



Basic research

# Nurses' attitudes towards pressure ulcer prevention in Turkey



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## KEYWORDS

Attitude;  
Nursing;  
Pressure ulcer;  
Prevention

**Abstract** *Background:* Pressure ulcers remain a major problem in healthcare system. Pressure ulcer incidence is widely accepted as an indicator for the quality of care. Positive attitudes towards pressure ulcer prevention have positive impacts on preventive care.

*Aims and objectives:* The aim of this study was to identify nurses' attitude towards pressure ulcer prevention.

*Design:* The study design was descriptive.

*Setting and sample:* The study was carried out in a university hospital in Izmir, Turkey. The study population consisted of 660 nurses who work in medical and surgical clinics and intensive care units. The study sample consisted of 426 nurses who agreed to participate.

*Method:* Attitude towards Pressure Ulcer Prevention Instrument was used in order to evaluate nurses' attitudes. Written permissions for ethical considerations and Attitude towards Pressure Ulcer Prevention Instrument permission were obtained. Data were collected between June and July 2014. The statistics program SPSS 18 packaged software was used in the analyses of data.

*Results:* The average age of the nurses who took part in the study was  $31.86 \pm 7.09$  years and the average work experience was  $8.88 \pm 7.41$  years; 36.9% (n: 157) were working in intensive care units. The nurses' average score on the Attitude towards Pressure Ulcer Prevention Instrument was  $43.74 \pm 4.29$  (84.12%).

*Conclusion:* It was seen that the attitudes of the nurses towards the prevention of pressure ulcers was positive. To read guidelines and training time about pressure ulcer prevention affect positively attitudes towards the prevention of pressure ulcers.

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## What is already known about the topic:

- Pressure ulcers remain a major health problem.
- Prevention of pressure ulcers has been included as a quality indicator for nursing care.

Nurses' attitudes are important in the prevention of pressure ulcers.

- In Turkey, there is a valid and reliable scale that determines the attitude of nurses towards the prevention of pressure ulcers.
- In Turkey, there is a lack of studies to determine the attitude of nurses towards the prevention of pressure ulcers.

## What this paper adds:

- Data on nurses' attitudes towards pressure ulcer prevention in Turkey.
- It was found that nurses had a positive attitude towards the prevention of pressure ulcers.
- The fact that training on the prevention of pressure ulcers lasts for less than 2 years was observed to have a positive impact on the nurses' attitude.

## 1. Background

Pressure ulcers are a major healthcare problem worldwide. According to the National Pressure Ulcer Advisory Panel (NPUAP) [1], the prevalence of pressure ulcers in America has been reported to occur in 10–18% of patients in acute care, 2.3–28% of patients in long-term care facilities, and 0–29% of patients in home care. Incidence has been reported as 2.3–23.9% in long-term care facilities, 0.4–38% in acute care, 0–17% in home care, and 0–6% in rehabilitative care [1]. According to the data provided by studies conducted on the prevalence of pressure ulcers in Turkey, the prevalence was found to be 5.4–17.5% [2–9]. As for the incidence of pressure ulcers in Turkey, a study conducted for this purpose determined that the incidence in surgical patients was 54.8% [10].

Although a multidisciplinary team approach plays a key role in the prevention of pressure ulcers, nurses remain at the forefront of the prevention and treatment of pressure ulcers in healthcare settings [7,11]. Prevention of pressure ulcers – which cause a breakdown in skin integrity – is considered a major indicator in identifying the health condition of patients and evaluating the quality of nursing care [7,12]. Nurses' knowledge of and attitude towards the prevention and treatment of pressure ulcers play a key role in decreasing the incidence of pressure ulcers. Nurses' levels of knowledge and training

provide a basis for not only raising awareness of the problem of pressure ulcers but also for conscious decision-making and clinical practices [13–15].

Despite being a major component of the process for the prevention of pressure ulcers, education alone is not sufficient. The main steps of the process of pressure ulcer prevention are nurses' attitude towards the prevention of pressure ulcers, the will to put new knowledge into clinical practice, usability of the resources, sufficient equipment support, and multidisciplinary team work [16]. Thus, not only relevant education but also nurses' attitude are important for the prevention and treatment of pressure ulcers [14,16].

In the literature, there are studies that have been conducted to evaluate the attitudes and practices of nurses regarding the prevention of pressure ulcers [14–19]. As for the literature produced in Turkey, there are studies that have been conducted on the prevalence [2–9] and the incidence of pressure ulcers [10], as well as the practices of nurses regarding the prevention of pressure ulcers and the risk factors for pressure ulcers [20–25]. Üstün et al. [26] conducted the validity and reliability of the Turkish version of Nurses' Attitude Towards Pressure Ulcer Prevention Instrument. However, the literature lacks studies on nurses' attitudes towards prevention of pressure ulcers in Turkey.

Attitudes cannot be observed directly, yet the attitudes of individuals have a significant impact

on their feelings of love, hate and behaviors [27,28]. In this respect, the premise that attitudes are variables that shape behaviors emphasizes the importance of the measurement of attitudes [26,29].

## 2. Aims and objectives

The aim of this study was to identify nurses' attitudes towards pressure ulcer prevention.

## 3. Methods

### 3.1. Design

A cross-sectional multicenter study was performed. The study included a survey of attitudes of nurses about pressure ulcer prevention.

### 3.2. Sample/participants

The research was conducted at a university hospital in Izmir, Turkey. The population for the research consisted of nurses in medical-surgical clinics and intensive care units; eight medical, ten surgical wards and nine intensive care units were chosen in the study. In total, 660 nurses were included. These nurses were selected because pressure ulcer prevention and management should form a routine part of their daily nursing activities. Nurses were excluded from the study if they worked in any area of the hospital where direct inpatient assessment and planning and delivery of pressure ulcer prevention care are not a routine part of the nurses' daily working life.

The sample of the study consisted of 426 nurses who agreed to participate and who were not on leave or sick leave at the time of the research.

### 3.3. Ethical approval

To be able to use the Turkish version of nurses' Attitude Towards Pressure Ulcer Prevention Instrument, the validity and reliability of which has been tested, written consent was obtained. The study was approved by the Ethics Committee of Ege University Faculty of Nursing and the participating university hospital. Participation of the respondents was entirely voluntary. In the information sheet provided to respondents there was a guarantee for personal integrity and an assurance that data would be treated confidentially and that it would not be possible to identify any individual answers.

### 3.4. Data collection

Data were collected between June and July 2014. Two instruments were used to collect data: namely, Nurse Identification Form, and Attitude Towards Pressure Ulcer Prevention Instrument. All nurses and nursing assistants participating in the attitude survey were fully informed by the researcher about the aim of the study, and they were asked to complete the Attitude Towards Pressure Ulcer Prevention Instrument individually. They received written information on the aim, procedure and confidentiality of the study.

#### 3.4.1. Nurse Identification Form

The Nurse Identification Form comprised 17 questions aiming to portray the descriptive characteristics of the nurses. Of the questions, six items focus on the demographic characteristics of the nurses, while ten items were designed to influence their attitude towards pressure ulcer prevention.

#### 3.4.2. Attitude towards the pressure ulcer prevention scale

Researchers have designed scales that examine health professionals' attitudes towards pressure ulcer prevention. In 2010, Beeckman et al. from Ghent University, Belgium, developed the Attitude Towards Pressure Ulcers Prevention Instrument.

The instrument was tested with 258 nurses and 291 nursing students from Belgium and the Netherlands respectively, and its validity and reliability was found to be adequate. The Cronbach alpha value for internal consistency was found to be 0.79, while the Cronbach alpha values for factors were found to be 0.70–0.90.

The validity and reliability study of the instrument was conducted by Üstün and Yücel in 2013. The instrument with 13 items was tested with 171 nurses, which is ten times greater than the total number of the items. The Cronbach alpha for the whole scale was found to be 0.714. It was concluded that the Attitude Towards Pressure Ulcers Prevention Instrument indicated high reliability and validity for use in Turkish society.

The Attitude Towards Pressure Ulcers Prevention Instrument consists of five factors and a total of 13 items on attitude towards personal competency to prevent pressure ulcers (three items), attitude towards the priority of pressure ulcer prevention (three items), attitude towards the impact of pressure ulcers (three items), attitude towards personal responsibility in pressure ulcer prevention (two items), and attitude towards confidence in the effectiveness of prevention (two

items). Items are scored on a four-point Likert scale where 1 indicates “strongly disagree” and 4 indicates “strongly agree”. Higher scores indicated more positive attitudes [15,26].

### 3.5. Data analysis

For data analysis, SPSS (Statistical Package for Social Science) 18 was used. For the evaluation of the research findings, descriptive statistical methods (mean, standard deviation, median, frequency, ratio, minimum, maximum) were used. Furthermore, Student *t* test was applied for the quantitative comparison of two groups with regard to normally distributed variables. One-way ANOVA test was used for three or more groups with normal distribution. Pearson correlation analysis and Spearman’s correlation analysis were used for the evaluation of the correlation between parameters.

## 4. Results

### 4.1. Nurses’ characteristics

The mean age of the 426 participating nurses was  $31.86 \pm 7.09$  years and the average clinical nursing experience of the participants was  $8.8 \pm 7.41$  years. The majority of participants were female ( $n = 395$ , 92.7%). The majority had a bachelor’s degree (89.1%,  $n = 379$ ), 36.9% ( $n = 157$ ) were employed in intensive care units, 31.5% ( $n = 134$ ) in surgical clinics and 31.7% ( $n = 135$ ) in internal medicine clinics.

Regarding the frequency of encountering patients with pressure ulcers, 10.8% ( $n = 46$ ) of the nurses replied “almost never”, 44.6% ( $n = 190$ ) replied “sometimes”, 33.1% ( $n = 141$ ) replied “frequently” and 11.5% replied “almost always” (Table 1).

### 4.2. Knowledge about pressure ulcer prevention and attitudes

The length of training nurses had last received on pressure ulcer prevention varied between 1 and

156 months (13 years) with an average of  $21.25 \pm 26.05$  months. The period of time when nurses last read papers on pressure ulcer prevention varied between 1 and 156 months (13 years) with an average of  $20.49 \pm 21.37$  months.

Regarding the item on the application of the knowledge to clinical practice, 58.9% of the nurses ( $n = 251$ ) stated that they applied the information in their practice, while 37.3% ( $n = 159$ ) stated they partly did, and 3.8% ( $n = 16$ ) stated they could not adapt the knowledge in their care.

A statistically significant difference ( $p = 0.001$ ;  $p < 0.05$ ) was determined between the last time of having received training on pressure ulcer prevention and its application in clinical practice. The level of application of the training in practice was significantly higher in nurses who had last received training 0–6 months and 7–12 months previously than those who last received training 1–2 years previously, more than 2 years previously, and those who never had training before.

As for the sources of information regarding practices on pressure ulcer prevention: 85% of the nurses ( $n = 362$ ) acquired information during nursing education, 70.9% ( $n = 302$ ) received in-service training, 72.8% ( $n = 310$ ) collaborated with experienced nurses, 54.2% ( $n = 231$ ) followed the recommendations of physicians, 18.5% ( $n = 79$ ) followed journals and books on the subject, 19.7% ( $n = 84$ ) gained information from conferences and congresses, 16.3% ( $n = 69$ ) benefited from the internet, and 2.1% ( $n = 9$ ) learnt from the recommendations of nurses giving pressure ulcer treatment (Table 2).

Of the nurses, 11.7% ( $n = 50$ ) stated they had received training on pressure ulcer prevention previously, while 66.2% ( $n = 282$ ) stated that they had read papers on pressure ulcer prevention previously. Of the nurses, 31% ( $n = 132$ ) thought nursing practices were adequate. Of the nurses, 12.2% ( $n = 52$ ) were informed about the EPUAP and NPUAP Pressure Ulcer Treatment Quick Reference Guide and 8.7% ( $n = 37$ ) stated they had read the guide.

**Table 1** Distribution of the frequency of nurses’ encounters with pressure ulcers according to their department of employment.

		Almost never		Sometimes		Frequently		Always		Total	
		n	%	n	%	n	%	n	%	n	%
Clinic groups	Intensive care units	3	7	33	7.7	76	17.8	45	10.6	157	36.9
	Surgical clinics	33	7.7	57	13.4	40	9.4	4	0.9	134	31.5
	Medical clinics	10	2.3	100	23.5	25	5.9	0	0	135	31.7
<b>Total</b>		<b>46</b>	<b>10.8</b>	<b>190</b>	<b>44.6</b>	<b>141</b>	<b>33.1</b>	<b>49</b>	<b>11.5</b>	<b>426</b>	<b>100</b>

A statistically significant difference was found between the frequency of encounter with pressure ulcers and the clinics the nurses worked for ( $p = 0.0001$ ;  $p < 0.05$ ).

**Table 2** Distribution of the nurses' participation in training programs on pressure ulcer prevention and utilization of resources.

		n	%
Condition of having read papers on pressure ulcer prevention previously	Read	282	66.2
	Not read	144	33.8
Belief in the adequacy of nursing practices regarding pressure ulcer prevention/treatment	Partly adequate	278	65.3
	Adequate	132	31
	Inadequate	16	3.8
Information on EPUAP and NPUAP pressure ulcer treatment quick reference guideline	Unknown	374	87.8
	Known	52	12.2
Access to this guideline	No access	383	89.9
	Access	43	10.1
Means of access	Internet	22	51.2
	In-service training	10	23.3
	Conference/congress	7	16.3
	Undergraduate/graduate	4	9.3
Having read the guideline	Not read	389	91.3
	Read	37	8.7
	Total	426	100

A statistically significant difference was determined according to whether or not the nurses had read the EPUAP and NPUAP Pressure Ulcer Treatment Quick Reference Guide ( $p = 0.035$ ;  $p < 0.05$ ). The total attitude scores of the nurses who had read the EPUAP and NPUAP Pressure Ulcer Treatment Quick Reference Guide were significantly higher than those who had not read the EPUAP and NPUAP Pressure Ulcer Treatment Quick Reference Guide.

The total scores received from the Attitude Towards Pressure Ulcer Prevention Instrument do not demonstrate statistically significant differences in regard to age, sex, years of experience, educational level, clinic of employment, previous training on pressure ulcer prevention, and the condition of having read papers on the subject ( $p > 0.05$ ).

While a statistically significant difference was not found between nurses' belief in the adequacy of pressure ulcer prevention/treatment and application of their training in their practice, it is of significance that the rate of application of training in practice was high in nurses who stated that nursing practices regarding pressure ulcer prevention/treatment were adequate ( $p = 0.067$ ;  $p > 0.05$ ).

### 4.3. Attitudes to pressure ulcer prevention

The scores nurses received from the Attitude Towards Pressure Ulcer Prevention Instrument varied between 13 and 52 points. When the scores of

nurses received from the scale were analyzed, the minimum value was found to be 30 while the maximum was 52. The mean score of nurses was found to be  $43.74 \pm 4.29$ .

When the mean scores nurses received from the Attitude Towards Pressure Ulcer Prevention Instrument were analyzed in percentages, it was seen that the minimum score was 57.69%; the maximum 100%, and the total score was 84.12%. A mean attitude score of  $\geq 75\%$  is considered to be satisfactory. In our study, it was found that nurses had a positive attitude towards the prevention of pressure ulcers. Of the nurses, 84.5% had an attitude score  $> 75\%$  (Table 3).

When the replies of nurses to the positive items in the Attitude Towards Pressure Ulcer Prevention Instrument were analyzed, it was seen that nurses "strongly agreed" with the priority of pressure ulcer prevention at the highest rate (43.9%  $n = 187$ ).

**Table 3** Total score and mean factor score nurses received from the "Attitude Towards Pressure Ulcer Prevention Instrument" (percentage).

Attitude subscales	Mean %	SD
Meaning of knowledge	75.0	12.03
Priority in care	85.05	12.47
Impact on the patient	92.17	12.4
Responsibility	82.83	12.5
Effectiveness of prevention	85.55	12.07
Total score	84.12	8.25



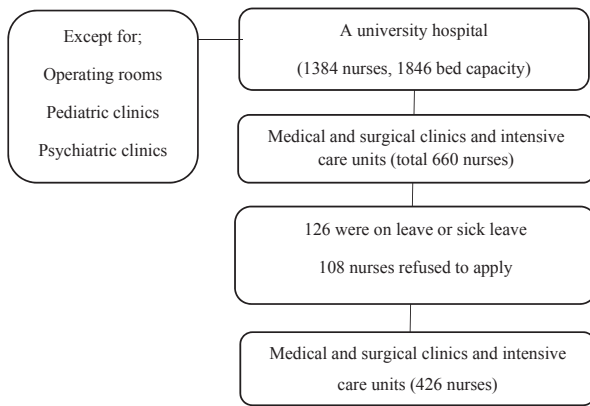


Fig. 1 Study sampling and data collection points.

When the replies of nurses to the negative items in the Attitude Towards Pressure Ulcer Prevention Instrument were analyzed, it was seen that nurses “strongly disagreed” with the statement that pressure ulcers do not have a negative impact on patients (81.2%  $n = 346$ ).

Among the total scores received from the Attitude Towards Pressure Ulcer Prevention Instrument, statistically significant differences were observed according to the last time nurses had received training ( $p = 0.001$ ;  $p < 0.01$ ). As a result of the paired comparisons conducted to determine the group causing the difference, the total attitude scores of the nurses who had last received training 0–6 months previously were significantly higher than those who had last received training more than 2 years previously ( $p = 0.001$ ;  $p < 0.01$ ). In terms of the total scores received from the

attitude towards the pressure ulcer prevention instrument, a statistically significant difference was not determined among the other groups ( $p > 0.05$ ) (See Fig. 1).

## 5. Discussion

In the literature, the studies which investigated nurses’ attitude towards pressure ulcer prevention showed that nurses demonstrated positive attitudes. This study also revealed that the nurses’ attitudes towards pressure ulcer prevention were positive.

When the factors of the Attitude Towards Pressure Ulcer Prevention Instrument were analyzed, the mean score of “attitude towards confidence in the effectiveness of prevention” was the highest (92.17%), and the mean score of “attitude towards personal competency to prevent pressure ulcers” was relatively lower than the others (75%). In the study conducted by Demarre et al. [17] the factors of the Attitude Towards Pressure Ulcer Prevention Instrument were analyzed and it was found that “attitude towards the priority of pressure ulcer prevention” had the highest score (81.7%) while “attitude towards confidence in the effectiveness of prevention” had a relatively lower mean score (68%) (Fig. 2).

The total scores received from the Attitude Towards Pressure Ulcer Prevention Instrument did not demonstrate statistically significant differences in regard to clinics ( $p = 0.115$ ;  $p > 0.05$ ). Similarly, in the studies conducted by Moore and Price and Beeckman et al. [15,16], the attitude

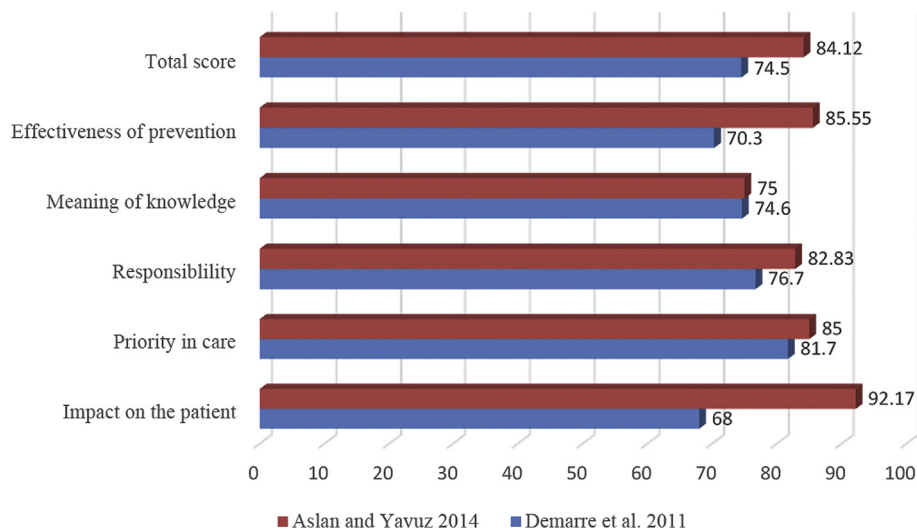


Fig. 2 Comparison of the total and factor scores received from the Attitude Towards Pressure Ulcer Prevention Instrument.

scores of nurses did not demonstrate statistically significant differences in regard to the clinics in which they worked.

A statistically significant correlation was not determined between the Attitude Towards Pressure Ulcer Prevention Instrument total scores of the nurses and their demographic data such as age, sex, years of service, educational level, clinic of employment, previous training on pressure ulcer prevention, and the condition of having read papers on the subject ( $p > 0.05$ ). Similarly, in the study conducted by Moore and Price [16] a statistically significant correlation was not found between the attitude scores of the nurses and their clinical experience, years of service, and condition of having received training on pressure ulcer prevention ( $p > 0.05$ ).

A statistically significant difference was determined between the last time of having received training and the Attitude Towards Pressure Ulcer Prevention Instrument total scores of the nurses ( $p = 0.001$ ;  $p < 0.01$ ). In the study conducted by Kallman and Suserud [14] a statistically significant difference was not found ( $p > 0.05$ ) when the attitude scores of registered nurses and nursing assistants were compared. In the study of Demarré et al. [17], nurses (78.3%) were shown to have a more positive attitude towards pressure ulcer prevention than nursing assistants (72.3%). However, the difference in the attitude score of the two groups was not found to be significant when the sample size was compared, since the number of nursing assistants ( $n = 40$ ) was relatively lower than the number of nurses ( $n = 200$ ). In the study of Beeckman et al. [15], the attitudes of staff nurses (70.4%) were found to be significantly lower than those of tissue viability nurses (76.7%). No significant difference was found between the attitudes of tissue viability nurses (76.7%) and senior nurses (77.9%).

In the literature, previous studies have shown that there were no significant differences between the attitude scores of nurses who had received training on pressure ulcer prevention and those who had not [14–16,18,30].

In the study conducted by Tubaishat et al. [18], it was found that experienced nurses had a more positive attitude towards pressure ulcer prevention than other nurses, contrary to the findings of our study.

Evaluation of knowledge, attitudes, and adequacy of prevention should be organized on a frequent basis. Implementation strategies focusing on improving the attitude of nurses could be effective in increasing the application of prevention fully compliant with the guidelines. Besides enhancing

the attitudes of nurses, improving the quality of the application of pressure ulcer prevention will also take into account other individual components such as routines and organizational, administrative and economic factors related to behavior [15,17].

## 6. Limitations

This study was conducted in a single university hospital. The study results cannot be generalized to all nurses.

## 7. Conclusion

It was seen that nurses had a positive attitude in regard to the Attitude Towards the Prevention of Pressure Ulcers Instrument and that the condition of having read guides on pressure ulcer prevention as well as the length of training on pressure ulcers had a positive impact on the attitude of nurses. Furthermore, the fact that training on the prevention of pressure ulcers lasts for less than 2 years was observed to have a positive impact on the nurses' attitude.

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