



# Student's and Lecturer's Perception Related to the Use of Latin Terms in Anatomy during COVID Pandemic: A Pre-Eliminary Study Conducted in a Christian Based Private Medical School

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## Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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## ABSTRACT

**Aims:** to evaluate Student's and Lecturer's Perception Related to the use of Latin Terms in Anatomy.

**Study Design:** Cross-sectional study

**Place and Duration of Study:** Faculty of Medicine, Universitas Kristen Indonesia, Jakarta-Indonesia, May-September 2021.

**Methodology:** Using electronic questionnaire based study which distributed to students and lecturers by using popular social media named Whatsapp™

**Results:** 708 students and 49 lecturers responded our survey. most of our student respondents found it difficult to learn Latin terms due to language limitation, most of our students need Latin for

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medical terms to be taught in other medical courses more specifically and the majority of lecturers emphasize that a good understanding of nomenclature or medical terms in Latin will support them in studying topics in other medical field.

**Conclusion:** Teaching Anatomy and its Latin terms is difficult and challenging but also there is opportunity to modify it using thematic virtual anatomy or any other digital platform

*Keywords: Terminology; structural; thematic; typologies; terms and expressions; paradigm shift; virtual anatomy.*

## 1. INTRODUCTION

Standardized Latin terms are still used in Medicine until nowadays, especially in Anatomy [1]. The purpose of an international standard nomenclature or terminology in a scientific field is to ensure clear communication [2]. Students, especially freshmen, while entering medical school are faced with acquiring new, and voluminous, anatomical and medical terminologies. The attitudes of medical students toward the importance of understanding classical Greek and Latin in the development of an anatomical and medical vocabulary will influence them to go further in their medical education [3].

Latin terms usually used and related to the naming of certain area of human body. Commonly used anatomy and other basic and or clinical science of Medicine terminologies are predominantly rooted in Latin vocabulary, so it is commonly inferred that a solid understanding in Latin roots of medical terminology will improve student learning in anatomy and related disciplines. Smith et al cited that understanding Latin or Greek also facilitate students to learn and understand more clearly, while for practitioners to recall otherwise foreign terminology [4]. The dynamics in this specific teaching are also affected by global events that still continue to haunt, namely the COVID-19 pandemic.

In previous generations of medical students, their methods of education during their earlier year pushed them to learn Latin terms since very beginning, but due the curriculum shift and modification, the current generation does not have such requirements. Study on students' and lecturer's perceptions regarding the use of Latin terms in Anatomy is also rarely conducted. This simple study aim to evaluate Student's and Lecturer's Perception Related to the use of Latin Terms in Anatomy.

## 2. METHODOLOGY

This simple cross sectional study was conducted from May until September 2021 at the Faculty of

Medicine, Universitas Kristen Indonesia, Jakarta-Indonesia, and the oldest private, Christian based Medical Faculty located in Jakarta Indonesia.

Electronic questionnaire was built in Google Forms™ which is then disseminated using the popular social media platform Whatsapp™, several question regarding (1) demographic (age, gender, year of enrollment) and (2) the practice of using Latin terms in Anatomy asked to respondents (students and lecturers).

Respondents has received sufficient explanation regarding the aim of the study before being asked for consent to participate. By means of snow ball effects chain messages, the questionnaire was distributed to all members of the class 2013 – 2020 and also to their lecturers. Initially, all raw data obtained in Microsoft Excel™ from. Data processing conducted with SPSS 20.0.™ and presented in sufficient form.

## 3. RESULTS AND DISCUSSION

Our respondents are divided into two major parts, namely students and lecturers. Actually there were 719 students submitted their responses, but only data of 708 respondents eligible for further analysis. For lecturers, 49 people respond to the study and all considered eligible for further analysis.

Based on students's demographic data obtained in the questionnaire, the youngest is 16 years with the oldest being 26 years old; mean age is 20.6 years old. Eventhough all of our respondents came from the class 2013, 2014, 2015, 2016, 2017, 2018, 2019 and 2020 but actually the majority of our respondents were from the class of 2018. Out of 708, there are 194 male students and 504 female. Students who also study Latin in FK UKI are generally obtained starting from the first semester as many as 624 people (88.1%).

The data shown above are the result of student perceptions that filled in the questions posed in

the electronic questionnaire. It was found that the majority of students were taught Latin with a combination of Written Directly, Spoken Verbally, and Shown Inscription - Slide Power Point for the first time as many as 554 (78.2%) students. While studying Latin, students mostly do reading and writing techniques to train themselves to learn Latin in medical as many as 363 (51.3%) students. Students also believe that Latin is also taught in other lecture fields besides anatomy, and it is also found that students are also familiar with the use of Latin in the medical world itself.

From the data above, it was found that students still find it difficult to understand Latin, although after being asked it turned out that most students felt that the difficulty was not as heavy as in learning it like others who hard to remembering, writing, and reading and other difficulties. There are also some suggestions submitted by students so that Latin language learning in medicine can be carried out more optimally, and students are also aware that Latin is important as most students write to be used as a universal language in the medical world.

**Table 1. Data obtained from Students regarding Their Perception on Latin terms in Anatomy**

Questions About	Categories	Number of Respondents	%
How Latin Teach for The First Time	Written Directly	12	1.7
	Spoken Verbally	96	13.6
	Shown Inscription - Slide Power Point	46	6.5
	Combination of all the above	554	78.2
How do students learn Latin outside of conventional lecture hours	Practicing with Friends	48	6.8
	Practice Rewriting	27	3.8
	Reading and Writing Combination	363	51.3
	Reading Textbooks, Atlas, Dictionaries	225	31.8
	Never Learn to Write or Pronounce Outside of Conventional Lecture Hours	45	6.4
Latin language needs to be taught specifically in other subjects besides anatomy	Yes	502	70.9
	No	206	29.1
Familiar and confident in the use of Latin as nomenclature and medical terms	Yes	491	69.4
	No	217	30.6
Latin for medical terms is also taught in other subject specifically	Yes	586	82.8
	No	122	17.2
Difficulty in Latin	Yes	460	65.0
	No	248	35.0
If you find it difficult, how difficult is it	Hard to Memories	22	3.1
	Hard to Pronounce	19	2.7
	Hard to Read	10	1.4
	Hard to Write	10	1.4
	Don't Find It Very Difficult	606	85.6
	Similar Words	19	2.7
	Unfamiliar Language	22	3.1
Suggestions for studying Latin in its use in medical terms	Making Quiz	3	0.4
	More Systematic Lessons	5	0.7
	Repeated During the Lessons	647	91.4
	Trained How to Pronounce	2	0.3
	Trained How to Write Latin	10	1.4
	Not clearly stated	37	5.2
	Using Media Tools ( cadaver, pictures, video)	4	0.6
Why Latin term is Important in the	Normative Language	3	0.4

context of teaching Medicine	Universal and Communication Media Between Medical Personnel Language	662	93.5
	The Use of Terms in Medical Field (ex. Anatomy Terminology, Medicine Recipe, etc.)	34	4.8
	Not clearly stated	9	1.3

Demographic data of the lecturers which joined the study are as follows: the youngest aged 26 years and the oldest being 73 years, and the mean age is 48,6 years old. Out of 49 lecturers, 28 (57.1%) are pre-clinical lecturers and 21 people (42.9%) are clinical lecturer. It was also found that the length of the teaching period for FK UKI lecturers started from under 1 year to those who had taught up to 42 years, and the most was in the teaching period of 18 years (12.2%) and the mean is 16 years of the teaching period.

From the table shown above is the result of the questions in the lecturer questionnaire. It can be seen that the majority of the lecturers use Latin terms in their lessons as many as 48 people (98%). Although the majority uses Latin, most of the lecturers do not provide a special time allocation so that students can understand Latin better, while the lecturers also do not find it difficult to learn and teach Latin to students. The lecturers also agreed that a good understanding of Latin could support the learning of medical topics. Then, it was also found how teaching methods were carried out to support learning, and most of them were provided learning media such as dictionaries and others. In addition to the lecturers agreeing to have a special learning time for Latin outside of anatomy lessons, there are also suggestions given by the lecturers so that students can learn Latin better and the majority by providing Latin language learning materials from the beginning of learning as many as 31 people (63.3 %).

Difficulties in understanding Latin terms is common among students. According to Russell,<sup>5</sup> For countless students of Latin, prevailing memories of Latin instruction involve being taught to unpick Latin sentences by racing towards the verb and securing the meaning of the main clause before piecing together the rest. However, this 'hunt the verb' approach, where one's eyes are jumping back and forth in search of the resolution of ambiguity, is not necessarily conducive to fluent reading of Latin and moreover to understand it clearly.<sup>5,6</sup> The

limitation of this study is that it does not reach the qualitative cause of the difficulty in studying Anatomy in the context of its Latin terms.

Lysanets and Bieliaieva [6] developed structural and thematic typologies of Latin terms and expressions, and then conducted a quantitative analysis that enabled them to observe the tendencies in using these lexical units in medical case reports among medical students. The research result revealed that the use of Latin fully complies with the communicative strategies of medical case reports as a genre. Owing to the fact that Latin medical lexis is internationally adopted and understood worldwide, it promotes the conciseness of medical case reports, as well as contributes to their narrative style and educational intentions.

The adequate use of Latin terms in medicine is an essential prerequisite of effective sharing of one's clinical findings with fellow researchers from all over the world. Therefore, it is highly important to draw students' attention to Latin terms and expressions that are used in medical case reports or any other form of teaching and conducted it repeatedly. It seems that further study needs to be done regarding repetition of lessons in order to strengthen understanding of Latin terms.

The dynamics of global milieu where the Coronavirus Disease 2019 (COVID-19) pandemic has also caused an unprecedented disruption in medical education and healthcare systems worldwide [7]. It presents obstacles for medical education and the educators themselves, as instructors must deliver lectures safely, while ensuring the integrity and continuity of the medical education process [7,8]. It is therefore important to assess the usability of online learning methods, and to determine their feasibility and adequacy for medical students [9]. Many studies actually demonstrates the positive attitude of medical students of developed or under developed countries towards online learning [10-12].

**Table 2. Data obtained from Lecturers regarding Their Perception on Latin terms in Anatomy**

Questions	Categories	Number of Respondents	%
In the courses that taught there are nomenclature or medical terms using Latin	Yes	48	98.0
	No	1	2.0
There is a special time allocation for the courses taught to emphasize nomenclature or medical terms using Latin	Yes	23	46.9
	No	26	53.1
Difficulty Teaching Latin to Students	Yes	10	20.4
	No	39	79.6
If you find it difficult to teach Latin terms, how difficult is it	Hard to Remember and Pronounce	1	2.0
	Hard to Teach Students about Latin	2	4.1
	Hard to Write Latin	1	2.0
	Language is No Longer Used	1	2.0
	Limited Learning Facilities	1	2.0
	Not Difficult	42	85.7
	The Original Language Has Been Translated Into Another	1	2.0
A good understanding of nomenclature or medical terms that use Latin will be helpful for studying medical topics	Yes	48	98.0
	No	1	2.0
Modification to teach sstudents in terms of nomenclature and medical terms in Latin	Ask to Read and re-read over and over until the student Understood	4	8.2
	Discuss with Students	1	2.0
	Give Pre-Test and Post-Test	1	2.0
	Provide a Way of Learning by Making Abbreviations	1	2.0
	Provide Learning Materials ( dictionary, course material, video)	24	49.0
	Translate Into Indonesian	1	2.0
	Try to Memorize	2	4.1
	Understanding Etymology First	1	2.0
	Use Medical Terms in Latin During Medical Lessons	14	28.6
In addition to anatomy courses, Latin needs to be taught specifically	Yes	42	85.7

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in other courses	No	7	14.3
Suggestions for teaching Latin terms in the medical word to students	Discussion After Lessons	1	2.0
	Reading Textbook	4	8.2
	Taught and Introduced from the Beginning	31	63.3
	Taught How to Write and Pronounce Correctly	6	12.2
	Taught with Proper Facilities	3	6.1
	Translate Every Words into Indonesian	1	2.0
	Used in Everyday Lesson	1	2.0
	Using Combined Methods	2	4.1

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Anatomists have therefore been challenged to unbolt technology in attempt to attain best deliverables for their discipline, without the use of traditional teaching aids such as the cadaver, osteological specimens, prosected specimens, models, and microscopic slides and shifted the methods to electronic based [13,14]. At present, the virtual classroom is the only option for the anatomist, thereby omitting vital aspects of the hidden curriculum such as ethical-reasoning, empathy, respect, professionalism, interpersonal, and communication skills [15]. This condition marks the beginning of a paradigm shift in education and research for anatomists worldwide, including delivering lesson about Latin terms.

#### 4. CONCLUSION

From the results of the study, it can be concluded that our respondents find it difficult to learn Latin initially so that it should also be taught in other medical courses (outside Anatomy) more specifically. The majority of lecturers emphasize that a good understanding on the meaning of nomenclature or medical terms in Latin will support the student's basic understanding in studying topics in a much more complex medical courses.

#### CONSENT

All authors declare that 'electronic informed consent' was obtained from the respondents prior the survey conducted.

#### ETHICAL APPROVAL

It is not applicable.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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