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Knowledge, attitude and perceptions of health information management students toward anatomy and physiology

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ABSTRACT

Background/Objective: Anatomy and physiology are basic medical science courses taught in most health institutions, but there is growing concerns among tutors that traditional programs of teaching health information management (HIM) students have not provided better outcomes of learning. This study determined knowledge, attitude and perceptions of HIM students at University of Ilorin Teaching Hospital toward anatomy and physiology. ***Methods/Design:*** This is a cross-sectional study of 280 trainees in HIM. ***Results:*** Most participants (85.8%) admitted that anatomy and physiology is relevant to HIM developmental skills, more than half (59.2%) of the students possess high retention of knowledge in anatomy & physiology and nearly three quarter (74.2%) of them complained of inadequate practical demonstrations. A total of one hundred and forty nine (63.9%) criticized that the course is too voluminous and therefore, difficult to understand (61.4%). Overall, the majority admitted that anatomy and physiology is relevant to HIM developmental skills. ***Conclusion:*** The study presents a positive attitude of students towards Anatomy and Physiology with quest for intensive practical demonstrations. The learning experience of these students could be improved by availability of adequate practical demonstration materials and better clinical integration of the basic medical sciences, especially in Anatomy & Physiology. Continuing training for the lecturers/tutors of anatomy and physiology and integration of didactic class lectures with clinical instructions are recommended.

Keywords: Anatomy and Physiology; Didactic Lectures; Health Information Management; Health Records; Knowledge Retention; Practical Demonstrations; Problem-based Learning; Nigeria

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INTRODUCTION

Anatomy and physiology are basic medical science courses taught in most health institutions. While Anatomy is the study of the structure of the body and the physical relationships between body systems, physiology is the study of how the body systems work, and the ways in which their integrated activities maintain life and health of individual[1]. The study of human anatomy can be traced back thousands of years, at least to the Egyptians, but the science of anatomy, as we know it today, did not develop until far later. Its development gradually built upon concepts that were understood during the time of Galen and slowly become a part of the traditional medical curriculum[2]. On the other hand, health information management (HIM) is information management applied to health and healthcare.

Health information management is the discipline that is dedicated to the effective management of patient's health information and healthcare data needed to deliver high-quality treatment and care to the public[3]. Health Information Management (HIM) professionals plan information systems, develop health policies,

and identify current and future health information needs. In addition, they may apply the science of informatics to the collection, storage, analysis, use, and transmission of information to meet legal, professional, ethical and administrative records-keeping requirements of healthcare delivery[4]. These professionals play a critical role in delivery of healthcare through their focus on healthcare data management, which helps in identifying innovative solutions and allocating priorities and resources to improve health outcomes[4,6].

The need for continuing training of highly skilled workforce to manage healthcare data has long been identified, but universities are slow to respond until the last few years[7,8]. A recent progress in workforce development is the full and partial accreditation of National Diploma and Higher National Diploma programme respectively of School of Health Information Management, University of Ilorin Teaching Hospital (SHIM, UITH) Ilorin, Kwara State by relevant regulatory agencies i.e. National Board for Technical Education (NBTE) and Health Records Officers' Registration Board of Nigeria (HRORBN)[9,10]. These bodies observed some inadequacies in the curriculum and thus, the Federal Government, HRORBN and Measures & Evaluation steered a process that led to its review[11].

Like every other school of health information management, anatomy and physiology is taught as a core course at the SHIM UITH, alongside fundamental of medical practice in which pathology is integrated. Knowledge of these basic medical science courses are therefore necessary for health information management students to understand, integrate, process and manage health records and information for effective practice, healthcare decisions and for an improved healthcare quality.

Anatomy and Physiology is taught by means of didactic lectures, tutorials and practical demonstration classes. Such a system is teacher-centered with minimal active participation from the students[12]. Klestinec reported that the majority of students were more interested in the practicality of anatomy, the techniques of dissection rather than the philosophy and advancement of knowledge of the subject[13]. Studies have shown that anatomy and physiology learned in a clinical context is better comprehended and more easily applied by students[14-16]. Students also understand the importance of Problem Based Learning (PBL) as an approach to help them in better understanding of respective subjects[12]. In addition, a number of studies reported from India have emphasized the benefit of case study or PBL for better learning outcomes[17-21].

Nevertheless, curriculum overload is an important problem faced by students, especially in anatomy[11]. The students feel overburdened with study of different aspects of the subject and were able to devote very little time to other subjects[12]. One solution to content overload may be establishing a core curriculum with additional options or special study module[12]. This method is said to be able to ensure that students acquire the knowledge, skills and attitudes required for maintaining educational standard. A study by Shankar *et al*. also presented that basic medical subjects are probably being taught in too much details in first year of study[22]. The students do however agree that good knowledge of these subjects is important to be a good healthcare provider.

There are concerns among HIM tutors that traditional programmes of teaching HIM students have not provided better outcomes of learning. Students seems to be more interested in passing through the hurdles of training systems and certificates by all means without a thorough understanding of the knowledge acquired with practical integration. This became evident in the comments passed by practical instructors in the service area of the hospital (UITH) that the majority of students find it difficult to pronounce correctly, regular medical terms and in their thorough practical understanding and applications. This current study therefore aimed at determining knowledge, attitude and perception of HIM students at Ilorin School of Health Information Management in Nigeria, toward Anatomy and Physiology.

METHODS

Study setting

The study took place at the School of Health Information Management; University of Ilorin Teaching Hospital, Ilorin, Nigeria. The hospital belongs to the second generation of teaching hospitals in Nigeria as established on the

2nd of May, 1980; alongside five others. Its operation began in July 1980 with a sitting arrangement in the Kwara State Government lease of the General Hospital, Ilorin and maternity wing located at Amilegbe, Ilorin as her temporary sites. Formal release of the hospital took place on 1st September, 1981, upon signing a lease agreement between the Federal Ministry of Health and the Kwara State Government. During the democratic dispensation of the Obasanjo regime in 2007, the permanent site of the hospital began operation in full capacity after its commissioning.

The permanent site of the hospital is located at Oke-Ose along old Jebba road in Ilorin metropolis. The School of Health Information Management, UITH was established in the year 1996. The school so far has gained accreditation from both HRORBN and NBTE for running of National Diploma and partial accreditation for running of Higher National Diploma. Currently, the school can boast of 14 full-time lecturers competent in various disciplines that cover the school's curriculum of study, two of whom teach anatomy and physiology. The school has earned itself good reputation as far as training of HIM professionals in Nigeria is concerned.

Study design

This is a cross-sectional study of trainees in health information management.

Study population

All undergraduate students of School of Health Information Management, University of Ilorin Teaching Hospitals as at 2016/2017 academic year, totaling 280, were eligible to participate in the study.

Sampling techniques and sample size

All the 280 students were recruited to participate in this study.

Data collection tool

The study was questionnaire-based and the instrument itself elicits data on socio-demographic characteristics of participants, their basic knowledge, attitude and perception about anatomy and physiology.

Data analysis and management

Data analysis was conducted using SPSS Version 16, while frequencies and percentages were used in data presentation.

Ethics

Informed consent was obtained from participants after being duly informed of the purpose and users of the study, their right to either stay or withdraw from the study and after assurances of utmost confidentiality of data to be obtained.

RESULTS

Two hundred and thirty three (83.2%) of the 280 questionnaires distributed were completely returned. Of the 233 returned, 154 (66.1%) of the students were between 21 and 30 years of age and 163 (70.0%) were females and as typical of Nigerian health students, 155 (66.5%) were unemployed. Nearly 3 in every 5 students (59.2%) remarkably retain knowledge in Anatomy & Physiology and a good portion (74.2%) complained about inadequate practical demonstrations (Table 1). It is good to note that participants devised other sources for better understanding of the course (Fig 1). Of all, 149 (63.9%) participants complained that the course is too voluminous and difficult to understand (61.4%) and the majority (85.8%) admitted that the course is relevant to HIM developmental skills (Table 1).

DISCUSSION

Our study of knowledge, attitude and perceptions of anatomy and physiology among health information management students, shows a highly motivated group of trainees, with high knowledge retention in the course. This finding is contrary to a study that reported decline in knowledge retention of basic medical sciences and another study, where students openly admitted forgetfulness of much they learned few years earlier[23,24]. Participants in our study complained of inadequate practical demonstration and therefore longed for practical demonstration next to class instructions. This is in tandem with a study that reiterated the importance of practical sessions in anatomy and physiology and another study that reported perceived satisfaction of the practical sessions in the course[12,25].

In addition, studies have demonstrated that the basic medical science knowledge learned in a clinical context is better comprehended and more easily applied by students[14-16]. Ghosh and Dawka[26] corroborated this that the combination of didactic lectures and problem-based learning sessions was

definitely beneficial regarding all the above-mentioned aspects of learning. Moreover, it requires greater coordination among different basic and clinical departments and a motivated faculty committed to improvement in stand and standardization of HIM education.

A good number of students in this study criticized that the course is rather too voluminous and therefore, difficult to understand. This is the same with findings by Guptal *et al.* and Alam, where students identified anatomy as a subject with overloaded syllabus[12,25]. Information overload has been recognized as one of the major contributing factors to failure and even, withdrawal of brilliant students[27]. Students in this study see anatomy and physiology as a core tasking course subject and highly demanding.

Although most participants in our study admitted that anatomy and physiology is relevant to health information management, some of them perceive it as a means to academic earnings alone. This is incongruent to findings by D'Eon, where the content of the courses did not seem relevant to their later clinical work or studies[24]. Traditionally, every trained and licensed HIM professional must have passed through at least, two series of didactic training semesters in anatomy and physiology because, it is one of the core courses that one must undergo to become a HIM professional.

Study limitations

To the best of our knowledge, there is no published article on KAP of HIM students towards Anatomy and Physiology in Nigeria. This made us rely largely on studies from other countries especially, developed nations.

CONCLUSION

The study presents a positive attitude of students toward Anatomy and Physiology with quests for intensive practical demonstrations. Thelearning experience of these students could be improved by availability of adequate practical demonstration materials and better clinical integration of Anatomy & Physiology. In addition, it is necessary to sponsor lecturers/tutors in Anatomy & Physiology to on-the-job training to update and enhance their knowledge and applicability. Finally, there is need to integrate class didactic with clinical instructions.

Acknowledgement

We wish to appreciate the 233 students, who participated in this study.

Table 1: Knowledge, attitude and perception of anatomy and physiology

	SA+A (%)	N (%)	SD+D (%)	NR (%)
	Knowledge			
High retention of knowledge	138(59.2)	44 (18.9)	41 (17.6)	10 (4.3)
Low retention of knowledge	108(46.4)	30(12.9)	87(37.3)	8(3.4)
Inadequate practical demonstration	173(74.2)	14(6.0)	37(15.9)	9(3.9)
	Attitude			
Difficult to understand	143(61.4)	17(7.3)	64(27.5)	9(3.9)
Too voluminous course subject	149(63.9)	26(11.2)	50(21.5)	8(3.4)
Core tasking and highly demanding	130(55.8)	37(15.9)	54(23.2)	12(5.2)
	Perception			
The course is meant for academic discourse only	86(36.9)	15(6.4)	114(48.9)	18(7.7)
Relevant to HIM developmental skills	200(85.8)	13(5.6)	16(6.9)	4(1.7)
Practical demonstration enhances teaching	183(82.8)	17(7.3)	28(17.0)	5(2.1)
Observed ineffective teaching and learning skills	110(47.2)	33(14.2)	78(33.5)	12(5.2)

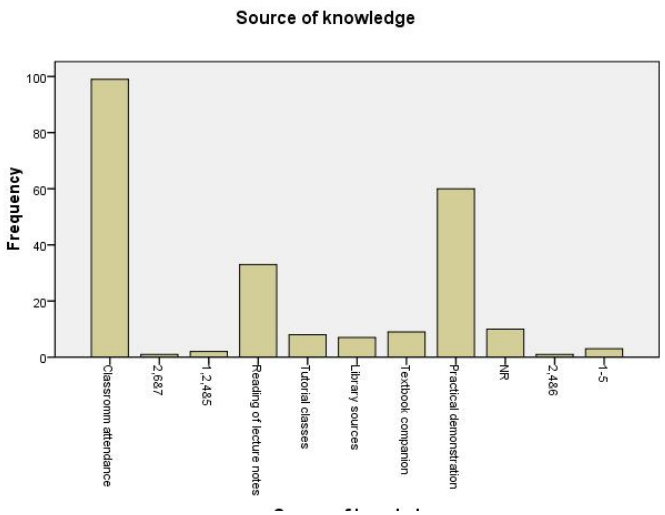

Fig 1: Participants' source of additional knowledge

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.**Authors Contribution:**

SQB conceived of the study, initiated its design, participated in literature search, data collection, analysis and coordination and drafted the manuscript. AIT participated in the design, literature search, data analysis and coordination and reviewed the final manuscript. AEO, SIA, OF and AWA participated in the design, data analysis and coordination and reviewed the final manuscript.

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