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Original Research Article

Opinions on basic surgical skills laboratory for undergraduate medical education: optional or a necessity in Nigeria

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ABSTRACT

Background: The foundation in training in any profession attracts considerable attention because it is crucial to the long-term survival of that profession. The traditional method of acquiring set skills has always been that of initial observation, then assisting in the act, and finally performing under supervision. Today, there is a notable shift in that method of training for the acquisition of surgical skills, with emphasis on acquiring the skills first outside of the operating room in dry and wet laboratories. This study aims to evaluate the knowledge, experiences and opinions of medical doctors in Port Harcourt on basic surgical skills for undergraduate medical training in Nigeria.
Methods: A questionnaire-based cross-sectional descriptive study was carried out among 564 Medical Doctors in Port Harcourt, Nigeria, using total population. Information on demographics, knowledge and experiences on basic surgical skills was collated and analyzed using the Statistical Package for the Social Sciences (SPSS) version 20.0.
Results: The mean age of the respondents was 34.89±9.25. Mean knowledge score of basic surgical skills during undergraduate medical training was 63.73±14.80, and 86.52±16.32 during houseman-ship. Four hundred and forty-nine (79.6%) respondents had experienced practical challenges when carrying out basic surgical skills during medical practice after graduation. First experience at suturing patient's wound was full of struggling/difficulty for 213 (37.8%) respondents.
Conclusion: Although the mean knowledge score for basic surgical skills among respondents was above average, practical experiences revealed that some respondents had difficulty in carrying out significant number of basic surgical skills. Supervised usage of basic surgical skills laboratory should be mandatory to ensure that it fulfils the purpose of its establishment.

Keywords: Basic Surgical Skills, Laboratory, Undergraduate Medical Training, Port Harcourt, Nigeria

INTRODUCTION

The foundation in training in any profession attracts considerable attention due to the importance it plays in the overall long-term survival of the trade in question.[1] This is a well-known fact in any discipline, especially the construction industry in order to prevent mishaps,[2, 3] the aviation industry to forestall disaster in raising a good family, and in medicine to minimize risk in practice.[4-8] Multiple layers of skills are acquired during medical training, including the ability to extract useful information in a structured format from patients' history and

examination, ability to make an evidence-based diagnosis (from the disease features compared with the bank of information on normal physiology and pathology of diseases), ability to initiate goal-directed laboratory investigations (to rule-out/confirm diagnosis and manage the patient), ability to outline treatment measures to counter what has gone wrong with the patient (using pharmacologic or surgical intervention). Among these lifetime skillsets is basic surgical skills, which should prepare the trainee on how/what to do, should the patients' treatment have a surgical component. The possession of all these skills in one person partly distinguishes the medical doctor from other members of the healthcare team, allowing him/her to be licensed and held responsible for the outcome of the patient under his/her care.[9-13] However, for efficient accomplishment of desired goals in modern practice, specialization and collaboration with other members of the healthcare team are key.[14, 15]

The traditional method of acquiring set skills has always been that of initial observation, then assisting in the act, and finally performing under supervision.[16] However, emphasis has been on acquiring the skills first outside the operating theatre setting in dry and wet laboratories.[17] An initial physical practice followed by mental imagery has been reported to be useful in learning basic surgical skills in a cost-effective manner.[18] A five-stage combination learning approach with simulated tissue was described by an author, involving an animated graphic (watching), a clinical video (watching), demonstration on a simulated tissue model (watching), performing the procedure on a model (practical), and then performing the procedure on a patient (doing under supervision).[19] Peer-assisted learning of basic surgical skills by undergraduate students in a higher class, has also been tried and found to be rewarding.[20] Emerging evidence in Europe and Australia suggests insufficiency in basic surgical skills learning opportunities among undergraduates.[20,21] Similar observation has been reported in the United States, Canada, Asia, Cameron, etc.[22] with advocacy and inclusion of surgical skills education into undergraduate medical curriculum.[23-26] Exposure to surgical skills is also known to affect students' interest and choice of surgical specialty subsequently.[27,28] In rural Africa, much of the surgical workforce is carried out by non-specialist physicians whose skills, it has been reported, require special surgical intervention programs for enhancement.[29,30] It has been observed, though informally among young medical doctors in our environment, that there is deficiency in common surgical skills needed for day-to-day medical practice such as: how to wear gloves, how to suture wounds, how to tie surgical knots, knowledge of sutures, etc. This is corroborated by the findings of an audit of surgical skills of final year medical students carried out about nine years ago, in which the exposure level was reported to be low.[31] Lack of confidence in common surgical skills among newly trained medical doctors is also a source of concern. In Nigeria, an early experience of introduction of some practical suturing skill acquisition in undergraduate surgical education was reported in Ile-Ife.[32] The technical skills of medical students who were involved in undergraduate basic surgical skills course and interns who did not take the course were compared in another study using the objective structured assessment of technical skills (OSATS), and it was found to be higher among students who took the course.[33] Though not exclusively, the internship year has been advocated as the most appropriate time to impart these skillset.[34] However, this one-year period is regimented into three-monthly rotations to paediatrics, obstetrics and gynaecology, internal medicine and surgery. Additionally, if this one-year period is to be considered for this exercise, differences in places/hospitals of postings and individual preferences may downplay the seriousness that is needed to execute this task in our setting. This study therefore aims to evaluate the knowledge, experiences, and the opinions of medical doctors in Port Harcourt on basic surgical skills for undergraduate medical training in Nigeria in the year 2021.

METHODS

Study design, location, sites and population

A descriptive cross-sectional study was carried out in Port Harcourt, the capital city of Rivers State, Nigeria. The study site was the Clinical Meetings of Departments in Teaching Hospitals and General Meetings of the Nigerian Medical Association Rivers State branch from October 2021 to March 2022, ensuring that double sampling was avoided. Medical doctors practicing in Port Harcourt Nigeria, who were present at the meetings were recruited.

Exclusion criteria

Doctors who were too busy in the meetings or declined consent were excluded.

Sample Size Determination: The minimum study sample size was determined using the formula for survey developed by Yaro Yamen based on estimated population of medical doctors in Port Harcourt estimated to be 4,000 obtained from the Nigeria Medical Association Secretariat.

$$n = \frac{N}{1 + Ne^2}$$

Where n=minimum sample size, N=Total population size (of doctors) and e=desired precision/level of significance, usually 5% (0.05) at 95% Confidence Interval (CI). Hence, we have n=4,000; 1+4,000 X 0.052 = 363.6 being approximately 364. Thus, 575 questionnaires were distributed to survey participants, and 564 were retrieved.

Sampling method and study instrument

All medical doctors who gave consent were included. Self-administered semi-structured questionnaire was used.

Variables

Information on socio-demographics, knowledge of basic surgical skills, experiences of medical doctors with the knowledge obtained, and the opinion of medical doctors on the inclusion of basic surgical skills laboratory for undergraduate medical training was obtained. A twenty-three-item list was developed from the minimum surgical skills requirement for undergraduate medical training, contained in the red book of the medical and dental council of Nigeria.[35] This was used to rate knowledge of respondents on the basic surgical skills during undergraduate medical training and during houseman-ship. Each item was scored on a scale of 1-5, with 1 being the lowest and 5 being the highest score. The minimum knowledge score for the 23 items (variables) used for this study was 23 and maximum score 115.

Bias

Although total population of medical doctors practicing in Port Harcourt was targeted, medical doctors practicing in some private clinics who did not attend meetings of their associations (where data was collected) could not be captured, and therefore their opinion was missed.

Data analysis

Data obtained was formed into tables and analysed using the IBM Statistical Package for the Social Sciences (SPSS) version 20.0.

Validity/reliability of instrument

The information in the study instruments was scrutinized and critiqued by all authors to ensure that they achieved the set objectives. The Cronbach alpha (in SPSS) was used for the validity of the study instrument, and yielded a value of 0.849.

RESULTS

A 98.0% questionnaire retrieval was achieved and a total of five hundred and sixty-four (564) respondents were involved in the study. The sociodemographic characteristics of respondents is depicted in (Table 1). There were 344 (61.0%) males and 220 (39.0%) females. The mean age of the respondents was 34.89±9.25, the minimum age was 21 years and maximum age was 62 years. After grouping the age, it was observed that 240 (42.6%) were between 21-30 years, 182 (32.3%) were 31-40 years, 101 (17.9%) were 41-50 years, and 41 (7.3%) were more than 50 years. Two hundred and seventy-six (48.9%) respondents were single, while 271 (48.0%) were married. Three hundred and thirty (58.5%) respondents possessed only first degree, 120 (21.3%) had Master's Degree, 35 (6.2%) had PhD qualification, and 48 (8.5%) had Fellowship qualification. Two hundred and seventy-five (48.8%) respondents had their undergraduate medical training in Port Harcourt, 182 (32.3%) were trained in other Nigerian medical schools, and 107 (19.0%) respondents were foreign-trained. Two hundred and thirty-seven (42.0%) respondents had practiced for less than five years (post qualification), 167 (29.6%), 101 (17.9%), and 38 (6.7%) had practice for 5-9 years, 10-14 years, and 15-19 years respectively.

Table 1: Socio-demographic characteristics of respondents (n=564).

Variables	N	%
Sex		
Male	344	61.0
Female	220	39.0
Age (years) (Mean=34.89±9.25; minimum= 21, maximum 62)		
21-30	240	42.6
31-40	182	32.3
4-50	101	17.9
Above 50	41	7.3
Marital status		
Single	276	48.9
Married	271	48.0
Separated	17	3.0
Educational qualification		
First degree	330	58.5
Master's degree	120	21.3
PhD	35	6.2
Fellowship	48	8.5
Others	31	5.5
Religion		
Christianity	528	93.6
Islam	26	4.6
Others	10	1.8
Medical school of training		
Port Harcourt/Rivers State	275	48.8
Other Nigerian Schools	182	32.3
Foreign (Outside Nigeria)	107	19.0
Years of practice (post qualification)		
Less than 5	237	42.0
5-9	167	29.6
10-14	101	17.9
15-19	38	6.7
20-24	14	2.5
25-29	7	1.2

The respondents' knowledge of basic surgical skills during undergraduate medical training is shown in (Table 2). The minimum knowledge score achievable was 23 and the maximum score achievable was 115. Respondents had a mean knowledge score of basic surgical skills during undergraduate medical training of 63.73±14.80 (Table 3). The minimum scored was 24 and maximum scored was 109. From item on surgical scrubbing down to excision biopsy of simple lumps, almost half and in some cases more than half had average knowledge of basic surgical skills during undergraduate medical training. The respondents' knowledge of basic surgical skills during Houseman-ship. The mean knowledge score of basic surgical skills during Houseman-ship was 86.52±16.32, the minimum score was 34 and maximum score was 111.

Table 2: Knowledge of basic surgical skills during undergraduate medical training (n=564).

Variables	No skill	Low skill	Average skill	Above Average skill	Exceptionally outstanding skill
	N (%)	N (%)	N (%)	N (%)	N (%)
Surgical scrubbing	61 (10.8)	189 (33.5)	269 (47.7)	36 (6.4)	9 (1.6)
How to wear sterile surgical gloves	18 (3.2)	204 (36.2)	280 (49.6)	57 (10.1)	5 (0.9)
Knot tying	54 (9.6)	167 (29.6)	256 (45.4)	81 (14.4)	6 (1.1)
Types and application of needles	95 (16.8)	130 (23.0)	247 (43.8)	85 (15.1)	7 (1.2)
Handling of instruments	59 (10.5)	159 (28.2)	233 (41.3)	102 (18.1)	11 (2.0)
Performing basic suture	63 (11.2)	101 (17.9)	286 (50.7)	97 (17.2)	17(3.0)
Cut-down, venostomy and cannulation	75 (13.3)	140 (24.8)	220 (39.0)	119 (21.1)	10 (1.8)
Setting-up IV, drip and management of IV Infusions	24 (4.3)	126 (22.3)	271 (48.0)	126 (22.3)	17 (3.0)
Ligation of vessels	134 (23.8)	98 (17.4)	215 (38.1)	103 (18.3)	14 (2.5)
Wound care	33 (5.9)	164 (29.1)	299 (53.0)	59 (10.5)	9 (1.6)
Insertion and removal of urinary catheters	18 (3.2)	144 (25.5)	324 (57.4)	62 (11.0)	16 (2.8)
Incision and drainage of superficial abscesses	30 (5.3)	160 (28.4)	265 (47.0)	101 (17.9)	8 (1.4)
Application and removal of POP cast	45 (8.0)	131 (23.2)	259 (45.9)	114 (20.2)	15 (2.7)
Application of temporary splints	71 (12.6)	109 (19.3)	254 (45.0)	114 (20.2)	16 (2.8)
Aspiration of fluids from joint spaces	71 (12.6)	128 (22.7)	228 (40.4)	124 (22.0)	13 (2.3)
Preparation of patient for surgery	49 (8.7)	129 (22.9)	229 (40.6)	142 (25.2)	15 (2.7)
Proctoscopy	92 (16.3)	132 (23.4)	204 (36.2)	125 (22.2)	11 (2.0)
Abdominal paracentesis	83 (14.7)	139 (24.6)	194 (34.4)	133 (23.6)	15 (2.7)
Intraosseous cannulation	80 (14.2)	128 (22.7)	226 (40.1)	115 (20.4)	15 (2.7)
Gastric intubation lavage	72 (12.8)	127 (22.5)	239 (42.4)	113 (20.0)	13 (2.3)
Bladder catheterisation	30 (5.3)	155 (27.5)	233 (41.3)	128 (22.7)	18 (3.2)
Assisting at operation	21 (3.7)	156 (27.7)	214 (37.9)	157 (27.8)	16 (2.8)
Excision Biopsy of simple lumps	97 (17.2)	107 (19.0)	222 (39.4)	119 (21.1)	19 (3.4)

Mean knowledge score=63.73±14.80; Min= 4, Max=109

The level of knowledge of the respondents (during undergraduate medical training) after the data was reclassified and grouped into three based on the knowledge score (Figure 1).

Majority (80.1%) of the doctors had an average knowledge of basic surgical skills during undergraduate medical training, 10.5% had high knowledge and 9.4% had low knowledge.

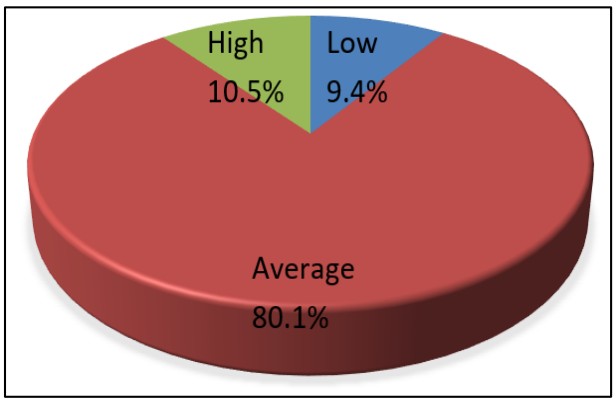

Figure 1: Respondents' knowledge level of basic surgical skills during undergraduate medical training.

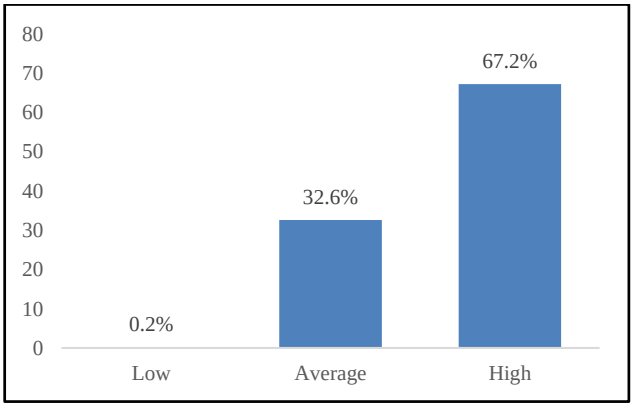

Figure 2: Respondents' knowledge level of basic surgical skills during housemanship.

Table 3: Knowledge of basic surgical skills during Houseman-ship (n=564).

Variables	No skill	Low skill	Average skill	Above Average skill	Exceptionally outstanding skill
	N (%)	N (%)	N (%)	N (%)	N (%)
Surgical scrubbing	14 (2.5)	32 (5.7)	174 (30.9)	287 (50.9)	57 (10.1)
How to wear sterile surgical gloves	1 (0.2)	43 (7.6)	127 (22.5)	316 (56.0)	77 (13.7)
Knot tying	0 (0.0)	52 (9.2)	127 (22.5)	295 (52.3)	90 (16.0)
Types and application of needles	1 (0.2)	44 (7.8)	133 (23.6)	290 (51.4)	96 (17.0)
Handling of instruments	0 (0.0)	4 (8.2)	155 (27.5)	252 (44.7)	111 (19.7)
Performing basic suture	3 (0.5)	34 (6.0)	151 (26.8)	251 (44.5)	125 (22.2)
Cut-down, venostomy and cannulation	1 (0.2)	51 (9.0)	127 (22.5)	236 (41.8)	149 (26.4)
Setting-up IV, drip and management of IV Infusions	5 (0.9)	27 (4.8)	154 (27.3)	207 (36.7)	171 (30.3)
Ligation of vessels	4 (0.7)	4 (8.5)	143 (25.4)	203 (36.0)	166 (29.4)
Wound care	1 (0.2)	32 (5.7)	165 (29.3)	213 (37.8)	153 (27.1)
Insertion and removal of urinary catheters	2 (0.4)	20 (3.5)	133 (23.6)	262 (46.5)	147 (26.1)
Incision and drainage of superficial abscesses	8 (1.4)	74 (13.1)	124 (22.0)	217 (38.5)	141 (25.0)
Application and removal of POP cast	19 (3.4)	68 (12.1)	128 (22.7)	220 (39.0)	129 (22.9)
Application of temporary splints	40 (7.1)	46 (8.3)	121 (21.5)	230 (40.8)	127 (22.5)
Aspiration of fluids from joint spaces	47 (8.3)	40 (7.1)	108 (19.1)	217 (38.5)	152 (27.0)
Preparation of patient for surgery	8 (1.4)	36 (6.4)	105 (18.6)	235 (41.7)	180 (31.9)
Proctoscopy	42 (7.4)	45 (8.0)	126 (22.3)	221 (39.2)	130 (23.0)
Abdominal paracentesis	14 (12.5)	88 (15.6)	130 (23.0)	210 (37.2)	122 (21.6)
Intraosseous cannulation	38 (6.7)	58 (10.3)	119 (21.1)	227 (40.2)	122 (21.6)
Gastric intubation lavage	40 (7.1)	54 (9.6)	113 (20.0)	212 (37.6)	145 (25.7)
Bladder catheterisation	16 (2.8)	38 (6.7)	96 (17.0)	256 (45.4)	158 (28.0)
Assisting at operation	12 (2.1)	37 (6.6)	120 (21.3)	238 (42.2)	157 (27.8)
Excision Biopsy of simple lumps	14 (2.5)	65 (11.5)	119 (21.1)	215 (0.0)	0 (0.0)

Mean knowledge score of basic surgical skills during Houseman-ship = 86.52±16.32; Min = 34, Max=111.

The level of knowledge of the respondents (during Houseman-ship) after the data was reclassified and grouped into three based on the knowledge score is depicted in (Figure 2). During Houseman-ship, 67.2% of the respondents had high knowledge of basic surgical skills and 32.6% had average knowledge. The opinion of respondents on surgical skills that should be within the scope of knowledge for final year students or house officer is shown in (Table 4). Majority (between 70.4% to 92.6%) of the respondents felt that surgical skills such as ultrasonography, aspiration of fluid from pericardial space, making an electrocardiograph recording, aspiration of fluid from pleural space, establishment, management and removal of chest tubes and knowledge of types and applications of suture materials are within the scope of what final year students or house officer ought to know. The opinion on surgical skills laboratory for undergraduate medical trainees is shown in (Table 5). Four hundred and nineteen (74.3%) asserted positively to availability of basic surgical skills laboratory in their institutions for undergraduate medical education; and 445 (78.9%) respondents had some form of training in basic surgical skills. Four hundred and sixty-seven (82.8%) respondents opined positively to the necessity for competence in basic surgical skills before graduation; and 498 (88.3%) respondents felt that basic surgical skills laboratory should be provided during undergraduate medical training. Respondents' practical experiences with basic surgical skills after training period is depicted in (Table 6). Four hundred and forty-nine (79.6%) respondents had experienced practical challenges when carrying out basic surgical skills during medical practice. Some listed procedures with poor execution/challenges in varying degrees were: wound care, suturing, cannulation/wearing surgical gloves, pleural fluid aspiration, nasogastric tube insertion, urinary catheterization, how to scrub, how to do excision biopsy. First experience at suturing patient's wound was full of struggling/difficulty 213 (37.8%) respondents, and exciting/done well for 245 (43.4%) respondents. The relationship between knowledge of basic surgical skills during undergraduate medical training and houseman-ship is shown in (Table 7). There was a statistically significant ($p<0.05$) difference in the respondents' knowledge at the two separate levels (undergraduate and housemanship).

Table 4: Opinion on surgical skills within the scope of final year students or house officer to know (n=564).

Parameters	Yes		No		Not sure	
	N	%	N	%	N	%
Knowledge of types and applications of suture materials	522	92.6	25	4.4	17	3.0
Establishment, management and removal of chest tubes	482	85.5	56	9.9	26	4.6
Aspiration of fluid from pleural space	422	74.8	103	18.3	39	6.9
Aspiration of fluid from pericardial space	401	71.1	116	20.6	47	8.3
Making an electro cardiograph recording	405	71.8	115	20.4	44	7.8
Endo-tracheal intubation	285	50.5	207	36.7	72	12.8
Aspiration of fluids from joint spaces	267	47.3	226	40.1	71	12.6
Intra-articular instillation and injections	231	41.0	267	47.3	66	11.7
Laryngoscopy	218	38.7	264	46.8	82	14.5
Cystoscopy	192	34.0	282	50.0	90	16.0
Gastroscopy	151	26.8	329	58.3	84	14.9
Proctoscopy	160	28.4	324	57.4	80	14.2
Sigmoidoscopy	175	31.0	304	53.9	85	15.1
Liver Biopsy	185	32.8	308	54.6	71	12.6
Renal Biopsy	230	40.8	272	48.2	62	11.0
Abdominal paracentesis	375	66.5	154	27.3	35	6.2
Ultrasonography	397	70.4	147	26.1	20	3.5
Intraosseous cannulation	379	67.2	144	25.5	41	7.3

Table 5: Opinion on surgical skills laboratory for undergraduate surgical trainees (n=564).

Variables	N	%
Had surgical skills laboratory during undergraduate medical training		
Yes	419	74.3
No	87	15.4
Not sure	58	10.3
Underwent any formal training in surgical skills laboratory during undergraduate training or houseman-ship		
Yes	445	78.9
No	84	14.9
Not sure	35	6.2
Is it necessary for undergraduate medical students to achieve some level of competence in basic surgical skills		
Yes	467	82.8
No	70	12.4
Not sure	27	4.8
Basic surgical skills laboratory should be provided during undergraduate medical training		
Yes	498	88.3
No	46	8.2
Not sure	20	3.5

Table 6: Practical experience with basic surgical skills after training (n=564).

Variables	N	%
Any challenge experienced when carrying out basic surgical skills during medical practice		
Yes	449	79.6
No	89	15.8
Not sure	26	4.6
Poor execution on first experience applying surgical skills knowledge on patients		
Wound care	29	5.1
Suturing	40	7.1
Cannulation/wearing surgical gloves	12	2.1
Pleural fluid aspiration	6	1.1
NG tube insertion	7	1.2
Urinary catheterization	12	2.1

Continued.

Variables	N	%
Scrubbing	27	4.8
Excision Biopsy	6	1.1
No response	253	44.9
First experience suturing patient's wound		
Full of struggling/difficulty	213	37.8
Exciting/Done well	245	43.4
Can't remember	106	18.8

Table 7: The relationship between knowledge of basic surgical skills during undergraduate medical training and Houseman-ship (n=564).

Variables	Mean	N	SD	SEM	Correlation	P value
Knowledge Score Undergraduate	63.73	564	14.797	0.623	0.477	0.000
Knowledge Score Houseman-ship	86.52	564	16.323	0.687		

DISCUSSION

Some deficiencies in surgical skills have been observed among newly qualified medical doctors within and outside our environment,[20,21,31] and the importance of practical skills acquisition in dry and wet laboratories has been emphasized. This has warranted advocacy for inclusion of surgical skills education into undergraduate medical curriculum.[23-26] The demographics of the respondents, who were more like elders or watchmen at the gates, shows that about a fifth of respondents had their undergraduate medical training outside Nigeria, about half in Port Harcourt, and some others were trained in universities in other part of Nigeria. The respondents therefore to some extent, provided information on basic surgical skills from their experiences from medical training institutions within and outside Nigeria. Similarities exist in the training of medical doctors among medical schools in different parts of the world, although disease pattern peculiar to regions may affect some taught courses and experiences. A little above half of respondents had first degree, about a fifth had master degree, less than a tenth had PhD and fellowship qualifications respectively.

Majority of the respondents had practiced for more than 5years. This demographic information on the respondents shows the weight or quality of the information provided in their opinions in this study. The proportion of respondents with knowledge above average skill and exceptionally outstanding skill during houseman-ship increased compared to when they were undergraduate. Also, the mean knowledge score was significantly higher during the houseman-ship, when compared with undergraduate training. This underscores the importance or the apprenticeship role that the post-qualification period of houseman-ship plays in shaping the practice of medical doctors. The mean knowledge of basic surgical skills among respondents was above average during undergraduate and houseman-ship periods. The implication is that the respondents had significant theoretical knowledge of basic surgical skills for use. However, this knowledge was low among a few respondents during undergraduate and houseman-ship periods. When the self-professed knowledge of basic surgical skills of respondents was put to test in their practical experience, about a third of respondents struggled or had difficulty during their first experience of suturing wound on a patient. A long list of some basic surgical procedures remained very poorly done or pretty challenging to accomplish during years of practice. This implies that experiences of the respondents beg for more practical exposure to basic surgical skills laboratory usage. Similar deficiency in basic practical skills was noted among students in Port Harcourt, with advocacy for curriculum review.[31] About 74% of the respondents had basic surgical skills laboratories in their training institutions, and yet struggled with practical skills after graduation, meaning that the skills laboratories were probably not well-utilized. Since some medical schools did not have this essential laboratory, it implies that supervising institutional regulatory agencies may not have made the provision of this laboratory an essential requirement for accreditation of medical schools.

About two-thirds of respondents were in favour of exposure of final year medical students or house-officers to basic surgical skills including ultrasonography, aspiration of fluid from pericardial space, making an electrocardiograph recording, aspiration of fluid from pleural space, establishment, management and removal of chest tubes and knowledge of types and applications of suture materials. This self-identification of knowledge gap needed for practice in the present day, expressed by majority of respondents, calls for some consideration by designers and implementors of the medical education curriculum. This will enable the modern-day trained medical doctor, most of whom may not specialize to be surgeons, to cope with the demands of practice. More than two-thirds of the respondents were convinced that some level of competence in basic surgical skills could be achieved during the training period. Also, more than two-thirds opined that basic surgical skills laboratory should be provided during undergraduate medical training.

The recognition of the self-evaluated knowledge and experiences of the respondents, and the need for inclusion of basic surgical skills / laboratory has resulted in the

clamour for provision and usage in undergraduate medical education. Surgical skills laboratory is not often emphasized as a requirement for medical school accreditation by regulatory agencies (among other laboratories like haematology, chemical pathology, medical microbiology, anatomical pathology, etc.), even when the degree to be awarded is bachelor of medicine and surgery. If all medical doctors need core knowledge of basic surgical skills as it has been emphasized it becomes obvious therefore that the point of impartation of this knowledge has to be before the newly birthed doctor enters the field for practice.[19] Sometimes in medical practice, the impact of some experiences may not be noted/recognized, and the struggling young doctor is left to cope to the best of his ability, especially when others are doing fairly well. These struggles may add to the stress of the profession for the young and inexperienced doctor and result in low self-esteem and low morale. It is therefore important that the findings of this study be looked into, and more efforts made to ensure that minimum basic surgical skills are fully incorporated into the undergraduate training curriculum.

CONCLUSION

Although the mean knowledge score of basic surgical skills among respondents was above average, practical experiences revealed some struggling or outright difficulty in carrying out significant number of basic surgical procedures. Majority of respondents opined that basic surgical skills laboratory should be provided during undergraduate medical training.

Recommendations

Authors advocate from the findings of their study, that basic surgical skills laboratory for undergraduate medical training should be a necessity than an optional project. Its supervised usage by students should be mandatory, to ensure that it fulfils the purpose of its establishment.

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