GEORGIAN MEDICAL NEWS

ISSN 1512-0112

NO 7-8 (364-365) Июль-Август 2025

ТБИЛИСИ - NEW YORK

ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии

საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

Monthly Georgia-US joint scientific journal published both in electronic and paper formats of the Agency of Medical Information of the Georgian Association of Business Press. Published since 1994. Distributed in NIS, EU and USA.

GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНИТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНИТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman** (**Кириллица**), для текста на грузинском языке следует использовать **AcadNusx.** Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - http://www.spinesurgery.ru/files/publish.pdf и http://www.nlm.nih.gov/bsd/uniform_requirements.html
В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректура авторам не высылается, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or compu-ter-printed on a single side of standard typing paper, with the left margin of **3** centimeters width, and **1.5** spacing between the lines, typeface - **Times New Roman** (**Cyrillic**), print size - **12** (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf
In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

Articles that Fail to Meet the Aforementioned Requirements are not Assigned to be Reviewed.

ავტორთა საყურადღებოდ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დავიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე,დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx.** შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შეღებვის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფჩხილებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

GEORGIAN MEDICAL NEWS
NO 7-8 (364-365) 2025

Содержание:

GEORGIAN MEDICAL NEWS
No 7-8 (364-365) 2025

INCIDENCE OF PRESSURE SORE IN THE INTENSIVE CARE UNIT AT AL-DIWANYIA TEACHING HOSPITAL

Ahmed Miri Saadoon.

College of Medicine, University of Al-Qadisiyah, Al Diwaniyah, Qadisiyyah Province, Iraq.

Abstract.

Background and objectives: The incidence of pressure ulcers in intensive care unit (ICU) varies, be subjected on the age of the patient, medical diseases that caused the sore, area of the body that is involved and medical care for the patients. This incidence is increasing because of aging people those living with disability. Knowing how to prevent and treat pressure sores appropriately is very important for all medical staff in wound care.

Aim of the study: Assess of the incidence of pressure sore in the ICU of AL-Diwaniya teaching hospital and finding the factors that decrease this incidence.

Methods: This prospective study was done in the ICU of AL-Diwaniya teaching hospital in the period from January 2025 to March of 2025, for a total of 3 months which included 66 patients, 20 of them developed pressure sores. The data information is collected based on name, age, gender, date of admission, cause of hospitalization (trauma/ non-trauma), and medical diseases like hypertension, diabetes mellitus and heart failure.

Results: In this study that was conducted in the ICU at Al-Diwaniya teaching hospital, number of patients were 66, 20 of them developed pressure ulcers (30%), the male (60%) patients were more prevalence than female (40%) and the mean age of our sample was 47.36 years old.

Conclusion: The pressure ulcers are one of the most common complications in ICU. Younger patients who had accidents were more common during the study period, the most common location of occurrence of the pressure ulcers is the sacrum. Failure to turn patients, most likely due to their weight and build is the most predisposing factor for formation of sore.

Key words. Pressure sore, intensive care unit, mobility, incidence.

Introduction.

Pressure sores result from friction or persisting pressure on soft tissues [1]. They especially affect the pressure points of recumbent patient [2]. Pressure ulcers are a considerable health complains widely distributed in population, which involves many people annually [3]. Up to 3 million patients are imitated each year in the USA [4]. Patients undergoing long time surgery are susceptible to the development of a pressure sore or to worsening of a pre-existing ulcer as a result of prolonged immobility during and occasionally after surgery [5,6]. Accurate positioning and padding of the patient are standard practice involving the sacrum, greater trochanter and heels [7,8]. Nutritional deficiency, dehydration and decreased mobility are risk factors for pressure sore formation [9,10].

Early mobility of the patients and frequent seeing of pressure points by the nursing staff can prevent pressure ulcer [11,12]. High-risk ill people may be nursed on an air mattress, which spontaneously relieves the pressure areas [13,14]. Observing patients at risk and address nutritional status, highly diminished pressure sore incidence [9,10]. Patients and family will practice to turn for 10 seconds for every 10 minutes period of time [15]. If they do not have good social supporting at home, admission to hospital and rehabilitation or a skilled nursing facility is preferred [16].

When pressure ulcer evolved, it can be graded according to an internationally recognized grading system extent of skin loss [17,18]:

Grade 1: Involve non-blanching erythema with normal skin

Grade 2: Has partial skin layer loss and emerged as a little depth ulcer with a red-pink injury bed or an intact or damaged blister

Grade 3: Have full skin loss, with subcutaneous fat seeing in the wound, but not bone or other structures like tendon or muscle

Grade 4: Have full skin loss with exposed bone or other structures; osteomyelitis may develop at this site [2], foul odor, infection and discharge from ulcer site may appear [19]. Managing pressure ulcer require redeploy pressure via active ulcer patient change position, immersive comfortable beds, appropriate coverings and bandages, and use diabetes artificial offloading, to mimic the restrain ways [20-22].

Once pressure ulcer commenced, the load on the affected anatomical region should be passively decrease. Grade 1 and 2 can be managed conservatively with local antibiotic ointment while grade 3 and 4 require proper removal of exudate of infectious wound, trimming of dead tissue, and optimization of wound nursing [23,24]. When abscess present, proper drainage should be wrought. In suspected infectious wound, antiseptic (e.g. Iodine, silver sulfadiazine, hydrogen peroxide) can be harnessed, however, these antiseptics could hinder wound healing in the long-term use [25,26]. Mechanical drainage and dead tissue trimming is necessary for wound healing, however, this need to be avoided in cases of dry eschar without purulence or fluctuance [20].

Skin loss area and bone exposure after debridement can be closed by local flap. Patients admitted to ICU patients are 4 times more vulnerable for hospital gained pressure ulcers when compared to non-ICU patients [27]. However, risk factors related to ICU mostly include facets of organ reinforcement, such as, vasopressor medications use, mechanical ventilation, and renal therapy. Therefore, patients admitted to ICU considered as a unique group of patients where the risk for pressure sores is distinct in a higher degree compared to other patient groups [28]. The present study sought to identify the rate of pressure sore in Al-Diwaniya teaching hospital and detect the factors that decrease this incidence.

Patients and Methods.

This prospective study was conducted in the intensive care unit (ICU) of AL-Diwaniya teaching hospital in the period from January 2025 to March of 2025, for a total of 3 months which included 66 patients, 20 of them developed pressure sore with incidence about 30%, 12 were males and others females. The data information is collected based on name, age, gender, date of admission, cause of hospitalization (trauma/ non-trauma), and co-morbidities like hypertension, diabetes mellitus and heart failure.

A questionnaire was developed through direct interviews with medical staff, observation of patients, review of their medical records, and taking photographs of ulcers and medical histories of patients admitted to the ICU (Figure 1).

Oio Questionnaire:

1. Name.
2. Age.
3. Gender.

Figure 1. *A representative images for collected cases of patients.*

4. Date of admission.
5. Location of pressure ulcer:(sacrum, ischium, trochantric, heel).
6. Pressure ulcer stage 1 2 3 4.
7. Reason for immobility.
A. Stroke
B. RTA
C. Others (pelvic surgery, medical illness).
8. Length of hospital stay: Less than 2 weeks 2 to 3 weeks, more than 3weeks.
9. Time between turning the patients.

Statistical analysis: Descriptive statistics were used to describe demographic data, including the number of patients, regional location of the sore, length of stay and the care for the patients by asking about time for turning of the patients.

Results.

In this study that was conducted in the ICU at Al-Diwaniya teaching hospital the study sample were 66 patients 20 of them developed pressure sore the male (60%) patients were more prevalent than female (40%) and the mean age of our sample was 47.36 years old.

The most common site for ulcer development was sacrum. Chi-square χ^2=38.4, p value =2.33× 10^{-8}] . This means the distribution is highly significant ($p < 0.0001$ (Table 1).

Regarding ICU admission, 10 patients developed pressure ulcers that stayed more than 3 weeks in ICU, while 2 patients stayed less than 2 weeks. while those admitted for 2-3 weeks, represented 40% of the total participants (Table 2). Chi-square statistic (χ^2) = 5.2) p-value ≈ 0.0743 (statistically not significant).

Most of the patients were stage 2 and 3, while only two and four patients had stage 1 and 4, respectively (Table 3). Chi-square statustic (χ^2)=4, p value =0.2615] which is statistically not significant.

Table 1. *Patients distribution according to site.*

Site	Number	Percent
Ischial	1	5%
Trochanteric	1	5%
Sacrum	17	85%
Heel	1	5%
Total	20	100%

Table 2. *Duration of stays in ICU and number of patients.*

Duration	Presence of pressure sore	Percent
Less than 2 weeks	2	10%
2-3 weeks	8	40%
More than 3 weeks	10	50%
Total	20	100%

Table 3. *Stages of pressure sore.*

Stage	Number	Percent
Stage 1	2	10%
Stage 2	8	40%
Stage 3	6	30%
Stage 4	4	20%
Total	20	100%

Table 4. *Reasons of immobility.*

Reason of immobility	Number	Percent
Stroke	8	40%
RTA	12	60%
Total	20	100%

The reason for immobility varies between stroke and road traffic accident (RTA) (Table 4). Chi-square χ^2=1.6, p value =0.205] which is statistically not significant.

Discussion.

These results sought to identify the prevalence of pressure ulcers in the patients admitted to ICU at Al-Diwaniyah Teaching Hospital (Iraq). The results showed that 30% of patients complained pressure sore (stages I to IV) during their ICU admission. In general, ICU are the department with the increased risk of complications due to the clinical status of participants, which is usually unstable and multiple medical and surgical interventions. Pressure sore is the commonest adverse event with frequent prevalence and rate in ICU [29]. The rate of pressure sore varies in different countries, it was 39.3% for Saudi Arabia Kingdom [30], 29.6% for Greece [31], 8.1-16% for Spain [32,33], and 11-13.6% for Brazil [34,35]. Iranmanesh et al. discovered that the rate of pressure ulcer among ICU patients was 13.4% for Iran [36]. The difference in the results may be due to distinctive and unique demography for each study population, inclusion criteria, methods used in the study (direct observation or retrospective record data), data collection ways, and variations in prevention manners across hospitals. The increasing accident rate of road traffic (60%) is associated with spinal cord and head injury leading to admission in ICU causing the pressure ulcer to occur at a younger age while most stroke cases occur in older age. Studies from Portugal [37], Belgium [38], and Norway have shown a decreased incidence of stage III and IV sores [39], which may be due to preventive measures taken by ICU medical staff to prevent the occurrence of pressure sores [40].

The rate of the pressure ulcers identified in this study, 40% were found to be stage II, 30% to be stage III, and only 20% to be stage IV, this is inconsistent with the findings of a previous study [41], where stages I was more prevalent and almost zero patients were in stages III and IV. It is possible that lack of staff experience in managing ICU patients caused that. The commonest anatomical location for pressure sore incident in the current study was the sacrum patients were most often sitting in the semi-Fowler allocation without heel elevation or decompression, boosting the increased pressure points on the sacrum, an event which has been triggered by the low frequency of patient repositioning. Santamaria et al. found that the prophylactic use of a multilayer soft silicone foam dressing was effective in preventing sacral and heel pressure sores in trauma and critically ill patients [42]. According to the length of stay in the ICU the majority of patients (50%) admitted for more than one month, we found that there is a positive correlation between the length of stay and the development of pressure ulcers. The studies mentioned above are consistent with this study.

Some limitation should have acknowledged, including sample size, short follow-up periods, challenges in nursing care received by participants, lack of full medical records, or inability to control patient mobility, nutritional variation between participants, or compelling conditions. The unicenter study limit generalizability of the data.

Conclusion.

This study concluded that pressure ulcers are one of the most common complications in ICU. Several factors influence their development and progression, including age, the location of the pressure ulcers in the sacrum, and the length of stay in the ICU. Through discussions with the nursing staff, care of the patients played a major role in decreasing the incidence of pressure ulcers and special care should be given to patients with heavy weight due to difficulty to turn them. Providing nursing staff practice exclusively to monitor bedsores patients and turn them to prevent ulcer before it forms, instruct them to inspect skin and do assessment to know the patients liable for ulcer formation. Perform daily skin checks, focusing on bony prominences (sacrum, heels, elbows). Look for redness or discoloration to diagnose ulcers at an early stage (Stage 1 signs). Educate patients and families about ulcer risks when the clinical condition of patients improving and can take care of themselves by do self-inspection, and compliance to repositioning schedules.

REFERENCES

1. Prevalence of Secondary Conditions and Health-Related Quality of Life among People with Disabilities in Limbe, Southwest Region of Cameroon. TIJPH. 2025;13.
2. O'Connell PR, McCaskie AW, Sayers RD. Bailey & Love's Short Practice of Surgery. 28th ed. Boca Raton: CRC Press; 2022.
3. Bansal C, Scott R, Stewart D, et al. Decubitus ulcers: A review of the literature. Int J Dermatology. 2005;44:805-810.
4. Mervis JS, Phillips TJ. Pressure ulcers: Pathophysiology, epidemiology, risk factors, and presentation. Journal of the American Academy of Dermatology. 2019;81:881-890.
5. Jaul E, Barron J, Rosenzweig JP, et al. An overview of co-morbidities and the development of pressure ulcers among older adults. BMC Geriatr. 2018;18:305.
6. Bhattacharya S, Mishra RK. Pressure ulcers: Current understanding and newer modalities of treatment. Indian J Plast Surg. 2015;48:004-16.
7. Salazar Maya ÁM, Osorio Galeano SP. Nursing Care Related with Surgical Position. Invest Educ Enferm. 2023;41.
8. Burlingame BL. Guideline Implementation: Positioning the Patient. AORN Journal. 2017;106:227-237.
9. Mahmoodpoor A, Shadvar K, Saghaleini S, et al. Pressure ulcer and nutrition. Indian Journal of Critical Care Medicine. 2018;22:283-9.
10. Jaul E. Assessment and Management of Pressure Ulcers in the Elderly: Current Strategies. Drugs & Aging. 2010;27:311-325.
11. Dickinson S, Tschannen D, Shever LL. Can the Use of an Early Mobility Program Reduce the Incidence of Pressure Ulcers in a Surgical Critical Care Unit? Critical Care Nursing Quarterly. 2013;36:127-140.
12. Payne D. Strategies to support prevention, identification and management of pressure ulcers in the community. Br J Community Nurs. 2016;21:S10-8.
13. Black J, Berke C, Urzendowski G. Pressure Ulcer Incidence and Progression in Critically Ill Subjects: Influence of Low Air Loss Mattress Versus a Powered Air Pressure Redistribution Mattress. Journal of Wound, Ostomy & Continence Nursing. 2012;39:267-273.
14. Serraes B, Hecke AV, Van Tiggelen H, et al. An exploration of nursing home residents' experiences of a non-powered static air mattress overlay to prevent pressure ulcers. International Wound Journal. 2020;17:1166-82.
15. Hopkins A, Dealey C, Bale S, et al. Patient stories of living with a pressure ulcer. Journal of Advanced Nursing. 2006;56:345-353.
16. Ricci JA, Bayer LR, Orgill DP. Evidence-Based Medicine: The Evaluation and Treatment of Pressure Injuries. Plastic & Reconstructive Surgery. 2017;139:275e-86e.
17. Healey F. The Reliability and Utility of Pressure Sore Grading Scales. Journal of Tissue Viability. 1995;5:111-4.
18. Young T. Classification of pressure sores: 1. Br J Nurs. 1996;5:438-446.
19. Padula WV, Delarmente BA. The national cost of hospital-acquired pressure injuries in the United States. International Wound Journal. 2019;16:634-640.
20. Boyko TV, Longaker MT, Yang GP. Review of the Current Management of Pressure Ulcers. Advances in Wound Care. 2018;7:57-67.
21. Efficacious Outcome of Peripheral Retinal Laser Photocoagulation to Severe Non-Proliferative Diabetic Retinopathy in Young-onset Type 1 Diabetic Mellitus: A Case Report. TIJPH. 2025;13.

22. Association of COVID-19, Diabetes in Mucormycosis Patient- A Hospital-Based Study. TIJPH. 2025;13.
23. Thomas DR, Goode PS, Tarquine PH, et al. Hospital-Acquired Pressure Ulcers and Risk of Death. J American Geriatrics Society. 1996;44:1435-1440.
24. Inhibition of Biofilm Formation and Pyocyanin Production from Multidrug Resistance P. aeruginosa by Using Vitamin C, Salicylic Acid, and Multisera. TIJPH. 2024;12.
25. Kramer A, Dissemond J, Kim S, et al. Consensus on Wound Antisepsis: Update 2018. Skin Pharmacol Physiol. 2018;31:28-58.
26. Cefalu JE, Barrier KM, Davis AH. Wound Infections in Critical Care. Critical Care Nursing Clinics of North America. 2017;29:81-96.
27. Coyer F, Miles S, Gosley S, et al. Pressure injury prevalence in intensive care versus non-intensive care patients: A state-wide comparison. Australian Critical Care. 2017;30:244-250.
28. Labeau SO, Afonso E, Benbenishty J, et al. Prevalence, associated factors and outcomes of pressure injuries in adult intensive care unit patients: the DecubICUs study. Intensive Care Med. 2021;47:160-169.
29. De Almeida Medeiros AB, Da Conceição Dias Fernandes MI, De Sá Tinôco JD, et al. Predictors of pressure ulcer risk in adult intensive care patients: A retrospective case-control study. Intensive and Critical Care Nursing. 2018;45:6-10.
30. Tayyib N, Coyer F, Lewis P. Saudi Arabian adult intensive care unit pressure ulcer incidence and risk factors: a prospective cohort study. International Wound Journal. 2016;13:912-919.
31. Apostolopoulou E, Tselebis A, Terzis K, et al. Pressure ulcer incidence and risk factors in ventilated intensive care patients. 2014;8:333.
32. Manzano F, Navarro MJ, Roldán D, et al. Pressure ulcer incidence and risk factors in ventilated intensive care patients. Journal of Critical Care. 2010;25:469-476.
33. González-Méndez MI, Lima-Serrano M, Martín-Castaño C, et al. Incidence and risk factors associated with the development of pressure ulcers in an intensive care unit. Journal of Clinical Nursing. 2018;27:1028-1037.
34. Campanili TCGF, Santos VLCDG, Strazzieri-Pulido KC, et al. Incidência de úlceras por pressão em pacientes de Unidade de Terapia Intensiva Cardiopneumológica. Rev esc enferm USP. 2015;49:7-14.
35. Becker D, Tozo TC, Batista SS, et al. Pressure ulcers in ICU patients: Incidence and clinical and epidemiological features: A multicenter study in southern Brazil. Intensive and Critical Care Nursing. 2017;42:55-61.
36. Iranmanesh S, Rafiei H, Sabzevari S. Relationship between Braden scale score and pressure ulcer development in patients admitted in trauma intensive care unit. International Wound Journal. 2012;9:248-252.
37. Sardo PMG, Simões CSO, Alvarelhão JJM, et al. Analyses of pressure ulcer incidence in inpatient setting in a Portuguese hospital. Journal of Tissue Viability. 2016;25:209-215.
38. Demarré L, Verhaeghe S, Annemans L, et al. The cost of pressure ulcer prevention and treatment in hospitals and nursing homes in Flanders: A cost-of-illness study. International Journal of Nursing Studies. 2015;52:1166-1179.
39. Bredesen IM, Bjøro K, Gunningberg L, et al. The prevalence, prevention and multilevel variance of pressure ulcers in Norwegian hospitals: A cross-sectional study. International Journal of Nursing Studies. 2015;52:149-156.
40. Nassaji M, Askari Z, Ghorbani R. Cigarette smoking and risk of pressure ulcer in adult intensive care unit patients. Int J of Nursing Practice. 2014;20:418-423.
41. Suriadi, Sanada H, Sugama J, et al. Risk factors in the development of pressure ulcers in an intensive care unit in Pontianak, Indonesia. International Wound Journal. 2007;4:208-215.
42. Santamaria N, Gerdtz M, Sage S, et al. A randomised controlled trial of the effectiveness of soft silicone multi-layered foam dressings in the prevention of sacral and heel pressure ulcers in trauma and critically ill patients: the border trial. International Wound Journal. 2015;12:302-308.