

Emotional Intelligence and Critical Thinking in Nursing Students: A Systematic Literature Review

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ABSTRACT

To investigate the emotional intelligence and critical thinking of nursing students. Emotional intelligence and critical thinking are basic elements of nursing practice and are involved in making decisions in nursing clinical practice, using evidence and information in practice and ensuring the quality of safe and effective services. systematic review of literature, article search through electronic databases (Scien direct, PunMed, BMC Nursing and ProQuest). Articles searched in English or Indonesian between 2012 – 2023. The article review process uses the PRISMA protocol. A total of 5 articles were used for review, the literature focused on emotional intelligence and critical thinking in nursing students. This literature review states that there is a relationship between emotional intelligence and critical thinking in nursing students. Nursing students with critical thinking skills and good emotional intelligence will be more successful in their education and find work more easily. Emotional intelligence and critical thinking can be learned and can be improved through active learning methods and student-centered learning methods.

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1. INTRODUCTION

Nursing is a profession that focuses on health services needed by individuals, families and communities. Nurses in providing health services should be aware of their emotional intelligence and critical thinking abilities to make the right decisions in providing high quality health services to patients (Kaya et al., 2017, 2018; Kaya & Yalniz, 2012). Emotional intelligence is the ability to understand one's feelings and understand other people, determine actions among various options and use one's knowledge to act (Salovey & Mayer, 1990). Emotional intelligence is also an individual's ability to explain and interpret their emotional status. In fact,

The first component of emotional intelligence is emotional self-awareness which consists of emotional self-awareness, accurate self-assessment and self-confidence. The second component of emotional intelligence is self-management which consists of managing one's emotions (emotional self-control), transparency, adaptability and achievement orientation. The third component of emotional intelligence is social awareness, which means being aware of other people's feelings, needs and paying attention to other people which includes the ability to empathize (M. Collins & Mirriam, 2016).

Critical thinking is a rational and careful way of thinking that focuses on what is believed and what must be decided and is an active and organized mental process for understanding the thinking processes of individuals and other people (Salovey & Mayer, 1990). Critical thinking is an intellectual process that persists in actively and skillfully conceptualizing, applying, analyzing, synthesizing and/or evaluating information obtained from or produced by observation, experience, reflection, reasoning or communication as a guide to belief or action (Sellars et al. , 2018). In this context, emotional intelligence and critical thinking are basic elements of nursing practice and are involved in making decisions in nursing clinical practice,

Educational institutions have a very big role in improving the emotional intelligence and critical

thinking abilities of nursing students. Emotional intelligence and critical thinking skills can prepare nursing students to provide competent nursing practice. Emotional intelligence and critical thinking will help them to adapt to changes in the clinical environment and motivate them. When formal education does not provide provision for emotional intelligence and critical thinking, it can be carried out in other types of provision that emphasize emotional aspects and critical thinking to achieve quality nursing services (Kaya et al., 2017; McQueen, 2004).

2. METHOD

Design

The design used in this article is a systematic literature review using the PRISMA protocol (Page et al., 2021).

Data source

Some of the electronic databases used are Science direct, PubMed, BMC Nursing, ProQuest using the keywords "emotional intelligence", "critical thinking", and "nursing students". These keywords are used in every search in electronic databases. The articles that have been searched can be seen in.

Article selection

Selected articles are uploaded to Mendeley Reference Manager software version 2.79.0. The same article will be deleted, the title and abstract selected by the author. Next, the author selected articles that matched the inclusion criteria, including methodology, research subjects and focused on emotional intelligence and critical thinking. The search results identified 336 articles and 287 articles were then discarded because the articles were the same and not in English or Indonesian. Based on the predetermined inclusion criteria, 49 articles were excluded because the samples were nurses and other health workers, not full text. In the end, only 5 articles will be used as material for review.

Inclusion and exclusion criteria (Inclusion and exclusion)

The author only searches for articles in English and Indonesian. The articles reviewed are quantitative research articles that have been published in research journals from 2012 to 2023. Articles will be excluded if the research subject is a nurse, the research design is a review article or an incomplete article (full text).

Data extraction

Relevant data is taken from research articles, including; author's name, year, country of origin, objectives, research design, sample, research population, research findings and recommendations (table 1)

Article quality assessment methodology

Researchers reviewed the methodological quality of each research article using the 10-item Medical Education Research Study Quality Instrument (MERSQI) for quantitative research. MERSQI assesses six areas in each research article, namely design, sampling, data type, validity of instrument evaluation, data analysis and outcome measurement, with potential scores from 5 to 18. MERSQI is a reliable (valid) measurement instrument in health research (Reed et al., 2008).

Research articles to be reviewed are assessed for methodological quality using MERSQI (table 1)

Table 1. Article quality assessment methodology

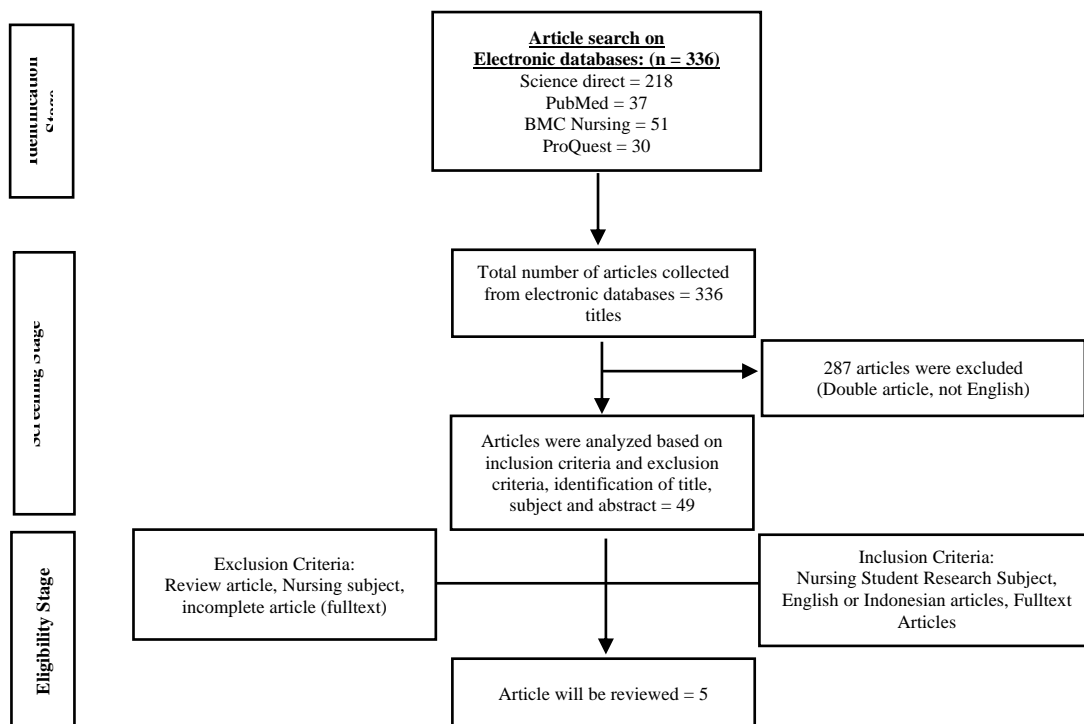


Table 2. Characteristics of the articles reviewed

Title	Author/Country	Design	Sample	Instrument measuring tools	Results	Recommendation	SQI Score
Critical Thinking and Emotional Intelligence Skills and Relationship with Students' Academic Achievement	Alakeh et al. (2018) (Iran)		Final stage nursing students (n = 50), total sampling	TST and ESI	There is a relationship between critical thinking skills and academic success in senior nursing students (R=0.437; t value = 6.116). There is a relationship between emotional intelligence and academic success (R=0.931; t value = 11.341).	<ol style="list-style-type: none"> Inviting experts and reviewers of published works and articles for students' academic progress to universities will produce a systematic hierarchy to improve critical skills that play an important role in students' academic success Creating a competitive spirit among students, developing a communicative environment, following up and trying to implement student plans and projects, support from university management and the government for students, as well as a positive attitude and view of university management towards student ideas and plans that will be used. Students who have good critical and emotional thinking will have better academic success in their education and will get jobs and critical thinking will be guided by various aspects of emotional intelligence which can be seen through educational methods and curriculum forms. 	12

Developing critical thinking disposition and emotional intelligence of nursing students: a longitudinal research	et al., 2017)		nursing students (n = 197) symmetrical cluster sampling	S and EIAS	is a positive and medium level relationship between critical thinking disposition and students' emotional intelligence at the beginning ($r = 0.492$; $p > 0.01$) and the end ($r = 0.492$; $p > 0.01$) of the academic year was no difference in the total score of critical thinking disposition at the beginning (227.57 ± 19.12) and the end (227.27 ± 21.01) of the academic year ($t\text{\$} = 0.841$; $p > 0.05$). was no difference in the total emotional intelligence score at the beginning (140.35 ± 15.9) and the end (142.87 ± 18.8) of the academic year ($t\text{\$} = 0.052$; $p > 0.05$).	1. Developing the character of critical thinking and emotional intelligence takes a long time. 2. Critical thinking and emotional intelligence education programs are given to certain classes by determining the characteristics of the students first.	13
Relationship between critical thinking and emotional intelligence in nursing students: A longitudinal study	et al., 2018)		nursing students (n = 182) symmetrical cluster sampling	FDS and EIAS	is no significant relationship between critical thinking and the sub-dimensions of emotional intelligence (emotional awareness, empathy and social skills). A positive relationship was found between self-motivation and critical thinking in nursing students ($r = 0.003$).	1. The concepts of critical thinking and emotional intelligence must be approached in an integrated manner in the context of nursing education. Courses/debriefing are provided to develop critical thinking and emotional intelligence and are included in nursing activities, and are included in nursing education programs. 2. Lecturers are expected to use different educational strategies to improve nursing students' critical thinking skills and emotional intelligence 3. Lecturers are expected to develop critical thinking skills and emotional intelligence.	5
The Relationship between emotional intelligence and critical thinking in Iranian students	Apour et al., 2018)		undergraduate Masters and Doctoral Nursing Students (n = 169) Random Sampling and Convenience Sampling	FST and EIQ	is no relationship between critical thinking and the sub-dimensions of emotional intelligence (emotional awareness, assertiveness, self-regard, independence, social responsibility, interpersonal relationships, reality testing, flexibility, problem solving, stress tolerance, impulse control, optimism, happiness). ($p = 0.62$; $r = 0.038$) A significant relationship between critical thinking skills and emotional intelligence (empathy) components (p	1. Emotional intelligence skills and critical thinking skills can be learned, so that other components of emotional intelligence and critical thinking subscales can be improved through active learning methods and new student-centered methods such as brain storming, concept mapping, mind mapping, and team teaching and self-learning . 2. Training to think wisely and think critically in nurses will increase their emotional intelligence which is expected to be a core concept in nursing, namely how to communicate	12

					= 0.001; r = 0.24)	appropriately with patients and provide optimal care to improve community health.	
Emotional Intelligence: The Key for Nursing Students' Critical Thinking Disposition	ed et al., 2018)(Eg ypt)		g students (360) sampling	I and	is a positive relationship between the total emotional intelligence score and the critical thinking of nursing students (r = 0.181; p = 0.001) sions of emotional intelligence (self-motivation, social skills) with critical thinking (r = 0.176; p = 0.001) and (r = 0.143; p = 0.001)	<ol style="list-style-type: none"> 1. During interviews for new student admissions, the campus should use critical thinking and emotional intelligence assessment instruments. 2. University curricula should consider the need to enhance emotional intelligence and critical thinking in nursing education 3. Teaching staff continuously evaluate and improve teaching strategies by introducing new strategies to improve students' critical thinking skills and emotional intelligence (concept mapping and role play) 4. Connecting intervention programs to nursing students regarding emotional intelligence and critical thinking to improve their abilities. 	13

CS: Cross-sectional; CCTST: California Critical Thinking Skills Test, ESI: Emotional-social Intelligence

LS: Longitudinal Study; CCTDS: California Critical Thinking Disposition Scale; EIAS: Emotional Intelligence Assessment Scale

DCS: Descriptive-correlative study; EIQ: Emotional Intelligence Questionnaire

DCD: Descriptive-correlative design; CCTDI: California Critical Thinking Disposition Inventory Scale

3. RESULTS AND DISCUSSION

Characteristics of the articles selected

The search results have identified 336 articles from several electronic databases and 331 articles were not included for review because they had the same title and did not match the inclusion criteria, so only 5 articles will be used as material for review.

Participant characteristics

The total number of participants was 958, including 379 new nursing students (Kaya et al., 2017, 2018) and 579 students who had undergone nursing courses at the Bachelor's, Master's and PhD levels (Ahmed et al., 2018; Akbarilakeh et al. ., 2018; Hasanpour et al., 2018). Female gender was the majority in all studies and the minimum age was 17 years and the maximum was 50 years.

Emotional intelligence and critical thinking

Emotional intelligence is one of the factors that is predicted to influence the success of nursing students when undergoing education. Akbarilakeh et al., 2018 stated that there is a correlation between emotional intelligence and critical thinking and the academic success of nursing students.

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Critical thinking is an active process and systematic cognitive strategy for discussing, evaluating and discussing an event, solving problems and making decisions based on considerations and valid evidence. Hasanpour et al., 2018 reported that the majority of nursing students have low critical thinking skills, but have high emotional intelligence,

An educational process that focuses on students' emotions is the key to strengthening their critical thinking skills, therefore connecting thinking and emotions is very important in nursing education. Kaya et al., 2017, 2018, stated that around 49.7% of students at the beginning of the academic year stated that critical thinking was very important and the percentage increased to 61.4% at the end of the academic year. In addition, around 31% of nursing students at the beginning of the academic year also stated that emotional intelligence was very important and this percentage also increased to 45.7% at the end of the academic year. The conclusion is that there is a correlation between emotional intelligence and critical thinking abilities in nursing students. Ahmed et al., 2018, there is a strong relationship between emotional intelligence and critical thinking.

The purpose of this systemic literature review is to analyze how important emotional intelligence and critical thinking are in nursing students. The findings in the articles reviewed state that there is a significant relationship between emotional intelligence and critical thinking in nursing students (Ahmed et al., 2018; Akbarilakeh et al., 2018; Kaya et al., 2018). However, different research results state that there is no relationship between emotional intelligence and critical thinking in nursing students (Hasanpour et al., 2018). The differences in the results of this study are due to differences in sample size, sampling methods and also the instruments used in the research.

There is a significant relationship between emotional intelligence and critical thinking in nursing students because both are very important personality traits. Someone with a high level of critical thinking and strong emotional intelligence abilities will be able to make more appropriate decisions, the ability to analyze decisions more precisely and regulate emotions better to improve their abilities. After completing their education, nursing students are expected to be able to meet patient needs, practice evidence-based practice and increase patient satisfaction with the services provided and in a more complex health care environment. For this reason, a nurse is prepared to provide safe, competent, intuitive, innovative services because clinical situations can constantly change. To become a competent nurse and have high abilities, critical thinking skills are needed by a nurse. Education is one of the key elements that positively influences the development of critical thinking in nursing students. Critical thinking is a very important skill in nursing. Teaching critical thinking to nursing students should start from the beginning of their education, as skills develop through experience and practice. Educational activities also focus on students' emotions which are key to strengthening their critical thinking (Carvalho et al., 2020; Kaya et al., 2018). Education is one of the key elements that positively influences the development of critical thinking in nursing students. Critical thinking is a very important skill in nursing. Teaching critical thinking to nursing students should start from the beginning of their education, as skills develop through experience and practice. Educational activities also focus on students' emotions which are key to strengthening their critical thinking (Carvalho et al., 2020; Kaya et al., 2018). Education is one of the key elements that positively influences the development of critical thinking in nursing students. Critical thinking is a very important skill in nursing. Teaching critical thinking to nursing students should start from the beginning of their education, as skills develop through experience and practice. Educational activities also focus on students' emotions which are key to strengthening their critical thinking (Carvalho et al., 2020; Kaya et al., 2018).

Students who are aware of their emotions can identify emotions, values, goals, strengths, weaknesses, abilities and impact on them. Awareness of emotions is the top part of the sub-dimension of emotional intelligence, which means that they will provide services more aware of their emotions, abilities and characteristics. Empathy is one of the basic qualities in nursing. Empathy is a sub-dimensional after emotional awareness. For example; students can provide specific services to individuals without judging through emotions but through understanding the patient, patient's family and relative emotions and showing awareness of the situation. Being aware of emotions is a basic emotional ability that can help someone recognize and give meaning to emotions. Individuals who are aware of their emotions can control their values, goals,

The relationship between thinking and emotions is vital in nursing education. Nursing students with critical thinking skills and good emotional intelligence will also be more successful in education and getting jobs in the future. When critical thinking is applied from the start and various aspects of emotional intelligence can be demonstrated through appropriate educational methods and through an updated curriculum. This is very important to implement in nursing education. The activities that can be carried out by Education include inviting experts and criticizing student article publications, creating a hierarchical system on campus to strengthen critical thinking skills and creating a pleasant atmosphere to strengthen critical thinking skills which play an important role in student success in education. Apart from that, creating a spirit of competition among students, developing a communicative environment among students, following up and trying to implement student experiments and projects can also improve students' thinking abilities (Akbarilakeh et al., 2018; Li et al., 2021; Sahanowas & Halder, 2020).

Emotional intelligence and critical thinking can be studied, so that the components of emotional intelligence and critical thinking sub-scales can be improved through active learning methods and the latest student-centered learning methods, such as; brain-storming, concept mapping, mind mapping, and team teaching, self-learning, socratic questioning and answering, role modeling in nursing education (Hasanpour et al., 2018; Mohamed Ragab et al., 2022; Ndawo, 2021). In the end, critical thinking and emotional intelligence will guarantee a nurse's skills to make a rational evaluation of his experience and then reflect it in health services, diagnose the patient's personal health needs and provide systematic services,

4. CONCLUSION

This article reviews 5 articles related to emotional intelligence and critical thinking in nursing students. The results of this review show that there is a significant relationship between emotional intelligence and critical thinking in nursing students, although there is 1 article which states there is no relationship due to differences in research methods. The research subjects in all the articles reviewed were nursing students from the lowest to the highest level of nursing education, thus providing different results on emotional intelligence and critical thinking scores. The instruments used to measure emotional intelligence and critical thinking are also different, which also provides more varied research results. However, overall the article states that there is a significant relationship. Based on the results of this review, it is recommended that further research be conducted on emotional intelligence and critical thinking at various levels of nursing education in Indonesia. Because based on search results, very few articles were found regarding emotional intelligence and critical thinking abilities in nursing students in Indonesia.

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