

Knowledge and Attitude Towards Euthanasia among Unimas Undergraduate Nursing Students

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ABSTRACT

Euthanasia is a controversial and ethically debated topic, stirring intense discussion and moral dilemmas in the medical field. This study aims to assess the knowledge and attitude towards euthanasia amongst Universiti Malaysia Sarawak (UNIMAS) undergraduate nursing students and to examine the association between knowledge and attitude towards euthanasia. 148 undergraduate nursing students from UNIMAS responded to an online self-administered questionnaire on knowledge and attitude towards euthanasia adapted from Portilla et al (2021) and Wasserman et al (2005) respectively. The results revealed that 78.4% of participants possessed good knowledge levels regarding euthanasia. However, more than half of the participants (50.7%) exhibited poor attitudes towards euthanasia. There were no significant associations between knowledge and attitudes among undergraduate nursing students towards euthanasia. The findings highlight the importance of strengthening education and ethical guidance for nursing students, to prepare them to encounter morally challenging situations that call for their best moral judgment. This study emphasizes the need for appropriate and targeted interventions to promote understanding and fostering empathetic decision-making skills among undergraduate nursing students to navigate such a sensitive domain of moral-ethical issue ensuring optimal patient care delivery and ethical practice.

Keywords: knowledge, attitude, euthanasia, nursing students, Malaysia

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INTRODUCTION

In recent years, euthanasia has been amongst the most intriguing and yet, controversial ethical debates in contemporary health care. Euthanasia is derived from the Greek word which directly translates to ‘good death’ which is also sometimes referred to as ‘mercy killing’ (Zerwekh and Graneau, 2017). Zerwekh and Garneau (2017) also refers to euthanasia as “painless actions to end the life of someone suffering from incurable or terminal disease.” Euthanasia can be categorized into active and passive, or voluntary and involuntary. Active euthanasia involves commission to terminate a patient's life, for instance using lethal injection whereas for passive euthanasia involves omission of current ongoing treatment, i.e. withdrawal or withholding artificial life support such as ventilatory support. Voluntary euthanasia is defined as a patient's request to terminate their life with the help of the physician while involuntary euthanasia is defined as termination of the patient's life without their knowing and consent (Naseh & Heidari, 2017).

In healthcare today, death is no longer a definitive matter as advances in medical technologies, and scientific breakthroughs have helped to prolong life. However, it also has created shades of grey between life and death. For instance, patients who are in a persistent vegetative state or on life support can live longer even though their cognitive and sensory functions are no longer functioning.

Hence, concerns regarding extending life and sufferings of patients have contributed to renewed debates about the practice of euthanasia in healthcare. Various views and opinions on euthanasia have cut across complex and dynamic aspects such as legal, politics, health, religious, ethical, social and cultural aspects of the society and influences the acceptance of euthanasia in society (Kamaluzaman et al., 2022). These debates also revolve around the principles of patient autonomy, doctrine of sanctity of life, social and religious beliefs in determining whether it is morally or legally appropriate to practice euthanasia even at the patient's request. This leads to ethical dilemmas which makes it difficult for the health workers to make a decent and appropriate decision making over such issues.

A study conducted by Yildirim (2019) reported that senior nursing students in Turkey had a high level of knowledge about euthanasia with 97.7% out of 300 study samples randomly selected from the study population (N=470), claiming that they were aware of euthanasia. 84.7% of them were able to distinguish the differences between active and passive euthanasia. 88.7% of students in this study stated that they had received information about euthanasia from the university. Similarly, Bulut (2018) who conducted a study assessing the knowledge, attitudes and beliefs towards euthanasia among students who were studying in the elderly care department of Vocational School of Health Services in Bingol University found out that 75.2% of the students stated their knowledge level on euthanasia were sufficient and 88.9% of them were able to identify the term euthanasia. 89.7% of respondents in this study also claimed to have learnt about euthanasia in the course of their training. In contrast, Rios et al (2017) found out that 53% of medical students aged 20 to 24 years old were unaware of the term 'euthanasia'. Although studies generally reported desirable knowledge levels towards euthanasia, disparities are still evident between different programmes.

In a study done by Ovayolu (2021) exploring the attitudes of nursing and medical students towards euthanasia in Turkey, the study shows that both medical and nursing students displayed negative attitudes towards euthanasia. It also had been determined in the same study that the majority of the students were against euthanasia for themselves and their relatives. A separate study by Ozcelik et al. (2014) also revealed that almost a third of nursing students had poor attitudes towards euthanasia, but less than a half had no opinions either way regarding euthanasia. Despite strong discussions of euthanasia legally and in the medical profession, the current evidence-base reveals a scarcity of literature in this area amongst undergraduate nursing students. Studies also highlighted personal beliefs and values that euthanasia was immoral and unethical (Karaahmetoglu & Kutahyalioğlu, 2017; Ahmed & Kheir, 2006) and fear that euthanasia could be misused for incapable patients (Ahmed & Kheir, 2006; Adchalingam, 2005) as factors that influence the attitude level towards euthanasia. Despite the studies demonstrating that personal beliefs, fear of euthanasia abuse, educational background and religious beliefs shape one's attitudes toward euthanasia, it is worth noting that patient autonomy and clinical exposure to terminally ill patients and their relatives are also significant factors influencing students' attitudes towards euthanasia.

Considering these discrepancies in the knowledge and attitudes of nursing and healthcare students towards euthanasia, further investigation amongst undergraduate nursing students locally is warranted to understand the local context. This is a salient area of investigation as nursing students may face novel and evolving ethical dilemmas, especially regarding a patient's request for euthanasia in their future practice.

MATERIALS & METHODS

Study Instrument

This study utilized a self-administered questionnaire comprising of three sections. Section A contained questions about the participant's socio demographic profile, namely: sex, age, ethnicity, religion, year of study and experience to patients who request euthanasia.

Section B consisted of a 7-item questionnaire on knowledge about euthanasia, adapted from Portilla et al (2021). Responses to this section were totaled and categorized into either poor knowledge level or good knowledge level. Those who answers the correct definition in relation to euthanasia were considered to possess good knowledge on euthanasia.

Section C contained a 10-item attitudes towards euthanasia (ATE) questionnaire, adopted from Wasserman et al (2005). This section measured item responses on a five-point Likert Scale, with scores ranging from 1-strongly disagree, 2 – disagree, 3 – undecided, 4 – strongly agree. 30 marks was used as the total cut-off score. A score of 30 or higher indicated positive attitudes toward euthanasia, while a total score of less than 30 indicated negative attitudes.

A pilot study was conducted among 10 respondents who were recruited using the same inclusion and exclusion criteria for the actual study which yielded a Cronbach's alpha of 0.87 for both sections B and C respectively.

Research Design

This study employed a quantitative method using a cross-sectional study design to measure the outcomes from the population at a single point in time.

Research Setting

The study was conducted at the Faculty of Medicine and Health Sciences, UNIMAS, a Malaysian public university located in Kota Samarahan, Sarawak in East Malaysia. The faculty conducts two undergraduate programmes two undergraduate programmes namely the Doctor of Medicine and Bachelor of Nursing with Honours programmes.

Inclusion and Exclusion Criteria

The inclusion criteria for this study were the Year 1 until Year 4 UNIMAS undergraduate nursing students in the academic year of 2022/2023. The respondents in this study were chosen on a basis of their willingness. This study excluded post registration and postgraduate nursing students and any respondents who refused to participate in the study. Participants recruited for the pilot study were also excluded from the final study.

Population, Sampling Method and Sample Size

Population

At the time of data collection, there were a total of 234 nursing students officially enrolled in the Bachelor of Nursing with Honours Programme in the Faculty of Medicine and Health Sciences, UNIMAS ranging from year 1 to 4 of study. From the total 2 post registration students were excluded as they were essentially registered nurses who possessed a Diploma in Nursing undertaking the programme.

Sample size

The Taro Yamane Formula (Yamane, 1973 as cited in Chaokromthong & Sintao, 2021) with a 0.05 margin of error was used to calculate the required sample size for this study which gave a total of 148 respondents required for the study. A further 10% was added to the calculated sample size in anticipation of possible participant attrition, missing or incomplete data which brings the final sample size to 163 respondents.

Sampling

Simple random sampling was used to identify participants for the study to give every potential subject an equal probability of being selected (Acharya et al., 2013). A complete student list was obtained from the programme to be tabulated in a Microsoft Excel worksheet. Each nursing student was assigned a sequential number serial number in the sheet and a random number generator prompt was used to select the 163 random participants required for the study.

Ethical consideration

Data collection for the study commenced upon obtaining permission and ethical approval from the Faculty of Medicine and Health Sciences, UNIMAS. Participants were presented with a participant information sheet before obtaining an informed consent from each respondent. Participants were informed of their rights to withdraw at any point in time of the study without any repercussions. Participant's anonymity and confidentiality was assured without any identifying particulars leading back to any individual respondents used in any proceedings. Raw data collected was kept securely in an encrypted storage which is was only accessible by the researcher. Permission was also sought from the original authors to adapt the instruments used in this study.

RESULTS

Socio-Demographic Characteristics

A total of 148 respondents (90% of response rate) were recruited in the final study. Table 1 shows the analysis participants socio-demographic profile. Out of 148 respondents, majority of the respondents were female (87.2%, n=129), with 12.8% (n=19) male respondents. 37.8% of the respondents were Malay (n=56), 31.8% were Bumiputera Sarawak (n=47), 20.9% were Bumiputera Sabah (n=31), 8.8% were Chinese (n=13) with the remaining 0.7% (n=1) student being Pakistani. More than half of the respondents were Muslims (53.4%, n=79) while 66 were Christians (44.6%) and 2 were Buddhists (2.0%). 26.4% of the respondents were in their first year study (n=39), 25% in their second year (n=37), 20.3% in their third year (n=30) and, 28.4% of them were in their final year (n=42).

Table 1. Socio-demographic characteristics of the respondents (n = 148)

Characteristics	Frequency (n)	Percentage (%)
Gender		
Male	19	12.8
Female	129	87.2
Ethnicity		
Malay	56	37.8
Chinese	13	8.8
Indian	0	0
Bumiputera Sarawak	47	31.8
Bumiputera Sabah	31	20.9
Others	1	0.7
Religion		
Muslim	79	53.4
Christian	66	44.6
Buddhist	3	2.0
Others	0	0
Year of Study		
Year 1	39	26.4
Year 2	37	25.0
Year 3	30	20.3
Year 4	42	28.4
Have you come across patients who expressed their desire for euthanasia?		
Yes	13	8.8
No	135	91.2

Table 1 also reports the number and percentage of the respondents who have had experience of requests for euthanasia. Out of 148 respondents, most of them (91.2%, n=135) claimed that they have not come across instances of patients requesting euthanasia while 8.8% (n=13) reported having attended to patients who have expressed their desire for euthanasia during their clinical experience.

Knowledge on Euthanasia among UNIMAS Undergraduate Nursing Students

Table 2 summarizes the participant's responses on the 7-item questionnaire survey on knowledge on euthanasia.

Table 2 Knowledge on euthanasia (n = 148) among UNIMAS undergraduate nursing students

Items	n (%)	Mean	SD
Do you know what euthanasia is?		0.82	0.382
Yes	122 (82.4)		
No	26 (17.6)		
Which of the following definitions is related to the term euthanasia?		1.24	0.613
The act of intentionally causing the death of a person who has an incurable disease in order to prevent him or her from suffering.	116 (78.4)		
An act by which a person deliberately causes his or her own death. It is usually the result of despair arising from or attributable to physical and mental illness	8 (5.4)		
Not to prolong death. And in due course it occurs with all the appropriate medical relief and human comforts possible.	24 (16.2)		
Definition of euthanasia according to WHO: "The action of a physician who deliberately causes the death of a patient."			
Does your personal definition correspond to the formulated by WHO?		0.73	0.446
Yes	108 (73.0)		
No	40 (27.0)		
Generally speaking, do you agree with the use of euthanasia as defined by the WHO?		0.61	0.490
Yes	90 (60.8)		
No	58 (39.2)		
Have you ever had a close person who has suffered or is suffering from a terminal illness?		0.36	0.483
Yes			
No	54 (36.5)		
	94 (63.5)		

Based on the results, 82.4% (n=122) of 148 respondents were aware of the term euthanasia. 116 of 148 respondents (78.4%) were able to correctly define the term euthanasia. 24 respondents (16.2%) misinterpreted the term euthanasia as palliative care and palliation sedation while the remaining 8 respondents (5.4%) related the term to suicide. For the question: "Does your personal definition correspond to the formulated by WHO?", 73% (n=108) out of 148 respondents answered that their personal definition of euthanasia aligned with the given WHO's definition. 60.8% (n=90) of the total respondents agreed on the use of how WHO defined euthanasia. As for the last question, only 36.5% (n=54) of the 148 respondents reported that they had a close person who has suffered or is suffering from terminal illness.

Attitude towards Euthanasia among UNIMAS Undergraduate Nursing Students

Table 3 summarizes the mean and standard deviation of items in the attitude towards euthanasia (ATE) questionnaire.

Table 3 Mean and standard deviation of attitude towards euthanasia among UNIMAS nursing students

Items	n	Mean	SD
1. If a patient in severe pain requests it, a doctor should remove life support and allow that patient to die.	148	3.17	1.039
2. It is okay for a doctor to administer enough medicine to end a patient's life if the doctor does not believe that they will recover.	148	2.32	1.113
3. If a patient in severe pain requests it, a doctor should prescribe that patient enough medicine to end their life.	148	3.03	1.065
4. It is okay for a doctor to remove life-support and let a patient die if the doctor does not believe the patient will recover.	148	2.31	1.136
5. It is okay for a doctor to administer enough medicine to a suffering patient to end that patient's life if the doctor thinks that the patient's pain is too severe.	148	2.55	1.180
6. Even if a doctor does not think that a patient will recover, it would be wrong for the doctor to end the life of a patient.	148	3.84	0.995
7. It is okay for a doctor to remove a patient's life-support and let them die if the doctor thinks that the patient's pain is too severe.	148	2.51	1.097
8. If a dying patient requests it, a doctor should prescribe enough medicine to end their life.	148	3.32	0.99
9. Even if a doctor knows that a patient is in severe, uncontrollable pain, it would be wrong for the doctor to end the life of that patient	148	3.60	1.055
10. If a dying patient requests it, a doctor should remove their life support and allow them to die.	148	3.46	1.026

Table 4 displays frequency and percentage of respondents' answers to each question in ATE scale.

Table 4. Frequency and percentage of respondents' answers to each question

Items	Strongly disagree		Disagree		Undecided		Agree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%
1. If a patient in severe pain requests it, a doctor should remove life support and allow that patient to die.	13	8.8	24	16.2	42	28.4	63	42.6	6	4.1
2. It is okay for a doctor to administer enough medicine to end a patient's life if the doctor does not believe that they will recover.	40	27.0	53	35.8	26	17.6	26	17.6	3	2.0
3. If a patient in severe pain requests it, a doctor should prescribe that patient enough medicine to end their life.	11	7.4	38	25.7	44	29.7	45	30.4	10	6.8
4. It is okay for a doctor to remove life-support and let a patient die if the doctor does not believe the patient will recover.	45	30.4	45	30.4	26	17.6	31	20.9	1	0.7
5. It is okay for a doctor to administer enough medicine to a suffering patient to end that patient's life if the doctor thinks that the patient's pain is too severe.	36	24.3	37	25.0	37	25.0	33	22.3	5	3.4
6. Even if a doctor does not think that a patient will recover, it would be wrong for the doctor to end the life of a patient.	2	1.4	15	10.1	29	19.6	60	40.5	42	28.4
7. It is okay for a doctor to remove a patient's life-support and let them die if the doctor thinks that the patient's pain is too severe.	31	20.9	45	30.4	41	27.7	27	18.2	4	2.7

8. If a dying patient requests it, a doctor should prescribe enough medicine to end their life.	8	5.4	22	14.9	43	29.1	65	43.9	10	6.8
9. Even if a doctor knows that a patient is in severe, uncontrollable pain, it would be wrong for the doctor to end the life of that patient	5	3.4	20	13.5	33	22.3	61	41.2	29	19.6
10. If a dying patient requests it, a doctor should remove their life support and allow them to die.	7	4.7	20	13.5	37	25.0	66	44.6	18	12.2

Table 5 reports the mean and standard deviation for total scores of ATE scale.

Table 5. Mean and standard deviation for total scores of attitudes

Items	n	Mean	SD
Total scores of ATE scale	148	27.23	6.420

Figure 1 demonstrates the percentage of the respondents by level of knowledge regarding euthanasia.

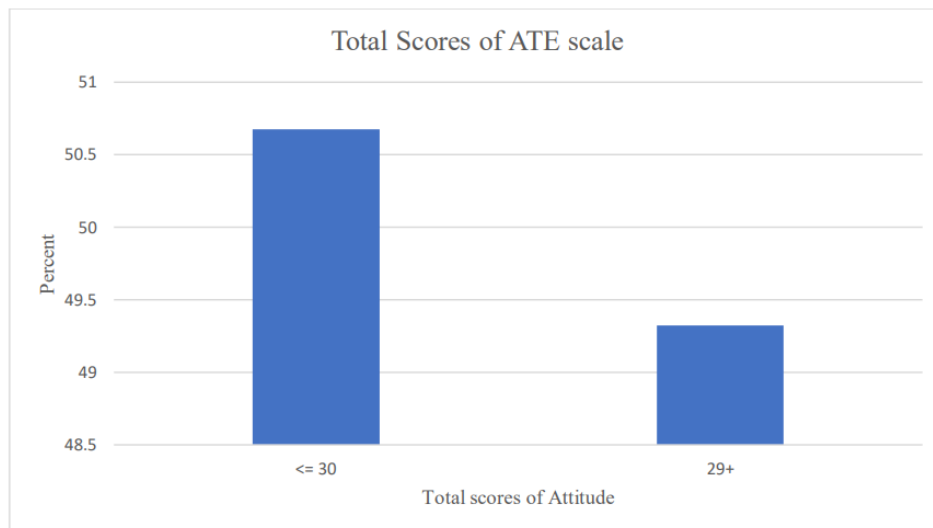


Figure 1. Percentage of the respondents by level of knowledge regarding euthanasia

Among the 148 respondents involved in the actual study, the mean score of ATE scale was 27.23 (SD±6.420). Out of 148 respondents, 75 of them (50.7%) scored below 30, indicating they had a poor attitudes towards euthanasia. 73 respondents (49.3%) scored above 30, suggesting they possessed positive attitudes towards euthanasia.

Association between Level of Knowledge and Attitudes towards Euthanasia among UNIMAS Undergraduate Nursing Students

Table 6. Chi-square test of Independence for association between knowledge and attitudes towards euthanasia among UNIMAS undergraduate nursing student

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	43.458**	56	.889

** 77 cells (88.5%) have expected count less than 5. The minimum expected count is .05.

Normality testing of the data suggested that the data was not normally distributed. A Chi-Square for Independence was conducted to examine the association between level of knowledge and attitudes towards euthanasia. As shown in Table 6, the Chi-Square test statistic indicated no significant associations between knowledge and attitudes towards euthanasia among UNIMAS undergraduate nursing students with $\chi^2 (56, n=148) = 43.45, p = .889$.

DISCUSSION

The Level of Knowledge on Euthanasia among UNIMAS Undergraduate Nursing Students

This study revealed that majority of UNIMAS undergraduate nursing students were aware of euthanasia and demonstrated good knowledge levels (78.4%, n=116). Motappa et al. (2023) also had similar findings where 86.3% of medical students and doctors in a private medical college in South India demonstrated desirable level of knowledge regarding euthanasia. This finding also corresponds with a study conducted by Tharu & Oli (2018) which reported that 58.0% of the nursing students possessed good knowledge euthanasia. A separate study by Verghese et al., (2014) similarly found that majority (60%) of their postgraduate nursing students and 62.5% of the bachelor of law (LLB) students exhibited a good level of knowledge regarding euthanasia.

The results also suggests that majority of UNIMAS undergraduate nursing students (82.4%) knew what euthanasia is and approximately 78.4% of the respondents were able to answer the definition of euthanasia formulated by WHO correctly. In contrast, Portilla et al. (2021) claimed that even though most of the Colombian university students from Pontificia Universidad Javeriana de Bogotá (PUJ) and Universidad del Cauca in Popayán (UC) knew what euthanasia was, only 53% of them were able to identify the correct definition of euthanasia formulated by WHO.

These contrasting findings highlight the importance of providing comprehensive education on ethics and moral for healthcare students. By incorporating such education into the curricula, educational institutions can further strengthen future healthcare professional's understanding of complex and critical thinking skills to adeptly deal with sensitive issues and other ethical dilemmas specifically pertaining to euthanasia which they may encounter in their future practice.

The Level of Attitude towards Euthanasia among UNIMAS Undergraduate Nursing Students

The findings of this study shows that 50.71% of the undergraduate nursing students in UNIMAS exhibited poor attitude towards euthanasia with a mean score of 27.23 (± 6.420). These findings are consistent with a study conducted by Karaahmetoglu and Kutahyaloglu (2017). In the study, they reported that 73.2% of the Turkish university students claimed they opposed to euthanasia (Karaahmetoglu & Kutahyaloglu, 2017). Similarly, findings from a study by Naseh & Heidari in 2017 also revealed that 52.5% of Iranian nursing students were against euthanasia.

Contrary to the results of this study, few countries, such as India, have shown contrasting findings (Poreddi et al., 2020; Parajuli et al., 2021). Both studies showed that majority of healthcare professionals and students who participated in the studies expressed favourable views towards euthanasia.

Overall, these findings suggest that attitudes towards euthanasia among healthcare students vary across different cultural and geographical contexts, reflecting the influence of diverse factors such as religious beliefs

and clinical experiences in healthcare settings. For instance, most of the healthcare students in Muslim countries, particularly those in Middle East, demonstrated negative disposition towards euthanasia as in Islam, they believe that decision regarding the timing of one's death rests solely with God (BBC, 2014).

The Association between the Level of Knowledge and Attitude towards Euthanasia among UNIMAS Undergraduate Nursing Students

This study found that there is no significant association between the level of knowledge and attitude towards euthanasia among UNIMAS undergraduate student. The statistical analysis, indicated by $\chi^2 (56, n=148) = 43.45$, $p = .889$ where $p > 0.05$ indicates a lack of significances found between the two variables. This finding aligns with Lau and Wong's (2020) study where they also found no significant association between knowledge and attitudes towards euthanasia, with a p -value of 0.134.

It is noteworthy to mention that there is a scarcity in studies that examine the association between the level of knowledge and attitude towards euthanasia, especially among undergraduate nursing students in Malaysia. The limited number of studies in this area emphasizes the need for the further exploration and understanding of the knowledge and attitude towards euthanasia. By conducting more studies will bridge the existing gap in knowledge and provide better understanding of the factors that influences attitudes towards euthanasia among undergraduate nursing students in Malaysia.

CONCLUSION

In conclusion, this study found that undergraduate nursing students had a good level of knowledge about euthanasia. However, the study also revealed a poor level of attitudes towards euthanasia amongst these students. Additionally, the study did not find a significant connection between good knowledge and poor attitudes towards euthanasia. This suggests that factors beyond knowledge alone may influence their attitudes. It is important to explore these factors that contribute to changes in both variables, such as personal beliefs and cultural influences, to better understand the complex relationship between knowledge and attitudes.

Thus, this study provides valuable insights into the knowledge and attitudes towards euthanasia among undergraduate nursing students. By recognizing the importance of these findings, educators, researchers, and even healthcare students, especially nursing students can address the gap between knowledge and attitudes in the hopes of ultimately improving the ethical decision-making skills of future healthcare professionals.

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REFERENCES

- Acharya, A. S., Prakash, A., Saxena, P., & Nigam, A. (2013). Sampling: Why and how of it? *Indian Journal of Medical Specialities*, 4(2), 330-333. <https://doi.org/10.7713/ijms.2013.0032>
- Adchalingam, K., W. Zakiah, M. Zaini, M. Wong, Y. & Lang, C. (2005). Attitudes of medical students towards euthanasia in a multicultural setting. *Med. J. Malays*, 60(1), 46-49.
- Ahmed, A. & Kheir M. (2006). Attitudes towards euthanasia among final-year Khartoum University medical students. *Eastern Mediterranean Health Journal*. 12(3-4), 391-397. <https://iris.who.int/handle/10665/117098>
- BBC. (2014). Religion and euthanasia. <https://www.bbc.co.uk/ethics/euthanasia/religion/religion.shtml>
- Bulut, A. (2018). The opinions about euthanasia among students in elderly care Department of vocational School of health services at Bingol University. *Medicine*, 7(2), 277-282. <https://doi.org/10.5455/medscience.2017.06.8741>
- Chaokromthong, K., & Sintao, N. (2021). Sample size estimation using Yamane and Cochran and Krejcie and Morgan and green formulas and Cohen statistical power analysis by G* Power and

- comparisons. *APHEIT International Journal of Interdisciplinary Social Sciences and Technology*, 10(2), 76-86.
- Kamalruzaman, M. S., Jafri, N. I., & Nuing, D. B. (2022). Euthanasia and Advanced Medical Directives in the Perspective of Ethical, Moral, Religious and Legal Issues in Malaysia and under Common Law. <http://journalarticle.ukm.my/18547/1/ARTIKEL%208.pdf>
- Karahmetoglu, G. U., & Kutahyalioğlu, N. S. (2017). Attitudes toward euthanasia among Turkish University students. *OMEGA-Journal of Death and Dying*, 79(2), 174-190. <https://doi.org/10.1177/0030222817729616>
- Lau, A. M., & Wong, E. L. (2022). Attitude towards euthanasia among medical students: A cross-sectional study in Hong Kong. *International Journal of Environmental Research and Public Health*, 19(13), 7697. <https://doi.org/10.3390/ijerph19137697>
- Motappa, R., Guleria, M., Singhal, A., Nambiar, P., Gaiha, V., & Kotian, H. (2024). Perceptions and attitudes of medical students and doctors on euthanasia. *F1000Research*, 13, 1009. <https://doi.org/10.21203/rs.3.rs-2893745/v1>
- Naseh, L., & Heidari, M. (2017). The attitudes of nursing students to euthanasia. *Indian J Med Ethics*, 2(1), 20-24. <https://doi.org/10.20529/ijme.2017.004>
- Ovayolu Ö., Ovayolu N., & Bozkurt B. (2021). The attitudes of nursing and medical students towards euthanasia: The case of Turkey. *American Journal of Nursing Studies*, 2(1), 1012.
- Ozcelik, H., Tekir, O., Samancioglu, S., Fadiloglu, C., & Ozkara, E. (2014). Nursing students' approaches toward euthanasia. *OMEGA - Journal of Death and Dying*, 69(1), 93-103. <https://doi.org/10.2190/om.69.1.f>
- Parajuli, S. R., Gautam, R., Timsinha, S., Subedi, A., & Pokhrel, S. (2021). ATE scale to assess attitudes towards euthanasia among health professionals in Pokhara, Nepal. *Nepal Journal of Medical Sciences*, 6(1), 14-19. <https://doi.org/10.3126/njms.v6i1.36726>
- Poredi, V., Reddy SS, N., & Pashapu, D. R. (2020). Attitudes of Indian medical and nursing students towards euthanasia: A cross-sectional survey. *OMEGA - Journal of Death and Dying*, 86(1), 187-202. <https://doi.org/10.1177/0030222820965311>
- Portilla, M. V., Espejo-Saavedra, A., Ospina, F. N., Gómez, S. R., Jaramillo, M. S., García, P. B., Buesaquillo, C., Arango, L., Burbano, L., & Andrade, L. (2021). Knowledge about euthanasia in university students in two institutions of higher education in Colombia. *Universitas Medica*, 62(1). <https://doi.org/https://doi.org/10.11144/Jave riana.umed62- 1.euta>
- Rios-González, C. M., De Benedictis-Serrano, G. A., Córdova-Rivas, G. J., Contreras-Romero, M. L., & Contreras-Lugo, L. V. (2018). Knowledge and perception about euthanasia in medical students from seventeen Latin American countries, 2017. *Memorias del Instituto de Investigaciones en Ciencias de la Salud*, 16(3), 58-65. [https://doi.org/10.18004/mem.iics/1812-9528/2018.016\(03\)58-065](https://doi.org/10.18004/mem.iics/1812-9528/2018.016(03)58-065)
- Tharu, R. P., & Oli, S. (2018). Assessing the knowledge and attitude regarding euthanasia among undergraduate students in some selected colleges of Nepalgunj, Banke; Nepal. *International Journal of Science and Research (IJSR)*, 8(10). <https://doi.org/10.21275/ART20202048>
- Verghese, A. E., Mathew, P., Salins, R., Mathew, S., & Kuriakose, B. (2014). A comparative study to assess the knowledge and attitude between postgraduate nursing students and llb students regarding euthanasia in selected colleges of Udupi district. *Journal of Health and Allied Sciences NU*, 04(01), 096-098. <https://doi.org/10.1055/s-0040-1703739>
- Wasserman, J., Clair, J. M. & Ritchey, F. J. (2005). A scale to assess attitudes toward Euthanasia. *OMEGA - Journal of Death and Dying*, 51(3), 229-237. [doi:10.2190/fghe-yxhx-qjea-mtm0](https://doi.org/10.2190/fghe-yxhx-qjea-mtm0)
- Yildirim, J. G. (2019). Knowledge, opinions and behaviors of senior nursing students in Turkey regarding Euthanasia and factors in Islam affecting these. *Journal of Religion and Health*, 59(1), 399-415. <https://doi.org/10.1007/s10943-019-00954-z>
- Zerwekh, J., & Garneau, A. Z. (2017). *Nursing today: Transition and Trends* (8th ed.). Saunders.