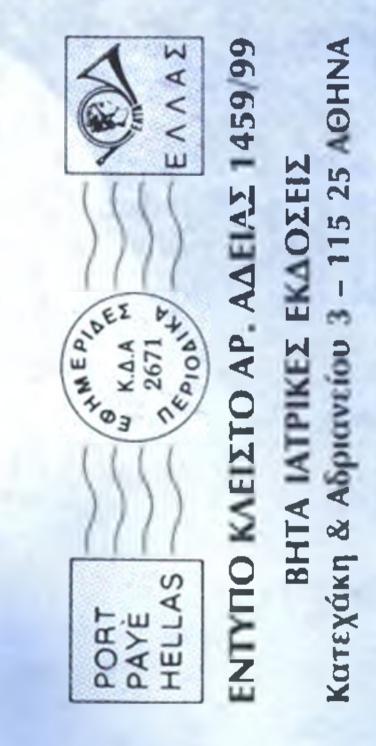
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APRIL-JUNE 2002 VOLUME 1 No 2

QUARTERLY EDITION BY THE 1st NURSING DEPARTMENT OF ATHENS TECHNOLOGICAL EDUCATIONAL INSTITUTION



Ιστορική εξέλιξη του φαρμάκου

Φροντίδα ηλικιωμένων
Υποδοχή ασθενών στο Τμήμα Επειγόντων Περιστατικών
Συχνότητα κατακλίσεων σε επαρχιακό νοσοκομείο
Β-θαλασσαιμία και φυσιολογικός καταμήνιος κύκλος
Εντερική θρέψη σε εγκαυματίες και πολυτραυματίες
Νοσηλευτική θεωρία της πολυπλοκότητας
Αξιοποίηση του χρόνου εργασίας

Historical evolution of medicines

Elderly care

Patient's reception in Emergency Department
The frequency of pressure sores in a provincial hospital
B-thalassaemia and the frequency of the menstrual cycle
Enteral nutrition in burnt and multiple trauma patients

Nursing theory of the complexity

Effective time management in the working place

## ΤΟ ΒΗΜΑ ΤΟΥ ΑΣΚΛΗΠΙΟΥ

# VEMA OF ASKLIPIOS

ΑΠΡΙΛΙΟΣ-ΙΟΥΝΙΟΣ 2002 ΤΟΜΟΣ 1 ΤΕΥΧΟΣ 2

APRIL-JUNE 2002 VOLUME 1 No 2

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# Original paper

# Measurement of the frequency of pressure sores in patients of a Greek general provincial hospital

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**Key words:** Pressure sore, prevention of pressure sores, pressure sore factors, nursing care

**Λέξεις κλειδιά:** Κατάκλιση, πρόληψη κατακλίσεων, παράγοντες πρόκλησης κατακλίσεων, νοσηλευτική φροντίδα κατακλίσεων

Aim The aim of this study is to measure the frequency of pressure sores in nursing sections and to ascertain which patients are most vulnerable to the possibility of its development. Material-Methods Information regarding the personal and clinical characteristics of the patients was submitted by the matron and the nursing staff of each ward. The evaluation of the patients' general situation as well as the pressure sores was based on personal contact. The evaluation of the pressure sores was based on the Frant grading system. Evaluation of the patients was made based on the Norton chart. Results The results of this research revealed a high percentage of pressure sores in pathology wards, with the age groups of over 70 displaying the largest frequency of pressure sores, pressure sore quotient frequency revealed a dominance of women over men, weak individuals developed pressure sores easier, immobility when combined with dampness consists a factor of high risk and to conclude the highest rate of pressure sores developed in the 2nd week of hospitalization.

Περίθηψη Μέτρηση συχνότητας και βαρύτητας κατακλίσεων σε ασθενείς ελληνικού επαρχιακού γενικού νοσοκομείου. Ι. Παπαθανασίου, Θ. Παραλίκας, Ε. Λαχανά, Γ. Τζαβέλας,<sup>4</sup> Σ. Κοτρώτσιου,<sup>5</sup> Β. Κουτσοπούλου<sup>6</sup>. ¹*Νοσ*ηλευτρια ΠΕ, Μsc, Επιστημονικός Συνεργάτης ΤΕΙ, <sup>2</sup>Νοσηλευτής ΤΕ, ΜΡΗ, Επιστημονικός Συνεργάτης ΤΕΙ Λάρισας, <sup>3</sup>Νοσηλεύτρια ΤΕ, Επιστημονικός Συνεργάτης ΤΕΙ Λάρισας, Διδάκτωρ Μαθηματικός, Επιστημονικός Συνεργάτης ΤΕΙ Πειραιά, ⁵Νοσηλεύτρια ΤΕ, Επιστημονικός Συνεργάτης ΤΕΙ Λάρισας, 'Διδάκτωρ Καθηγήτρια Εφαρμογών, Τμήματος Νοσηλευτικής, ΤΕΙ Αθηνών. Το Βήμα του Ασκληπιού 2002, 1(2):72-76. Σκοπός Σκοπός της εργασίας είναι να μετρηθεί η συχνότητα των κατακλίσεων σε νοσηθευτικά τμήματα και να διερευνηθεί ποιοι ασθενείς είναι πιο επιρρεπείς στην πιθανότητα της εμφάνισής της. Υδικό-Μέθοδος Οι πδηροφορίες που σχετίζονται με ατομικά και κλινικά χαρακτηριστικά των ασθενών δόθηκαν από τις προϊστάμενες και τους νοσηλευτές των κλινικών. Η εκτίμηση της γενικής κατάστασης των αρρώστων καθώς και των κατακλίσεων έγινε με προσωπική επικοινωνία. Η εκτίμηση των κατακλίσεων έγινε με βάση το βαθμολογικό σύστημα του Frant. Η αξιολόγηση των αρρώστων έγινε με βάση την κλίμακα Norton. Αποτελέσματα Τα αποτελέσματα της έρευνας έδειξαν υψηλά ποσοστά κατακλίσεων στις παθολογικές κλινικές, οι ομάδες ηλικίας από 70 και άνω παρουσίαζαν τη μεγαλύτερη συχνότητα κατακλίσεων, ο δείκτης συχνότητας κατακλίσεων επικράτησε στις γυναίκες έναντι των ανδρών, τα αδύνατα άτομα αναπτύσσουν πιο εύκολα κατακλίσεις, η ακινησία όταν συνδυαστεί με υγρασία αποτελεί παράγοντα υψηλού κινδύνου και τέλος το υψηλότερο ποσοστό κατακλίσεων εμφανίζεται την 2η εβδομάδα νοσηλείας.

The formation of pressure sores in patients is mainly a nursing responsibility and is a criteria assessment of the provided nursing care. Therefore, prevention and treatment of pressure sores comprises a measure of great importance. Especially for high-risk pressure sore patients this institutes a priority in the therapeutic procedure.

Pressure sores, apart from the pain and distress they cause patients, contribute to the formation of medical and social-economic problems such as:

- a. The increase in nursing care resulting to intensive hospitalization. 11,12
- b. The patients' delay of hospital discharge resulting to the increase of their average stay in hospital with an outcome of increased demand for hospital beds. 13,14

Furthermore, if the pressure sores are extensive, the absorption of toxic substances can lead to the patients' death.<sup>15</sup>

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Many researchers have studied the cause, the prevention, the therapy and the cost of pressure sores. <sup>16,17</sup> Particularly the cost has been studied and assessed by many previous countries. Research results concerning the cost of pressure sores illustrated that they were massive. <sup>13,14,18</sup>

Unfortunately, despite the abundance of technical means and the variety of pharmaceutical products that exist, pressure sores remain as difficult and as significant a problem as they were in the past. 19,20

### Objective

The aim of this research is to measure the frequency and seriousness of pressure sores and to investigate which patients are more vulnerable to the possibility of developing pressure sores. For this purpose it is appropriate:

- To estimate the percentage of individuals who develop op pressure sores in various clinics of the hospital
- To estimate the percentage of pressure sores according to sex
- To estimate the percentage of pressure sores according to age
- To estimate the percentage of individuals who develop pressure sores per week of hospitalization
- To evaluate the seriousness of pressure sores in individuals who develop pressure sores
- To evaluate the physical condition of patients who develop pressure sores
- To evaluate the mental condition of patients who develop pressure sores
- To evaluate the activity of patients with pressure sores
- To evaluate the capability of movement in bed of patients with pressure sores
- To evaluate the capability of a patient with pressure sores to control excretions
- To evaluate patients with pressure sores in regard to their nutrition
- To evaluate patients with pressure sores in regard to their weight.

### Material and method

This research took place in four wards of a General Provincial Hospital. The wards that were studied were the Surgery ward, the Orthopaedic clinic and the two Pathology wards of the hospital.

The research was carried out in a span of one month from April 5 2001 until and including May 5 2001.

The matrons and the nursing staff of the wards submitted information regarding the personal and clinical characteristics

of the patients. The evaluation of the general situation of the patients and of the pressure sores was based on personal studies.

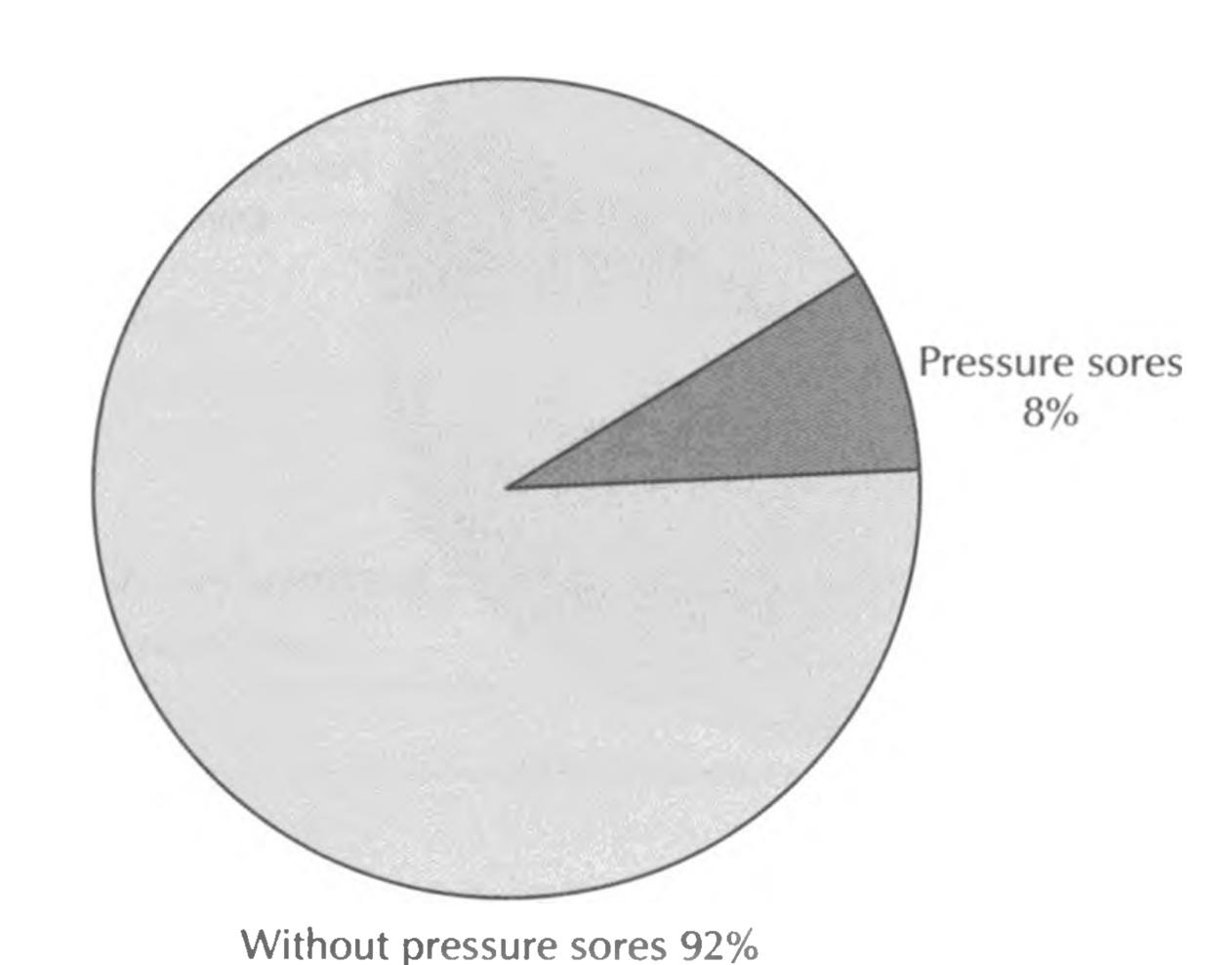
The evaluation of the pressure sores was made based on the Frant<sup>21</sup> grading system. Redness was classified as a 1st grade pressure sore, redness as well as lesion of the epidermis was classified as a 2nd grade pressure sore, damage of the skin and the subcutaneous tissues without the formation of a cavity was classified as a 3rd grade pressure sore and finally damage of the skin with the formation of a cavity including subcutaneous tissue and necrosis was classified as a 4th grade pressure sore.

The evaluation of the patients was made based on the Norton scale. 22-24

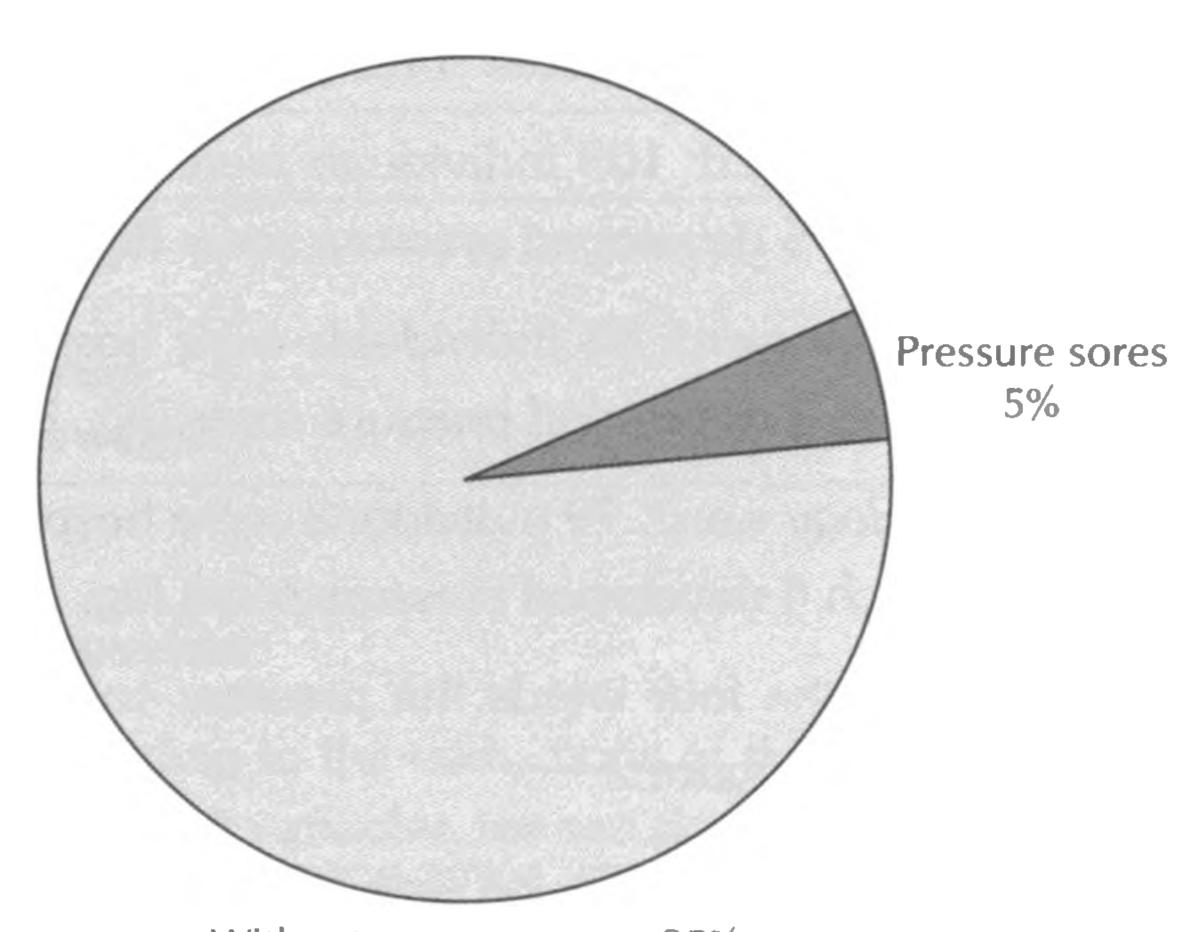
#### Results

The results of the research were as following:

1. Percentage ratio of individuals who developed pressure sores per ward.

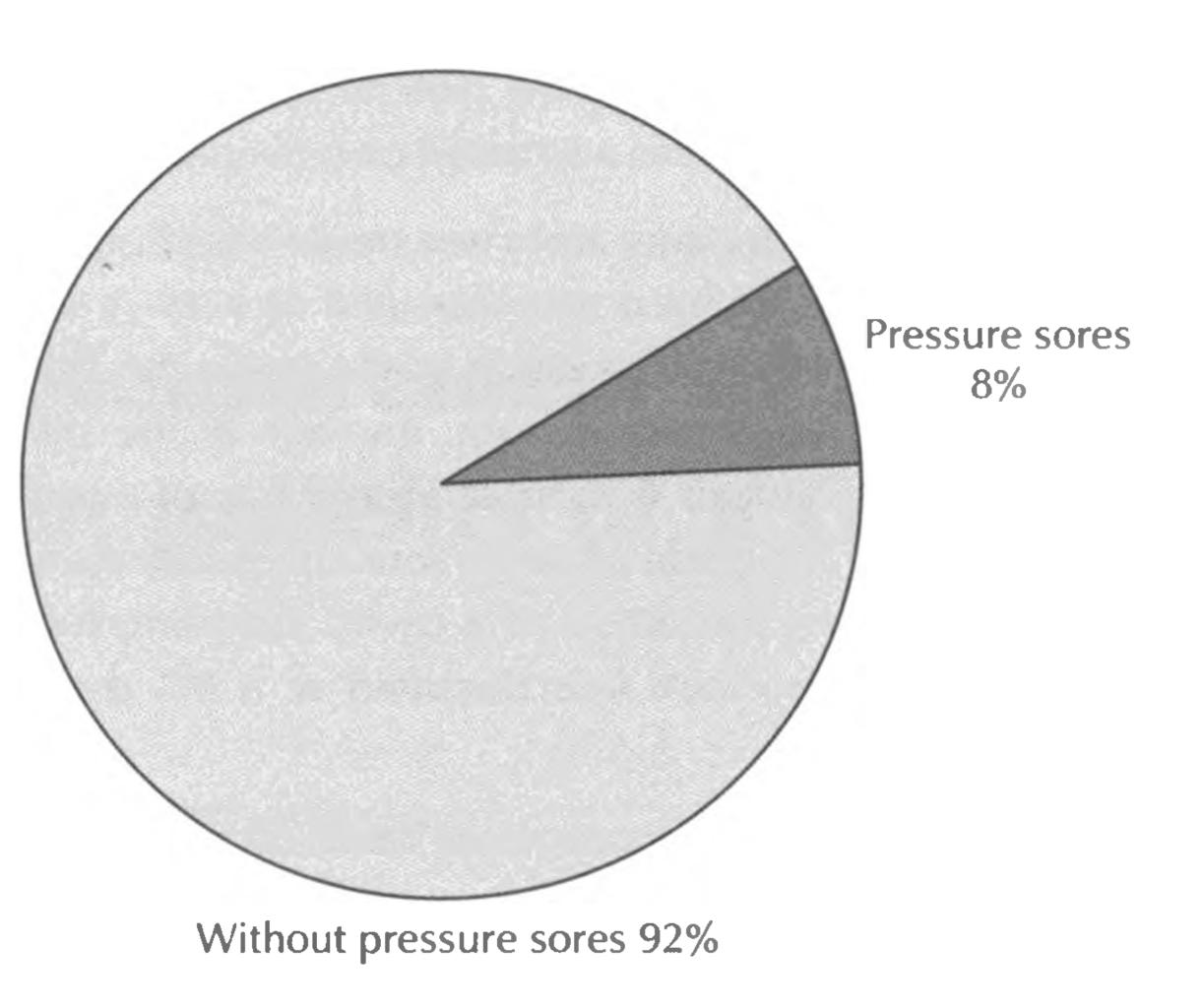


**Figure 1a.** Percentage ratio of pressure sore development in Surgery ward patients.

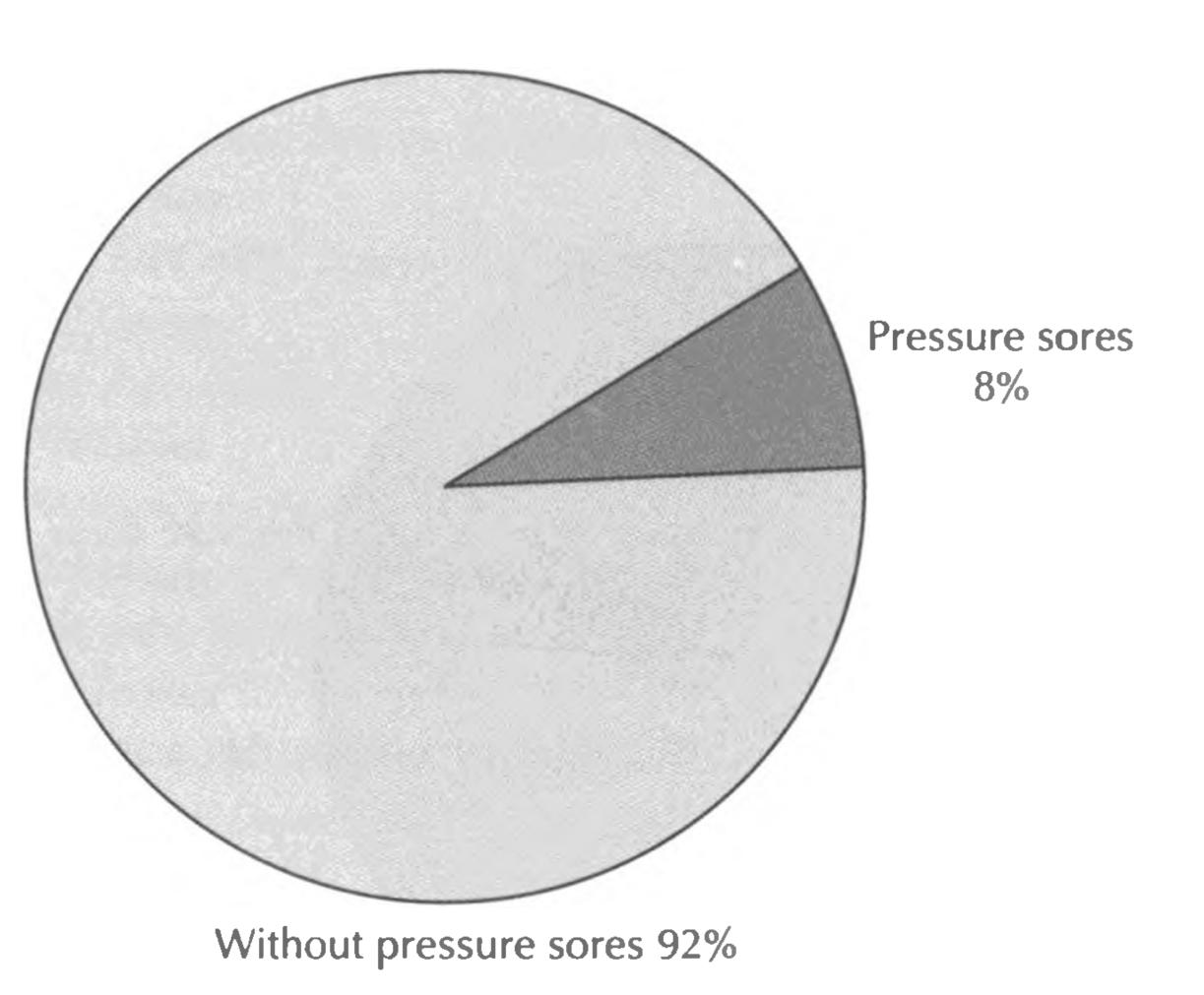


Without pressure sores 95%

**Figure 1b.** Percentage ratio of pressure sore development in Orthopaedic ward patients.



**Figure 1c.** Percentage ratio of pressure sore development in patients of 1st and 2nd Pathology ward.



**Figure 1d.** Percentage ratio of pressure sore development in patients of 2nd Pathology ward.

- a. Surgery ward: 117 individuals were hospitalized of which 9 developed pressure sores (fig. 1a).
- b. *Orthopaedic ward*: 103 individuals were hospitalized of which 5 developed pressure sores (fig. 1b).
- c. 1st Pathology ward: 83 individuals were hospitalized of which 7 developed pressure sores (fig. 1c).
- d. 2nd Pathology ward: 79 individuals were hospitalized of which 4 developed pressure sores (fig. 1d).

In the sum of the four wards the pressure sore frequency is shown in figure 2.

The frequency of pressure sores according to sex is shown in figures 3, 4.

The distribution of the sum of patients with pressure sores in various age groups is shown in figure 5 and the

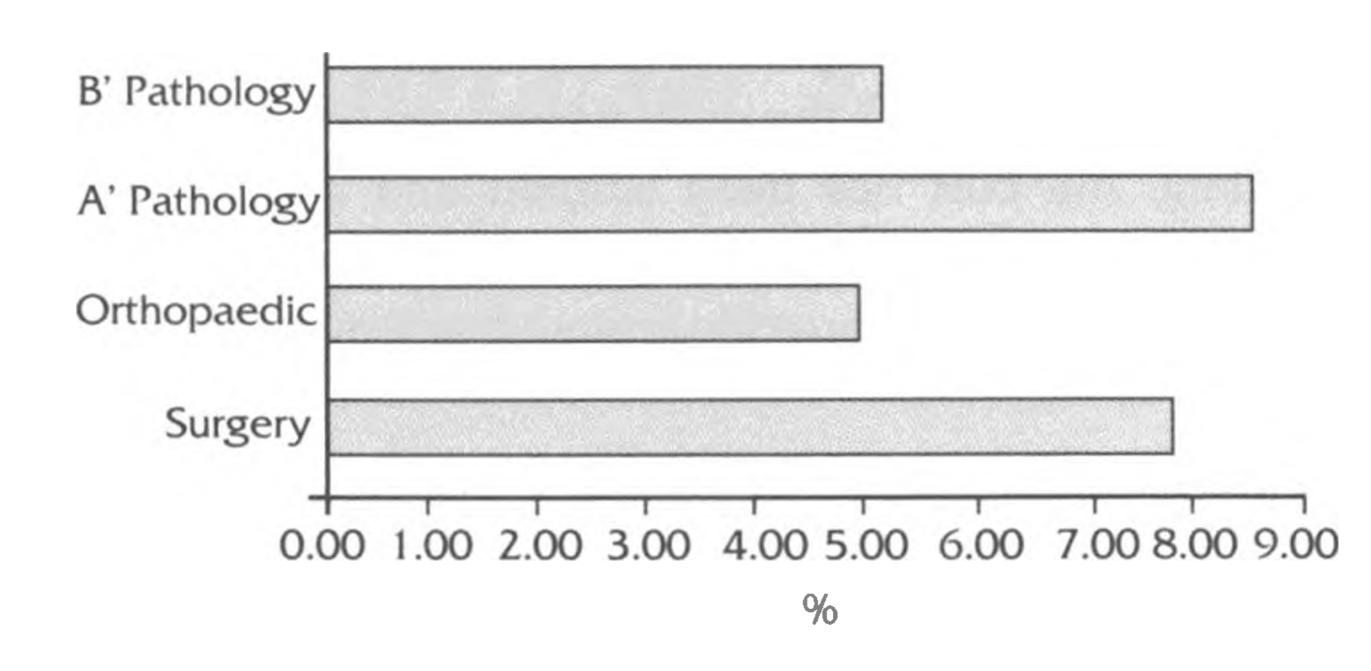
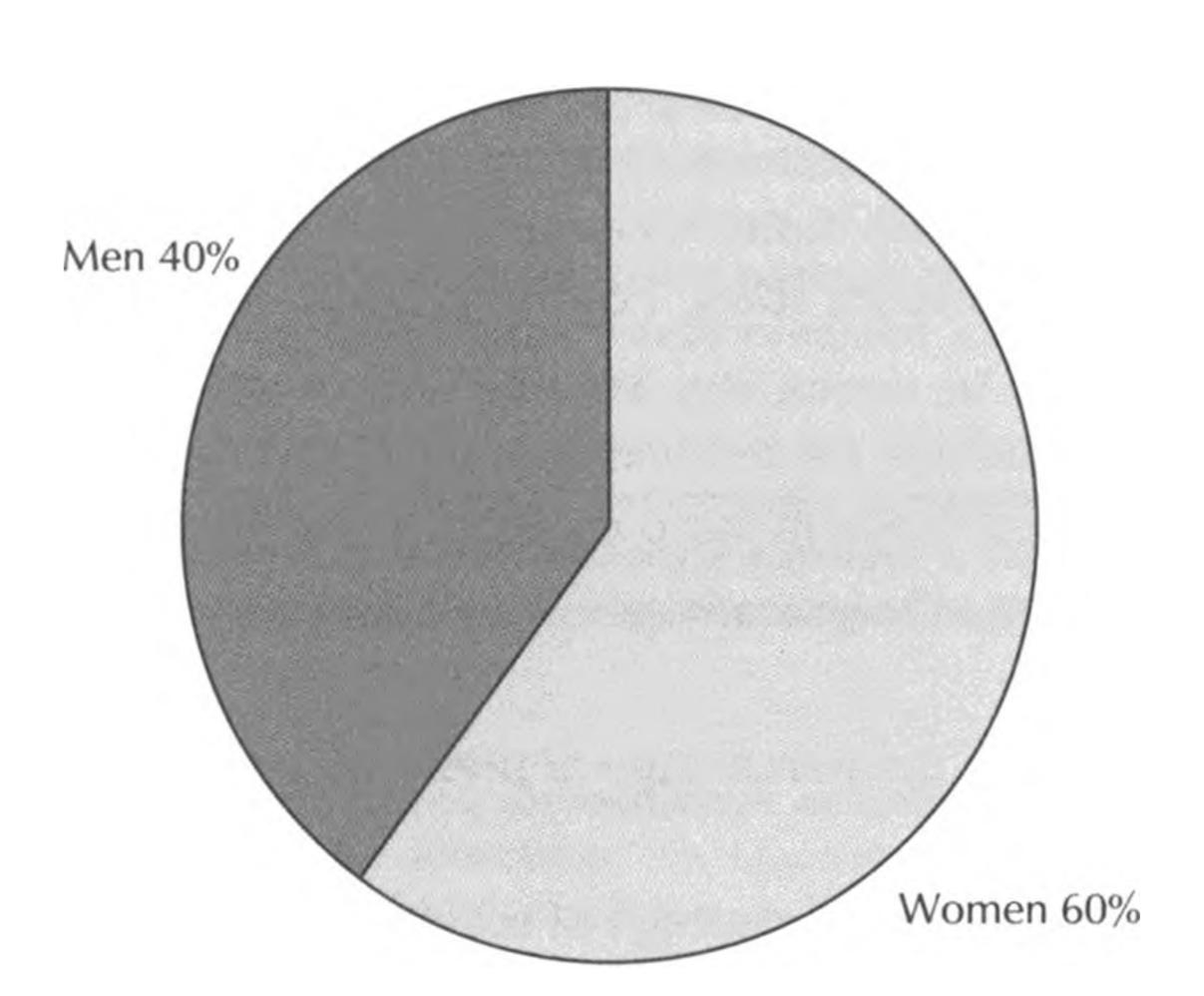
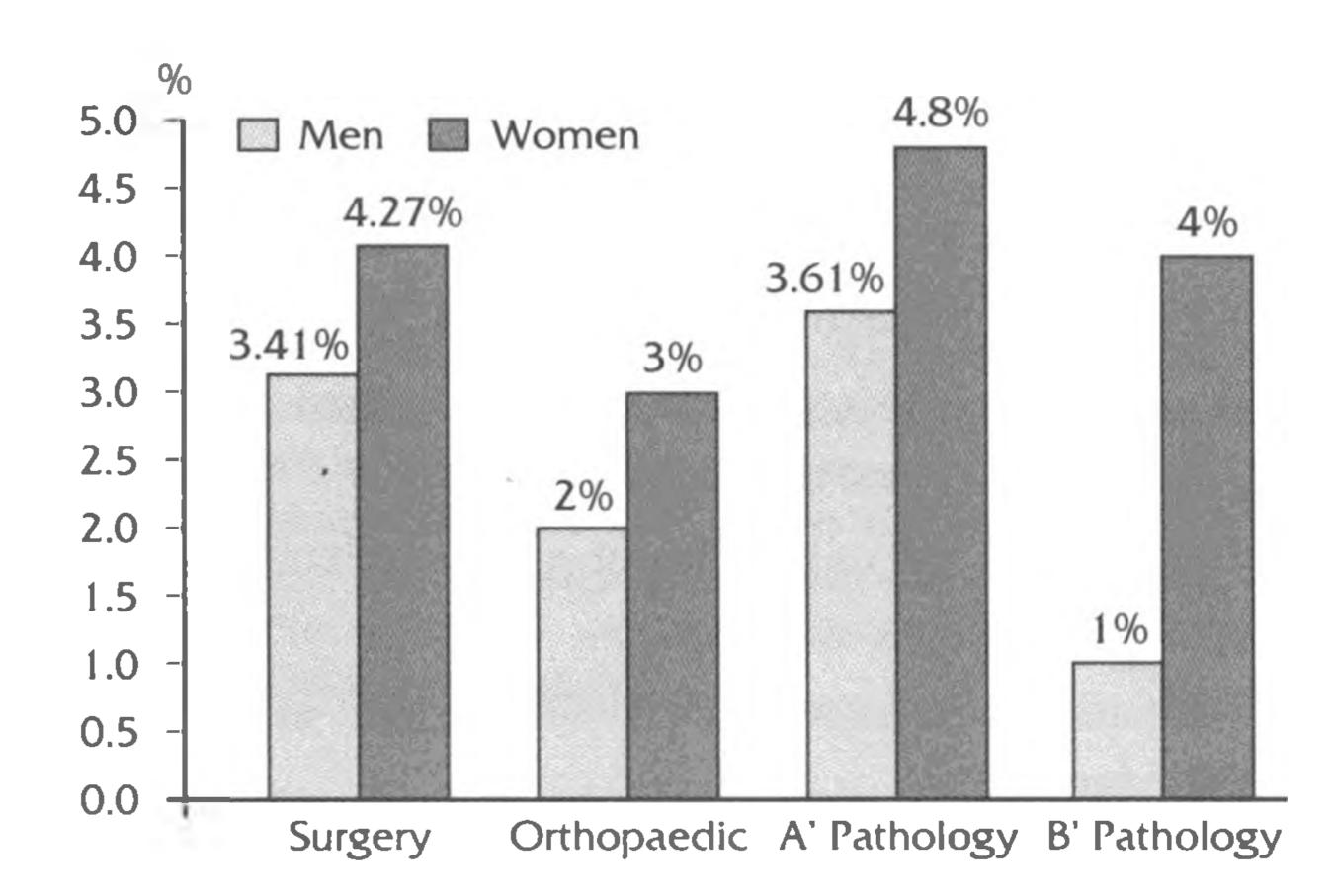


Figure 2. Frequency of pressure sore development per ward.



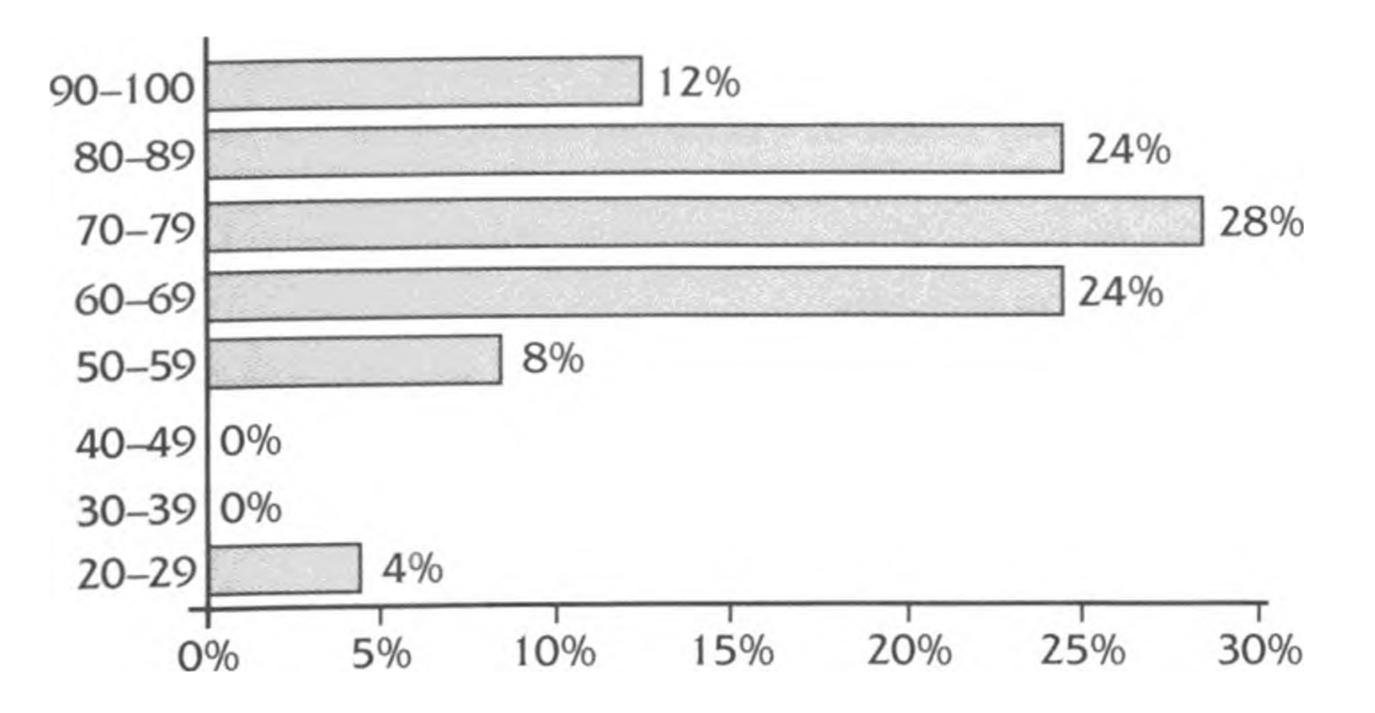
**Figure 3.** Frequency of development of pressure sores according to sex in the sum of the four wards.



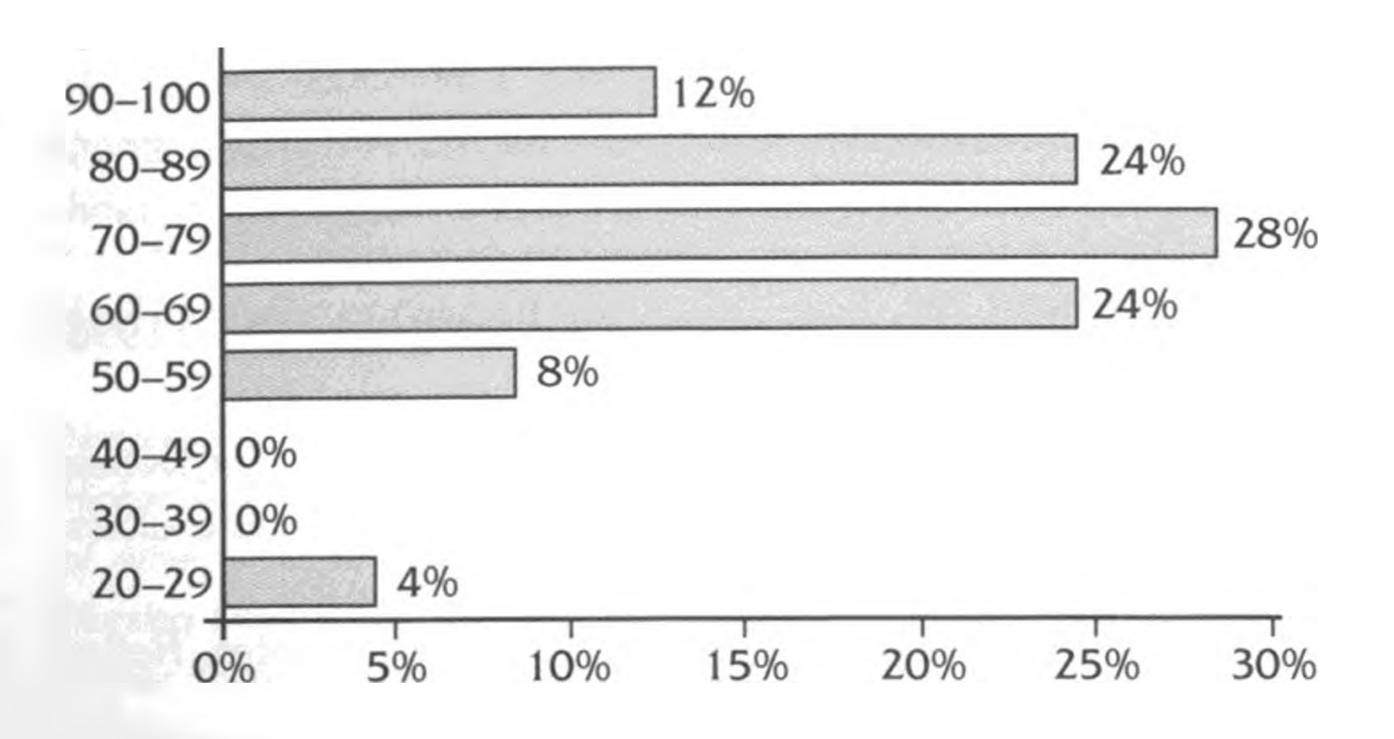
**Figure 4.** Percentage ratio of pressure sore development per ward and sex.

pressure sore frequency per week of hospitalization is shown in figure 6.

The results concerning the evaluation of the pressure sore seriousness, the physical and mental condition of patients with pressure sores, their other activeness as well as the diet and the weight of these individuals, are presented in the tables 1 to 8.



**Figure 5.** Percentage distribution of patients with pressure sores per age group.



**Figure 6.** Percentage distribution of pressure sores per week of hospitalization.

Table 1. Pressure sore evaluation.

Milmier of nationic
Number of patients
5
14
4
2

Table 2. Evaluation of patients' physical conditions.

Physical condition	Number of patients
Good	2
Relatively good	4
Burdened	12
Very burdened	6

**Table 3.** Evaluation of mental condition of patients with pressure sores.

Mental condition	Number of patients
Full communication	2
Partial communication	3
Confused	14
Coma	4

**Table 4.** Evaluation of activeness of patients with pressure sores.

Activeness	Number of patients
Able to walk	0
Able to walk with assistance	1
Gets up in chair	4
Confined to bed	20

**Table 5.** Evaluation of capability of patients with pressure sores to move in bed.

Mobility (in bed)	Number of patients
Easily	0
With difficulty	2
Very hindered	3
None	20

**Table 6.** Evaluation of capability of patients with pressure sores to control excretions.

Incontinent	Number of patients
None	1
Only urine	4
Excrement and urine	20

**Table 7.** Evaluation of patients with pressure sores in regard to their nutrition.

Nutrition	Number of patients
Total	2
Insufficient	15
With nasogastric tube	5
Paraenteral	3

**Table 8.** Evaluation of patients with pressure sores in regard to their weight.

Weight	Number of patients
Very thin	1
Thin	1 1
Average	9
Overweight	4

### Discussion

According to the deductions of this study, annotating the different variables, we can detect that the age groups of over 70 present the greatest frequency of pressure sores.

This finding is related to the alteration that the skin undergoes due to the gradual reduction of the elastic

fibers, the subcutaneous fat and the muscle mass. Another factor is the skin parchedness that appears in individuals of older ages. The parchedness, in combination with the reduced activity of endocrine and sebaceous glands, as well as dehydration can possibly contribute to the formation of pressure sores.

The high percentage of dominance of the pressure sore indicator in pathology wards is attributed to the fact that hospitalized individuals who suffer from strokes are required to remain for a great deal of time confined to bed.

In the present study women dominated men in the pressure sore frequency indicator although one months' study is not sufficient enough for result generalization.

For the relevance of pressure sores and nutrition it is indicated that weak individuals develop pressure sores easier due to reduction of the subcutaneous tissue mass resulting to the reduction of the mechanical protection of the body.

Immobility when combined with dampness consists a factor high danger. From this research the above combination is confirmed.

Regarding the degree of pressure sore seriousness most patients that develop pressure sores present 2nd degree pressure sores. This occurs because even though 1st degree pressure sores are easy to prevent they are often ignored resulting to deterioration.

Finally, insufficient nutrition and burdened physical condition are serious increase factors and of primary importance in the prevention of pressure sores.

Nursing staff, who are individuals that are situated near the patient more than any other health professional, are obliged to undertake a primary role in the prevention and the treatment of pressure sores and nursing training, basic and continuous should prepare them for this.

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