

Perception of The Teaching of Pathological Anatomy by Students of The Faculty of Health Sciences of the University of Lomé, Togo

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Abstract

Background: The aim of this study was to assess the perception of the students of the Faculty of Health Sciences of the University of Lomé on the teaching of Pathological Anatomy.

Methods: This is an opinion survey carried out in 4 months at the University of Lomé among students of the faculty of health sciences (3rd in 8th year) on the perception of the teaching of Anatomy Pathological. The questionnaire was structured into 5 sections (socio-demographic, course organization, learning process, hospital internships, and general assessment)

Results: A total, 395 students responded to the questionnaire. Their mean age was 24.04 ± 2.85 years and the sex ratio (M/F) was 2.4. They were mostly in 7th year of medicine (155). Regarding the course organization, 58.5% of the participants felt that the course objectives were often achieved and 51.6% said the course was well structured. For 49.9%, the important notions of the course were often sufficiently developed, and 55.2% affirm that the hourly volume was sufficient for the comprehension of the course. A statistically significant link was observed between the years of study and certain parameters of the learning process, namely: the adequacy between the theoretical course and the internships ($p=0.0001$), the understanding of the course by the learning process ($p=0.0001$), the essential documentation for the understanding of the course ($p=0.0001$), the understanding of histological lesions through practical work ($p=0.0001$). Concerning the general satisfaction of the course, they were 50.4% to be satisfied and 57.8% to wish a better organization of the courses and practical work. There is a statistically significant relationship between the degree of satisfaction with teaching and grade ($p=0.037$).

Conclusion: The teaching of pathological anatomy in its current form does not seem to provide the sufficient foundations and prerequisites desired by the students. It makes sense to strengthen their training through better organization of hospital internships and practical work, within the framework of the quality of teaching at the University of Lomé.

Background

Pathological Anatomy is a fundamental medical discipline that studies lesions caused by disease using techniques based on macroscopic and microscopic morphology [1]. A distinction is made between general pathological anatomy which studies the major lesional processes concerning the fundamental elements of an organism and special pathological anatomy which studies the pathologies of all the apparatuses of the human body [2]. Pathological anatomy provides care missions in the development of diagnosis, teaching and research [1]. The teaching mission pursues several objectives, in particular to acquire a level of knowledge which will allow the student to understand the challenges of this specialty [3]. Little is known about pathological anatomy, both in medical studies and in the general population [3, 4]. Few studies have been done on the teaching of pathological anatomy in order to meet the challenge of its ignorance. Indeed, the studies by Chatelain et al. (France), Holck et al. (Denmark) on the perception of the teaching of pathological anatomy by medical students found that 89% and 96% of students,

respectively, considered their knowledge of pathological anatomy insufficient [4, 5]. In Togo, at the Faculty of Health Sciences of the University of Lomé, the teaching of pathological anatomy is limited during the first cycle of medical studies in the 3rd year. In sub-Saharan Africa, no teaching has been done on pathological anatomy. It is necessary to conduct studies among health personnel in general and medical students in particular to identify the problems inherent in the lack of knowledge of pathological anatomy in order to propose axes for better visibility of the discipline.. The objective of this study was to assess the perception of students of the Faculty of Health Sciences of the University of Lomé on the teaching of Pathological Anatomy and the factors that influence it.

Methods

This is an opinion survey conducted over 4 months (March-June 2020) at the Faculty of Health Sciences of the University of Lomé. Grades 3 to 8 medical students from the FSS were included in the study. We chose the students in 3rd, 4th, 5th, 6th, 7th and 8th year because in Togo, theoretical courses in pathological anatomy are taught in the 3rd year of medicine. And medical students are then scheduled for placements in Anatomy Pathology and other labs on a random basis. However, students can do internships on a voluntary basis in the various departments of their choice during the holidays. We included students who completed at least half of the hourly volume devoted to the teaching of pathological anatomy, in 3rd year of medicine. In fact, the teaching of pathological anatomy is provided in the 3rd year at the Faculty of Health Sciences, and the total hourly volume is 360 hours, including theoretical, practical and supervised lessons. This teaching is provided by three teachers of magistral rank. An anonymous questionnaire form was sent to them by hand or by post to complete. An explanatory note on the survey was attached to the questionnaire. Participation in the survey was voluntary and anonymous. The questionnaire was organized into 5 sections (socio-demographic, course organization, learning process, hospital internships, general assessment). The agreement of the FSS authorities was obtained as well as the informed consent of the students. The statistical tests used are Pearson's chi-square test for qualitative variables and Student's test for quantitative variables. The significance threshold was set at 5%.

Results

A total of 395 students responded to the questionnaire. The average age of the students was 24.04 ± 2.85 years (18–36 years) and the sex ratio (M/F) was 2.4. Depending on the level of study of the participants, they were mostly in 7th year (155) and 5th year (80). Regarding the course organization, 58.5% of the participants felt that the course objectives were often achieved and 51.6% said the course was well structured. According to 50.6% of participants, the course objectives were often achieved at the end of each course. For 49.9%, the important notions of the course were often sufficiently developed, and 55.2% affirm that the hourly volume was sufficient for the comprehension of the course. A link was observed between the years of study and certain parameters of the learning process, namely the adequacy between the theoretical course and the internships ($p=0.0001$), the understanding of the course by the process of learning ($p=0.0001$), the essential documentation for the understanding of the course

($p=0.0001$), the understanding of histological lesions by public works ($p=0.0001$) (Table 1). Regarding the presentation of the course and interactions, 78.5% of participants felt that the information received during the first contact with the teacher made it possible to make a good start for the rest of the course. They were 55.2% to say that the teacher presents the subject in a clear and structured way. According to 43.3% of them, the teacher makes sure that the important concepts are well understood. In 42.5% and 36.7% of cases respectively, the participants said that the teacher was always or often available to answer questions. There was a relationship between years of study and information received at first contact ($p=0.0001$), availability of the teacher to answer questions ($p=0.0001$) (Table 2). For hospital internships, 89.4% of respondents did not complete internships in the Pathological Anatomy Laboratory. Of those who did, 83.3% felt that this practicum was useful in training a doctor. There was a relationship between years of study and the effectiveness of the laboratory internship ($p=0.0001$). Regarding the general satisfaction of the course, they were 50.4% to be satisfied followed by those who are not very satisfied in 37.2%. They were 57.8% to wish a better organization of internships and practical work. There was a relationship between degree of satisfaction with teaching and grade ($p=0.037$) (Table 3).

Table 1
Student perceptions of the course organization

| | 3rd year | 4th year | 5th year | 6th year | 7th year | 8th year | Total | p-value |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------|---------------|
| Adequacy between theoretical courses and internship | | | | | | | | 0.0001 |
| Yes | 11 | 14 | 38 | 31 | 100 | 14 | 208 | |
| No | 25 | 27 | 42 | 30 | 55 | 8 | 187 | |
| Learning approach promotes understanding of course content | | | | | | | | 0.0001 |
| No | 14 | 19 | 26 | 18 | 16 | 0 | 93 | |
| Yes | 22 | 20 | 40 | 21 | 31 | 5 | 139 | |
| No information | 0 | 2 | 14 | 22 | 108 | 17 | 163 | |
| Essential documentation for understanding the courses | | | | | | | | 0.02 |
| Never | 0 | 1 | 2 | 0 | 6 | 0 | 9 | |
| Sometimes | 6 | 5 | 14 | 13 | 49 | 7 | 94 | |
| Often | 14 | 14 | 43 | 27 | 57 | 11 | 166 | |
| Still | 16 | 21 | 21 | 21 | 43 | 4 | 126 | |
| Location of availability of documentation | | | | | | | | 0.58 |
| Online | 21 | 28 | 47 | 42 | 117 | 18 | 273 | |
| Faculty Library | 6 | 9 | 19 | 16 | 33 | 4 | 87 | |
| Not available | 7 | 8 | 16 | 11 | 19 | 2 | 63 | |
| University of Lomé Library | 4 | 5 | 11 | 6 | 14 | 2 | 42 | |
| CHU SO Library | 1 | 2 | 3 | 3 | 11 | 1 | 21 | |
| Don't know | 1 | 1 | 3 | 2 | 3 | 2 | 12 | |
| Handout | 0 | 2 | 2 | 0 | 0 | 0 | 4 | |
| Among seniors | 0 | 0 | 1 | 0 | 1 | 0 | 2 | |
| ESSAL Library | 1 | 0 | 0 | 0 | 0 | 0 | 1 | |
| TP allow the understanding of histological lesions | | | | | | | | 0.0001 |
| Yes | 25 | 20 | 54 | 43 | 108 | 15 | 265 | |
| No | 11 | 21 | 26 | 18 | 47 | 7 | 130 | |

Table 2

Student perception of interactions and presentation of the course according to the years of study

| | 3rd year | 4th year | 5th year | 6th year | 7th year | 8th year | Total | p-value |
|--|----------|----------|----------|----------|----------|----------|-------|---------|
| At first contact, the information I received allowed me to get off to a good start | | | | | | | | 0.0001 |
| Yes | 25 | 29 | 63 | 43 | 132 | 18 | 310 | |
| No | 11 | 12 | 17 | 18 | 23 | 4 | 85 | |
| Teacher presents the subject matter in a clear and structured manner | | | | | | | | 0.344 |
| Sometimes | 2 | 4 | 8 | 5 | 19 | 4 | 42 | |
| Often | 19 | 26 | 52 | 34 | 76 | 11 | 218 | |
| Still | 15 | 11 | 20 | 22 | 60 | 7 | 135 | |
| The teacher ensures that the concepts are well assimilated | | | | | | | | 0.121 |
| Never | 0 | 0 | 2 | 0 | 1 | 0 | 3 | |
| Sometimes | 9 | 13 | 22 | 19 | 46 | 8 | 117 | |
| Often | 18 | 22 | 38 | 25 | 58 | 10 | 171 | |
| Still | 9 | 6 | 18 | 17 | 50 | 4 | 104 | |
| Teacher shows interest in your understanding of the course | | | | | | | | 0.205 |
| Never | 0 | 0 | 0 | 0 | 2 | 0 | 2 | |
| Sometimes | 4 | 11 | 17 | 10 | 33 | 6 | 81 | |
| Often | 14 | 15 | 35 | 28 | 54 | 9 | 155 | |
| Still | 18 | 15 | 28 | 23 | 66 | 7 | 157 | |
| Teacher available enough to answer your questions | | | | | | | | 0.051 |
| Never | 0 | 1 | 0 | 0 | 3 | 0 | 4 | |
| Sometimes | 3 | 9 | 11 | 7 | 38 | 10 | 78 | |
| Often | 13 | 15 | 33 | 28 | 51 | 5 | 145 | |
| Still | 20 | 16 | 36 | 26 | 63 | 7 | 168 | |

Table 3
Degree of student satisfaction by year of study

| | Dissatisfied | Somewhat | Satisfied | Very Satisfied | Total |
|----------|--------------|----------|-----------|----------------|-------|
| 3rd year | 4 | 14 | 12 | 6 | 36 |
| 4rd year | 2 | 21 | 16 | 2 | 41 |
| 5rd year | 5 | 34 | 40 | 1 | 80 |
| 6rd year | 1 | 22 | 36 | 2 | 61 |
| 7rd year | 5 | 51 | 82 | 17 | 155 |
| 8rd year | 0 | 5 | 13 | 4 | 22 |
| Total | 17 | 147 | 199 | 32 | 395 |

Discussion

The main limitation of our study is the sincerity of the information provided by the respondents. The participation rate was relatively low (47.0%), significantly lower than those of studies from developed countries which were 58.0%, 65.0% and 73.0% respectively in France, Denmark and the USA [4–6]. Indeed, our study took place in the context of the Corona Virus Disease (Covid-19) pandemic, with the discontinuation of classes, dramatically reducing student accessibility to the university campus. This also underlines the lack of student interest in this discipline in our regions. A male predominance was noted with a sex ratio (M / F) of 2.4. This could be explained by the low level of education of the young girl as well as the little interest of the latter for scientific disciplines in most of the developing countries [7;8]. The majority of students (89.4%) had not completed internships in the Anatomy Pathology laboratory. Of those who did, 83.3% felt that this internship is useful in training a doctor with a relationship between years of study and the effectiveness of the lab internship ($p=0.0001$). The same observation was made in France [9]. The organization of the internship for medical students not allowing everyone to do internships in the LAP may explain the lack of knowledge of this specialty. A relatively acceptable proportion (50.4%) of the participants had general satisfaction with the teaching of Pathological Anatomy, with a relationship between the degree of satisfaction with the teaching and the year of study ($p=0.037$). This level of satisfaction is comparable to that of studies in developed countries [5, 10, 11]. One of the major problems with Pathological Anatomy remains its lack of visibility and its ignorance by students. A better knowledge of this probably lies in the development of educational interventions, the reception of students in the laboratory and the organization of Postgraduate Education [12, 13]. The future of this specialty also requires better communication and better occupation in the field, with greater visibility of pathologists in the staff, multidisciplinary consultation meetings [14, 15]. However, these interventions require great availability and a substantial number of pathologists, which is not yet the case in our country.

Conclusion

Teaching general pathological anatomy helps students understand the pathophysiology of lesions. The study revealed the good presentation of the course and good interaction between teachers and students. However, the theoretical teaching of Pathological Anatomy does not seem to fully satisfy the students; with insufficient hours for the course to be understood. It therefore appears advisable to further strengthen student training by organizing internships and postgraduate courses with a view to better knowledge of the discipline.

Declarations

Ethics approval and consent to participate

This study was approved by the medical school of University of Lomé. We obtained also the agreement of participants after the explanation. The survey was anonymous and confidential. This study was approved by the “Comité de Bioéthique pour la Recherche en Santé (CBRS)” (Bioethics Committee for Health Research) from the Togo Ministry of Health, Ref N0: 0101/2016/MS/CAB/DGS/DPLET/CBRS). The study has been carried out in accordance with relevant guidelines and regulations.

Consent for publication

Not applicable.

Availability of data and materials

The datasets used and/or analyzed during the current study available from the corresponding author on reasonable request

Competing interest

The authors declare no conflicts of interest with regard to this article.

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Authors Contributions

All authors substantially contributed to the present study. **TD** was responsible for the conception of the study, participated in the study design, performed the laboratory analysis and interpretation, and wrote the paper. **TDj, AA, LVCB, NAA, PS,** and **MK** were involved in the treatment and follow up of the patient;

they have reviewed the paper. **GNK** was responsible for the overall scientific management of the study and the preparation of the final paper. All the authors have read and approved the final paper to be submitted for publication.

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