

Nursing Students' Knowledge and Attitude Towards Medical Writing Skills in the English Language

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Abstract—Medical Writing skills in the English language is challenging for those having English as their second language. Hence, this study focuses on understanding the knowledge and attitude toward medical writing skills in the English Language among undergraduate nursing students in Saudi Arabia. This study adopted an exploratory study design. It included all nursing students enrolled in the first year of the undergraduate nursing program in Abha (n=80) and Muhayil (n=80) female campuses of King Khalid University (KKU), Saudi Arabia. Those students were administered with a self-structured online questionnaire measuring the nursing students' knowledge and attitude toward English medical writing skills. Out of the total students (N=160), 137 responded to the questionnaire. Most nursing students were able to write medical questions (88.3%), abbreviations (92.7%), patient information (91.2%), reports (85.4%), and prescriptions (88.3%) in English. They felt that English medical writing creates a good impression on themselves (95.6%) and makes them professional (97.1%). Most of them liked English medical writing (91.3%) and felt that knowledge of it offers advantages in their future career (99.2%). They can read the medical report in English though it is in Arabic (78.9%). Nursing students of KKU presented a good knowledge and positive attitude towards English medical writing skills. Their knowledge is significantly associated with their attitude toward English medical writing skills. Saudi nursing schools should continue their strategies to improve students' English medical writing skills to improve the quality of the nursing profession and their ability to compete with the global labor market.

Index Terms—medical English, nursing, students, writing skills

I. INTRODUCTION

Education in healthcare professionals (HCPs) focuses on offering students the contextual knowledge, skills, and values to allow them to start independent professional practice. Hence, faculty members can prepare graduates for their imminent practice by focusing on basic skills and attributes. Among those skills, the aptitude to communicate in writing is vital for HCPs (El Tantawi et al., 2016). Those HCPs require strong writing skills to communicate effectively with their target audiences (Ellis, 2021). Also, writing comprehensibly for good clinical practice is necessary, and poor prescription and documentation can lead to dangerous consequences for the patient. Effective writing is also a medium to communicate composite scientific ideas and critical medical information (Malik, 2017). Moreover, medical writing is a science and art that requires knowledge of medical science and writing talent. It comprises writing scientific documents of various types: governing and research-related papers, literature on disease, drugs, promotion, education, publications, and healthcare website contents (Sharma, 2010). The significance of good medical writing must be considered since science rest on clear and precise reporting. Scrupulous research can only seem correct if it is well conveyed to the audience. Those audiences of medical writing include patients, HCPs, citizens, pharmacists, and drug regulators. Hence, the level of medical information and language used has to be suitable to the level of understanding of the target audience (Sharma, 2010).

Concerning the language used, more effective medical writing needs a strong emphasis and crisp usage of the English language (Pal, 2019). English is a global language of medicine and is expanding as a universal communication and educational tool (Chan et al., 2022). Besides, the language of teaching and communication are the basics of understanding knowledge and skills in health sciences schools. Students of those schools feel hard to tackle the language barrier, especially during their first year, which is a crucial obstacle to profound education and innovation (Al-Khlaiwi, 2019). Especially non-native English speakers tend to express the information in their native language; however, their primary barrier is putting that information in a language they might not be comfortable with (Sharma, 2017). A study in Jordan stated that first-year medical students showed a high level of writing anxiety with English foreign language (Rabadi & Rabadi, 2020). Another study also observed that nursing and health sciences students of an Arabic-speaking nation needed better English proficiency and were unfamiliar with medical English (Rabea, 2018). In the Saudi Arabian context, healthcare education is primarily delivered in English, including nursing. Saudi universities are delivering a five-year bachelor of a nursing program with a one-year internship duration (Alqahtani, 2022). Nevertheless, many nursing students join a nursing program after high school with most subjects in Arabic (Allah &

Sahel, 2020). They are anticipated to possess good English skills during their clinical training sessions. Also, they need such skills following graduation for active communication in their working environment, where English is the critical language in the Saudi healthcare system (Alqahtani, 2022). Considering these facts, those nursing students receive English language skills courses during the preparatory year (Alqahtani, 2022). A study by Kaliyadan et al. (2015) stated that the English course was designed to include all facets of medical English, such as medical terms, speaking, reading, comprehension, and writing during the preparatory year. It studied the relationship between the English language proficiency of Saudi medical students during the preparatory year and their academic performance. It concluded that English language proficiency is crucial to medical students' academic performance. An earlier study also found that undergraduate medical students had been deprived of the needed English language proficiency level (Javid, 2011). Another study by El Tantawi et al. (2016) assessed the scientific writing skills in the English language among preparatory year students of the undergraduate dental program offered at a Saudi public university. Female students showed better writing information than their counterparts. However, those need to improve their readability level irrespective of their gender. A review article by Al-Khlaiwi (2019) revealed the effect of language on learning in health sciences schools in Saudi Arabia. It stated that health science students felt discomfort, particularly during their first year to overcome language difficulties. Furthermore, Alqahtani (2022) recently studied the English language usage level and its impact on undergraduate Saudi nursing students speaking English as a second language. Those students showed low average English language usage score; however, their academic achievement was high. Female nursing students showed higher English writing skills than their counterparts. Fourth-year nursing students showed a higher level of English language usage than the remaining year students. In Saudi Arabia, few studies analyzed the medical and dental students' skills in the English language during their preparatory year. However, only one study has focused on English language usage level and its impact on nursing students from the first to the fourth year. Studies have yet to discover the medical writing skills in the English language among nursing students finishing their preparatory year and enrolling in the first year of the nursing program. Hence, this study aims to reveal the knowledge and attitude toward medical writing skills in the English Language among undergraduate nursing students finishing their preparatory year and enrolled in the program's first year.

II. MATERIALS AND METHODS

A. Study Design

An exploratory study design was applied to discover first-year undergraduate nursing students' knowledge and attitude toward English medical writing skills. This study was conducted during the academic year 2021-2022. The population of this study (N=160) comprises all nursing students enrolled in the first year of the undergraduate nursing program in Abha (n=80) and Muhayil (n=80) campuses of King Khalid University (KKU), Saudi Arabia. All those students are female and Saudi nationals. Those students had already undergone the English language courses delivered during their preparatory year.

B. Questionnaire

A self-structured online questionnaire was administered to the study population (N=160). It consists of two sections with 14 items. One section deals with the nursing student's knowledge of English medical writing skills (7 items). Another section deals with their attitude toward English medical writing skills (7 items). Each item is assessed on a five-point Likert scale, i.e., Strongly Agree-5, Agree-4, Neutral-3, Disagree-2, Strongly Disagree-1. The participants were invited to respond to the questionnaire after giving informed consent. The obscurity and privacy were assured before collecting the responses from the participants. A pre-specified timeline was provided to the participants to respond to the questionnaire.

C. Data Analysis

Data analysis was executed using Statistical Package for Social Science (SPSS) version 20 (Chicago, II, USA). Cronbach alpha reliability test was applied to assess the reliability of the questionnaire. Confirmatory factor analysis (CFA) was used to check the validity of the questionnaire. The descriptive statistics were used to reveal the mean score and cumulative percentage (i.e., Agree-4 and strongly agree-5) of the responses toward items. A Chi-square analysis was carried out to evaluate the association between the knowledge and attitude of nursing students toward English medical writing skills. The level of significance was fixed at 5%.

III. RESULTS

Out of the total students (N=160), 137 responded to the questionnaire. The response rate is 86%. Besides, the internal consistency of the questionnaire was 0.828 (Table 1), denoting that the questionnaire is Good and reliable (George & Mallery, 2003; Jain & Angural, 2017). Further, the Kaiser-Meyer-Olkin value (0.823) for the overall matrix denoted that the sample size was significant for factor analysis. The Bartlett's test of sphericity was observed to be significant ($p < 0.05$). Hence, the sample size was sufficient. Also, the total variance observed in factor analysis using the varimax rotation showed the sum of squared loadings of 70.17 percent.

TABLE 1
RELIABILITY STATISTICS

Variables	Cronbach's alpha	No. of items
Knowledge	0.892	07
Attitude	0.753	07
Overall	0.828	14

TABLE 2
RESPONSES CONCERNING NURSING STUDENTS' KNOWLEDGE OF ENGLISH MEDICAL WRITING SKILLS

Knowledge	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I can read and write medical questions	1 (0.7)	1 (0.7)	14 (10.3)	41 (29.9)	80 (58.4)
I can write a lot of English medical abbreviations easily.	-	-	10 (7.3)	31 (22.6)	96 (70.1)
I can write medical information from the patient in English.	-	1 (0.7)	11 (8.1)	34 (24.8)	91 (66.4)
I can write English medical reports	-	6 (4.4)	14 (10.2)	36 (26.3)	81 (59.1)
When I write English medical case notes, it creates a good impression on myself	1 (0.7)	-	5 (3.6)	26 (19.0)	105 (76.7)
When I write an English medical referral letter, I think I am professional.	-	1 (0.7)	3 (2.2)	23 (16.8)	110 (80.3)
I can write English medical prescription	-	3 (2.2)	13 (9.5)	36 (26.3)	85 (62.0)

TABLE 3
MEAN SCORE AND CUMULATIVE PERCENTAGE FOR NURSING STUDENTS' RESPONSES CONCERNING KNOWLEDGE ITEMS

Knowledge	Mean ± Standard deviation	Cumulative percentage (%)
I can read and write medical questions	4.45 ± 0.766	88.3
I can write a lot of English medical abbreviations easily	4.63 ± 0.618	92.7
I can write medical information from the patient in English	4.57 ± 0.673	91.2
I can write English medical reports	4.40 ± 0.844	85.4
When I write English medical case notes, it creates a good impression on myself	4.71 ± 0.608	95.6
When I write an English medical referral letter, I think I am professional	4.77 ± 0.518	97.1
I can write English medical prescription	4.48 ± 0.758	88.3

Table 2 shows the responses on the items regarding nursing students' knowledge of English medical writing skills. More than 95% of nursing students agreed that writing English medical case notes made a good impression on them (mean score = 4.71), and writing an English medical referral letter made them professional (mean score = 4.71). Further, more than 90% of them acknowledge that they can easily write many English medical abbreviations (mean score = 4.63) and medical information from the patient in English (mean score = 4.57). 88% affirmed that they could read and write medical questions (mean score = 4.45) and write English medical prescriptions (mean score = 4.48). 85.4% of them can write English medical reports (mean score = 4.40) (Table 3).

TABLE 4
RESPONSES CONCERNING NURSING STUDENTS' ATTITUDE TOWARDS ENGLISH MEDICAL WRITING SKILLS

Attitude	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I like English medical writing	1 (0.7)	1 (0.7)	10 (7.3)	33 (24.1)	92 (67.1)
I dislike English medical writing	29 (21.2)	27 (19.6)	29 (21.2)	19 (13.9)	33 (24.1)
English medical writing is important in globalization	1 (0.7)	1 (0.7)	5 (3.6)	29 (21.3)	101 (73.7)
I need to improve my medical English to succeed in higher education	-	3 (2.2)	2 (1.5)	29 (21.2)	103 (75.1)
Writing in medical English is an advantage	-	-	2 (1.5)	21 (15.3)	114 (83.2)
Knowledge of English medical writing offers advantages in my future career.	-	-	1 (0.7)	11 (8.0)	125 (91.3)
If the medical report is available in both English and Arabic, I will read the report in English	1 (0.7)	4 (2.9)	24 (17.5)	32 (23.4)	76 (55.5)

TABLE 5
MEAN SCORE AND CUMULATIVE PERCENTAGE FOR NURSING STUDENTS' RESPONSES CONCERNING ATTITUDE ITEMS

Attitude	Mean ± Standard deviation	Cumulative percentage (%)
I like English medical writing	4.56±0.726	91.3
I dislike English medical writing	3.00±1.470	38.0
English medical writing is important in globalization	4.66±0.656	94.9
I need to improve my medical English to succeed in higher education	4.69±0.613	96.4
Writing in medical English is an advantage	4.82±0.424	98.5
Knowledge of English medical writing offers advantages in my future career.	4.91±0.318	99.2
If the medical report is available in both English and Arabic, I will read the report in English	4.30±0.910	78.9

Table 4 shows the items' responses regarding nursing students' attitude toward English medical writing skills. Most of the students (91.3%) liked English medical writing (mean score = 4.56), and only 38% disliked it (mean score = 3.00). 94.9% agreed that English medical writing is essential in globalization (mean score = 4.66). Almost all nursing students perceived English medical writing as an advantage (98.5%) (mean score = 4.82) and agreed that knowledge of English medical writing offered advantages in their careers (99.2%) (mean score = 4.91). 96.4% of them agreed that they need improvement in their medical English to succeed in higher education (mean score = 4.69). 78.9% acknowledged that they would read the medical report in English even if it is available in English and Arabic (mean score = 4.30) (Table 5).

TABLE 6
ASSOCIATION BETWEEN OVERALL KNOWLEDGE AND ATTITUDE TOWARD ENGLISH MEDICAL WRITING AMONG NURSING STUDENTS

English Medical Writing Skills		Attitude			Chi-square value (p-value)
		Neutral	Agree	Strongly agree	
Knowledge	Disagree	-	1 (100)	-	15.470 (0.017)
	Neutral	-	7 (87.5)	1 (12.5)	
	Agree	1 (2.6)	26 (66.7)	12 (30.8)	
	Strongly agree	-	37 (41.6)	52 (58.4)	

The results show a significant association between nursing students' knowledge and attitude toward English medical writing skills ($p < 0.05$) (Table 6).

IV. DISCUSSION

Regarding the nursing students' knowledge, this study observed that more than 90% of nursing students could write more English medical abbreviations easily. This finding is supported by a study in an Arabic-speaking nation, which observed that the English language is used for teaching health sciences students, and their comprehension of medical terminologies was improved as their academic year progressed (Heming & Nandagopal, 2012). However, Saudi pharmacy students struggled to understand basic medical terms (AlRuthia et al., 2020). Previous studies stated that discrepancies might arise when other languages are used for medical terminology (Hur et al., 2018; Ko et al., 2018). Furthermore, a recent study in Saudi Arabia found that 48% and 34% of medical students preferred collecting medical information and had more confidence in history taking in Arabic than in English, respectively (Alnahdi et al., 2021). However, this study found that most nursing students could read and write medical questions (88.3%) and write patient medical information in English (91.2%).

Moreover, this study observed that 85.4% of nursing students could write medical reports in English. More than 95% perceived that writing medical case notes in English made a good impression, and writing a medical referral letter in English made them feel professional. 88.3% could write English medical prescriptions. These findings are supported by Wahyuni (2021), who stated that medical students perceived English language skills as most vital for writing medical reports (77.4%), medical prescriptions (81.08%), and medical purpose letters (79.32%). Besides, English was used for various academic tasks among Arabian medical students. Those academic tasks include lectures, conferences, seminars, group discussions, and writing medical reports and research papers (Muhammad et al., 2018). English is used for knowledge actualization while performing these tasks (Nhan et al., 2016). The individuals serving in healthcare need to communicate in English to become a professional regarding medical needs, such as reading and writing case reports and referral letters (Ferguson, 2013). Likewise, in this study, nursing students understood the significance of the English language for communication and being professional, thereby developing their writing skills in English. Based on the results, nursing students perceived their knowledge of English medical writing skills with a mean score of more than 4.4 out of 5 for all items. This finding indicates a good knowledge of English medical writing skills among nursing students. In the Saudi Arabian context, students enrolling in professional courses should undergo a preparatory year, including English language courses, which aim to improve their confidence in English language usage with a focus on medical terms (El Tantawi et al., 2016).

Concerning the nursing students' attitude, this study reported that 91.3% liked and only 38% disliked English medical writing, which reflects their interest and motivation towards writing in English. However, these findings differ from the findings of Alharbi (2019), who observed that 82% of Saudi undergraduate students disliked writing in English, indicating poor motivation. Furthermore, 94.9% of nursing students perceived that English medical writing is important in globalization since the English language has become vital to the nursing profession to thrive in the globalization era and provide the best to evade the misconception of communication (Noviana et al., 2019). Hawks et al. (2016) stated that professional nurses should own effective written communication, which is an essential skill for them. Hence, it is mandatory to promote earlier in nursing students' careers through various strategies to improve academic literacy. Alqahtani (2022) found that the practice of the English language was linked to Saudi nursing students' academic success. Likewise, the present study revealed that 96.4% of nursing students needed to improve their medical English to succeed in higher education.

Besides, almost all nursing students perceived that writing in medical English would be an advantage (98.5%) and knowledge of English medical writing would offer advantages in their future careers (99.2%). These findings might be because medical English is vital for communication (Perinpasingam et al., 2015). Registered nurses need to utilize medical English for communication at their workplace. They should be able to recognize and collect necessary patient information before case reporting to the doctors, who usually speak in English language (Kunjukunju & Ahmad, 2019). The ability to communicate in English also improves the quality of nursing professionalism and averts misapprehension between nurses and patients, which is the most significant problem in the field of nursing (Aflah & Rahmani, 2019). Furthermore, 78.9% of nursing students said they would read the report in English even though it is available in both English and Arabic. This finding might be because English is a global language of medicine and is expanding as a universal communication and educational tool (Chan et al., 2022). They require such an advantage for active communication in their workplace, where English is the crucial language in the Saudi healthcare system (Alqahtani, 2022). However, a study in the United Arab Emirates stated that Emirati medical students felt more confident in collecting medical history in Arabic than in English (Mirza & Hashim, 2010). From the findings of this study, nursing students demonstrated their attitude toward English medical writing skills with a mean score of more than 4.3 out of 5 for all items except the negative statement related to dislike of English medical writing. This finding indicates nursing students' positive attitude toward English medical writing skills.

Furthermore, Almalki (2016) observed that knowledge of English among Saudi students is significantly related to their attitude toward learning the English language. Likewise, this study revealed a significant association between nursing students' knowledge and attitude toward English medical writing skills. Nursing students possessing adequate knowledge of English medical writing skills reflect a positive attitude towards it.

This study is limited to the female nursing students of a single public university with a smaller sample size. However, it can be conducted across Saudi universities by including nursing students concerning gender, nationality, and academic year. Saudi nursing students' English medical writing skills can be compared with those of nursing colleges in other Arabic-speaking nations. Further, factors affecting the nursing students' knowledge and attitude toward English medical writing skills can be revealed in further studies. Faculty members' needs and difficulties in training nursing students for English medical writing can be explored in the future to improve students' communication skills further.

V. CONCLUSION

Nursing students of KKU presented a good knowledge and positive attitude towards English medical writing skills. Most could write medical reports, questions, abbreviations, and prescriptions in English. They felt English medical writing created a good impression on themselves and made them professional. Most of them liked English medical writing and felt that knowledge of English medical writing offers advantages in their future careers. They can read the medical report in English though it is in Arabic. These findings reflect that English language courses and training are effectively conducted for nursing students at KKU. Further, Saudi nursing schools should continually focus on improving students' medical writing skills in the English language since English is their second language and is also universally used in healthcare for communication. This effort would improve the quality of nursing and patient care and enhance their ability to compete with the global labor market.

REFERENCES

- [1] Aflah, M.N. & Rahmani, E.F. (2019). Developing a speaking handout for ESP students. *Journal of Education and Learning (EduLearn)*, 13(2), 234-238. doi: 10.11591/edulearn.v13i2.11362
- [2] Alharbi, M.A. (2019). EFL university students' voice on challenges and solution in learning academic writing. *Indonesian Journal of Applied Linguistics*, 8(3), 576-587. doi: 10.17509/ijal.v8i3.15276
- [3] Al-Khlaiwi TMN. (2019). Impact of language on learning in Saudi Arabia's health sciences schools. *Ann Pak Inst Med Sci*, 15 (2), 44-47.
- [4] Almalki, S.M.A. (2016). Knowledge and Attitudes Towards Learning English Among Saudi Students in Globe Institute in Exeter (UK). *US-China Foreign Language*, 14(6), 397-423. doi:10.17265/1539-8080/2016.06.001

- [5] Alnahdi MA, Alhaider A, Bahanan F, Aldubaikhi A, Aljehani A, Omair A & Alaqeel M. (2021). The impact of the English medical curriculum on medical history taking from Arabic speaking patients by medical students. *J Family Med Prim Care*, 10(3), 1425-1430. doi: 10.4103/jfmpc.jfmpc_1946_20
- [6] Alqahtani N. (2022). English Language Usage and Academic Achievement Among Nursing Students: A Cross-Sectional Study. *SAGE Open Nursing*, 8. doi:10.1177/23779608221109364
- [7] AlRuthia, Y., Alwhaibi, M., Almalag, H., Alkofide, H., Balkhi, B., Almejel, A., Alshammari, F., Alharbi, F., Sales, I., & Asiri, Y. (2020). Assessing the pharmacy students' knowledge of common medical terms after a curricular change in Saudi Arabia. *Saudi pharmaceutical journal: SPJ: the official publication of the Saudi Pharmaceutical Society*, 28(6), 763–770. <https://doi.org/10.1016/j.jsps.2020.05.002>
- [8] Chan, S.M.H., Mamat, N.H. & Nadarajah, V.D. (2022). Mind your language: the importance of English language skills in an international medical programme (IMP). *BMC Med Educ*, 22, 405. <https://doi.org/10.1186/s12909-022-03481-w>
- [9] Ellis, L.A. (2021). A blueprint for writing effectively for the healthcare field. *Trends in Medicine, Harvard Medical School*. From <https://postgraduateeducation.hms.harvard.edu/trends-medicine/blueprint-writing-effectively-health-care-field> Retrieval time (2021 April 02).
- [10] El Tantawi M, Al-Ansari A, Sadaf S & AlHumaid J. (2016). Evaluating the English language scientific writing skills of Saudi dental students at entry level. *East Mediterr Health J*, 22(2), 148-53. doi: 10.26719/2016.22.2.148.
- [11] Ferguson, G. (2013). English for medical purposes. In Paltridge, B., Starfield, S. Chichester (eds). *The Handbook of English for Specific Purposes*. Chichester: Wiley-Blackwell.
- [12] George, D. and Mallery, P. (2003), *SPSS for Windows step by step: A simple guide and reference 11.0 update*, Allyn and Bacon, Boston.
- [13] Hawks SJ, Turner KM, Derouin AL, Hueckel RM, Leonardelli AK & Oermann MH. (2016). Writing Across the Curriculum: Strategies to Improve the Writing Skills of Nursing Students. *Nurs Forum*, 51(4), 261-267. doi: 10.1111/nuf.12151
- [14] Heming T.A & Nandagopal S. (2012). Comparative difficulties with non-scientific general vocabulary and scientific/medical terminology in English as a second language (ESL) medical students. *Sultan Qaboos Univ. Med. J*, 12(4), 485-492.
- [15] 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), 51-56. doi: 10.3946/kjme.2018.81
- [16] Jain, S. & Angural, V. (2017). Use of Cronbach's alpha in dental research, *Medico Research Chronicles*, 4(3), 285-291.
- [17] Javid, C. Z. (2011). EMP Needs of Medical Undergraduates in a Saudi Context. *Kashmir Journal of Language Research*, 14(1), 89-110.
- [18] Kaliyadan F, Thalamkandathil N, Parupalli SR, Amin TT, Balaha MH & Al Bu Ali WH. (2015). English language proficiency and academic performance: A study of a medical preparatory year program in Saudi Arabia. *Avicenna J Med*, 5(4), 140-4. doi: 10.4103/2231-0770.165126
- [19] Ko D., Oh H.-K., Jo J., Yang H.H., Kim M.-H., Kim M.J., Kang S.I., Kim D.-W & Kang S.B. (2018). Discrepancy of medical terminology regarding colorectal surgery between South and North Korea. *Ann. Coloproctol*, 34(5), 248-252. doi: 10.3393/ac.2017.10.01
- [20] Kunjukurunju, A. & Ahmad, A. (2019). Effective communication among doctors and nurses: barriers as perceived by doctors. *The Malaysian Journal of Nursing*, 11(2), 1-11. doi:10.31674/mjn.2019.v11i02.001
- [21] Malik B. (2017). The value of writing skills as an addition to the medical school curriculum. *Adv Med Educ Pract*, 8, 525-526. doi: 10.2147/AMEP.S140585
- [22] Mirza DM & Hashim MJ. (2010). Communication skills training in English alone can leave Arab medical students unconfident with patient communication in their native language. *Educ Health (Abingdon)*, 23(2), 450. Epub 2010 Jul 23. PMID: 20853245.
- [23] Muhammad, et.al. (2018). English for Doctors: An ESP Approach to Needs Analysis and Course Design For Medical Students. *International Journal of English Linguistics*, 8(5). 1923-8703. from <https://www.researchgate.net/publication>
- [24] Nhan, N. T., Debattista, J., Health, Q., & Queensland, T. (2016). *Medical Students Need a Core English Curriculum Based on Cefr* (Common European Framework), 14–23.
- [25] Noviana, I., Nahariani, P., & Rosmaharani, S. (2019). The Problems Faced in Learning English for Nursing of Students in STIKes Pemkab Jombang. *KnE Life Sciences*, 4(13), 535–541. <https://doi.org/10.18502/cls.v4i13.5303>
- [26] Pal, M. (2019). 7 Essential skills to look for when you hire a medical writer. *Kolabtree Blog*. From <https://www.kolabtree.com/blog/7-essential-skills-to-look-for-when-you-hire-a-medical-writer/> Retrieval time (2019 August 19).
- [27] Perinpasingam, P.T.S., Arumugam, N., Thayalan, X. & Maniam, M. (2015). Needs Analysis on the Importance of English Language Skills for Workplace: Trainee Architects. *International Review of Basic and Applied Sciences*, 3(10), 129–137.
- [28] Rabadi RI & Rabadi AD. (2020). Do Medical students experience writing anxiety while learning English as a foreign language? *Psychol Res Behav Manag*, 13, 883-893. doi: 10.2147/PRBM.S276448
- [29] Rabea, R., Almahameed, N.A., Al-Nawafleh, A.H & Obaidi, J. (2018). English language challenges among students of Princess Aisha Bint Al-Hussein college of nursing & health sciences at Al-Hussein Bin Talal University. *Journal of Language Teaching and Research*, 9(4), 809-817. doi: <http://dx.doi.org/10.17507/jltr.0904.19>
- [30] Sharma S. (2010). How to become a competent medical writer? *Perspect Clin Res*, 1(1), 33-7.
- [31] Sharma S. (2017). Development of medical writing in India: Past, present and future. *Perspect Clin Res*, 8, 45-50.
- [32] Sidiqa Allah M. & Sahel Z. (2020). Education in Saudi Arabia. *World Education News + Reviews*. <https://wenr.wes.org/2020/04/education-in-saudi-arabia>
- [33] Wahyuni, S. (2021). English language needs for medical students: A link and match of academic and professional career. *ENGLISHFRANCA: Academic Journal of English Language and Education*, 5(1), 169-184. doi: <http://dx.doi.org/10.29240/ef.v5i1.2146>



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