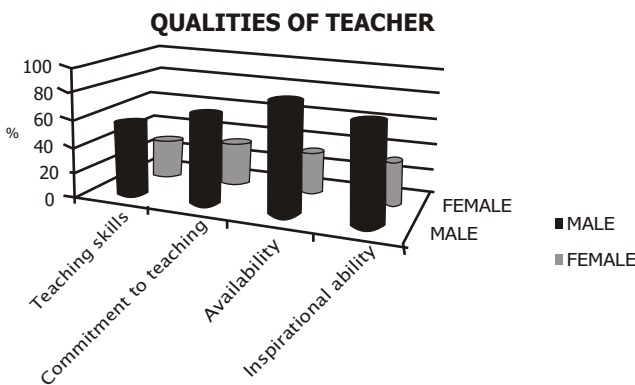


Fig. 1. The qualities of teacher

**Qualities of a Surgeon:** In assessing the qualities of a surgeon, 116(97%) believed surgical resident has enthusiasm for surgery, 71(59%) felt surgical resident has competence-care of patients, 106(88%) believed they had empathy for patients, while 78 (65%) believed they had fund of knowledge (fig. 2).

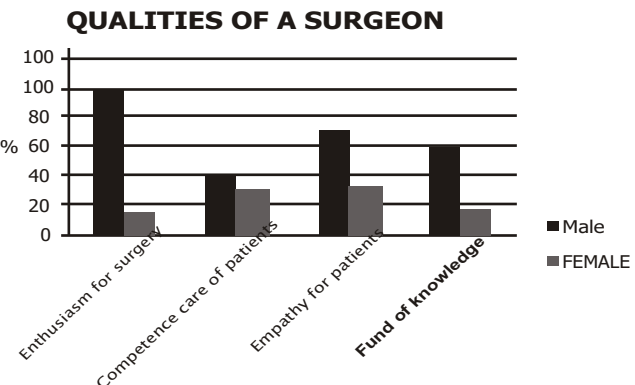


Fig. 2. The qualities of a surgeon

**Qualities of a Supervisor:** Assessment of the qualities of a supervisor revealed 118(98%) believed surgical resident got medical students involved- hands on, 78(65%) felt they set fair expectations, 113(94%) believed surgical resident gave them feedbacks, 118(98%) believed surgical resident supervised them

adequately (fig. 3).

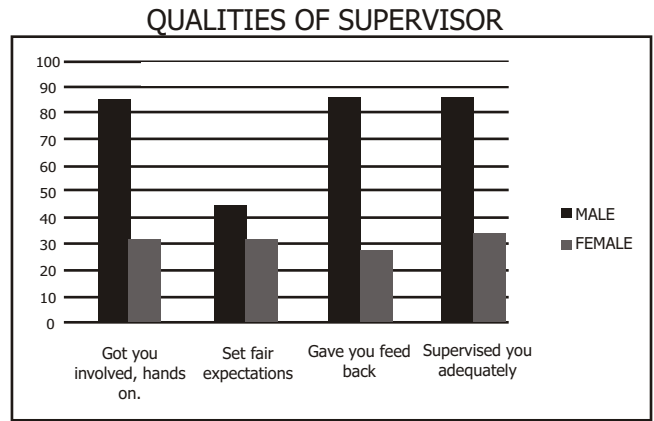


Fig. 3. The qualities of a supervisor

**Qualities of a Person:** In term of the qualities of a person 107(89%) believed a surgical resident was supportive, 94(78%) believed the resident was considerate, 115(96%) agreed he was friendly, 108(90%) felt they were fun to work with (fig. 4).



Fig. 4. The qualities of a person

**Assessment by status of the Resident:** Assessment by status of resident revealed Senior Registrar had better qualities of teaching skills, than registrar (Table1 and fig. 5).

	Senior Registrar	Registrar
Qualities of teacher n=104(86.9%)	74(61.8 )	30( 25.1 )
Qualities of surgeon n=92(76.4%)	65( 53.9 )	27(22.4 )
Qualities of supervisor n=114(94.7%)	81(67.3 )	33( 27.4 )
Qualities of a person n=101(84.1%)	70(58.3 )	31( 25.8 )

Table 1. Assessment by status of resident

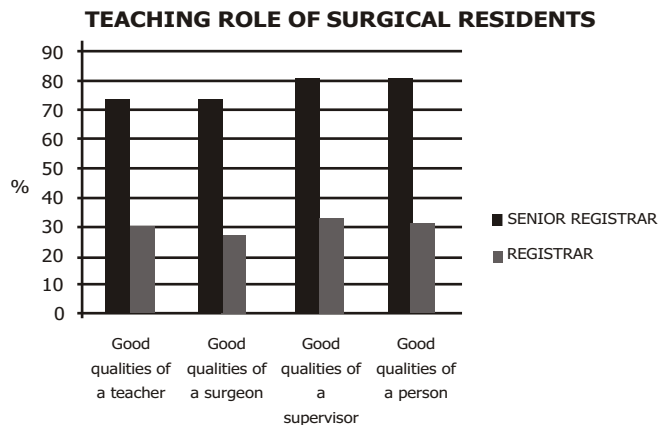
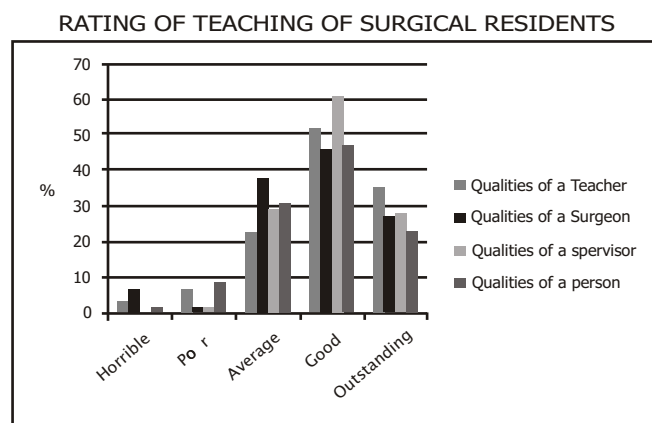


Fig. 5. Teaching role of surgical residents

**Rating of qualities:** The rating of these qualities using a simple scale revealed a reasonable number of medical students believed that surgical resident's quality of teaching is good and outstanding ( Table 2 and fig 6).

Teaching Role	Horrible	Poor	Average	Good	Outstanding
Qualities of Teacher n=120 (%)	3(3.6)	7(8.4)	23(27.6)	52(62.4)	35(42.0)
Qualities of Surgeon n=120 (%)	7(8.4)	2(2.4)	38(45.6)	46(55.2)	35(42.0)
Qualities of Supervisor n=120 (%)	0(0.0)	2(2.4)	39(46.8)	61(73.2)	28(33.6)
Qualities of Person n=120 (%)	2(2.4)	9(10.8)	31(37.2)	47(56.4)	23(27.6)

**Table 2. Rating of teaching role of surgical residents**



**Fig. 6. Rating of teaching role of surgical residents**

## DISCUSSION

Most opportunities for undergraduate teaching provided by surgical residents occur in an informal setting<sup>4</sup>. Rarely, are surgical residents called upon to deliver a classroom lecture<sup>2, 4</sup>. The significance of the frequent interaction of medical students with surgical residents during working hours and at call times has great impact on medical students' education<sup>5</sup>.

In the present report, we sought the perceptions of final year medical students in our institution about the qualities of teaching, qualities of a surgeon, supervisory role and qualities of a person exhibited by surgical residents. We found that medical students appreciate and expressed satisfaction with the teaching role of surgical residents.

**Qualities of teacher:** It has been shown by previous reports<sup>6-8</sup> that students are more satisfied with their clerkship experience when residents actively fulfill their teaching role. However, it is important for residents to always cite medical literature to support patient care decisions. This has been shown to increase medical students' satisfaction<sup>9</sup>. Limited evidence now suggests that better resident teachers mean better academic performance by medical students<sup>8</sup>. It is not surprising therefore, that efforts are being made increasingly to see

how surgical resident can teach most proficiently<sup>3,4,10</sup>.

Teaching techniques vary with venue, content, skills and group size<sup>4</sup>. Surgical Resident Avenue for teaching though informal have been shown to have good impact<sup>3, 11</sup>. This is because the advantages of small group teaching have been shown to outweigh that of formal lectures<sup>12</sup>. Content is delivered in bits; opportunities to display interactive, motor, and attitudinal behaviours are more frequent<sup>12, 13</sup>. In our setting, medical students perceive surgical resident to have high teaching qualities. This has positive implications for role of residents in undergraduate teaching.

**Qualities of a surgeon:** Surgery is a blend of theoretical knowledge, operating skills, and interpersonal skills<sup>9</sup>. It is often said that skills can best be acquired when transferred from one experienced surgeon to a young enthusiastic surgeon<sup>5,6</sup>. A surgical resident is expected to encourage, cajole and compassionately stimulate the student to achieve necessary skills to become an independent practitioner in surgery<sup>3,6</sup>. It is therefore not surprising, in this report, that most medical students believed that a surgical resident has got good qualities of a surgeon.

**Qualities of a supervisor:** The random nature of accruing procedural and patient care skills by medical trainee, without supervision should be discouraged. Previous reports<sup>13, 14</sup> have shown that acquiring skills needs deliberate practice and supervision. However, being overtly supervised has been shown by other reports<sup>9</sup>, on the other hand, to have negatively impact satisfaction among surgical trainee. Thus, there should be an ideal mix of supervision and independence of a trainee for his surgical skills to bud and blossom. Adequate supervision of a trainee has been shown to have enhanced satisfaction, not only of the trainee, but also of a trainer<sup>15</sup>. The close relationship of surgical residents to medical students during working hours and at call times affords surgical residents to closely supervise them. In this report, getting medical students involved, hands on and being supervised adequately were part of the major attributes medical students considered to have placed surgical residents in a good position to teach.

**Qualities of a person:** The interaction of surgical residents with medical students demands not only impacting medical knowledge to them but also have an enhanced interpersonal relationship. The surgical resident needs to be supportive, considerate and be friendly and fun to work with<sup>15, 16</sup>. In this report, fun to work with a surgical resident was part of the major factors that gave medical students a lot of satisfaction.

**Assessment by status of Resident:** In our setting, the

student expressed more satisfaction with senior registrars than registrars. This may be related to the fact that senior registrars are expected to be more knowledgeable and more experienced at teaching students.

**Rating of qualities:** A reasonable number of medical students believed that surgical residents' quality of teaching is good and outstanding. This is an encouraging finding that will require further study. Previous reports<sup>15, 17</sup> have shown that Medical students exposed to the highest rated residents were more likely to pursue surgical residency training compared with students exposed to the least effective residents. The general belief that a better resident teacher becomes more effective learner and better physician is pertinent<sup>18-20</sup>.

Along with independent reading and tutorials, resident teaching contributes a significant portion to the medical student's acquisition of knowledge and may contribute to the students' choice of surgery as a future career<sup>20, 21</sup>. The teaching skills of surgical residents should be sustained<sup>22</sup>, considering that medical students may receive 20-70%<sup>4</sup> of their instructions from surgical residents during undergraduate training.

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