**Research article**

# Assessing common knowledge in medical terminologies among health information management students in Nigeria

Abdullateef Adisa Adebisi[1*], Ibrahim Taiwo Adeleke[1,2], Moses Achinbee[1], Olanrewaju Olohundare Abdlghaneey[1], Chinyere Gina David-Idiapho[3], Hamza Sadisu[4]

[1]Department of Health Information Management, Federal Medical Centre, Bida, Nigeria; Editor-in-Chief, International Journal of Health Records & Information Management; School of Health Information Management, Delta State University Teaching Hospital, Ogharra, Nigeria; Shehu Idris College of Health and Technology, Makarfi, Nigeria

Corresponding author*: E-mail: *infolatric4u@gmail.com*

**ABSTRACT**

*Background/Objectives:* The study evaluates the knowledge of medical terminology among Health Information Management (HIM) students in Nigeria, highlighting its importance in healthcare communication and professional efficiency. *Design/Methods:* Conducted at the 2023 National Association of Health Information Management Students (NAHIMS) conference, the study utilized a 30-question multiple-choice test, assessing 69 students who participated. *Results* Results showed that 68.1% of participants scored above the average benchmark, with a mean score of $17.3 \pm 5.4$. However, gaps in understanding foundational medical terms were identified, suggesting that current HIM curricula may not adequately emphasize medical terminology. *Conclusion:* The findings emphasize the need for a re-evaluation of educational programs to ensure comprehensive training. Recommendations include reintroducing medical terminology as a core course in HIM programs to improve understanding and professional readiness.

## INTRODUCTION

Medical terminology is the vocabulary used to describe the human body and its conditions. It is regarded as the language used for communication among all healthcare professionals[1]. Medical terminology derives its origin from Latin and Greek roots, with minor contribution from many other languages, such as Arabic, Chinese, Dutch, French and Spanish[2-4]. Latin was primarily considered the language of medicine, but its use has declined and is now considered an obsolete language in the field of medical practice[5]. On international level, English is the most spoken language considering the number of people, who speak it, and it is also the current undeniable language of medicine in terms of education and publications[5-9].

English language has achieved a paramount global status, developed a special role that is well-recognized in the world, and has become a vital part of the international society, culture and the economy[10]. Understanding the language has become a key requirement to succeed as a specialist in any profession or field of knowledge. It makes significant contribution to sustainable global development by facilitating communications between countries that do not share a common language[11]. It has also globally become the primary means of international communications in business, education and the common language of international experts in a wide range of subjects, such as medicine, the natural sciences and the social sciences[12].

Medical terminology is essential for healthcare professionals. This is especially Health

Information Management (HIM) professionals, so they can effectively communicate with each other[9,13]. The use of other languages for medical terminology can lead to discrepancies especially, when taking regional dialects into account [14]. It is essential to have a good comprehension of medical terminology for health professions. This is especially for HIM professionals, who utilizes these terms as they provide direct patient care, transcribe and communicate appointment to the patients, gather and store data for research and so on. Although, learning medical terms is sometimes challenging and it is similar in many instances to learning a second language for native English speakers[3,15-17]. It is also similar to those learning it as a third language those, whose mother's tongue and official language is not English Language. It is recommended that different strategies should be introduced to help students deal with difficulties and frustrations, when learning medical terminology[18,19].

Medical education has been changing rapidly, especially the field of HIM, which is gaining more awareness in recent time in Nigeria. Within a decade, the number of private schools and colleges of health technologies offering the course has increased tremendously. This comes with varied curricula ranging from the traditional to more innovative, problem-based, community oriented programmes. In Nigeria, HIM educators stand at a crossroads, a special point in time; to think either we move forward and change direction or stay behind due to the quality of students graduating from majority of these schools and colleges. One gets to know about this, while exposing the students to practical through student industrial work experience (SIWES). It is obviously shown that basic knowledge of medical terminology was not learned from schools anymore. Surprisingly, courses that require background knowledge in language of medicine such clinical coding are taught. This is in view of the fact that the currently adopted curriculum neglected the teaching of medical terminology as a course.

This desertion of knowledge in basic medical terminology as a language/course in the current curriculum used in schools of HIM makes it very difficult for students to understand other medical related courses. These include human anatomy and physiology, disease classification and clinical coding, mental health, dental health, general nursing, primary healthcare, medical rehabilitation, medical sociology and fundamental of medical practices. This, thereby limit students' communication skills, while practicing within the healthcare system. It is good to note that a recent review of this curriculum was carried out, hoping that it will address the inadequacy[20]. The current study therefore sought to evaluate the understanding of medical terminology among HIM students in Nigeria.

## METHODS

### Study settings
Participants for the study are HIM students, who attended the National Association of Health Information Management students (NAHIMS) conference at Keffi, Nassarawa State, North-Central Nigeria in the month of September 2023, using an adapted questionnaire.

### Study design
A descriptive study was carried out among HIM Students in Nigeria at NAHIMS 2023 conference.

### Sampling technique
A simple random sampling method was adopted in selecting participants for the study.

### Study population
All students, who attended the NAHIMS conference and consented to participate, were recruited into the study. A total number of sixty-nine (69) students consented and participated in the study from the pull of the participants at the conference. The participants cut the public and private schools/ colleges of health technologies in all geopolitical zones in the country.

### Data collection
In order to assess the HIM students' level of understanding of medical terms, a test of 30 multiple choice questions was adopted from a similar study in Saudi Arabia[21]. The multiple test questions test the basic knowledge of medical terminology expected of a HIM student. The questionnaire is divided into two sections that comprise of thirty-eight questions in all, eight of which are demographic characteristics.

**Data analysis and management**
The Statistical Software (SPSS 16.0 for window) was used to input and analyze the data.

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

# RESULTS

**Participant demographics characteristics:** Of the 69 participants, 44 (63.8%) were male, with a mean age of 23 years. Public school students accounted for 58% of participants, with 76.8% affirming that medical terminology is offered at their institutions as a separate course.

**Test Performance:**
1.  47 participants (68.1%) scored above the average benchmark of 15/30.
2.  The mean score was $17.3 \pm 5.4$, reflecting moderate overall performance.
3.  Male participants and students from public institutions generally performed better, while age did not significantly influence scores.

**Curriculum Insights:** Despite 76.8% of students confirming the inclusion of medical terminology in their curriculum, findings revealed significant knowledge gaps, particularly in foundational medical terms.

# DISCUSSION

This study, to the best of our knowledge, is the first scientific assessment of HIM students' knowledge of basic medical terminology in Nigeria. Health Information Management professionals need to utilize these terms as they provide direct and indirect patient care like clinical coding, data analysis, admission and discharge assembly, disease surveillance and notification, statistical compilation, monitoring and evaluation, and interpretation of scheduled appointments among others.

This study highlighted moderate knowledge of medical terminology among HIM students in Nigeria. With 68.1% of participants scoring above the average benchmark, the findings suggest a foundational grasp of medical terminology, but also point to significant gaps in critical areas. These findings resonate with Yang, who identified that understanding medical terminology requires tailored learning strategies, particularly for non-native English speakers[1].

The curriculum's apparent insufficiency in fostering deep understanding reflects broader educational challenges. Katja emphasized the historical transition of medical terminology from Latin and Greek to English as the lingua franca, underlining the need for structured language-specific teaching methods to facilitate this shift[2]. Similarly, McGuire advocated for innovative pedagogical approaches in teaching medical terminology, such as integrating mnemonic devices and interactive tools, which could address observed knowledge gaps[3].

The reliance on English as the global medium of medical education adds complexity for students, whose primary language differs. Findings from a study argued that ESL (English as a Second Language) students often face additional hurdles in mastering technical terminology, suggesting that language barriers may be a significant factor in the moderate performance of Nigerian HIM students[18].

Medical terminology serves as a cornerstone for effective communication in healthcare. A study highlighted its universal importance in fostering seamless collaboration among healthcare professionals[5]. For HIM professionals, this knowledge is particularly vital, as it underpins tasks such as clinical coding, data management and patient communication. The observed deficiencies may, therefore, hinder professional readiness and impact the quality of healthcare delivery.

**Study limitation**
i.  There is dearth of empirical work on the topic in Nigeria. This made the investigators to rely largely on studies from other countries.
ii. Also, a study of this caliber should be conducted in all geopolitical zone of the country for generalization on the knowledge of medical terminology.

# CONCLUSION

The assessment demonstrates a moderate level of knowledge in medical terminology among HIM students, but underscores notable deficiencies. Addressing these gaps is essential to ensure students are well-prepared for their roles as healthcare

professionals, particularly in areas requiring precise communication and health data management.

## Recommendations and Global Context

1. Curriculum revision tailored toward medical terminology is recommended.
2. Develop national guidelines to standardize HIM curricula.
3. Capacity Building.
4. Continuous assessment.
5. Policy advocacy.

## Acknowledgement

## REFERENCES

1. Yang MN. Nursing pre-professionals' medical terminology learning strategies. Foreign Language Annals. 2005;22:13-24.
2. Katja dobrić,BA. (2013). Creating medical terminology: from latin and greek influence to the influence of English as the current *lingua franca* of medical communication.vol. 4, No. 7 , 2013.page 493.JAHR
3. McGuire, P., 2009. Teaching medical terminology. J. Foreign Language Educat. 16, 45–54.
4. The History of Medical Terminology, 2019. New Zealand: Medical Academic; [accessed 2020 01/13]. https://www.medicalacademic.co.za/news/the-historyof-med
5. Baethge, C., 2008. The languages of medicine. Deutsches Arzteblatt Int. 105 (3), 37– 40.
6. Galandi, D., Schwarzer, G., Antes, G.J., 2006. The demise of the randomized controlled trial: bibliometric study of the German-language health care literature 1948 to 2004. BMC Med. Res. Methodol. 6 (1), 30.
7. Lane, J.J., Ddhwbcemt–m-s-l-i-t-w, 2016. The 10 most spoken languages in the world.
8. Lysanets, Y.V., Bieliaieva, O.M., 2018. The use of Latin terminology in medical case reports: quantitative, structural, and thematic analysis. J. Med. Case Rep. 12 (1), 45.
9. Brahler, C.J., Walker, D.J., 2008. Learning scientific and medical terminology with a mnemonic strategy using an illogical association technique. Adv. Physiol. Educ. 32 (3), 219–224.
10. Gatehouse, K. (2001). Key issues in English for specific purposes (ESP) curriculum development. The Internet TESL Journal. Retrieved from http://iteslj.org/Articles/GatehouseESP.html
11. Robson, M. (2014). The English Effect. Retrieved from https://www.britishcouncil.org/sites/default/files/english-effectreport-v2.pd
12. Hutchinson, T. & Waters, A. (1992). English for Specific Purposes: A Learning centred approach. Cambridge: Cambridge University Press.
13. Chisholm-Burns, M.A., Lee, J.K., Spivey, C.A., Slack, M., Herrier, R.N., Hall-Lipsy, E., Zivin, J.G., Abraham, I., Palmer, J., Martin, J.R., 2010. US pharmacists' effect as team members on patient care: systematic review and meta-analyses. Med. Care, 923–933. C
14. Hur, K., Park, D.-E., Oh, H.-K., Yang, H.H., Ko, D., Kim, M.-H., Kim, M.J., Kang, S.I., Kim, D.-W., Kang, S.-B.J., 2018. Discrepancies in general surgery medical terminology between South and North Korea. Korean J. Med. Educ. 30 (1), 51.
15. Banay, G.L., 1948. An introduction to medical terminology I. Greek and Latin derivations. Bull. Med. Libr. Assoc. 36 (1), 1.
16. Feng, Y., Shi, J., Wang, W.J., 2009. When medicine was a foreign language. J. Med. Educat. 43 (11). 1110–1110
17. Allibaih, M., Khan, L.M., 2015. Weaving together peer assessment, audios and medical vignettes in teaching medical terms. Int. J. Med. Educ. 6, 172.
18. Olson, M.A., 2012. English-as-a-Second Language (ESL) nursing student success: a critical review of the literature. J. Cult. Divers. 19 (1)
19. Chen Y, Chiou C (2010) Correlators of achievement in English for medical purposes among baccalaureate nursing students. J Nurs Res 18: 11-17.
20. Yazed Al et al (2020), Assessing the pharmacy students' knowledge of common medical terms after a curricular change in Saudi Arabia. Saudi Pharmaceutical Journal: www.sciencedirect.com
21. www.google.com/wikipeadia-geopolitical zone of Nigeria. Retrived on the 14/10/2022 by 11:32am
22. The Statistical Software (SPSS 16.0 for window)

**ORCID iD**
**Ibrahim Taiwo Adeleke**
https://orcid.org/0000-0001-9118-2089

**ORCID iD**
**Abdullateef Adisa Adebisi**
https://orcid.org/0009-0000-5415-7028