




## RESEARCH ARTICLE

# Perception of nursing students from the Middle East about caring: A descriptive, comparative, cross-sectional study

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## Abstract

**Aim:** To investigate the perception of undergraduate nursing students in different countries in the Middle East about caring.

**Design:** A cross-sectional, descriptive, comparative design.

**Methods:** A total of 1,582 nursing students from six different countries in the Middle East completed the Caring Dimensions Inventory.

**Results:** The total mean score of caring was 138.8 ( $\pm 15.8$ ), indicating a high level of caring. The highest mean score was for nursing students from Egypt ( $M = 145.37 \pm 15.97$ ), whereas the lowest was for nursing students from Palestine ( $M = 135.36 \pm 13.48$ ). The caring perception was more significant for female students than male students, and no significant correlation was found between students' ages and caring scores.

**Conclusions:** The high level of caring among nursing students reflects the involvement of caring behaviour in the nursing curricula, which motivates nursing schools to continue stressing the importance of caring and to enhance this behaviour among their graduates.

**Patient or Public Contribution:** Improving the students' caring competencies as recommended by the study will influence the caregiving quality in the future that will be reflected in nurse-patient caring relationships and raise the patients' and public satisfaction with nursing care.

## KEYWORDS

caring, Caring Dimensions Inventory, Middle East, nursing, perception, students

## 1 | INTRODUCTION

Nursing is a profession that requires a unique body of knowledge, as well as a great deal of concern and attentiveness. Nursing entails performing specific tasks and duties, combined with skills in caring for patients (Adams, 2016; Thomas & Newcomb, 2018). Since caring is the core of the nursing profession, nurses often display

higher levels of care than their peers in other professions (Godsey et al., 2020; Sim et al., 2019).

Caring for patients can be defined as 'nursing activities that create a compassionate, supportive and therapeutic environment for patients and staff, to promote comfort and healing and prevent unnecessary suffering' (The American Association of Critical-Care Nurses' synergy model, 2013). That is, caring is a combination of

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nurses' attitudes and the tasks they perform. It has a favourable impact on the quality of care provided by nurses; which is positively inflected on patients' satisfaction (Labrague et al., 2017; Pajnkihar et al., 2017), and it is considered a significant indicator of quality in healthcare organizations (Boykin et al., 2014; Bruce, 2018).

## 2 | BACKGROUND

According to Watson's caring theory, caring occurs whenever an interpersonal correlation develops between the nurse and the clients, and holistic nursing care focuses on caring for and healing patients physically and emotionally (Watson, 1979). Nurses must integrate actions related to delivering care and displaying knowledge (Maniago, 2017). Holistic nursing and nursing care are fundamental concepts of Leininger's theory of transcultural nursing (Atkinson, 2015; Konuk & Tanyer, 2019; Leininger, 2002). Leininger's theory highlighted the combination of a patient's cultural values, beliefs, attitudes and practices as critical elements in the delivery of nursing care (Atkinson, 2015). Furthermore, Swanson (1999) stressed that caring is heavily influenced by nurses' attitudes, their comprehension of patient experiences and their communication and interaction with patients. Individuals in the nursing field should possess the vital elements of caring, including strong interpersonal and communication skills (Fukada, 2018).

Effective communication between the nurse, patient and other related actions, such as supporting patients, listening to them and allowing them to express themselves, are essential elements in caring for and increasing the quality of nursing care and patients' satisfaction, as well as reducing patients' anxiety (Calong & Soriano, 2018; Drahošová & Jarošová, 2016; Evans, 2016; Fortuno et al., 2017). Lotfi et al. (2019) found that patient dissatisfaction is primarily due to poor nurse-patient communication. As such, it is crucial to develop caring during nursing education (Labrague et al., 2016; Warshawski et al., 2018).

Nursing students develop caring behaviours, such as intimacy and support, during their studies (Kavradim et al., 2019). According to our review of several curricula in different Middle Eastern nursing programmes at universities under study, it was clear that the caring concept is the essence of nursing education in these programmes. All curricula included courses in the first semester that introduce the students to caring concepts; then, in the following years, this concept will be practiced in every clinical course to cultivate students' caring competencies. Patients who interacted with nursing students reported moderate levels of caring (Labrague et al., 2017). In fact, nursing students' levels of care are improving during their study (Aupia et al., 2018), while other studies observed no variations in the perception of caring among nursing students in the different years of study (Ambrosi et al., 2021; Labrague et al., 2017). One of the reasons for this discrepancy in these results as mentioned in one study that the students started their nursing programme with excitement and ideal thoughts about caring for patients and the role of nurses, but during their

education and experience in clinical training, this excitement will fade regarding the profession gradually and decrease the caring level (Konuk & Tanyer, 2019).

Nursing students' perceptions of caring are influenced by their attitudes and experiences (Konuk & Tanyer, 2019). For example, compared with other nursing students, students who had viewed nursing as a future career and those with previous experience in caring were more sensitive to the patient's needs (Birmoğlu & Ayaz, 2015).

Pajnkihar et al. (2020) conducted a cross-cultural study to explore student nurses' perceptions of caring in Slovenia, China, Croatia and the Russian Federation and found notable differences in the definition of caring among students from different countries. The participants emphasized the technical and physical aspects of caring rather than the expressive aspects.

Several instruments were developed to assess caring behaviours among nurses and nursing students, such as Caring Behaviours Inventory (CBI) (Wolf et al., 1994), Caring Assessment Tool (CAT) (Duffy, 1990) and Caring Dimensions Inventory (CDI-35 or 25) (Watson et al., 2001). CDI-35 was adopted in this study because it acknowledges the caring concept in a clear way, and caring behaviours are strongly defined (Watson & Lea, 1997).

There is a dearth of research regarding the caring perspective among nurses in Middle Eastern countries. One study found and compared perceptions of caring behaviours among patients and nurses in Egypt and Jordan and identified significant differences. The Egyptian patients and nurses had markedly different perceptions of the caring characteristics that nurses should possess (i.e. being accessible, explaining what is happening and what will happen to patients, comforting patients, anticipating patients' needs and concerns and monitoring and following through on assurances) (El-Gamil et al., 2008). Conversely, a study was conducted in Turkey to determine the nurses' perceptions of caring behaviour among 260 nurses in a university hospital; results revealed that involving the patient in the process of care and listening to them were not considered caring activities (Akansel et al., 2021).

Caring is a vital competency and an essential part of nursing education. Given the importance of nurses' perceptions of caring and its impact on the quality of care, as well as the importance of caring among nursing students during their studies and identifying nursing students' perceptions of caring in the Middle East is critical. Up to the researchers' knowledge, no studies were conducted to investigate caring perceptions among undergraduate student nurses in the Middle East. Therefore, this study aimed to investigate undergraduate nursing students' perceptions of caring in different Middle Eastern countries. As such, we anticipate that it will expand to the regional and international body of knowledge.

### Study Question

1. What are the perceptions of undergraduate nursing students in different Middle Eastern countries about caring?
2. What are the differences in students' perceptions of caring according to demographics?

## 3 | METHODS

### 3.1 | Design

This study used a cross-sectional, descriptive, comparative design. An online questionnaire survey was used to collect data from nursing students in Jordan, Palestine, Saudi Arabia, the United Arab Emirates, Oman and Egypt.

### 3.2 | Settings and target population

The study was conducted in different nursing faculties in Jordan, Palestine, Saudi Arabia, the United Arab Emirates, Oman and Egypt. The study targeted second-, third- and fourth-year nursing students. First-year students were excluded because they usually do not start their clinical practice until they reach the second year; therefore, they do not come in contact with patients and lack experience in providing patient care.

### 3.3 | Sample

A convenience sampling technique was used to invite the bachelor's nursing degree students to participate in the current study. The nursing students included in the study were full-time, males and females, Arabic speakers, who were thoroughly informed about the study and gave their written consent. The sample included nursing students enrolled in six different countries in the second, third and fourth years. The curricula in these countries consisted of both theoretical and clinical training components. The required sample size was calculated using the G power program. With a medium effect size = 0.25, alpha = 0.05 and a power of 0.9, using the *F* test, the estimated sample size was at least 270 students (Faul et al., 2009).

### 3.4 | Instrument

The Caring Dimension Inventory-35 (CDI-35) is a valid and reliable instrument for self-assessment of perceptions of caring (Watson et al., 2001). The questionnaire consists of a stem question ('Do you consider the following aspects of your nursing practice to be caring?') and 35 items (e.g. 'listening to a patient', 'measuring the vital signs of a patient' and 'making a nursing record about a patient'), to each of which respondents are required to indicate, on a 5-point Likert scale ranging from 'strongly agree' to 'strongly disagree', how they perceive caring (Watson et al., 2001). Demographic data were also collected from participants regarding their age, sex and year of study. The 35 items are classified into 5 domains. These domains include the technical /Professional domain (14 items), intimacy domain (10 items), support, domain (2 items), inappropriate nursing domain (5 items) and nonessential nursing domain (4 items). The negative items

(inappropriate items included 16, 22, 24, 25 and 27) were reverse coded in statistical analysis. The tools scoring range was from 35 to 165. The instrument's content validity has been validated previously by Watson and Lea (1997). The reliability of tools was 0.67, and the internal correlation of tools was 0.91. Another study also calculated a reliability of 0.86 (Salimi et al., 2014), which is considered acceptable (The Permission to use and translate the CDI-35 was obtained from the developer before the data collection). The decision was made to measure the results using the Caring Dimensions Inventory (CDI) created by Watson and Lea (1997), which is 25 items operationalized account of nursing actions. The CDI-25 consists of 25 core questions that are also included in CDI-35 designed to gather perceptions of caring by asking subjects to indicate their agreement to statements about their nursing practice as constituting caring; the added 10 questions in CDI- 35 were categorized as inappropriate and unnecessary activities, and those items may affect the results in the way that may do confusion since they are reversed in the meaning.

### 3.5 | Translation procedure

We followed a forward-backward translation process based on Brislin's (1986) model of translation. The first step of this procedure involved forward translation from the original language (English) into Arabic. The second step included back translation from Arabic into the original language (English) and consequently compared it to the original version. Inaccuracies in the Arabic version were identified through differences in meaning in the backward translation. The final version of the questionnaire was presented to a small group of nurses and nursing students who confirmed that the Arabic version was coherent and easy to complete. Then, some experts in health research assessed face validity. Minimal linguistic modifications were made to improve the quality and readability of the instrument so it will be more understandable to the participants. The final version of the instrument was modified accordingly and then pretested to 40 nursing students for pilot testing. Scale reliability of the translated instrument was assessed using Cronbach  $\alpha$ , which revealed an acceptable value of 0.869.

### 3.6 | Data collection

The Caring Dimension Inventory (CDI-35) was used to collect data from participants in the period between May/ 2021 to July/2021. Due to the COVID-19 pandemic, data were collected using Google Forms (<https://drive.google.com>), and students were invited to participate in the study via social media platforms such as Facebook and WhatsApp groups. A web-based version of the CDI was then sent to those nursing students who expressed an interest in participation in the study.

A cover letter, participant information sheet and a consent form were included on the first page of the online survey, which explained the study's purpose and participation.

### 3.7 | Data analysis

Data were analysed using the Statistical Package for Social Science (SPSS) version 21 (IBM Corporation, 2012). A descriptive analysis of data was performed, including frequencies and percentages for categorical variables. While means and standard deviations were calculated for continuous variables. Total scores for CDI-35 were calculated for each country and described in terms of range, mean and standard deviation. Also, mean scores were calculated for individual items. Data were checked for normality, and nonparametric tests, including Kruskal–Wallis H and Mann–Whitney test, were used to find differences between the study variables and participants' demographic characteristics and to assess the differences between countries. T-tests were used to assess differences in students' responses according to gender. Alpha set at 0.05, and data were considered statistically significant in the analyses if  $P < .5$ .

## 4 | ETHICS

Ethical approvals were obtained from all the research partner universities' Institutional Review Boards (IRBs). Nursing students were informed about the study's purpose and that completing the questionnaire would be deemed consent to participate in the research. Participants were provided with a cover letter to clarify the purpose of the study, to assure anonymity of participants and their right to withdraw at any time. The confidentiality of the data, to which no one, except the primary researcher, would have access. Permission was obtained from the developers of the CDI questionnaire to adapt and use it in the study. The confidentiality and anonymity of the data were ensured throughout the study. Participants were not required to give their names, and data were secured correctly and saved on the researcher's password-protected computer. Also, the software containing the data was further secured using different passwords.

## 5 | RESULTS

### 5.1 | Demographic characteristics

Table 1 depicts the demographic characteristics of the participants. The study included 1,582 participants from six different countries. Students' ages ranged between 17 and 38 years, and the average age was 21 ( $SD = 2.6$ ). The majority of students were females ( $n = 1,158$ , 73.2%).

### 5.2 | Students' perceptions of caring

The mean total caring score was 107.27 ( $SD = 10.87$ ), indicating a high level of caring, and scores ranged from 25 to 125. The highest

TABLE 1 Demographic characteristics of the participants ( $n = 1,582$ )

Variable	n (%)
Gender	
Male	424 (26.8)
Female	1,158 (73.2)
Country	
Jordan	281 (17.7)
Palestine	433 (27.4)
KSA	204 (12.9)
Egypt	319 (20.2)
UAE	201 (12.7)
Oman	144 (9.1)
Academic year	
First year	171 (10.8)
Second year	350 (22.1)
Third year	664 (42)
Fourth year	397 (25.1)

total mean score was for nursing students from Egypt ( $m = 110.89$ ,  $SD = 10.33$ ), whereas the lowest was for nursing students from Palestine ( $m = 104.91$ ,  $SD = 9.86$ ). See Table 2.

For individual items, the highest mean score was for the item 'providing privacy for a patient' ( $M = 4.86$ ,  $SD = 0.52$ ) followed by the items 'measuring the vital signs of a patient (e.g. pulse and blood pressure)' ( $M = 4.79$ ,  $SD = 0.61$ ) and 'listening to a patient' ( $M = 4.76$ ,  $SD = 0.6$ ). Items with the lowest mean scores were 'sharing your personal problems with a patient' ( $M = 1.54$ ,  $SD = 1.23$ ), 'appearing to be busy at all times' ( $M = 1.91$ ,  $SD = 1.23$ ) and 'keeping in contact with a patient after discharge' ( $M = 2.66$ ,  $SD = 1.38$ ; see Table 3).

### 5.3 | Associations and differences in students' perceptions of caring according to demographics

The results of the Kruskal–Wallis test revealed statistically significant differences in students' perceptions of caring according to their countries ( $\chi^2[5] = 101.809$ ,  $p \leq .001$ ), with the highest mean score achieved by Egyptian students ( $MR = 974.11$ ). Moreover, the test showed statistically significant differences in students' perceptions of caring according to the academic year ( $\chi^2[3] = 36.78$ ,  $p \leq .001$ ), with the highest mean score for students in their third years of study ( $MR = 868.34$ ).

A t-test revealed statistically significant differences in students' responses according to their gender  $t(594) = -4.18$ ,  $p \leq .001$ . Female students have higher mean scores ( $M = 108.07$ ,  $SD = 9.69$ ) compared with male students ( $M = 105.11$ ,  $SD = 13.35$ ). In addition, no significant correlation was found between students' ages and caring scores.

**TABLE 2** Students' total scores based on country ( $n = 1,582$ )

Country	N	Minimum	Maximum	Mean	SD
Egypt	319	70	125	110.89	10.33
UAE	201	81	125	108.87	9
Oman	144	67	124	108.55	10
KSA	204	69	125	106.18	9.18
Jordan	281	40	125	105.8	14.03
Palestine	433	25	125	104.91	9.86
All	1,582	25	125	107.27	10.87

## 6 | DISCUSSION

This study investigated the perceptions of nursing students about caring. The results revealed relatively high scores among nursing students; students from Egypt had the highest and Palestinian students had the lowest scores. The importance of this study relies on the fact that it is the first study (up to the authors' knowledge) conducted to investigate this topic in the Middle East countries, more superficially among nursing students from six different countries. Hence, the findings might be unique and transferrable to other countries with similar cultural and moral characteristics; especially since the literature review revealed that most of the studies in this field were conducted in Western countries, such as the USA, the Netherlands and Cyprus (Kılıç & Ak, 2020; Nadelson et al., 2016; van Leeuwen & Jukema, 2018), and Turkey (Atar & Asti, 2020; Gunay & Ozdemir, 2020; Sümen et al., 2021).

This study focussed on nursing students' attitudes toward caring. It was based on a large sample of nursing students at different study levels from six different Arab countries. Caring is the cornerstone of the nursing profession (Gunay & Ozdemir, 2020) and the only part of nursing that never changes (Oztunc, 2017). Nursing students understand the importance of care as an essential and pivotal element of the nursing profession during their nursing education (Nursalam et al., 2015). This is achieved by including the concept and importance of nursing care in nursing education curricula and encouraging proper patient care in clinical practice (Salehian et al., 2017). The current study provided a good opportunity to assess nursing students' perception of care in different countries and at different study levels, to improve the quality of patient care in the future. Alshehri et al. (2017) explained that knowledge and evidence-based practices supported by research help to improve the quality of care provided to patients.

The students in the current study reported high levels of caring, a finding that agreed with previous studies (Aupia et al., 2018; Erzincanlı & Yüksel, 2018; Kılıç & Ak, 2020; Nadelson et al., 2016; Yilmaz & Çınar, 2017). However, several studies reported only moderate levels, which were lower than the current study's (Gunay & Ozdemir, 2020; Labrague et al., 2016).

According to Leininger's transcultural nursing theory, all cultures have similarities and differences regarding ethical and moral values (Akansel et al., 2021). Even though this study was conducted in six different countries, these countries shared similar cultural and moral

characteristics. Most of the study participants were from countries where most of the inhabitants are Muslims, and they all shared the Arab culture. Religion is an essential factor in shaping the lives of Arabs (Al-Hassan & Hweidi, 2004). Most of the cultural values in Arab countries are derived from the Holy Qur'an, which states that 'whoever kills a person will be like the one who kills all people and whoever saves a person will be like the one who saves all people' (Al-Jaza'iry, 2001). Interestingly, most of the studies that were conducted in Turkey revealed that nursing students' reported high levels of caring (Erzincanlı & Yüksel, 2018; Nadelson et al., 2016; Yilmaz & Çınar, 2017). Turkey is geographically close to the countries in the current study; likewise, its population is primarily Muslim. This may explain the similarities between the current study's findings and those of the Turkish studies.

Nursing education now focuses on a holistic approach that draws attention to patients' subjectivity (Atar & Asti, 2020). This approach encourages respectful relationships between nurses and patients, reflected in nursing students' increased acceptance of patients' right to receive the highest level of care (Atar & Asti, 2020; Calong & Soriano, 2018). Nursing education is now shaped to meet professional standards, including planning, implementing and evaluating person-centred nursing care (van Leeuwen & Jukema, 2018). Nursing programmes and curricula are expected to enhance the relationship between nurses and patients and to involve a longitudinal learning process (Cook et al., 2018). The nursing programmes in all the selected nursing schools in this study were either locally or internationally accredited, and all their programmes adopt holistic approaches and used longitudinal learning processes that strongly emphasize the concept of caring theoretically and in practice. In other words, the students started their education in classrooms by discussing the caring concept and models and then spent time in laboratories and clinical areas experiencing caring behaviours. These conditions may explain nursing students' positive attitudes toward caring, as exhibited in the current study and other previous studies (Aupia et al., 2018; Erzincanlı & Yüksel, 2018; Kılıç & Ak, 2020; Nadelson et al., 2016; Yilmaz & Çınar, 2017).

Although the current study reported participants' high levels of care, the levels differed between the countries under investigation. The Egyptian students expressed the highest level of care, whereas Palestinian students expressed the lowest, although, interestingly, most of the students were recruited from these two countries. Despite the differences in caring scores between the six

TABLE 3 Students' responses to the CDI-35 items ( $n = 1,582$ )

CDI #	Item	Mean	SD
The 25 CDI items that constitute the caring practice			
32	Providing privacy for a patient	4.86	0.519
18	Measuring the vital signs of a patient (e.g. pulse and blood pressure)	4.79	0.613
13	Listening to a patient	4.76	0.595
14	Consulting with a doctor about a patient	4.71	0.644
25	Observing the effects of a medication on a patient	4.70	0.648
22	Giving reassurance about a clinical procedure	4.68	0.662
20	Being technically competent with a clinical procedure	4.65	0.749
9	Reporting a patient's condition to a senior nurse	4.65	0.705
6	Being neatly dressed when working with a patient	4.63	0.858
5	Explaining a clinical procedure to a patient	4.58	0.872
11	Being honest with a patient	4.57	0.831
2	Creating a nursing record about a patient	4.53	0.842
30	Being cheerful with a patient	4.48	0.996
21	Involving a patient with his or her care	4.45	0.869
10	Being with a patient during a clinical procedure	4.45	0.857
12	Organizing the work of others for a patient	4.38	0.938
17	Keeping relatives informed about a patient	4.34	0.922
15	Instructing a patient about an aspect of self-care (washing, dressing, etc.)	4.26	1.038
35	Attending to the spiritual needs of a patient	4.24	1.037
19	Putting the needs of a patient before your own	4.11	1.097
7	Sitting with a patient	4.02	1.031
8	Exploring a patient's lifestyle	4.02	1.063
23	Praying for a patient	3.85	1.154
1	Assisting a patient with an activity of daily living (washing, dressing, etc.)	3.82	1.233
4	Getting to know the patient as a person	3.77	1.359
The 10 CDI items reflect inappropriate caring practices			
24	Dealing with everyone's problems at once	3.75	1.290
3	Feeling sorry for a patient	3.49	1.264
27	Assuring a terminally ill patient that he or she is not going to die	3.31	1.497
28	Staying at work after your shift has finished to complete a job	3.28	1.434
31	Arranging for a patient to see his or her chaplain	3.08	1.361
29	Coming to work if you are not feeling well	2.78	1.428
26	Making a patient do something, even if he or she does not want to	2.67	1.358
33	Keeping in contact with a patient after discharge	2.66	1.380
34	Appearing to be busy at all times	1.91	1.229
16	Sharing your personal problems with a patient	1.54	1.225

countries, these differences were not significant, which may be explained by several factors. Using simulation laboratories and case studies to teach caring was a positive factor in improving students' attitudes toward caring (Nadelson et al., 2016). On the other hand, some personal factors may also influence students' attitudes toward caring, including a strong desire to become a nurse that accordingly increase the students' willingness to care (Birmoğlu & Ayaz, 2015), the presence of good role models during training in the clinical placements (Culha & Acaroglu, 2019) and previous experience of caring

for others or being cared for by others (Erzincanlı & Yüksel, 2018; Konuk & Tanyer, 2019; Loke et al., 2015). Moreover, nursing students regionally and globally were facing psychological distress during pandemic COVID-19 (Li & Hasson, 2020), because it affected their face-to-face studying and clinical practicing that mainly was in faculty labs. This may accordingly influence the caring behaviour competencies and their perception as well. All these factors may have influenced the participants' attitudes toward caring and may explain the differences between the levels of caring in the six countries.



This study showed statistically significant differences in students' perceptions of caring according to the academic year, with the highest mean score for students in the third year. These findings are congruent with the existing literature in this field (Akansel et al., 2021; Gunay & Ozdemir, 2020; Kandula, 2019). Nadelson et al. (2016) explained that most of the existing literature has indicated that caring can effectively be taught to students; the longer students are engaged in caring activities, the higher their levels of caring are likely to be (Letcher & Nelson, 2014; Nadelson et al., 2016). Interestingly, the participants in the current study were all second-, third- or fourth-year students, with the majority in the third and fourth years. This meant they had all been exposed to clinical practice and involved in caring activities. Gunay and Ozdemir (2020) explained that nursing students develop caring behaviours in clinical practice. Similarly, Ten Hoeve et al. (2017) showed that the caring behaviours of nursing students increased with increasing exposure to clinical environments. All these factors may explain why the senior students in the current study reported more positive caring behaviours than other students. The third-year students studied medical, surgical, maternity, paediatric and mental health care subjects. The third year includes more engagement in caring activities than in other years, which may explain why third-year students had higher caring levels than their peers at other levels.

Another interesting finding was that the nursing students had high scores for specific caring activities, such as 'providing privacy for a patient', 'measuring the vital signs of a patient' and 'listening to a patient'. By contrast, they had low scores for caring activities such as 'sharing your personal problems with a patient' and 'keeping in contact with a patient after discharge'. Kılıç and Ak (2020) surveyed 177 nursing students who were enrolled in the undergraduate nursing programme at the Eastern Mediterranean University in Northern Cyprus. The authors aimed to assess the attitudes of nursing students toward caring nurse-patient interactions and found that participants paid more attention to the 'needs' subscale. These findings concurred with those of two other studies (Erzincanlı & Yüksel, 2018; Yılmaz & Çınar, 2017). All these studies concluded that nursing students are more sensitive to physical and emotional, more than spiritual needs. The current study's findings agreed with Maslow's hierarchy of needs, in which the physical needs come first and form the base of the hierarchy.

The current study also showed statistically significant differences in students' responses according to gender maybe this is related to sociocultural aspects and femininity because caring is typically seen as a feminine trait and values related to connection, openness, empathy and responsiveness (Benner, 1990). Moreover, this is similar to other studies that reported slight differences in attitudes according to gender (Aupia et al., 2018; Erzincanlı & Yüksel, 2018). Erzincanlı and Yüksel (2018) found that female students scored higher levels than male students on the importance of caring. However, Aupia et al. (2018) found that male students scored higher than female students on several aspects of caring. No statistical differences were reported in this study concerning age, which goes online with the literature (Gunay & Ozdemir, 2020; Kılıç & Ak, 2020; Liu et al., 2019;

Yılmaz & Çınar, 2017). All these studies found that age did not impact students' attitudes toward caring. While there was one study done by Watson et al. (2001) that showed positive changes between senior and junior nursing students and rationalized this result due to 2 years of clinical training, students were influenced by practice and professional skills, as well as their perceptions of caring. One limitation of this study was the use of a cross-sectional design, where a longitudinal approach might elaborate more on the influence of clinical training across the different levels of nursing courses and types of training on students' perception of caring. Another limitation is the use of self-report questionnaires, which may have led to providing socially desirable responses. The use of networking and snowballing sampling further limits the generalizability of the study findings.

## 7 | CONCLUSION AND IMPLICATION TO PRACTICE

A large sample of nursing students from six different countries in the Middle East participated in this study. The results revealed that nursing students have a positive and high level of caring. Egyptian students had the highest scores, while Palestinian students had the lowest scores. The age of participants had no impact on participants' level of caring. The item 'Providing privacy for a patient' received the highest score (mean  $4.86 \pm 0.519$ ), while 'Sharing your personal problems with a patient' received the lowest score (mean  $1.54 \pm 1.225$ ). These results reflect the involvement of caring behaviour in the nursing education curricula in these countries, which should be a motive for nursing schools in these countries to continue on stressing building a programme on a solid philosophical base with faculty committed to the implementation of the programme philosophy is critical for the success of the programme. Using caring as a model for teaching nursing students and engaging students' practice. Also, faculty should effectively teach caring and be role models in applying caring in theory and practice courses.

### AUTHOR CONTRIBUTIONS

RA, ZZ and KH confirm contribution to the study conception and design, data collection, interpretation of results and draft manuscript preparation. AA, SS and AS confirm contribution to the paper data collection, interpretation of results and draft manuscript. And NA, MA and OA confirm contribution to the paper data collection, interpretation of results and review of the manuscript. All authors have critically reviewed and approved the final draft, and are responsible for the content and similarity index of the manuscript.

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## CONFLICT OF INTEREST

All authors declare that this study is not previously published or presented elsewhere in any language and is also not in consideration in any other journal simultaneously. All authors of the above manuscript agree that the content of this manuscript will not be copyrighted, submitted or published elsewhere (including the internet) and is also not plagiarized from any language. All authors agree to transfer all copyrights if accepted into the journal. The authors have declared that no competing interests exist. All authors have read and approved the manuscript and this submission. Informed consent was obtained from all individuals included in this study. The local Institutional Review Board deemed the study exempt from review.

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