ORIGINAL ARTICLE

Assessing the Level of Reflective Practice and Critical Thinking Disposition among Nurses in Malaysia

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ABSTRACT

Introduction: Reflective practice and critical thinking have become essential skills among nurses, as they face various challenges in their daily tasks. These skills help them to maintain high-quality nursing care in a dynamic healthcare system. In particular, reflective practice aids nurses to self-educate and stay motivated throughout the rough days in the hospital, whereas critical thinking among nurses improves their decision-making and problem-solving skills during those difficult situations. Thus, reflective practice and critical thinking among nurses are important for a safer healthcare environment and better overall quality of care. This study aimed to investigate reflective practice and critical thinking dispositions among nurses in Malaysia. **Materials and methods:** A cross-sectional descriptive study was conducted in one of the teaching hospitals in Malaysia using convenience sampling on 218 participants from different disciplines. The data was analysed using IBM SPSS Statistic 25. **Results:** Sociodemographic characteristics, including gender, education level, working experience, and working area, did not display statistically significant associations with either reflective practice or critical thinking disposition. Nonetheless, this study found that there was a moderate positive correlation between reflective practice and critical thinking disposition. **Conclusion:** The finding highlights that nurses engaging in reflective practice tend to exhibit a heightened inclination toward critical thinking. Thus, reflective practice should be further prioritised in the Malaysia nursing curriculum and professional development programmes by adopting appropriate and structured reflective practice frameworks to further cultivate critical thinking among nurses.
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INTRODUCTION

In the dynamic and demanding healthcare system, nurses are required to reflect on themselves and think critically to help them to navigate the complexity and unpredictability of the system. Nurses play an important role in the healthcare system; it is critical that they can make clinical decisions and manage complex healthcare situations, as they are at the forefront of patient care. To excel in this multifaceted role, nurses must possess not only clinical knowledge and technical skills, but also critical thinking and self-reflection abilities.

Critical thinking in nursing has been defined as a process that is "reflective and reasonable thinking about nursing problems without a single solution and is focused on deciding what to believe and do" (1). Previous literature highlighted the importance of critical thinking in nurses' personal and professional development, where nurses who are critical thinkers possess the ability to make well-informed clinical decisions that are crucial in enhancing patient safety (2-4). Nurses with lower critical thinking skills were found to have not only higher job stress, but also lower nursing competence, effective decision-making and a caring sense (2,5,6,7) Critical thinking comprises two fundamental features, which are disposition and skills (8). Despite the importance

of critical thinking skills, critical thinking disposition wields a profound influence on cognitive processes to ensure the execution of critical thinking process. Critical thinking disposition requires six cognitive skills, which are also known as the cores of critical thinking; they are interpretation, analysis, evaluation, inference, explanation, and self-regulation. The sixth cognitive skill, which is self-regulation, is to self-consciously monitor one's cognitive activities. Nurses need to apply skills in analysis and assess one's own inferential judgment with a view towards questioning, confirming, validating, or correcting either one's reasoning or one's results (9). Self-regulation has three major phases, which are forethought, performance or volitional control, and self-reflection. Self-reflection is the third self-regulatory phase that involves a process that occurs after learning efforts; ultimately, this influences a learner's reaction to that experience (10).

Reflective practice is a systematic and structured process of self-reflection in a professional practice. It is not a new concept due to its benefits; it has been discussed from various angles for different purposes. In medicine and health, it was defined as, "the process whereby an individual thinks analytically about anything relating to their professional practice with the intention of gaining insight and using the lessons learned to maintain good practice or make improvements where possible" (11). Numerous studies found that reflective practice is effective in promoting critical thinking through various methods including critical conversation, concept mapping, and journaling (12, 13, 114). It encourages nurses to become better learners and self-aware while they develop skills in self-directed learning, attain improved motivation, and deliver enhanced quality of care (15). Thus, they become more confident in managing challenging and unpredictable situations in the clinical setting and at the same time, providing tailored care for patients from different backgrounds to support patient-centred care (16). Furthermore, previous studies indicated that nurses with a lack of reflective practice had lower tolerance to uncertainty, self efficacy, autonomy and higher in anxiety as compared to nurses with good reflective practice (17, 18).

Critical thinking disposition and reflective practice are essential components within nursing, exerting a profound influence on the enhancement of patient quality and outcomes in the rapidly evolving healthcare landscape. These processes foster a culture of continuous learning and self-improvement among nurses, which ultimately elevates the standard of patient care. The lack of both processes was found to have a negative impact on nurses' mental health as it may cause stress and anxiety as well as clinical competency that ultimately may jeopardise patient safety (19, 20, 21). Moreover, the interplay between critical thinking and reflective practice is marked by its dynamic and interdependent nature. Consequently, it becomes imperative to determine the extent to which nurses engage in these processes and the correlation between the two. This study could serve as the foundation for providing essential support to nurses in their journey towards mastering and consistent employment of these critical processes, thereby optimising patient care and their nursing profession as a whole. This is by assessing the extent of nurses' engagement in reflective practice and critical thinking and further promoting this self-directed life-long processes in nursing practice.

MATERIALS AND METHODS

Study design, setting and participants

This cross-sectional quantitative study was conducted at one of the teaching hospitals in Malaysia. The number of nurses across the wards and units in the hospital during data collection was 906. Among the wards and units involved were medical, surgical, orthopaedics, paediatrics, obstetrics and gynaecology, intensive care unit, coronary care unit, newborn intensive care unit and emergency department. Using Raosoft Sample Size Calculator (22), with a confidence level of 95% and a margin error of 5%, the recommended sample size was 270. A number of 218 participants were successfully recruited using convenience sampling, with a response rate of 81%.

Data collection

The data collection was conducted from April to July 2021. The nurse in-charge in each ward and unit was informed and the nurses were approached by the researchers. All nurses from the wards and units were invited to answer the self-administered questionnaire voluntarily. Nurses who are on study leave, maternity leave, or any type of leave throughout the data collection period were excluded from the study. A consent form was attached to the questionnaire; the content consisted of the purpose of the study, procedure, confidentiality, and the right to withdraw, as well as the contact information of the researchers. All the information given by the participants is kept private and confidential.

Materials

The questionnaire consisted of three parts, and it was prepared in English and Malay. Part A included items on sociodemographic status. Part B demonstrated self-reflective practice and consisted of 40 items that were adapted from the Reflective Practice Questionnaire (RPQ) (23). Part C consisted of 18 items that were meant to investigate critical thinking dispositions. The items for this part were adapted from Malay and English versions of the Short Form-Critical Thinking Disposition Inventory-Chinese Version (SF-CTDI-CV) (24,25). All items in both Part B and Part C were in five (5)-point Likert-type Scale: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; and 5 = Strongly Agree. The total scores for Part B and Part C were 200 and 90, respectively. The cut-off point for Part B and C is set at

50% of the total maximum score (26). A score of 101 and above for Part B is considered good self-perceived reflective practice and a score of 46 and above for Part C is considered good level of critical thinking disposition. Prior to the commencement of data collection, a pilot study among 27 nurses was conducted; Cronbach's alpha results for Part B and Part C ranged from 0.82 to 0.84 which indicated good internal consistency.

Data analysis

The analysis was done using Statistical Package for the Social Sciences (SPSS) 25. Descriptive analysis was conducted to describe the nurses' sociodemographic characteristics, reflective practice capacity and critical thinking disposition. Independent t-test and one-way ANOVA were used to determine the association between their sociodemographic characteristics with reflective practice capacity. Mann–Whitney test and Kruskal–Wallis were conducted to determine the association between sociodemographic characteristics and critical thinking disposition. Meanwhile, Spearman's correlation test was conducted to determine the association between reflective practice capacity and critical thinking among the nurses. In this study, P-value < 0.05 is categorised as statistically significant.

Ethical consideration

The approval for this study was granted by the Kulliyyah of Nursing Postgraduate Research Committee (KNPGRC), the International Islamic University Malaysia (IIUM) Research Ethics Committee (IREC) (IREC 2021-KON/10), and the hospital's research committee. Informed consent was also obtained from all participants involved in this study.

RESULTS

Sociodemographic characteristics

Table I presents the sociodemographic characteristics of the 218 participants. The age of participants ranged from 22 to 45 years old, with a mean age of 28.11 (SD = ±4.12). Thirty-one (31) participants were male (14.2%) and 187 were female (85.8%). The majority of participants were female (85. 8%, n = 187) and had diploma qualification (88.1%, n =192). More than half of the participants (57.3%; n = 125) had working experience of three years and below.

Ninety-six (96) participants (44.0%) worked in the general areas consisting of the medical department, surgical department, and orthopaedics department, 97 participants worked in critical areas including the intensive care unit, emergency department, neonatal intensive care unit, coronary care unit and operation theatre (44.5%), whereas 25 participants (11.5%) worked in specialised areas, including paediatric department, obstetrics and gynaecology department, COVID ward, and sterile service department.

Table I: Sociodemographic characteristics of the participants

Characteristics	n	%
Age (Year old) (mean age: 28.11 ± 4.12)		
Gender		
Male	31	14.2%
Female	187	85.8%
Education level		
Diploma	192	88.1%
Bachelor and above	26	11.9%
Working Experience		
3 years and below	125	57.3%
More than 3 years	93	42.7%
Working area		
General	96	44.0%
Critical	97	44.5%
Special	25	11.5%

(N=218)

Reflective practice and critical thinking disposition among nurses

Table II presents the participants' scores of reflective practice capacity and critical thinking disposition. From the maximum total score of 200, the self-reported reflective practice score ranged from 80 to 200, with a mean score of 146.28 (SD = ±14.03). Meanwhile, from the maximum total score of 90, critical thinking disposition scores ranged from 46 to 81, with a mean score of 56.83 (SD = ±6.17). Based on the cut-off point of 50% of the maximum total scores, both mean scores indicate that the nurses generally had a good level of self-reported reflective practice and critical thinking disposition.

Sociodemographic characteristics and reflective practice

Table II: Reflective practice and critical thinking disposition score

Measure	Mean	±SD	Minimum	Maximum
Reflective Practice	146.28	14.03	80	200
Critical Thinking Disposition	56.83	6.17	46	81

Table III demonstrates the result for the association between participants' sociodemographic characteristics, namely, gender, education level, working experience and working area with the reflective practice score. Despite there being no significant associations between gender, education level, working experience, and working area with reflective practice score, the participants with qualifications higher than diploma, male, working less than three years and worked in specialised areas were found to have higher reflective practice scores.

Table III: Association between sociodemographic characteristics and reflective practice

Characteristics	Mean (SD)	t-statistic (df)	F-statistic(df)	p-value
Gender				
Male	147.00 (14.84)	0.306 (216)	-	0.839*
Female	146.16 (13.93)			
Education Level				
Diploma	145.63 (13.56)	-1.866 (216)	-	0.084*
Bachelor and above	151.07 (16.62)			
Working Experience				
3 Years and below	147.18 (13.33)	-0.815 (216)	-	0.294*
More than 3 years	145.62 (14.55)			
Working area				
General area	146.61 (16.17)	-	0.511 (2)	0.601**
Critical area	145.40 (12.37)			
Specialised area	148.44 (11.17)			

*Independent t-test
**One-way ANOVA

Sociodemographic characteristics and critical thinking disposition

As shown in Table IV the were no significant associations between the gender, education level, working experience and working area with critical thinking. Yet, similar with reflective practice, the critical thinking disposition is slightly higher among participants who are male, with qualifications higher than diploma and work in specialised area. However, as compared to reflective practice, participants with working experience of three years and less had slightly higher critical thinking disposition.

Table IV: Association between sociodemographic characteristics and critical thinking disposition

Characteristics	Mean Rank	Z-score	Kruskal Wallis H(df)	p-value
Gender				
Male	121.82	-1.177	-	0.239*
Female	107.46			
Education Level				
Diploma	108.97	-0.337	-	0.736*
Bachelor and above	113.40			
Working Experience				
3 years and less	112.38	-0.583	-	0.560*
More than 3 years	107.36			
Working area				

CONTINUE

Table IV: Association between sociodemographic characteristics and critical thinking disposition

Characteristics	Mean Rank	Z-score	Kruskal Wallis H(df)	p-value
General area	111.72			
Critical area	102.97	-	2.940	0.230**
Specialised area	126.28			

*Mann-Whitney test
**Kruskal Wallis test

Reflective practice and critical thinking disposition

The correlation between reflective practice score and critical thinking disposition is shown in Table V. The Spearmen's correlation test indicated that there was a significant correlation as the P-value was 0.000 (<0.05). The correlation coefficient was 0.342; therefore, this finding underscores a positive moderate correlation between the reflective practice and critical thinking disposition indicating participants with higher self-reflective practice have higher critical thinking.

Table V: Correlation between reflective practice and critical thinking disposition

Spearman's Correlation	Critical thinking disposition	
	Correlation Coefficient	p-value
Reflective practice	0.342	0.000

DISCUSSION

This study evaluated the reflective practice and critical thinking disposition among nurses from one of the teaching hospitals in Malaysia. The nurses generally have good level of self-reported reflective practice and critical thinking disposition. These findings may be due to the supportive environment that encourage open exploration that enhance understanding, perspectives and insights, complemented by targeted discussions between colleagues, seniors and mentors (27, 28). Besides, reflective practice and critical thinking have long been integral parts of nursing education and practice globally, rendering nurses' familiarity with both practice and skill.

The findings showed that none of the sociodemographic characteristics, namely, gender, educational level, working experience, and working area exhibit a statistically significant association with either reflective practice or critical thinking disposition. The result is consistent with previous studies that also found that none of these examined characteristics were significantly linked with reflective practice (29) and critical thinking disposition (30). However, it is worth noting that although there was no significant gender disparity in terms of reflective practice and critical thinking disposition, males scored marginally higher than females. This may relate to societal and cultural norms that allow more opportunity and time for males

to have better professional development as compared to their counterparts (31). This study's findings contradict other studies in terms of the association between education level with reflective practice (32) and critical thinking disposition (2, 33, 34). The possible reason for this is apart from formal education, nurses are also exposed to the real-life experience of various complex patient health conditions that improve. However, in this study participants with a bachelor and above have slightly higher scores in both components as compared to those with diploma. This could be due to the exposure that they had during their formal education to more comprehensive reflective practice and critical thinking theories and applications.

Additionally, contrary to previous studies (33, 35, 36), this study found no differences in reflective practice and critical thinking disposition among participants with different working experience duration and areas. Notwithstanding the significance of working experience and areas in the adoption of reflective practice and critical thinking in the clinical areas, it is imperative to recognise that both components are cognitive processes necessitating a purposeful and conscientious approach. Reflective practice and critical thinking require a deliberate examination of the clinical situations and patient care with a heightened awareness of one's own sets of beliefs, values, and established practices (37). This self-awareness equips nurses with the capacity to distil valuable insights from their professional experiences and integrate these insights into enhancement of patient care outcomes. Thus, it is vital to understand that the development and adoption of both reflective practice and critical thinking are not solely dependent on the extent of nurses' working experience and areas. Nonetheless, the significance of these skills is particularly pronounced among novice nurses, as it assists in the development of their critical thinking abilities and communication skills. It serves as a valuable tool for aiding them in adapting to the complex and dynamic clinical environments in which they operate (38).

Finally, this study found a moderate positive correlation between reflective practice and critical thinking disposition. This result is consistent with previous studies, in which it is apparent that nurses who partake in reflective practice with a keen sense of insight tend to exhibit a more pronounced critical thinking disposition in comparison to their peers who do not actively engage in reflective practice (35, 39). Both reflective practice and critical thinking have profound importance within the nursing profession, as they serve as cornerstones upon which nurses build their capacity for continuous learning and self-improvement. They play a vital role in elevating the patient quality of care and enhancing the decision-making processes involved in healthcare delivery (2, 35). The integration of reflective practice as a means to develop critical thinking skills in Malaysian nursing education could be expanded throughout the curriculum, based on appropriate and evidence-based reflective practice frameworks or models with the utilisation of structured guidelines and modules to enhance the quality of the reflective practice among nurses (40). Similarly, adopting suitable and structured frameworks or models of reflective practice or reflection for continuous professional development programme among nurses also should be carried out to further support the progression of their critical thinking skills and self-directed life-long learning (41). This is to transform clinical practice among nurses in the dynamic healthcare setting for better patient care.

CONCLUSION

To conclude, this study revealed a moderate correlation between reflective practice and critical thinking disposition among nurses. This finding suggests that fostering reflective habits among nurses could significantly enhance their critical thinking abilities, ultimately improve patient safety, decision making and overall healthcare outcomes. Thus, encouraging reflective practice should be prioritised in the Malaysia nursing curriculum and professional development programmes by adopting an appropriate and structured reflective practice framework to further cultivate critical thinking among nurses. However, this study exhibits that there was no statistically significant association between sociodemographic characteristics, including gender, education level, working experience, and working area with reflective practice and critical thinking disposition. Nevertheless, it is important to note that there were subtle trends, such as slightly higher critical thinking disposition among male participants, those with higher education levels and shorter working experience, and working in specialised areas. These trends may be influenced by societal and cultural factors, comprehensive exposure to critical thinking during formal education, and exposure to various and specialised real clinical experiences. The lack of sociodemographic associations suggests that these benefits are accessible to diverse nursing populations.

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