

# Attitudes of intensive care unit and cardiac care unit nurses on pressure ulcer prevention

**Aims:** Pressure ulcer prevention is one of the main duties of nurses who are taking care of hospitalised patients in intensive care units (ICUs). The aim of this study was to examine the attitude of ICU and cardiac care unit (CCU) nurses on pressure ulcer prevention. **Methods:** This descriptive-analytic study was carried out in three teaching hospitals of Qazvin University of Medical Sciences in Iran. The study population consisted of all the ICU and CCU nurses at these hospitals. A convenient sampling method was used to select the participants. The Attitude Towards Pressure Ulcer Questionnaire, which was designed by Zena Moore and Patricia Price, was used in order to examine the nurses' attitudes. **Results:** A total of 116 participants were selected for the study, of which 95 were working in the ICU and 21 in the CCU. Of all the nurses, 106 (91.4%) explained they had received the necessary training relating to possible risk factors and effective prevention strategies during their education. However, 98 (84.5%) participants stated that more training relating to controlling and preventing the occurrence of pressure ulcers is needed. In response to questions about attitudes, nurses reported a positive attitude to most of the questions they were asked. **Conclusion:** ICU and CCU nurses working in Iran have a positive attitude towards pressure ulcer prevention. Further studies are recommended in this regard.

## Authors:

Mojtaba Senmar, Parisa Abdollahi, Fatemeh Yousefi, Ashraf sadat Moosavi, Ali Razaghpoor, Hossein Rafiei and Masoud Amiri

Mojtaba Senmar is Critical Care Nurse; Parisa Abdollahi is a Nurse; Fatemeh Yousefi is a Nurse; Ashraf sadat Moosavi is a Nurse; Ali Razaghpoor is a Nursing Student; Hossein Rafiei is Nurse Educator; all at Student Research Committee, Qazvin University of Medical Sciences, Qazvin, Iran; Masoud Amiri is Epidemiologist, Department of Epidemiology and Biostatistics, School of health, Shahrekord University of Medical Sciences, Shahrekord, Iran

Although there have been numerous attempts to prevent the occurrence of pressure ulcers, this type of wound still exists in most sections of a hospital (Shokati Ahmadabad et al, 2016). The incidence of pressure ulcers can be associated with pain (Gunes, 2008), decreased quality of life for patients (Gorecki et al, 2009), and increased costs incurred by healthcare systems (Dealey et al, 2012). One group of patients at a high risk of experiencing pressure ulcers is those hospitalised in critical care units (Alberden et al, 2017). In most studies conducted in the critical care unit, a relatively high prevalence and incidence of pressure ulcer has been reported. For instance, the incidence of pressure ulcers in the He et al (2016) study, which was conducted in 2016 in China, has been estimated at 31.4% in intensive care units (ICUs). Similar Iranian studies in this regard indicate a high prevalence of this

injury in critical care units, as well (Senmar et al, 2017), ranging from 25% to 45% (Akbari Sari et al, 2014; Shokati Ahmadabad et al, 2016).

Nurses play a significant role in pressure ulcer prevention (Usher et al, 2018). In Iran, like other countries, significant attention has been given to pressure ulcer prevention in recent years. The healthcare system has paid particular attention to pressure ulcers in its evaluations and considers the high incidence and prevalence of pressure ulcers as an issue that needs addressing (Iranmanesh et al, 2013).

Iranian nursing researchers have also paid particular attention to this problem in recent years and have conducted numerous studies in this area. The target audience in most Iranian studies is nurses due to their important role in pressure ulcer prevention. However, there are very few studies available regarding the attitude of nurses towards pressure ulcer prevention.

Based on how nurses' attitudes can affect the way they deliver care to patients with pressure ulcers, and the few studies in this area as well, the present study was designed and conducted to examine the attitudes of ICU and cardiac care unit (CCU) nurses on pressure ulcer prevention.

### Method

This descriptive-analytic study was carried out in three teaching hospitals of Qazvin University of Medical Sciences (Bu Ali Sina, Shahid Rajaie and Velayat Hospitals) in Iran. The study population consisted of all ICU (Bu Ali Sina, Shahid Rajaie and Velayat Hospitals) and CCU (Bu Ali Sina and Velayat Hospitals) nurses at these hospitals. A convenience sampling method was used to select the participants. To be eligible for inclusion, participants had to have at least a bachelor's degree in nursing and/or work in an ICU or CCU. Nurses who were not willing to participate in the study or were absent during the study were excluded. Nurses in Iran usually receive similar levels of education about pressure ulcers. All three hospitals share the same pressure ulcer prevention guidelines.

### Ethical considerations

The present study was approved by the Research and Technology Department of Qazvin University of Medical Sciences. All the approved proposals receive a code from the ethics committee of the university (ethics code: IR.QUMS.REC.1395.202). The privacy of the participants was considered throughout the study. The aims and methods of the study were explained to the nurses before participating in the study and they were assured that the findings of the study would be used only for the intended purposes. They were also told that it is not necessary to insert their names in the questionnaires to retain the anonymity of participants. The questionnaires were distributed by the researchers in a way that did not interfere with nursing care work.

### Data collection

The data collection period lasted nearly 4 months. The researchers visited the study environment and informed the head nurses about the aims of the study. During the morning shift, the researchers distributed the questionnaires among nurses who were asked to complete and return them to the researcher. The first page of the questionnaire provided a simple explanation of the study's

aims. During this time, the researchers were present in the waiting room to answer any questions the participants may have relating to the questionnaire. The average time taken for completing the questionnaire was around 1 hour, but if the nurses needed more time, it was granted. The data were collected in closed packages and the necessary steps were taken to analyse them.

### Data collection instruments

Data collection was carried out using two instruments. The first instrument was a demographic checklist; this included questions about work section, age, gender, work experience, prior participation in workshops about pressure ulcers, familiarity with validated pressure ulcer protocols, receiving required training relating to pressure ulcers during their education and the need to learn more about pressure ulcers. The second instrument was the Attitude Towards Pressure Ulcer Questionnaire, which was designed by Zena Moore and Patricia Price (Moore and Price, 2004). The questionnaire examines attitudes toward pressure ulcers and has 11 items. Answers were based on a five-item Likert scale ranging from 'completely agree' (5 points) to 'completely disagree' (1 point). The highest possible score is 55 and the lowest is 11. The validity of the questionnaire was confirmed by Mortazavi et al (2016). Its reliability was confirmed by a Cronbach's alpha coefficient of 0.81 in 20 participants, and it was 0.75 3 weeks later in the re-test (Mortazavi et al, 2016).

### Data analysis

Data were collected using the Statistical Package for the Social Sciences 21 (SPSS-21) and analysed by descriptive-analytical statistics.

### Results

A total of 116 participants were selected for the study, of which 95 of them were working at ICU and 21 at CCU. Of all the ICU and CCU nurses, 97 (83.6%) were female and 19 (16.4%) were male. The mean age was 29.7 (SD=3.5) with a range of 22–49 years. In terms of degrees, 109 (94%) had bachelor's degree and the rest had masters of science degrees. In terms of work experience, 21 participants had less than 1 year, 66 had 1–5 years, 20 had 6–10 years and nine had more than 10 years' work experience. Of all the 116 ICU and CCU nurses participating in the study, 65 (56%) stated they had participated in a pressure ulcer workshop. A total of 113 (97.4%) participants also stated they are familiar with how a pressure ulcer develops. The authors'

**Table 1. Critical care nurse's response to attitude questionnaire items.**

Items	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1) All patients are at potential risk of developing pressure ulcers	49 (42.2%)	57 (49.1%)	1 (0.9%)	8 (6.9%)	1 (0.9%)
2) Pressure ulcer prevention is time consuming for me to carry out	8 (6.9%)	25 (21.6%)	18 (15.5%)	57 (49.1%)	8 (6.9%)
3) In my opinion, patients tend not to get as many pressure ulcers nowadays	2 (1.7%)	24 (20.7%)	15 (12.9%)	62 (53.4%)	13 (11.2%)
4) I do not need to concern myself with pressure ulcer prevention in my practice	0 (0%)	4 (3.4%)	6 (5.2%)	57 (49.1%)	49 (42.2%)
5) Pressure ulcer treatment is a greater priority than pressure ulcer prevention	4 (3.3%)	2 (1.7%)	9 (7.8%)	52 (44.8%)	49 (42.2%)
6) Continuous assessment of patients will give an accurate account of their pressure ulcer risk	47 (40.5%)	58 (50%)	9 (7.8%)	2 (1.7%)	0 (0%)
7) Most pressure ulcers can be avoided	40 (34.5%)	71 (61.2%)	5 (4.3%)	0 (0%)	0 (0%)
8) I am less interested in pressure ulcer prevention than other aspects of care	1 (0.9%)	18 (15.5%)	49 (42.2%)	43 (37.1%)	5 (4.3%)
9) My clinical judgment is better than any pressure ulcer risk assessment tool available to me	0 (0%)	22 (19%)	63 (54.3%)	28 (24.1%)	3 (2.6%)
10) In comparison with other area of care, pressure ulcer prevention is a low priority for me	0 (0%)	7 (6%)	14 (12.1%)	69 (59.5%)	26 (22.4%)
11) Pressure ulcer risk assessment should be regularly carried out on all patients during their stay in hospital	62 (53.4%)	41 (35.3%)	9 (7.8%)	3 (2.6%)	1 (0.9%)

findings showed that 108 (93.1%) had a familiarity with pressure ulcer prevention protocols and 109 (94%) nurses stated they used pressure ulcer prevention protocols in intensive care units.

Of all the nurses, 106 (91.4%) said they had received the necessary training relating to possible risk factors and effective prevention strategies during the course of their education. However, 98 (84.5%) participants stated that more training relating to controlling and preventing the occurrence of pressure ulcers is needed in the future. Nurses' responses to the questionnaire relating to pressure ulcers are presented in *Table 1*. According to the results, nurses had a positive attitude toward most of the questions they were asked. The most positive answers to questions were question 7, with 95% completely agreeing or agreeing, question 1, with 91% completely agreeing or agreeing, and question 4, with 91% completely disagreeing or disagreeing (the question was reversed). The most negative answers to questions were question 8, with 41% of participants completely disagreeing or disagreeing (the question was reversed) and question 9, with 91% of participants completely disagreeing or disagreeing (again, the question was reversed).

The mean scores of attitudes in male and female nurses were 33.4 and 33.6,

respectively. According to the independent t test, this difference was not significant ( $P=0.988$ ). According to the results of the independent t test, the mean score of nurses who have received training was similar to nurses who did not ( $P=0.817$ ).

## Discussion

As previously stated, the aim of this study was to examine the attitudes of ICU and CCU nurses toward pressure ulcers. According to the findings of the present study, the participants had a relatively positive attitude toward pressure ulcer prevention. The most positive attitude related to questions 7, 4 and 1, in which the nurses believed that all hospitalised patients are at risk of pressure ulcers, and they were worried about the development of pressure ulcers that were mostly preventable. The most negative attitude concerned questions 8 and 9, in which the nurses had less interest in preventing pressure ulcers than other nursing care staff and also believed that their clinical judgement plays a more significant role in pressure ulcer prevention than using existing tools to prevent them.

Although the present study is the first of its kind on attitudes of Iranian nurses towards pressure ulcers, similar studies have been conducted in other parts of the world. In a study

carried out in 2017, Habiballah studied ICU nurses' attitude toward pressure ulcers. The sample in the Habiballah study consists of 112 nurses who were working in three hospitals in Jordan. A similar questionnaire was used in the Habiballah study, in order to examine Jordanian nurses' attitudes towards pressure ulcers. Similar to the results of the present study, the results of the Habiballah study showed that Jordanian nurses have a positive attitude towards pressure ulcer prevention. In most items of the questionnaire, Iranian nurses in the present study obtained better scores compared to nurses in the Habiballah (2018) study.

Another similar study was conducted in Ireland (Moore and Price, 2004). In this study, 121 nurses participated. The questionnaire, which was used by Moore and Price, was the original version of the questionnaire used in the present study. Similar to the results of this present study, Moore and Price reported that nurses in Ireland have a positive attitude towards pressure ulcer prevention.

Comparison of how participants responded to individual items of the questionnaire in this study and the Moore and Price (2004) study showed that in most of the items, Iranian nurses had a more positive attitude towards pressure ulcer prevention. The more positive attitude of Iranian nurses in comparison with the Irish and Jordanian nurses can be related to the greater level of attention that is paid to pressure ulcer prevention by the Iranian healthcare system.

However, it should be pointed out that a more positive attitude towards pressure ulcer prevention among nurses does not necessarily mean that nurses are achieving better outcomes in pressure ulcer prevention in the clinical setting. In addition, a more positive attitude towards pressure ulcer prevention is not equivalent to having greater knowledge about pressure ulcer prevention as previous studies among nurses, especially Iranian ones, who were studied, have shown that Iranian nurses do not have sufficient knowledge in this regard (Iranmanesh et al, 2011; Rafiei et al, 2014).

Also, the time the Moore and Price study was conducted should be considered when comparing the results, as their study was conducted in 2004 and the current attitudes of nurses in Ireland may be different now than then. In another study in 2011, Beeckman et al studied the attitudes of nurses on pressure ulcer prevention in Belgium. In this

study, 553 nurses from different wards of the hospital participated. Unlike the results of the present study, the results of Beeckman et al study showed that nurses had a negative attitude toward pressure ulcer prevention. The differences between the findings of this study and Beeckman et al study can be attributed to two reasons; the instrument used in this study was different from the one used in Beeckman et al study; and the nurses in this present study were nurses working in ICUs, while the participants in the Beeckman et al study were nurses working in wards in addition to ICUs.

## Conclusion

Pressure ulcer prevention is one of the most important parts of nursing care in hospitalised patients in ICUs and CCUs, and a positive attitude towards it can result in an appropriate level of care being delivered. The results of the present study showed that Iranian nurses working in ICUs and CCUs have a positive attitude toward pressure ulcer prevention. The results of this study can be used by nursing managers when planning nursing care. WME

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