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Effect of Cultural Intelligence Educational Program for First Line Nurse Managers on Nurses' Tranquillity and Prosocial Organizational Behaviors

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ABSTRACT

Background: Cultural intelligence is vital for first-line nurse managers, playing a key role in enhancing overall organizational outcomes. As leaders, first-line nurse managers can leverage their cultural intelligence to create a positive, supportive environment, which, in turn, serves as a foundation for fostering tranquility and prosocial organizational behaviors. **Aim of this research:** to investigate the effect of cultural intelligence educational program for first line nurse managers on nurses'tranquillity and prosocial organizational behaviors **Design:** A quasi-experimental research design was utilized**. Setting**: The study was performed at Minia kidney and urology University hospital at Minia city, Egypt. **Subject:** The study included all first-line nurse managers working in both inpatient and outpatient units (n = 15), as well as all nurses working in the same units (n = 120). **Tools:** five tools were used in this research; 1st tool: personal data sheet, 2nd tool: cultural intelligence knowledge questionnaire, 3rd tool: cultural intelligence self-assessment questionnaire, 4th tool: tranquillity scale, and 5th tool: prosocial organizational behaviors scale. **Results**: The knowledge level as well as self-evaluation regarding cultural intelligence for first-line nurse managers showed low scores prior to the implementation of an educational program. **Conclusions:** The cultural intelligence educational initiative benefited first line nurse managers by Enhancing their understanding and self-evaluation of cultural intelligence following the program's implementation during several assessment periods. **Recommendations:** Periodic workshops, training sessions, seminars, as well as programs for first-line nurse managers should be organized to enhance their competencies in cultural intelligence. These initiatives will help improve nurses' work engagement, tranquillity, well-being, and prosocial organizational behaviors, fostering a more inclusive and supportive work environment that benefits both staff and organizational outcomes.

Keywords/Cultural Intelligence, Educational Program, First Line Nurse Managers, Prosocial Organizational Behaviors, Tranquillity.

Introduction

In today's professional landscape, employees must be capable of adjusting to the values and standards shaped by their organization's culture. This culture, which considers individual uniqueness, plays a central role in forming employees' beliefs, behaviors, and values, ultimately guiding the organization toward its goals. It is a vital component of any organization and emerges from the distinct social interactions among its members. Organizational culture is shaped through a dynamic exchange between the foundational values set by the organization's leaders and the ongoing learning and experiences of its employees. As a result, every organization develops a distinct culture that helps its members interpret and respond to events meaningfully (Yawar & Hakimi, 2025). Additionally, the workplace environment greatly influences employee morale, motivation, recruitment, retention, and overall productivity by fostering a positive and supportive atmosphere. In modern workplaces, cultural diversity is common, with individuals from varying ethnic backgrounds, languages, and belief systems collaborating to reach shared organizational objectives (Hirschi & Spurk, 2021).

Peterson (2011) described cultural intelligence as the abilities to utilize person's capabilities and skills across different environments. Similarly, Livermore, Van Dyne and Ang (2022) defined it as the ability to interact and perform efficiently in diverse and culturally complex settings. Contemporary leadership approaches highlight the importance of cultural intelligence as indicated to foster a feel of calm, support adaptable work environments, and help individuals pursue their career goals (Yari et al., 2020).

Tranquillity is a broad concept that encompasses both a preferred environmental condition and a sense of inner calm or peace. It is typically associated with natural, quiet settings that are minimally impacted by urban development, helping to preserve and improve the overall quality of the physical environment (Hewlett et al., 2017).

In addition, tranquillity has been connected to better mental health as well as a decrease in psychological strain by alleviating stress and anxiety (Ge et al., 2023). This calm state allows individuals to gain greater control over their thoughts, enjoy improved sleep, and develop more effective strategies for handling challenging situations (Rogers & Maytan, 2019). Within the workplace, a tranquil environment supports higher productivity by encouraging teamwork and collaboration. This harmony not only enhances efficiency but also fosters mutual respect and trust. With open and respectful communication, conflicts are minimized and any disagreements that do arise are more likely to be settled peacefully (Zafari, Biggemann & Garry, 2020). Recently, there has been a growing emphasis on the significance of prosocial behaviors within organizations, as it plays a crucial role in their overall functioning and growth (Meng & Wang, 2023). This type of behaviors is viewed as a key asset that contributes to an organization’s longevity and development. Hart (2024) describes prosocial organizational behaviors as the supportive actions employees take within their professional roles to benefit colleagues, teams, or the organization as a whole, with the goal of enhancing others’ well-being. This behavior comprises three main components. The first involves an employee's commitment to joining and remaining with the organization (Farooqi, 2024; Zettler, 2022). The second aspect relates to consistently meeting or surpassing performance expectations. The third, as outlined by Bellucci et al. (2020), includes voluntary behaviors that exceed formal job duties—such as collaborating with peers, safeguarding the organization from potential threats, offering suggestions for improvement, actively pursuing self-development, preparing for advanced responsibilities, and speaking positively about the organization to external parties (Clevenger, 2020). This final category is particularly noteworthy, as it plays a crucial role in organizational sustainability despite being difficult to define or require formally. It reflects a spontaneous, voluntary effort by individuals to advance the interests of the institution (Ma et al., 2020).

Cultural intelligence plays a crucial role within organizations, as it equips both individuals and institutions with the ability to fully understand others, communicate efficiently, build strong interpersonal relationships, and foster shared understanding. It also helps minimize miscommunication and resolve conflicts arising from

cultural differences, enabling smooth collaboration across diverse cultural backgrounds and leading to improved interactions and organizational outcomes (Binsaeed et al., 2023).

Significance of the study

First-line nurse managers act a critical role in achieving the goals of healthcare place, as they oversee essential functions in every hospital unit. Nurses, in turn, are the foundation of patient care within any healthcare system (Infantino, 2016). As healthcare environments grow more culturally diverse, it has become increasingly necessary for staff, leaders, and stakeholders to participate in intercultural dialogue. In this context, the ability to recognize and understand cultural differences is vital (Caputo et al., 2019; Evseeva, 2019). A culturally intelligent nursing environment is shaped by shared norms and routines that do not require individuals to abandon their personal or cultural beliefs. Instead, it encourages behavioral flexibility, allowing team members to collaborate effectively and form a "third culture" that supports collective success. This shared cultural understanding can influence nurses' sense of calm and their levels of workplace stress (Ang et al., 2021).

Nurse managers with strong cultural intelligence possess a valuable combination of knowledge, competencies, and skills that allow them to recognize, interpret, and respond to cultural signals appropriately. Developing cultural awareness helps dismantle cultural barriers, fosters mutual understanding, and promotes appreciation for diversity. It also deepens self-awareness, allowing individuals to better connect with others who are culturally different (Greene-Moton & Minkler, 2020).

Promoting prosocial behaviors at the organizational leadership level carries significant implications for human resource management (HRM). While these behaviors can enhance employee well-being—and are often reinforced by it—they can also lead to burnout and increased anxiety if not properly supported by the organization (Baumsteiger, 2019).

From the researchers' perspective, cultural intelligence is a key factor in improving nurses' tranquillity and encouraging their engagement in prosocial actions. As healthcare settings become more multicultural, investing in cultural intelligence (CQ) training presents a valuable strategy for boosting both individual well-being and organizational effectiveness.

Enhancing cultural intelligence (CQ) among nurse leaders. By equipping first-line nurse managers with CQ skills, the program fosters a more inclusive and understanding leadership approach, which in turn creates a supportive work environment for nursing staff. This supportive atmosphere contributes to nurses' tranquillity by reducing workplace stress and promoting job satisfaction. Moreover, culturally intelligent leadership encourages prosocial organizational behaviors among nurses, such as cooperation and altruism, leading to improved teamwork and better patient care outcomes. Overall, the research underscores the importance of cultural intelligence training in nursing leadership as a means to enhance both staff well-being and organizational effectiveness.

Aim of the study

The study aims to investigate the effect of cultural intelligence educational program for first line nurse managers on nurses' tranquility and prosocial organizational behaviors

Research Hypothesis

H1: First-line nurse managers' cultural intelligence knowledge will be higher after implementing the educational program than before implementation.

H2: First-line nurse managers' cultural intelligence self-assessment will be higher after implementing the educational program than before implementation.

H3: Nurses' tranquillity will be higher after implementing cultural intelligence educational program than before implementation.

H4: Nurses' prosocial organizational behaviors will be higher after implementing cultural intelligence educational program than before implementation.

Subjects and Methods

Research design:

A Quasi-experimental research design will be used to complete the aim of this research.

Setting

The research was performed at Minia university kidney and urology hospital at Minia city, Egypt; it provides medical services for all Minia Governorate renal and urological patients. The building was consisted of a ground floor and four upper floors with a total area of 1500 m2 and 450-bed capacity, it had four entrances, six laundry rooms, two rooms for peritoneal dialysis, Emergency department, Outpatient clinics, six operating rooms, nine isolation rooms, eight inpatient wards, two intensive care units, Dialysis unit, Urology disease department, Renal disease department radiology department, pharmacy, lecture room, gas room, water filtration unit, and administrative room.

Subjects

A convenience sample of all available First Line nurse Managers worked in the inpatient and outpatient units (total no= 15) , and all nurses who worked in the same units (total no =120) were included in the study during time of data collection.

Data collection tools

Data was gathered through five tools in this research as the following:

Tool I: Personal data sheet for study subjects (first line nurse managrs and nurses): It composed questions related to; (age, marital status, gender, years of experience, educational qualification, department and previous workshop attendance about cultural intelligence.).

Tool II:Cultural intelligence knowledge questionnaire it was created by the researchers depend on the review of the relevant works of literature (**Bücker et al., 2015, Jyoti et al., 2019 Majda et al., 2021 &Mohamed, Ahmed, Abd-Elhamid, 2024)** to collect data from first-line nurse managers' to evaluate their knowledge related cultural intelligence. The questions were created as multiple-choice, true-false questions. There were twenty questions about the meaning of culture and cultural intelligence, the significance of cultural intelligence, its components, etc. If the answer is right, the question receives a score of one; if it is

wrong, the score is zero. Low cultural intelligence knowledge (less 60%), moderate cultural intelligence knowledge (60% to less 75%), and high cultural intelligence knowledge (equal to 75% or more) were the three categories into which the score system was separated.

Tool III: Cultural Intelligence Self - Assessment questionnaire, The self-administered scale, originally created by Ang et al. (2007) and later modified by Barzykowski et al. (2019), was used to evaluate the cultural intelligence of first-line nurse managers. The tool includes twenty items divided across four key domains: cognitive (six items), metacognitive (four items), behaviorsal (five items), and motivational (five items). Participants responded using a five-point Likert scale from one for (strongly disagree) to five for (strongly agree). Based on the total score, cultural intelligence levels were devided as low (below 60%), moderate (60% to less than 75%), and high (75% or more).

Tool VI: Tranquillity scale:

It was developed by Aspy (1993) and later expanded by Demirci and Eksi (2017), this scale was adapted and translated by the researchers to evaluate the level of tranquillity among nurses. The tool comprises 22 items divided into three subcategories: acceptance (10 items), inner haven (8 items), and trust (4 items). The responses with a three-point Likert scale, where 1 indicates disagreement, 2 denotes neutrality, and 3 reflects agreement. The total possible score ranges from 22- 66, with tranquillity levels classified as follows: low (from 22 to36), moderate (from 37 to 51), and high (from 52 to 66).

Tool V: Prosocial organizational behaviours scale

This scale, originally developed by Caprara et al. (2005a) and later refined by Luengo Kanacri et al. (2021), was adapted and translated by the researchers to evaluate prosocial organizational behaviosr among nurses. It includes 18 items grouped into three key dimensions: organization as the beneficiary (7 items), external beneficiary (5 items), and internal beneficiary (6 items). Responses are rated using a 5-point Likert scale with one for (never) to five for (always true). The total score ranges from 18 to 90, with prosocial behaviors levels categorized as low (from 18 to 42), moderate (from 43 to 66), and high (from 67 to90).

Validity and reliability

Five subject-matter experts consisting of one professor and four assistant professors from nursing administration department at faculty of nursing Minia university to evaluated the content validity of the tools. The items' sequencing, simplicity, relevance, applicability, phrasing, term, form, and overall appearance were evaluated using tools content validity. based on the advice and remarks of specialists. The reliability of the instruments was examined and quantified quantitatively. The internal correctness of the tool was assessed using the Cronbach's Alpha test. The Cronbach's Alpha value for the entire cultural intelligence knowledge questionnaire was 0.91.The serenity scale scored 0.931, the prosocial organizational behaviors scale

scored 0.90, and the self-assessment questionnaire scored 0.93.

Pilot Study

Before beginning the actual data collection, it was conducted on 10% of the study participants (2 first-line nurse managers and 11 nurses) to ensure the study instruments' applicability, clarity, and feasibility. Additionally, it had to estimate how long it would take to fill out the data gathering tools. The pilot study's findings showed that the study instruments were still applicable. Thus, data from the pilot study were incorporated into the primary study population.

Data collection procedure

Three steps comprised the study's execution: The assessment as well as planning, then implementation, and finally evaluation phases.

1- **Assessment and planning stage**

- Before beginning, formal approval from the relevant authorities to carry out the study was acquired.
- First-line nurse supervisors and nurses verbally agreed to participate.
- The knowledge questionnaire took 15–20 minutes to complete before the educational program began evaluating the first line nurse managers' cultural intelligence, and it took almost 25 minutes to complete the cultural intelligence self-assessment sheet. The data was gathered over the course of a month, from the beginning of November to the end of November 2024.
- Before beginning the teaching program for first line nurse managers, nurses' tranquillity and prosoial organization behaviors were assessed.
- The researchers gave the nurses the tranquility and prosocial organization behaviors measure. This sheet took 30 to 35 minutes to complete, and the data was collected over the course of a month, from the start of December to the end of December 2024.
- The instructional program's schedule was created by the researchers.
- The learning environment and the tools (data display equipment and seminar rooms) required for this study were set up by the researchers.

2. Implementation stage

- Based on the findings of the planning and assessment stages, the educational program was created using the literature review, teaching sessions, scheduled timetables, and the work of **Ali, Abdelhakam, and Abd-Elhamid (2024).** The course included the definition, elements, dimensions, advice, significance for nurses, abilities, and theories of cultural intelligence.
- Seven first-line nurse managers made up the first group, and eight first-line nurse managers made up the second. The researchers conducted the educational session for each subgroup at a different time.
- The sessions took place in the hospital teaching rooms and were scheduled around the participants' work schedules.
- The researchers gave the first-line nurse managers an explanation of the program's goals, schedule, and content.

- Before each session, the learning objectives were explained, and feedback from the previous session was gathered. Following each session, the current session was reviewed.
- The first-line nurse managers of Minia Kidney and Urology University Hospital participated in the instructional session. Lecture, discussion, brainstorming, assignments, case studies, and small-group work activities were the teaching strategies used.
- The instructional program was completed in two months, from the start of January 2025 to the end of February 2025, using PowerPoint presentations and videos as the teaching resources.

3. Evaluation stage

- Five tools, including a personal data sheet, a cultural intelligence knowledge questionnaire, a cultural intelligence self-assessment questionnaire, and scales measuring nurses' tranquility and prosocial organizational behaviors, were used to assess the immediate impact of a cultural intelligence education program for first line nurse managers on these behaviors.
- Using the five tools—personal data sheet, cultural intelligence knowledge questionnaire, cultural intelligence self-assessment questionnaire, and nurses' tranquillity and prosoial organization behaviors scales—a follow-up was carried out three months after the program's implementation to evaluate the impact of a cultural intelligence education program for first line nurse managers on nurses' tranquility and prosocial organization behaviors. From the beginning of June to the end of June 2025, it was finished.

Ethical considerations

- This study from Minia University's Faculty of Nursing was authorized by the ethical committee **(code number REC2024108).**
- First line nurse managers and the nurses who took part in the study were given clarification by the researchers regarding the purpose of the study.
- All participants gave their oral consent after being informed of the purpose and benefits of the study.
- The nurses and first line nurse managers were informed that participation in the study was entirely optional and that they could leave at any moment if they so desired.
- Subjects were reminded of the importance of data confidentiality, privacy, identity, voluntary participation, and the option to withdraw from the study.

Statistical analysis

Using excel and SPSS to analyze data (IBM 24). The format used to describe quantitative data is mean ± standard deviation. Frequency and proportion are the formula used to describe qualitative data. To ascertain whether there was a statistically significant difference between the groups, the data was examined. "0.05" is the 95% confidence interval for a significance level of (P). For qualitative data, we applied for the chi-square test.

Results

Table (1) shows that less than half of the first-line nurse managers fall within the 30–40 age range, with an average age of 32.6 ± 6.5 years. The majority—over two-thirds—are female, and more than half are married. Approximately 66.7% of them hold a bachelor's degree, while fewer than half have between 5 and 10 years of nursing experience, with a mean of 6.0 ± 3.3 years. Additionally, under two-thirds are employed in general care units, and none had previously attended any educational programs on cultural intelligence.

As for the nurses' demographic characteristics, the same table indicates that over half are aged between 30 and 40 years, with an average age of 33.8 ± 6.1 years. Slightly fewer than two-thirds are women, and the majority are married. More than one-third of the nurses are graduates of technical institutes. Half of them have between 5 and 10 years of work experience in nursing, with a mean of 6.7 ± 3.2 years. Nearly two-thirds are employed in general departments, and like the nurse managers, none of them had prior exposure to cultural intelligence training.

Figure (1) illustrates that only 10% of first-line nurse managers demonstrated a high level of knowledge prior to the intervention. However, this percentage rose significantly to 80% immediately after the educational program and slightly decreased to 75% three months following its implementation. These changes reflect statistically significant improvements in knowledge over time ($p = 0.001$).

Table (2) highlights that only 5% of first-line nurse managers exhibited a high level of cultural intelligence before the educational program. This percentage increased substantially to 80% immediately following the program and slightly declined to 70% after three months. These improvements were statistically significant ($p = 0.001$) when comparing the pre-intervention results with subsequent assessments.

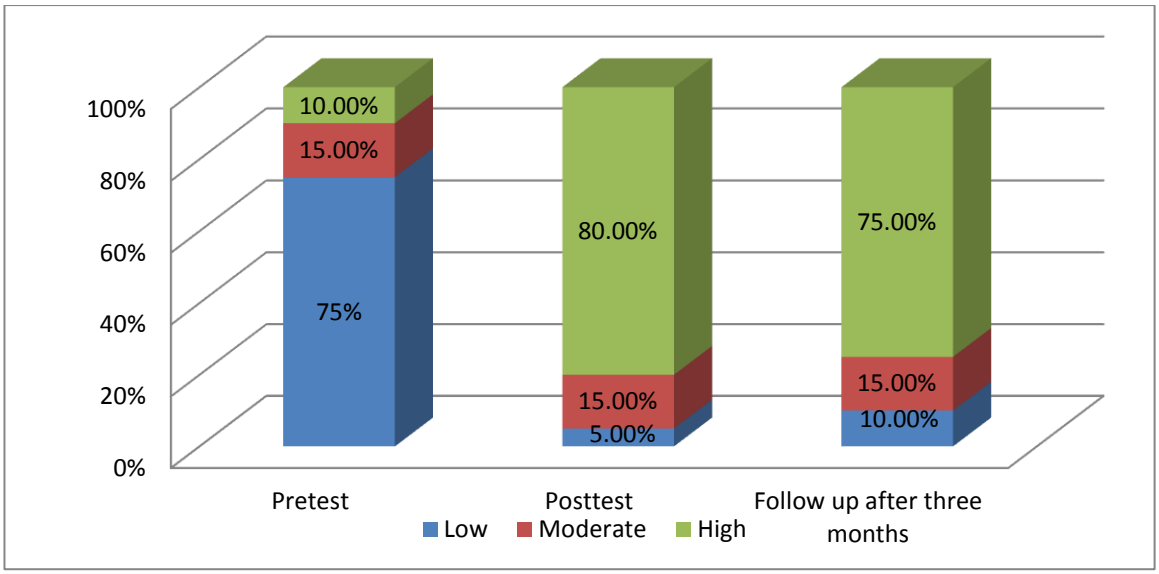
Figure (2) shows that only 7.10% of the nurses have a high level of tranquillity before the intervention. This percentage rose sharply to 87.5% immediately after the program and slightly decreased to 81.3% three months later. The differences observed across the testing periods are statistically significant ($p < 0.001$).

Figure (3) reveals that 13.4% of the nurses exhibited a high level of prosocial organizational behaviors prior to the intervention. This figure increased significantly to 80% immediately after the program and slightly declined to 71.7% at the three-month follow-up. The changes over time were statistically significant ($p < 0.001$).

Table (3) summarizes that there is a positive statistically significant association between total first line nurse managers' cultural intelligence (knowledge, self-assessment), and nurses' tranquillity and prosocial organization behaviors during different testing times.

Table (1): Distribution of personal data of the study subjects (first line nurse managers and nurses)

Demographic traits	First-line nurse managers (15)		Nurses (120)	
	No	%	No	%
1. Age				
• > 30	6	40.0	39	32.5
• 30-40	7	**46.7**	67	**55.8**
• < 40	2	13.3	14	11.7
Mean ± SD	**32.6 ± 5.5**		**33.8 ± 5.1**	
2. Gender				
• Male	5	33.3	45	37.5
• Female	10	**66.7**	**75**	**62.5**
3.Marital status				
• Single	5	33.3	42	35.0
• Married	8	**53.4**	61	**50.8**
• Divorce	2	13.3	11	9.2
• Widowed	0	00.0	6	5.0
4.Qualifications				
• Diploma	0	0.0	30	25.0
• Technical Institute	0	0.0	51	**42.5**
• Baccalaureate	10	**66.7**	36	30.0
• Master degree	5	33.3	3	2.5
5.Years of experience				
• ° <	4	26.6	45	37.5
• 5 - 10	7	**46.8**	60	**50.0**
• 10 – 15	4	26.6	15	12.5
Mean ± SD	**6.0 ± 3.3**		**6.7 ± 3.2**	
6. Department				
• General	9	**60.0**	79	**65.8**
• Critical	6	40.0	41	34.2
10. Attendance of previous educational program about cultural intelligence				
• Yes	0	0.0	00	0.0
• No	100	**100.0**	100	**100.0**



P1=0.001**
P2=0.002**

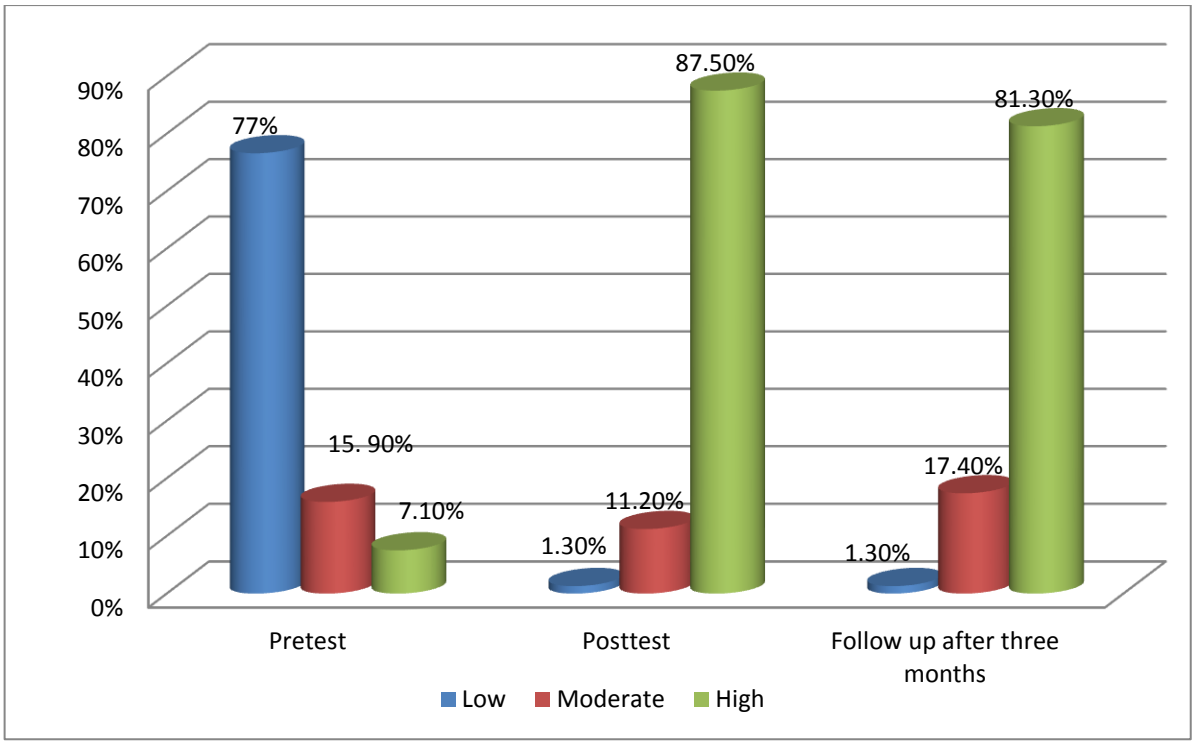
P_1 = preprogram implementation and immediate post program implementation
P_2 = preprogram implementation and after three months of program implementation
N.B *significant is considered at (p-value <0.05).

Figure (1): Total knowledge score of first line nurse managers' about cultural intelligence during different times of testing (No =15).

Table (2): Distribution of first line nurse managers' total cultural intelligence self -assessment and its components during different times of testing (N=15)

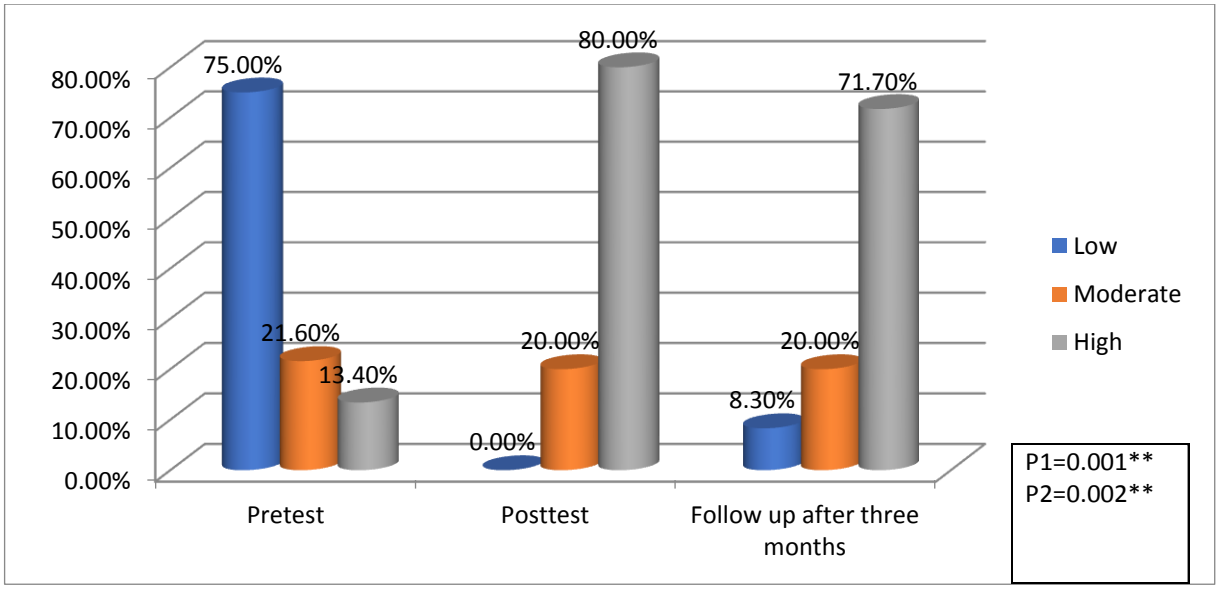
Statement	Pretest		Immediate Posttest		Follow up after 3 months		P- value (paired t test) df or (McNemar) df
	No	%	No	%	No	%	
Cognitive score							
• Low	3	25	0	0	3	15	P_1=0.001* (8.2) 24 P_2=0.001* (5.3) 24
• Moderate	12	75	17	85	15	75	
• High	0	0.0	3	15	2	10	
Metacognitive							
• Low	2	10	1	5	1	5	P_1=0.001* (6.8) 24 P_2=0.001* (6.1) 24
• Moderate	17	85	14	70	16	80	
• High	1	5	5	25	3	15	
Behaviorsal							
• Low	4	20	0	0.0	3	15	P_1=0.001* (12.7) 24 P_2=0.001* (6.3) 24
• Moderate	16	80	15	75	13	65	
• High	0	0.0	5	25	4	20	
Motivational							
• Low score	1	5	0	0.0	1	5	P_1=0.001* (9.1) 24 P_2=0.001* (5.7) 24
• Moderate	18	90	12	60	17	85	
• High	1	5	8	40	2	10	
Total cultural intelligence							
• Low	7	35	0	0.0	0	0	P1=0.001* (10.65) 1 P2=0.001* (10.65) 1
• Moderate	12	60	4	20	6	30	
• High	1	**5**	16	**80**	14	**70**	

N.B *significant is considered at (p-value <0.05).



P_1 = preprogram implementation and immediate post program implementation
P_2 = preprogram implementation and after three months of program implementation
N.B *significant is considered at (p-value <0.05).

Figure (2): Distribution of studied nurses' tranquillity during different times of testing (No =120)



P_1 = preprogram implementation and immediate post program implementation
P_2 = preprogram implementation and after three months of program implementation
N.B *significant is considered at (p-value <0.05).

Figure (3): Distribution of studied nurses ' prosocial organizational behaviors during different times of testing (No =120

Table (3): Correlation matrix between first line nurse managers total knowledge, total cultural intelligence self-assessment, nurses' tranquillity and prosocial organization behaviors during different times of testing

Variables	First line nurse managers' total knowledge No=15		First line nurse managers' total cultural intelligence (No =15)		Nurses 'work tranquillity (No=(120)		Nurses' prosocial organization behaviors No=(120)	
	r	P	r	P	R	P	r	P
Preprogram implementation								
First-line nurse managers ' total knowledge of cultural								
First-line nurse managers ' total self-assessment of cultural '	0.241	0.000**						
Nurses' work Tranquillity	0.325	0.000**	0.189	0.000**				
Prosocial organizational behaviors	0.213	0.000**	0.273	0.000**	0.167	0.0001**		
Immediate post-test								
First-line nurse managers ' total knowledge of cultural								
First-line nurse managers ' total self-assessment of cultural intelligence intelligence climate '	0.123	0.000**						
Nurses' work Tranquillity	0.138	0.000**	0.11	0.000**				
Prosocial organizational behaviors	0.215	0.000**	0.215	0.000**	0.178	0.0001**		
Follow up after three months.								
First-line nurse managers ' total knowledge of cultural								
First-line nurse managers ' total self-assessment of cultural intelligence intelligence climate '	0.41**0**	**0.000****						
Nurses' work Tranquillity	0.115	**0.000****	0.259	**0.000***				
Prosocial organizational behaviors	0.276	**0.000****	.523	**0.000****	0.239	**0.0001****		

N.B *significant is considered at (p-value <0.05).

Discussion:

Managers in healthcare organizations should prioritize fostering cultural intelligence among leaders, as it enables them to better know and interact with individuals from diverse cultural backgrounds. Gathering relevant knowledge is also essential for effective collaboration. As a result, personnel with high cultural intelligence tend to exhibit strong adaptability in diverse settings (Fu & Charoensukmongkol, 2023).

To cultivate a culturally intelligent work environment, healthcare administrators, managers, and leaders must ensure that staff are well-prepared to navigate multicultural situations. This involves encouraging adaptability in both thought and behaviors, enabling employees to respond effectively to unforeseen challenges while maintaining flexibility in their roles. Such adaptability not only supports career growth but also encourages prosocial behaviors within the organization (Livermore, Van Dyne & Ang, 2022; Akkaya & Mert, 2022). The current study explores the meaningful impact of cultural intelligence training programs on nurses' sense of tranquillity and their engagement in prosocial organizational behaviors.

The study findings revealed that fewer than half of first-line nurse managers fall within the 30-40 age range. Additionally, over two-thirds of them are female, and more than half are married. A significant portion, 66.7%, hold a baccalaureate degree. Less than half have 5-10 years of experience in nursing, and nearly two-thirds work in general areas. Notably, none of the participants have attended any previous educational programs focused on cultural intelligence.

The demographic data of nurses shows that more than half fall within the 30-40 age group, and less than two-thirds are female. Over half are married, while more than one-third graduated from technical institutes. Half of the nurses have five to ten years of experience in the nursing field, and nearly two-thirds work in general areas. Additionally, 100% of the participants have not attended any previous educational programs focused on cultural intelligence.

The findings of the actual study revealed that the majority of first-line nurse managers were female, held a baccalaureate degree, employed in general units, and slightly above half were married. Less than half were in the 30-40 age range, and half had 5-10 years of experience. Additionally, none of them had participated in any educational programs focused on cultural intelligence.

Similarly, for the nurses in the study, a high percentage were female, with more than half in the 30-40 age group. They primarily worked in general areas and had graduated from technical institutes. Furthermore, more than half were married and had 5-10 years of experience.

The findings of the actual study showed a highly statistically significant improvement in the knowledge levels of first-line nurse managers toward cultural intelligence at both post-intervention measurement points. Initially, before the implementation of the program, the participants demonstrated a low level of knowledge. From the

researchers' perspective, this notable improvement immediately after the program—and again at the three-month follow-up—highlights the positive impact of the cultural intelligence educational intervention. This result effectively addresses the first research question.

This improvement can be attributed to the beneficial effects of the training program in enhancing and refreshing knowledge. Culturally intelligent first-line nurse managers are better equipped to lead with calmness and adaptability, inspire their teams, and prepare staff for global assignments. These findings align with the results of Mohamed, Ahmed, and Abd-Elhamid (2024), who examined the impact of a cultural intelligence educational program on first-line nurse managers and found significant improvements in nurses' knowledge and self-assessment both immediately after the program and at follow-up.

These findings are also consistent with the study by Afsar et al. (2020), which explored the relationship between cultural intelligence as well as innovative work behaviors, emphasizing the roles of engagement in work and interpersonal trust. Their research concluded that cultural intelligence enhances the quality of cross-cultural interactions and minimizes differences rooted in ethnicity, language, culture, religion, and other factors. As a result, first-line nurse managers with heightened cultural awareness are more capable of making sound judgments during intercultural encounters and demonstrating respect for key ethnic differences, thereby fostering trust between nurses and their leaders.

Similarly, Chae et al. (2020), in their study titled "Effectiveness of Cultural Competence Interventions on Health Team and Patient Outcomes," found that such interventions positively influenced healthcare professionals by promoting workplace tranquillity, increasing engagement, encouraging mutual respect, and improving communication.

In the same line vein, the study by Zyl, Dinan, and Harunawamwe (2018), "Cultural Intelligence between Organizational Leaders as a Way to Improve Peace as well as Conflict Resolution within Organizations," revealed that participants with high cultural intelligence exhibited enjoyment and flexibility in intercultural communication. They perceived multicultural settings as opportunities for growth, showed openness to cultural learning, and engaged positively with individuals from diverse backgrounds. This was reflected in improved work engagement, strengthened trust, enhanced peace, and effective conflict resolution within organizations.

The study by Alsharo, Gregg, and Ramirez (2017), titled "Virtual Team Effectiveness: The Role of Awareness Sharing as well as Trust," supports these findings, indicating that cultural intelligence fosters high levels of interpersonal trust. This trust cultivates a work environment marked by confidence, freedom, and belonging—conditions that are highly conducive to innovation, strong social relationships, and effective teamwork.

In line with this, the actual study demonstrated a statistically significant improvement in nurses' levels of tranquillity and prosocial organizational behaviors at both measurement intervals following

the implementation of the cultural intelligence program. Before the program, nurses reported low levels of tranquillity, which significantly increased immediately after the intervention and continued to improve three months later. These findings address the second research question, highlighting the program's effectiveness.

This improvement can be attributed to the influence of culturally and emotionally intelligent first-line nurse managers, who create positive, employee-centered work environments. These leaders foster empowerment, motivation, and adaptability—enabling teams to respond wisely to both expected and unexpected changes. Such managers guide staff by adjusting work practices to meet evolving demands, building interconnected teams with a unified vision and purpose. The support perceived from these leaders encourages prosocial motivation, resulting in improved employee performance and stronger links between managerial support and prosocial behaviors

The current study aligns with findings by Mohamed, Ahmed, and Abd-Elhamid (2024), who confirmed the positive impact of cultural intelligence education on nurses' agility and career aspirations, primarily through enhanced serenity and prosocial organizational behaviors. Similarly, Nugraha (2024) emphasized that a strong organizational culture and supportive work environment—including tranquillity and prosocial behaviors—significantly enhance employee performance.

Supporting this, Ge et al. (2023) noted that culturally intelligent first-line nurse managers, who exhibit greater flexibility and emotional regulation, tend to maintain lower anxiety levels and promote tranquillity. Minooei et al. (2020) also emphasized the importance of developing a multidisciplinary framework for environmental tranquillity to improve life quality and well-being.

Chakraborty and Biswas (2021), in their work "Think Love, Think Peace, Think Harmony," showed that workplace trust and tranquillity contribute to tolerance and harmony, fostering collaboration, compassion, and a shared organizational vision. This climate is essential for encouraging prosocial behaviors.

Similarly, Arshad et al. (2021) found that prosocial motivation—supported by tranquillity—positively influences organizational citizenship behaviors and commitment, mediated by managerial support. Enjoyable and peaceful work environments, openness to cultural exchange, and inspiration through diversity were also identified as significant contributors.

Ficapal-Cusí, Enache-Zegheru, and Torrent-Sellens (2020) confirmed that aware organizational support, as well as affective commitment, and finally knowledge sharing are closely linked to prosocial behaviors like altruism as well as civic virtue. Hafenbrack et al. (2020) added that mindfulness enhances prosocial tendencies by fostering empathy, perspective-taking, and present-moment awareness.

Thuan and Thanh (2020) further emphasized that leader knowledge sharing enhances follower creativity, and prosocial motivation strengthens this effect. Hu et al. (2019) similarly suggested that

managerial support of motivated employees enhances their positive behaviors and engagement with others.

Berenbaum, Huang, and Flores (2019) linked tranquillity to contentment and spiritual practices, showing it contributes to overall acceptance and well-being. Marafa et al. (2018) found that cultural intelligence reduces stress in diverse settings, promoting tranquillity and improving psychological, behaviorsal, and prosocial outcomes. Tranquillity was also highlighted as a key factor in public health and quality of life.

Feather et al. (2018) conducted an interactive review demonstrating that nurses' prosocial behaviors enhances the work circumstance, organizational practice, as well as quality of care, while also reducing turnover and promoting innovation.

The current study also found a positive relation between first-line nurse managers' cultural intelligence (including knowledge as well as self-assessment), nurses' tranquillity, and prosocial behaviors across different measurement times. This highlights cultural intelligence as a key driver of workplace agility, serenity, tranquillity, and prosocial organizational behaviors—also reflected in nurses' career aspirations.

These findings align with Abd-Elmonem, Elshahat, and Hasanin (2023), who reported a strong, statistically significant association between culturally intelligent leadership, entrepreneurial tendencies, and professional development—mediated by tranquility and prosocial behaviors. Zia et al. (2022) also noted a strong link between job aspirations performance, and professional growth which improve prosocial organizational behaviors.

Furthermore, this study supports results from Azevedo and Shane (2019) & Vlajčić et al. (2019), who demonstrated that cultural intelligence is positively associated with innovative behaviors, work tranquillity, flexibility, and career aspiration. Higher cultural knowledge was shown to encourage creativity, serenity, and social engagement.

Additional research confirms that cultural intelligence influences various employee behaviors: emotional intelligence predicts innovation (Binsaeed et al., 2023); prosocial behaviors enhances life satisfaction (Le et al., 2018); voice behaviors are influenced by cultural competence (Afsar et al., 2019); and cultural intelligence enhances innovation through engagement and interpersonal trust (Afsar et al., 2021). All these studies collectively support the strong, statistically significant relationships identified in the present research.

Limitations and Strengths.

Including only public institution in the study and the small number of first line nurse managers and nurses may be a limitation. While it is strength that the difficulities of tranquillity and prosocial organizational behaviors are addressed together. What makes this study particularly significant is the absence of previous research in the healthcare field that simultaneously examines cultural intelligence educational program was being studied together with tranquillity, and prosocial organizational behaviors. Furthermore, the overall scarcity of studies focusing on prosocial organizational behaviors and

tranquillity among nurses highlights the importance of this work.

Conclusions:

The current study concluded that there were statistically significant differences in knowledge level and perceived level of cultural Intelligence self-assessment for first-line nurse managers during the different times of measurements. Also, there were statistically significant differences in tranquillity and prosocial organizational behaviors among nurses during the different times of measurements .Moreover, there was a positive statistically significant association between total first-line nurse managers' cultural Intelligence (knowledge, self-assessment) and nurses' tranquillity and prosocial organization behaviors during different testing times.

Recommendation

- Continue exploring the role of cultural intelligence in first-line nurse managers to enhance workplace motivation, tranquillity, and prosocial behaviors across all healthcare settings and hospitals.
- Periodically organize cultural intelligence workshops for nursing managers at all levels, tailored to their job roles, as a refresher course across all healthcare institutions.
- Foster a supportive work environment led by first-line nurse managers to promote trust, tranquillity, and prosocial behaviors, thus strengthening positive relationships with their nursing staff.
- Focus on enhancing cultural intelligence in nursing students, helping them develop as self-directed, adaptable, and confident nurses capable of navigating diverse work environments.
- Regularly schedule meetings between first-line nurse managers and their nursing teams to discuss, reinforce, and support peer relationships, promoting prosocial behaviors
- When planning educational programs, take into consideration the workload of first-line nurse managers, patient demands, and the most suitable times of day for training sessions, ensuring maximum participant engagement and satisfaction.

Conflicts of Interest

The authors declare that they have no conficts of interest.

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