MEDICUS 7 ISSUE 1

Editor-in-Chief: Prof. Asoc. Dr. Voltisa Lama/ Scientific Journal of the Faculty of Medical Technical Sciences/ No. 7, issue 1 / 2023

ISSN 2663-7758

# HEALTH EDUCATION IN SELF CARE

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UETPRESS

# MEDICUS No. 7, issue 1/2023
JOURNAL OF THE FACULTY OF MEDICAL TECHNICAL SCIENCES

**ISSN 2663-7758**



UETPRESS

Published under the series "ACADEMIC JOURNALS".





The journal has been catalogued at the National Library of Albania and the Library of the European University of Tirana, Albania.

(print ISSN: 2663-7758/ online ISSN: 2958-8871)

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Published by:
EUROPEAN UNIVERSITY OF TIRANA / ALBANIA

# *content*

EDITORIAL

# *Health Education in Self-Care*

***Prof. Asoc. Dr. Voltisa LAMA***

Self-care is a means whereby people take much greater responsibility for their own health and refers to the activities that individuals, families and communities undertake with the intention of enhancing health, preventing disease, limiting illness, and restoring health. These activities are derived from knowledge and skills from the pool of both professional and lay experience (Adamsone et al., WHO 1983). Health education enhances the competence of self-behavior in the population and makes people more willing to get appropriate health professional services when needed.

Nowadays culture and lifestyle play a major role in self-behavior. For example, excessive phone use by children and youths is decreasing their self-awareness of the importance of physical activity and maintaining a good body posture in favor of being comfortable and enjoying spending more time online using technology equipment. Making healthy lifestyle choices, avoiding unhealthy lifestyle habits, maintaining personal health regime, self-recognition of symptoms, self-monitoring, self-management, modeling good boundaries, taking care for physical and emotional balance and making responsible use of prescription and non-prescription medicines are core self-care responsibilities.

Some of the articles in Medicus 7, Issue 1 journal are focused on the effects of health education. The text neck pain was a common symptom related to excessive smartphone usage among third year students of the Bachelor programs at the European University of Tirana. Still, students were not self-concerned, as using technology as a means of common and trendy free time activity was very important for them. The main source of information for sex education turned out to be the Internet, according to a study which included 200 young people 18-23 years old. Another article focused on self-care in patients with chronic diseases tried to determine self-care maintenance, monitoring and management, as well as the importance of the dyad patient-caregiver in the context of Albania.

Health education in self-care is crucial as it would benefit from prevention and early management of illness and it would nourish healthy oriented behaviour. Individuals are active agents in managing their own health and well-being (WHO, 2023). In the context of a safe, supportive, and educational environment which gives knowledge and accurate information, self-care gives power to individuals.

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# *Self-care in chronic diseases. The patient-caregiver dyad in the Albanian reality*

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## Abstract

***Background:*** *Multiple chronic diseases mostly affect people over 65 years old, when age-related changes, complicated by physical, cognitive, and emotional problems accelerate functional decline. This increases the elderly population to a high risk of deterioration of their health condition and predisposes to various chronic diseases.*

***Objective:*** *Patient self-care and the caregiver's contribution to patient self-care is the main purpose of this study. Observation of the patient to reduce the burden of the disease and obtain better results for their life.*

***Methods:*** *Is a multicenter transversal study at zero time, the study provides for the administration of a validated questionnaire in the Albanian language and addressed to a sample of 30 patient-caregiver dyads in the Albanian population, using specific tools to evaluate the management of the chronic pathology and the patient's self-care skills and the caregiver care framework.*

***Results:*** *Patients were mainly male (53%) with an average age of 74 years. The average reported selfcare for maintenance score was 57.63, for monitoring the score*

*was 55.00 and for management was 59.11. For the caregivers the most prevalent subjects were female (60%) with an average age of 60 years old. The average reported score for the contribution of caregivers at selfcare maintenance was 47.08, at selfcare monitoring was 55.00 and at selfcare management was 59.00.*

***Discussion:*** *This study seeks to determine self-care maintenance, monitoring, management, and confidence by including sociodemographic and clinical variables to assess care outcomes in dyads in the context of multiple chronic conditions.*

***Keywords:*** *chronic illness, chronic disease, nursing care, selfcare.*

## I. Introduction

The elderly population is increasing considerably in the world, including in Albania, and with it also the number of chronic diseases, consequently it is necessary to understand the levels of chronic conditions with which the elderly population lives as well as the complexities it brings in health and functional limitations of it (AGS, 2012; Boyd et al., 2014; Koroukian et al., 2016; Ploeg et al., 2017). Many older people live with multiple chronic conditions (MCC), also known as multimorbidity defined as the presence of two or more chronic medical conditions. These diseases have an impact on the patient, which can be positive or negative. This affects the basis of a patient's daily life and his coexisting conditions. Older adults living with these conditions often rely on the support of informal health professionals to help them manage pathologies in their daily lives, making a positive impact. Elderly care, without the right support, can negatively affect an individual's financial, emotional and psychological well-being, further aggravating their health condition. Currently the needs of the elderly with CD are not sufficiently known, and on their need to have a person count that can follow him and help to take care of himself, in the caregiver, as it is known that health influences their needs. In fact, even the World Health Organization (WHO) considers chronic diseases and multimorbidity as significant challenges for our health systems worldwide (Nolte & McKee, 2008). These long-term chronic conditions interact by causing cumulative effects that are highly individualized and often increase with increasing age (American Geriatric Society, 2012; McPhail, 2016). Multiple chronic conditions (MCCs) have not only increased in the United States in people aged 65 years and older, but also in Europe with a prevalence ranging from 24.7% to 51% (Palladino et al., 2016). Unfortunately, compared to people with a single disease, people with MCC have greater impairment of physical functioning, worse quality of life, and higher hospitalization and mortality rates (Gijsen et al., 2001). Therefore, to reduce the impact of chronic conditions and manage symptoms, patients with MCC perform

daily self-care (Kennedy et al., 2007). Research has shown that self-care and the contribution of a caregiver in chronic diseases can improve health-related quality of life (Cannon et al., 2016) and reduce mortality (He et al., 2017; Ruppar et al., 2016), hospital admissions (Hamar et al., 2015; Zwerink et al., 2014) and costs (Wheeler et al., 2003). In these contexts, the relationship of the persons designated as guardians of these patients is essential. Contributions are typically provided by family members or other unpaid persons (Vellone et al., 2019). However, several factors are known to influence self-care behaviors in individuals with chronic diseases, such as sociodemographic factors (such as age, gender, socioeconomic status, and level of education), clinical characteristics of the patient (e.g., number of conditions, prescribed medications), and care partner burden (De Maria et al., 2019a). Taking care of oneself is therefore an integral aspect of human life and self-care needs become more complex when living with chronic conditions (Freedman & Spillman, 2014; Schoen, Osborn, How, Doty and Peugh, 2009; Wagner, Austin and Von Korff, 1996; Wagner et al., 2005). Therefore, when signs and symptoms occur, people adopt a variety of behaviors to deal with them, which is referred to as self-care management (B. Riegel et al., 2019). Self-care is a "decision-making process put in place by the patient to preserve health and manage chronic disease" (Riegel et al., 2018). Referring to Riegel et al.'s mid-range theory, self-care consists of three dimensions: self-care maintenance, self-care monitoring, and self-care management. Self-care maintenance refers to all those behaviors implemented by the person, for health care and physical stability, also emotionality in influencing the course of the disease, factors that determine the progress and improvement of the patient (for example, ensuring sufficient sleep, taking prescribed medications, stress management, being physically active. ); Self-care monitoring aims to recognize any changes in the health of the chronically ill person; Self-care management is the process of assessing signs and symptoms of physical and emotional change that serves to determine any action needed to restore health.

On this study it was considered appropriate to focus attention on the selfcare of the patients, but also on that contribution that comes from his family. (Riegel, B., Westland, H., Iovino, P., Barelds, I., Bruins Slot, J., Stawnychy, M. A., Osokpo, O., Tarbi, E., Trappenburg, J., Vellone, E., Strömberg, A., &Jaarsma, T. (2020).

## II. Methods

### *II.1. Objectives*

The objectives of this study are to describe the levels of theoretical self-care behavior implemented by elderly patients over 65 years old who suffer from multiple chronic

diseases. Also determining the levels of the caregiver's contribution to self-care behaviors. The study is concerned with the assessment of outcomes related to self-care behaviors of the elderly patient and outcomes related to the caregiver's contribution to self-care behaviors.

## *II.2. Study design*

The Sodality Albania study is a multicenter transversal study at zero time (as it provides a single moment of data collection which is the time of enrollment, quantitative correlational study. because it measures variables with questionnaires on which score scores are identified). The sample consists of 15 dyads, patient-caregivers each of the dyads was given a questionnaire. This questionnaire was distributed physically in the homes of 30 people, respectively 15 of them patients and 15 caregivers of these people affected by various pathologies. The criteria for patient inclusion in the study correspond to the age of patients who must be over 65 years old and suffering from two or more chronic diseases. The diagnosis determined by the doctor must include at least one disease among DB, COPD, HF. Patients diagnosed with dementia and neoplasia were excluded from the study.

The criteria set for the participation of caregivers in the study are based on their adult age and their care for patients against no payment.

For the study to reach a conclusion with accurate results, applying all sampling points, both patients and caregivers must first give their written consent. Willingness to give consent in a formal and professional manner for the continuation of the study.

## *II.3. Instruments*

For the development and approval of participation, a paper questionnaire was administered to the patient-caregiver dyad, a paper questionnaire which was used to conduct an oral and written interview directed by the person in charge of the study. The questionnaire contains a first part of the list of diseases that the patients are suffering, the reading of the consent, responsible for the study, the advantages of participation and how the information will be disseminated. A main socio-demographic part from which it was possible to detect the personal characteristics of the samples, age, sex, level of education, economic condition, marital status etc. The medical records of the patients were analyzed to confirm the chronic condition and the necessary medications based on the documentation of DM, COPD and HF. Care partners also had to report the years and weekly hours of care and whether someone else close to them contributed to the patient's care and the relationship they had with the caregiver (spouse or other). It is a structured interview where

you can neither introduce nor skip questions, but only stick to those of the questi onnaire.

The theory of the study is guided by a medium-range theory of self-care of chronic diseases developed by 3 self-care experts (Riegel B., Stromberg H,) and these are:

*Self-Care of Chronic Illness Inventory (SC-CII)*, a tool developed and validated by Riegel and colleagues in 2018 to measure self-care behaviors in people suffering from all types and numbers of chronic diseases. It consists of several sub-stairs, each of which investigates a specific dimension of self-care: Section A (from item 1 to 8): consisting of 7 items (item no. 7 has been omitted during validation) and investigates Self-Care Maintenance. Section B (item 9–14): consists of 6 items (where the 14 has been omitted during evaluation) and investigates Self-Care Monitoring. Section C (item 15–20): consists of 6 items (but another item is being evaluated) and investigates Self-Care Management. The answer options are presented with a five-point Likert scale with a polarity ranging from a minimum value = 1 ("Never") to a maximum value = 5 ("Always"). The score is standardized from 0 to 100. Where the score 70 represents the cut-off, above which is an adequate level of self-care. However, it must be noted that there are socio-psychological variables that influence self-care, and these can be perceived stress, social support, mutuality, depression etc., and these are evaluated through scales that have been applied and are:

*The Perceived Stress Scale (PSS; Scale for Perceived Stress*, it is the most used psychological tool to measure the perception of stress. The items were built to intercept the level at which people who respond to the test find their lives unpredictable, uncontrollable. PSS questions relate to the emotional side and thoughts created in the last month. For each item, pcs and caregivers were asked to indicate how often they felt in a certain way and the PSS scores are obtained by reversing the answers (for example, 0 = 4, 1 = 3, 2 = 2, 3 = 1 and 4 = 0) given to the four positively formulated items (items 4, 5, 7 and 8) and then adding up all the items on the scale. (Cohen, et Williamsson).

*The Mutuality Scale (MS)* is interpreted as a healthy, quality relationship between caregiver and patient. Among the mutuality measurement tools in literature, the Mutuality Scale (MS), developed by Archbold et al. in 1990, (Archbold et al, 1990) is the most widely used. It consists of 15 items grouped into four dimensions: "love and affection", "shared pleasant activities", "shared values" and "reciprocity". In the caregiver, high levels of mutuality are associated with less stress, depression, and burden for a better quality of life and self-perceived health; In patients a high mutuality is able to accelerate healing from the disease, reduce anxiety and depression and improve quality of life. (Archbold, P. G., Stewart, B. J., Greenlick, M. R., & Harvath, T).

The *Multidimensional scale for Perceived Social Support* (MSPSS) (Zimet et al., 1988) was used to assess perceived social support. Instrument, reliable and valid, consisting of 12 simple and easy-to-administer items in which subjects expressed their degree of agreement on a Likert scale from 1 to 7 points respectively strongly Disagree and strongly Agree. Articulated in three dimensions: perceived support from family, perceived support from friends, perceived support from significant others. (Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K.). The MSPSS allowed us to identify a total score for the subjective assessment of perceived social support adequacy by considering them as separate sources.

Finally the ***Patient Health Questionnaire-9 PHQ 9*** was used to assess the severity of depression, used for the diagnosis, monitoring and determination of depression severity (Spitzer et al., 1999). The PHQ-9 consists of two questions. With the first we asked the dyad about the presence "in the last two weeks" of the 9 symptoms of depression. Only this question determines the score of the PHQ-9. Each symptom was rated on a 4-point scale: "0" (not at all) to "3" (almost every day). The maximum score of 27. The score of 10 is the optimal cut-off.

Lastly, the management of the pc wondered how they manage the chronic disease, if it is prevalent the patient, or the caregiver or if they are both and how they do it. Below are the results with the various evaluations.

### *II.4. Data analysis*

The data collected was analyzed with the use of Microsoft Excel software. The discrete variables were analyzed by calculating the absolute frequency and of the percentage frequency, for the continuous variables have instead been calculated the mean and the standard deviation.

## III. Results

The patients interviewed in the study have the following sociodemographic characteristics: 53% of patients are male, with an age range ranging from 68-88 years, with an average age of 74 years. The patients interviewed receive assistance from their caregivers from a minimum of 1 year to a maximum of 9 years, with a minimum time of 10h to a maximum of 21 h. The years of diagnosis of patients vary from a minimum of 2 years to a maximum of 16 years.

The caregivers interviewed in the study have the following sociodemographic characteristics: 60% of caregivers are female, with an age range ranging from 34 to 80 years, and an average age of 60 years. The role of the caregiver is represented for 40% by the spouse, 26.67% by the grandchildren and 33.33% by others (cousin /

cousin). Caregivers assist the patient from a minimum of 1 year to a maximum of 9, with a minimum of 10 h to a maximum of 21 h. In addition, 40% of caregivers have also a chronic disease.

**TABLE 1.** Sociodemographic characteristics of patient and caregiver dyads

| Variables | Patient | Caregiver |
|---|---|---|
| **Sex** | **N %** | **N %** |
| Male | 53% | 47% |
| Female | 33% | 60% |
| **Age** | 68-88 years | 34-80 years |
| Middle age | 74 years | 60 years |
| **Education** | | |
| Primary school | 67% | 27% |
| Lower secondary school | 33% | 27% |
| Upper secondary school | - | 40% |
| Vocational school | - | 7% |
| **Marital status** | | |
| Married / Cohabiting | 100% | 93% |
| Widower | | 7% |
| **Albanian citizenship** | | |
| Albania | 100% | 100% |
| **Current employment** | | |
| Employee | | 7% |
| Freelancer | | 47% |
| Retired | 100% | 47% |
| **Economic condition** | | |
| High | 7% | 33% |
| Middle | 93% | 67% |
| Low | - | - |
| **N° of people living** | | |
| 1 person | 100% | 80% |
| 2 or more people | | 20% |
| **Live with the caregiver** | | |
| Yes | 40% | - |
| No | 60% | - |
| **Patient/caregiver relationship** | | |
| Spouse | 40% | |
| Grandchildren | 27% | |
| Other (cousin) | 33% | |
| **Presence of secondary persons** | | |
| Yes | - | 93% |
| No | - | 7% |
| **Years of assistance** | | From 1 to 9 years |
| **Number of hours of assistance** | | From 10 a.m. to 9 p.m.<br>14.6h (average value) |
| **Years diagnosis disease** | Between 2 and 16 years old | |
| | Media:8,64 | |
| Presence of 2 Chronic diseases | 80% | |
| Presence of 3 chronic diseases | 13% | |
| Presence of 4 chronic diseases | 7% | |

**TABLE 2.** Patient-Caregiver Self Care Measures

| | M | DS | Range (min-max) |
|---|---|---|---|
| SC-CII - Selfcare maintenance | 57.62 | 9.72 | 42.86-75.00 |
| SC-CII - Selfcare monitoring | 55.00 | 13.36 | 35.00-75.00 |
| SC-CII - Selfcare management | 59.11 | 8.11 | 46.67-76.67 |
| CC-SCCII – Contribution of the caregiver at self maintenance | 47.08 | 8.64 | 34.38-62.50 |
| CC-SCCII - Contribution of the caregiver at self care monitoring | 55.00 | 13.36 | 35.00-75.00 |
| CC-SCCII - Contribution of the caregiver at self care management | 59.00 | 8.11 | 46.67-76.67 |

From the results obtained we note an average level of selfcare maintenance of 57.62 (SD ± 9.72). The analysis of the data shows that most patients have low levels of selfcare maintenance compared to the cut-point value. The results obtained show a maximum self-care value of 75 and a minimum of 35. The average level of self-care monitoring is 55 (SD± 13.36) showing that most patients have selfcare monitoring below the cut-point value. From the analysis of the collected data, it appears that most have a low level of self-care management, and only a small part has a higher level of the cut-off with the average level of self-care management 72.89 (SD± 11.93) The latest analysis concerns self-confidence from the data analysis it turns out that more than half have low levels compared to the cut-off value. The average value is (SD± 11.93)

The sample reports contribution of the caregiver in the self-care maintenance an average level of 47.08, (SD± 8.64). However, they still have low levels, as they refer to the self-care of the patients. The data of the contribution of self-care management has an average level value of 55 (SD±13.36). The data of the contribution of self-care monitoring has a mean level of 59.11 (SD± 8.11). Self-care confidence data a mean level 61.83 (SD± 11.93)

**TABLE 3.** Multidimensional Scale for Perceived Social Support (MSPSS)

| Perceived Social Support (MSPSS) | M | SD | Range (min-max) |
|---|---|---|---|
| MSPSS- friends | 4.77 | 0.54 | 4.00-6.00 |
| MSPSS- family | 6.17 | 0.26 | 6.00-6.75 |
| MSPSS- Other | 4.95 | 0.57 | 4.00-6.00 |
| MSPSS- perceived social support | 5.29 | 0.28 | 4.92-5.83 |

The highest levels in family social support are noted, with an average of 6.17, the highest of all the others. The overall average social support of all items is 5.29. The average value of friend's support is 4.77 (SD±0.54). While the other subjects we have an average of 6.95 (SD± 0.57).

**TABLE 4.** Scale of perceived stress
and socio-relational variables of patient's mutuality scale

| Perceived stress and socio-relational variables of patient's mutuality scale | M | SD | Range (min-max) |
|---|---|---|---|
| PSS TOT- perceived stress | 20.4 | 3.50 | 15-25 |
| Medium Mutuality Scale | 2.77 | 0.32 | 2.33-3.40 |
| PHQ-9 Depression Scale | 5.53 | 2.13 | 2-10 |

Most patients have an average stress level that has begun to affect their lives. An average perceived stress value of 20.4 (SD± 3.50) is noted in the table. From the data analyzed in the mutuality scale has been seen that most patients have a good relationship with their caregiver. In fact, there is an average value of 2.77 (SD± 0.32). In Patient Health Questionnaire-9 PHQ 9 we then assessed the severity of depression. 10 is the cut-off. Mean value is 5.53 (SD± 2.13). And finally, as many as 73.33% of patients carry out the management of chronic diseases together.

## Discussion

Review of existing literature and data confirmed how the progressive aging of the population is a current and always a phenomenon growing. This consequently determines a parallel increase in the frequency of chronic pathologies, which are found more precisely in the elderly population. Chronic diseases can therefore be defined as a social problem, which affects not only the individual but the whole community in terms of costs for the health service, productivity and quality of life. The importance of self-care was highlighted through the review of the existing literature and the results of studies previously undertaken in the field of individual chronic diseases. A good level of self-care has proven itself in able to reduce mortality and hospitalizations, to increase the capacity to symptom management and improve quality of life.

In general, the selfcare of the patient-caregiver dyad in the context of illnesses chronic multiple appears to be adequate in every dimension of theoretical selfcare. Regarding the patient, the behaviors of self-care maintenance, self are adequate care monitoring and self-care management. Our relatively small sample allows us to obtain limited results in the population but significant enough. During this study there were limits: Sample size, difficulty enlisting and difficulties in consent and difficulties in compilation. The study showed a low level of self-care. This stemmed precisely from a low education and the little information that patients had about it, probably due to a difficulty in accessing many services as most of them live in small towns and others in rural areas. Their economic situation is necessary to live peacefully and

has not influenced the low levels of self-care that much. The perceived stress level was not that high, depression levels were also below the threshold, and not only the patient-care giver ratio was found to be quite good. In Albania there are still no studies that describe the self-care of the patient and the contribution to self-care by the caregiver, that's why we can only make a comparison with other countries in the world. In fact, the literature for 10 years now states that economic conditions have greatly influenced self-care levels, as they were unable to provide for it. The different studies carried out have shown a low level of self-care in the 3 dimensions due to a low level of education, but not only has it been shown that women have lower levels of self-care due to high levels of depression. as well as social isolation. (McGilton, K. S., Vellani, S., Yeung, L., Chishtie, J. (2018).

## Conclusions

In conclusion, our study shows levels of self-care maintenance, monitoring and management below the adequacy value. There is also a correlation between socio-demographic information and the patient's self-care behaviors and the contribution of caregiver's self-care. The importance of a dyadic approach is therefore argued. However, further research is needed, as the number of samples examined is quite limited. In this study we note a reciprocity of collaboration between patient and caregivers; the latter being, in our sample, a familiar figure and very close to the patient, even if low levels of contribution compared to normal values are reported. The fundamental objective of chronic care systems is to maintain the sick person at home as much as possible. Especially the treatments at home. Also, another goal of an assistance system for chronicity is the achievement of a good awareness and co-responsibility of person in the process of treating his illness. To get a good degree of empowerment requires that the information provided to the person and to all components of its context (family members, caregivers) from every professional figure involved in the treatment process are unambiguous, simple, understandable, homogeneous, and constantly repeated and reinforced. Also, because at the moment there are still no testimonies of studies of this type in Albania. While all the other studies such as in Italy, Sweden, United States present a fairly high number, and this gives a general but also complete picture of the situation of that country or State.

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# *"Text neck" pain and excessive smartphone usage among students*

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## Abstract

***Introduction:*** *The use of a mobile phone is almost an essential activity for seven billion individuals in the world who currently own these devices. With an average daily usage time of seven hours there is a risk for mobile phone addiction with individuals having a persistent desire and craving to use mobile phones which causes social and functional impairment.*

***Purpose:*** *The purpose of this study was to find a correlation between excessive smartphone usage and neck pain among university students in the European University of Tirana.*

***Methodology:*** *This is a cross sectional study. The study was conducted during a period of 1 month, from January 2023 till February 2023 and the data was collected from the third-year students of the Bachelor programs in the European University of Tirana. The subjects were selected based on their response to participating in the study and 138 participants (n=138) volunteered to participate.*

***Results:*** *A weak correlation between phone time and neck pain was found with a Pearson correlation coefficient of 0.073, this correlation was not significant (sig value 0.197). Although there was a significant correlation (sig 0.001) between neck flexion angel and neck pain with a Pearson correlation value of 0.303. Non parametric test analysis showed that we have differences on neck pain value across the two groups with female students experiencing higher level of pain than male students.*

***Conclusions:*** *As we are advancing towards digitalizing most of our daily activities smartphones have become an extended part of human beings. Regular neck posture correction and advice on how to properly position the neck while using smartphones should be taken into the account.*

***Key words:*** *Smart phones, pain, neck pain, back pain, students.*

## Introduction

The use of a mobile phone is almost an essential activity for seven billion individuals in the world who currently own these devices. Mobile phones are convenient to use and provide many facilities such as communication, services, leisure and being updated on current events around the globe. All these services have made it easier for the globalization of society and every year we develop newer technologies to further improve them and benefit from the positive aspects of mobile phones.

Although with great positive traits mobile phones also come with negative impacts on society. With an average daily usage time of seven hours there is a risk for mobile phone addiction with individuals having a persistent desire and craving to use mobile phones which causes social and functional impairment (Chen et al., 2022). Besides social and mental issues that smartphone addiction causes there are also biological and structural effects noticed on the human body from the excessive use of smartphones (Jung et al., 2016). There are evident changes on the bone and joint structures of the fifth phalanges due to repeated pressure applied from holding the devices (Fuentes-Ramírez et al., 2020). In the last three years there has been a rise on the average phone screen time attributed to the Covid-19 pandemic as due to isolation many turned to mobile phones to pass time at home and follow work or school, especially children. During this time, it also become more evident that several children and individuals suffered from eye related issues caused by over exposure to mobile phone screen.

Smartphone usage has been linked to changes in neck posture among students (Ahmed et al., 2022). This can put significant strain on the neck and upper back muscles, leading to discomfort and pain. Studies have shown that spending extended periods of time using smartphones can exacerbate these issues, as users often hold

their devices at a low angle and look down for extended periods (Sirajudeen et al., 2022). As a result, students who use smartphones frequently may be at a higher risk of developing neck pain and other related conditions. The most evident issues with prolonged smartphone usage are progressive postural and structural changes that are installed due to changes on the cervical head biomechanics. While using smartphones the tendency is to make a neck flexion and look down to watch the screen, this requires the flexor muscles to shorten and the neck extensors to lengthen (Alshahrani et al., 2021). As this function is repeated several times during the day and over a long period of time flexor muscles have the tendency to remain shorten and the extensors to remain lengthened and weaken. This causes the head to shift in an anterior position compared to the shoulder position. This posture is known as Forward Head Posture (FHP) or commonly known as "Text Neck" (Balthillaya et al., 2022). FHP is characterized by various symptoms such as:

1. Anterior displacement of the head.
2. Increase in cervical flexion and capital extension.
3. Addition of thoracic kyphosis.
4. Crossing syndrome:
   - Muscular shortening of the cervical flexors and lengthening of the extensors.
   - Muscular shortening of the capital extensors and lengthening of the flexors. (Moore, 2004).
5. Pain (Kim et al., 2018).
6. Discomfort and dysfunction.
7. Nausea and Vertigo (Lee and Lee, 2019).

Neck pain is the most common symptom of complaint among individuals that use smartphones or other similar technologies (Derakhshanrad et al., 2021).

## Methodology

### *Purpose*

The purpose of this study was to find a correlation between excessive smartphone usage and neck pain among university students in the European University of Tirana.

### *Research design*

This is study is a Cross-sectional study, investigating the relationship between subject's neck pain, the angel of neck flexion while using smartphones and the period of time using smartphones.

*Population and sample*

The study was conducted during a period of one month, from January of 2023 till February 2023 and the data was collected from the third-year students of the Bachelor programs in the European University of Tirana. The subjects were selected based on their response to participating in the study and 138 participants (n=138) volunteered to participate. The subjects were part of various departments such as Nursing (n=44), Physiotherapy (n=23), Imaging (n=27), Engineering (n=24) and Economy (n =20). The criteria to be included in the study was to own a mobile phone without taking into account the model or year of production. There were also no exclusion criteria regarding gender and age.

*Instruments and data collection*

Each subject filled a questionnaire which was distributed via Google Forms in order to facilitate the data collection process. The questionnaire was based on collecting data through self-reporting and included 4 questions which subjects were instructed shortly. The questionnaire required participants to:

1. Declare their gender.
2. The average daily phone usage time in hours was to be reported by study participants. This made it possible to get precise numerical data, which made statistical analysis and interpretation easier. The reported values were self-assessed by the students, adding a subjective component to the data, which is significant to note.
3. Visual Analogue Scale was used to determine the level of neck pain. Students reported the level of neck pain from 0 to 10. The value 0 is interpreted as "no pain", values from 1-4 as "mild pain", values from "4-6" as "moderate pain", values from "5-9" as "severe pain" and value 10 as "extreme pain".
4. Participants' awareness of their head and neck alignment during smartphone usage was evaluated using self-report measures that measure postural awareness. Students selected the posture they assumed while using smartphones selecting postures were the neck angle was: 0 degrees, 15 degrees ,30 degrees, 45 degrees and 60 degrees.

**FIGURE 1.** Visual graphic used for neck angel self reporting.

*Data analysis*

Method used for analyzing data was Linear Regression Analysis, Descriptive analysis and non-parametric tests through IBM SPSS Statistics 26 program.

## Results

**TABLE 1.** Gender distribution of subjects

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Female | 80 | 58.0 | 58.0 | 58.0 |
| | Male | 58 | 42.0 | 42.0 | 100.0 |
| | Total | 138 | 100.0 | 100.0 | |

From the analyzed data of 138 subjects 58% of them were female (n=80) and 42% male (n=58).

The mean time spent using mobile phones was 5.6 hours (Std.D 2.39 hours) with a maximum value of 15 hours a day to a minimum of 1 hour a day.

The mean neck pain level reported was 4.12 (Std.D 2.6), with the minimum value reported at 1 and the maximum value at 10. The mean neck pain level reported was a "moderate pain".

**TABLE 2.** Statistics for variables: "Phone time" "Neck Pain" "Neck Angle"

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Phone Time | 138 | 1.00 | 15.00 | 5.5986 | 2.39920 |
| Neck Pain | 138 | 1 | 10 | 4.12 | 2.677 |
| Neck Angle | 138 | 15 | 60 | 31.96 | 12.402 |
| Valid N (list wise) | 138 | | | | |

The mean neck angle while using smartphones was 32 degrees (Std.D 12 degrees) with the maximum value being 60 degrees and minimum value 15 degrees.

**TABLE 3.** Correlations of Neck Pain with Phone Time, Neck Angle and Gender

| | | Neck Pain | Phone time | Neck Angle | Gender |
|---|---|---|---|---|---|
| Pearson Correlation | Neck Pain | 1.000 | .073 | .303 | .263 |
| | Phone Time | .073 | 1.000 | .006 | -.075 |
| | Neck Angle | .303 | .006 | 1.000 | .224 |
| | Gender | .263 | -.075 | .224 | 1.000 |
| Sig. (1-tailed) | Neck Pain | . | .197 | .000 | .001 |
| | Phone Time | .197 | . | .474 | .190 |
| | Neck Angle | .000 | .474 | . | .004 |
| | Gender | .001 | .190 | .004 | . |
| N | Neck Pain | 138 | 138 | 138 | 138 |
| | Phone Time | 138 | 138 | 138 | 138 |
| | Neck Angle | 138 | 138 | 138 | 138 |
| | Gender | 138 | 138 | 138 | 138 |

To study the relationship between neck pain, time using smartphones and neck angle Pearson Correlation was used. From the analyzed data it results that there is a weak but positive correlation between time spent using smartphones and neck pain with a value of 0.73, although this correlation is not statistically significant with value of significance (P=0.197).

Neck angle and neck pain have a stronger relationship with a moderate positive correlation value of 0.303 and this correlation is statistically significant with a significance value of (P=0.001). Gender and neck pain have a weak and positive correlation with Pearson value of 0.263 and with a significance value of (P=0.001).

**TABLE 8.** Tests of Normality for the data distribution of "Neck Pain" across gender groups.

| | Gender | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Neck Pain | Male | .246 | 58 | .000 | .807 | 58 | .000 |
| | Female | .130 | 80 | .002 | .936 | 80 | .001 |
| a. Lilliefors Significance Correction | | | | | | | |

In this study, a normality test was performed to evaluate the data's normalcy. The Shapiro-Wilk and Kolmogorov-Smirnov test was used in this investigation to

assess the data's assumed normality. As the p value of both tests is smaller than 0.05 the data is not normally distributed, therefore a non parametric test was used to compare the level of neck pain between genders.

Non parametric test Mann-Whitney U test was used. According to the results the level of neck pain is not the same across the two groups of genders (P =0001). Female students experience higher level of neck pain compared to male students.

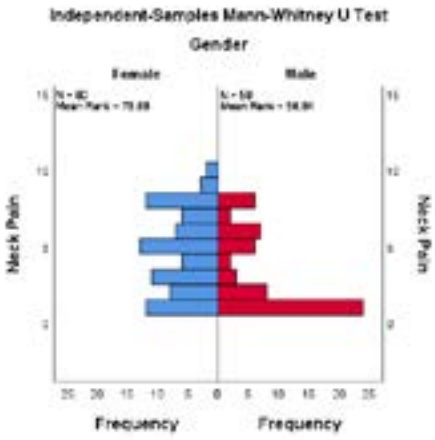
**TABLE 9** Hypothesis Test Summary

| | Null Hypothesis | Test | Sig. | Decision |
|---|---|---|---|---|
| 1 | The distribution of Neck Pain is the same across categories of Gender. | Independent-Samples Mann-Whitney U Test | .001 | Reject the null hypothesis. |
| Asymptotic significances are displayed. The significance level is .050. | | | | |

**TABLE 10** Independent-Samples Mann-Whitney U Test Summary

| | |
|---|---|
| Total N | 138 |
| Mann-Whitney U | 3054.000 |
| Wilcoxon W | 6294.000 |
| Test Statistic | 3054.000 |
| Standard Error | 228.731 |
| Standardized Test Statistic | 3.209 |
| Asymptotic Sig.(2-sided test) | .001 |

**GRAPHIC 1.** The independent samples Mann-Whitney U test.
Female subjects have a higher Mean Rank (78.68) than male subjects (56.84)



## Discussion

This study found no significant relation between neck pain and excessive use of smartphones. This could be due to a small sample and not taking other factors that can influence neck pain. Despite not finding a correlation in this study neck pain is still high among smartphone users as a study in the University of Qassim in Saudi Arabia suggests. The study concluded that the prevalence of students with neck pain associated with smartphone usage was 60.8%, the prevalence was higher in students who were also addicted with smartphones (Alsalameh et al., 2019). This study had a larger sample size compared to ours but in another cross-sectional study with a similar sample size to ours was found a significant association between neck pain and smartphones (Mustafaoglu et al., 2021). The neck pain was caused as a secondary effect due to postural changes of the cervical spine and crossing muscular syndrome of the neck muscles. Another study from Saudi Arabia which involved 313 students also found a correlation between smartphones and neck pain due to the "Text neck" or the Forward Head Posture phenomenon (Sirajudeen et al., 2022). Our study did not take into the account the activities performed using smartphones, but other studies suggest that not taking breaks, playing video games and switching periodically between various electronic devices rises the risk to neck pain (Ayhualem et al., 2021). Other studies suggest the same findings as our study. A study conducted in a Turkish University among nursing students had low levels of smartphone addiction and the neck pain was associated with different factors (Özdil et al., 2022). Similarly, another study conducted with medical and surgery students found no relationship between neck pain and smartphone usage even though half of the subjects had experienced neck pain (Bertozzi et al., 2021).

Besides finding no correlation between neck pain and time using smartphones our study found a significant correlation between neck pain and the angle of the neck flexion while using smartphones. There is evidence of higher levels of pain associated with higher degrees of neck flexion while using smartphones (Szeto et al., 2020). These results support the association between neck pain and neck flexion when using a smartphone and are consistent with earlier studies. For instance, a study observed a positive link between neck pain and the amount of neck flexion during smartphone use in a cross-sectional study with 432 participants (Al-Hadidi et al., 2019). Similar findings were made by another study, who investigated a bigger sample of 779 students. They discovered that neck pain was connected to greater levels of neck flexion. These studies, as well as our own, highlight the significance of taking neck posture when using a smartphone into account as a possible risk factor for neck pain (Namwongsa et al., 2018).

Further research has clarified the effects of smartphone use and neck flexion on musculoskeletal health. When comparing muscle activity in those with and without chronic neck-shoulder discomfort, it was discovered that using a touchscreen smartphone enhanced muscular activity in the neck-shoulder region (Xie et al., 2016).

## Conclusions

Smartphones have become an essential part of our daily lives as society embraces digitization more and more. It is important to be aware of the possibility of developing bad postures as a result of chronic smartphone use, even if our study did not discover a significant association between neck pain and the amount of time spent using a smartphone. According to the results of our study, neck pain has been linked to the posture used while using smartphones, which is crucial. Therefore, it is essential to stress the significance of routinely correcting neck posture and offer instructions on how to position the neck properly while using a smartphone.

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# *Sex education among young adults*

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## Abstract

***Introduction:*** *Sex education relates to the dissemination of information regarding human reproductive system, sexually transmitted diseases, pregnancy, childbirth, puberty, menstruation, and menopause. In Albania, sex education began to become part of the education system for the first time in 1995.*

***Purpose:*** *The purpose of this study is to determine the level of education for sexual health among young adults and to ponder upon the effects of current sex education available for them and the possibilities of improvement.*

***Methods:*** *The study included 200 subjects 72.9% female (n=146) and 27.1% males (n=54) with age range from 18 to 23 years old.*

***Results:*** *The main source of information for sex education turns out to be the Internet (53.8%). This form of education has had a considerable effect on the subject's sexual life, as half of the subjects think this information is enough for them. 67% of the sample (n=134), think that they need more information regarding sex education. Regarding the knowledge about sexually transmitted diseases, it turns out that the subjects are more informed about HIV/AIDS (96%). They were less informed about condyloma acuminata, HPV, chlamydia and syphilis. The most used protective method is the condom (66.5%), followed by emergency pills (11.2%) and oral contraceptives (7.6%).*

***Conclusion:*** *Sex education among young adults in Albania results promising, as this sample of young adults was knowledgeable about STT and protection.*

***Key words:*** *sex education, sexually transmitted diseases, protective measures.*

## Introduction

Sex education means the dissemination of information related to the human reproductive system, sexually transmitted diseases, pregnancy, childbirth, puberty, menstruation, and menopause. Sex education helps people gain the information and skills they need to make the best decisions for themselves about sex and relationships. (Breuner et al., 2016)

As they grow older, young people face important decisions about relationships, sexuality, and sexual behavior. The decisions they make indisputably affect their health and well-being. Young people have the right to live a healthy life and it is the duty and responsibility of society to prepare young people by providing them with a comprehensive sex-health education that gives them the necessary tools to make healthy decisions.

Sex education begins early in childhood and progresses through adolescence and adulthood. Family, society, school, media, and internet serve as main sources of information regarding sex education (Guthrie & Bates, 2003). Many young people receive confusing information about intercourse and sex as they transition from childhood to adulthood. This has led to a growing demand for reliable information that will prepare them for a safe, productive and fulfilling life.

In Europe, sex education as a subject of the school curriculum has a history of more than half a century. It first started in Sweden in 1955, followed by many other Western European countries in the 1970s and 1980s. (Yepoyan, 2014) It then continued in the 1990s and early 2000s, first in France and the United Kingdom and then in Portugal, Spain, Estonia, Ukraine and Armenia. In Ireland, sex education became compulsory in primary and secondary schools in 2003. (Yepoyan, 2014)

In Albania, sex education began to become part of the education system for the first time in 1995 (Together for Life, 2022). United Nations Fund for Population Activities (UNFPA) is one of the international organizations that has contributed for almost a decade, in cooperation with the Ministry of Education, Sports and Youth, for the development of sex education and its implementation in Albanian school curricula for ages 10 to 18. For this, measures were taken to train teachers on the best practices in teaching topics related to sex education. (Together for Life, 2022)

Although sex education is introduced and implemented in Albania, according to a report by TFL (*Together for Life organization*) the number of reported STD is considerably high.

With 10% of women and 2% of men of the age 15-49 reporting at least one symptom of sexually transmitted diseases (STD) on the past 12 months. And for

the subjects of the age 15-19 this prevalence is higher with 16% of young women reporting a STD or a symptom of STD on the last 12 months. Also, according to this report, in the year 2020 there were 81 new adult cases of HIV. (Together for Life, 2022)

## Methods

### *Aim of the study*

There is a need for the implementation and strengthening of sex education agenda in high school curriculum or as soon as sexual activity starts during adolescence. The purpose of this study is to determine the level of education for sexual health among young adults and to ponder upon the effects of current sex education available for them and the possibilities of improvement.

### *Sample*

The study included 200 subjects 72.9% female (n=146) and 27.1% males (n=54) with the age range from 18 to 23 years old. Subjects were students from different backgrounds and areas of Albania all pursuing higher education.

### *Data Instrument*

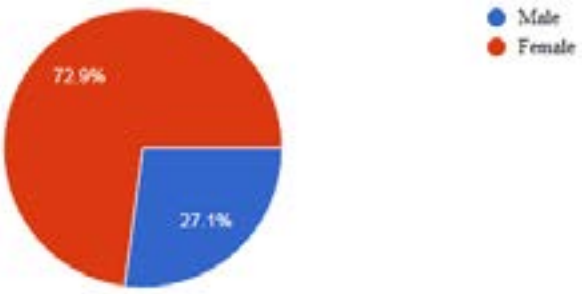
The data was collected by using Google Forms questionnaire distributed to the target population.

The questionnaire included 17 modules that were designed to gather information regarding general information of the subjects, sexuality and sexual behavior, knowledge on sexually transmitted diseases, forms of transmission and means of safe sex, as well as their form of sex education, its origins, and the need for improvement.

## Results

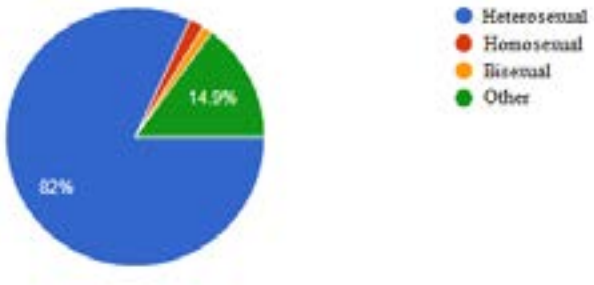
From the collected data, it results that 27.1% (n=54) are male and 72.9% (n=146) are female.

**CHART 1:** Gender Distribution



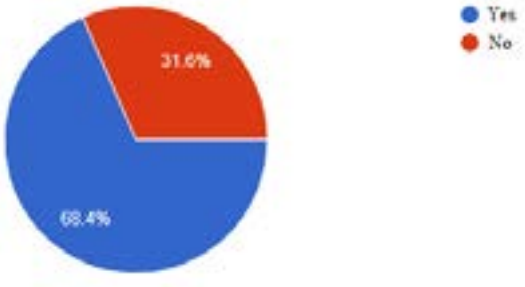

Regarding age of the young adults included in the study, 4.5% (n=9) belong to the age of 18, 16.4% (n=33) belong to the age of 19, 21.5% (n=43) belong to the age of 20, 24.3% (n =49) belong to the age of 21, 14.7% (n=29) belong to the age of 22 and 18.6% (n=37) belong to the age of 23.

**CHART 2:** Sexual orientation



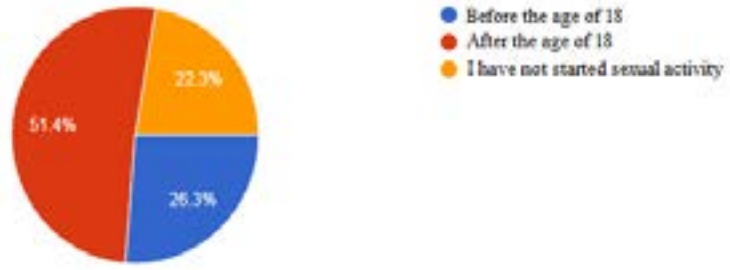

82% (n=164) of the adults included in the study identify as heterosexual, 1.9% (n=4) identify as homosexual, 1.2% (n=2) identify as bisexual and 14.9% (n=30) have chosen the option ' other'.

**CHART 3** :Sexually active



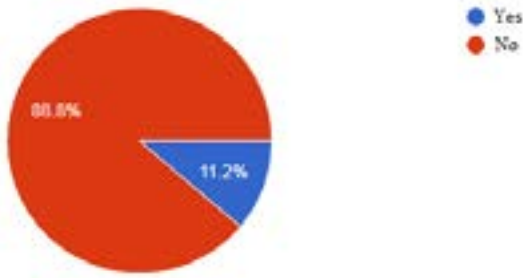
Of the 200 adults included in the study, 68.4% (n=137) affirmed that they are sexually active, while 31.6% (n=63) affirmed that they are not sexually active.

**CHART 4:** Onset of sexual activity



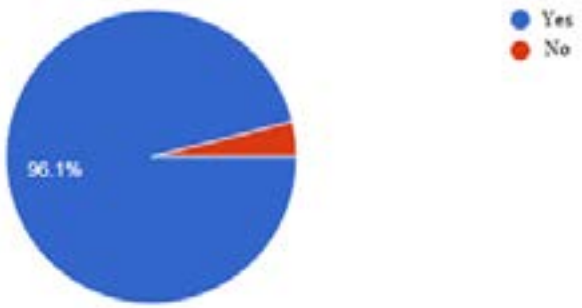

26.3% (n=53) of the adults included in the study started sexual activity before the age of 18, 51.4% (n=103) started sexual activity after the age of 18 and 22.3% (n=44) claimed that they did not have started sexual activity yet.

**CHART 5:** Having more than one partner in the same period of time



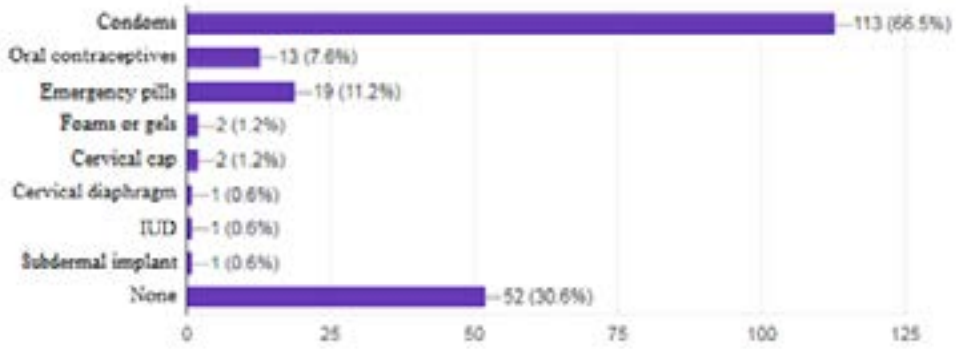

From the collected data, it results that 11.2% (n=22) of the adults included in the study have more than one partner in the same period of time.

**CHART 6:** Being informed about the importance of using protective methods during sex



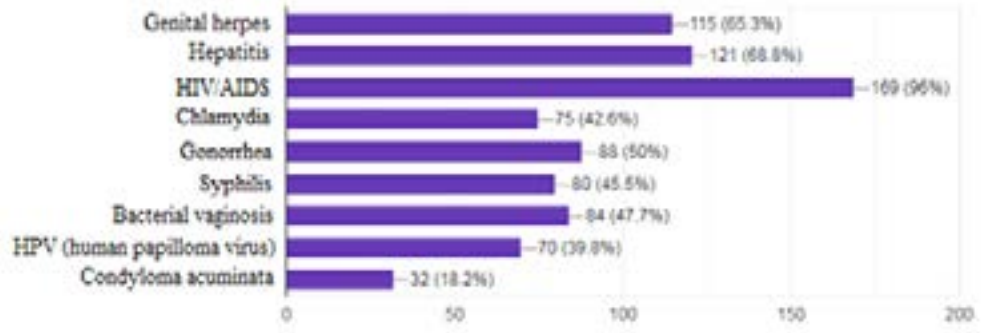
Of the 200 adults included in the study, 96.1% (n=192) of them affirmed that they are informed about the importance of using protective means during sexual intercourses, 3.9% (n=8) of them are not informed.

**CHART 7:** Type of protective methods



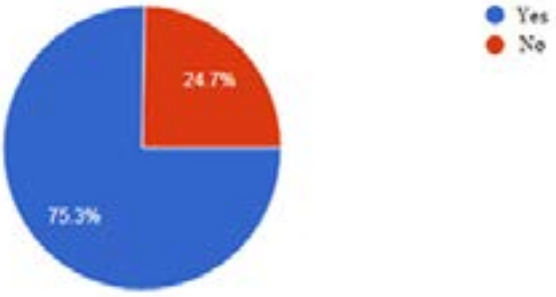

The most used protective method turns out to be the condom (66.5%), followed by emergency pills (11.2%) and oral contraceptives (7.6%). From the collected data, it appears that protective methods such as foams/gels, cervical cap, intrauterine device (IUD) and subdermal implant (Norplant) are much less used by young adults. 30.6% of adults stated that they do not use any of the protective methods.

**CHART 8:** Being informed about SST



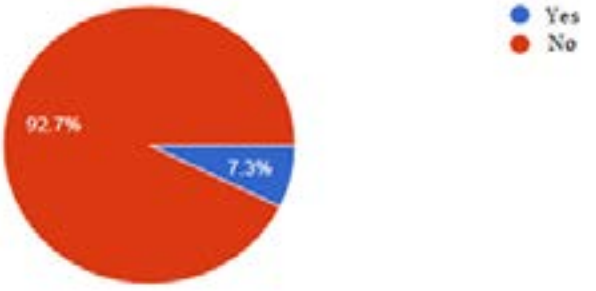

Based on the data collected from the questionnaire about sexually transmitted diseases, it turns out that the subjects are more informed about HIV/AIDS (96%), this is also due to the global promotion against this disease. It is noted that condyloma acuminata, HPV, chlamydia and syphilis are the diseases about which adults are less informed.

**CHART 9:** Being informed about the other ways of transmission of SST



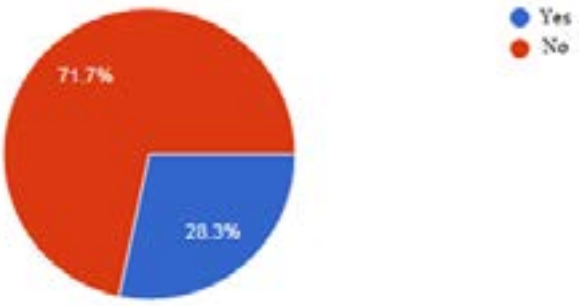

75.3% (n=151) of adults claimed that they are informed about other ways of transmission of these diseases, 24.7% (n=49) are not informed.

**CHART 10:** Symptoms related to SST



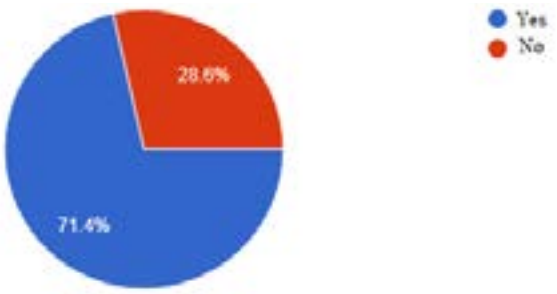

Only 7.3% (n=15) of the adults included in the study affirm that they have had concerns related to sexually transmitted diseases.

**CHART 11:** Medical check-up for symptoms/signs of disease



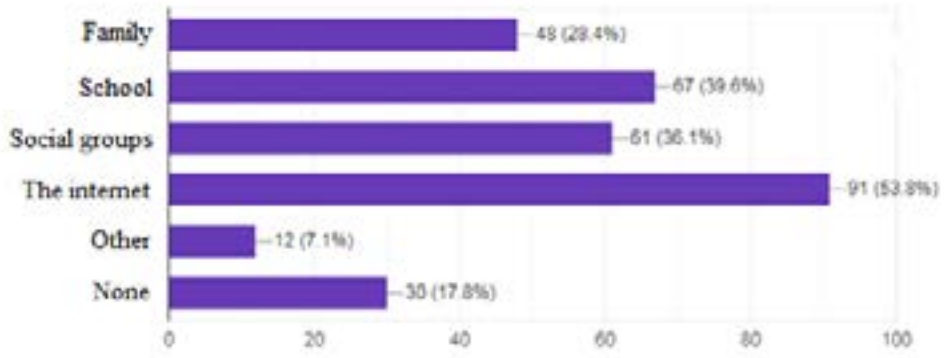

Of the subjects who had suspicions of symptoms related to STDs, 28.3% (n=4) of them had made medical visits for these problems, while 71.7% (n=11) were not examined by a health professional.

**CHART 12:** Sex education before the start of sexual activity




71.4% (n=143) of adults claimed that they had some form of sex education before starting sexual activity, 28.6% (n=57) did not.

**CHART 13:** Source of sex education

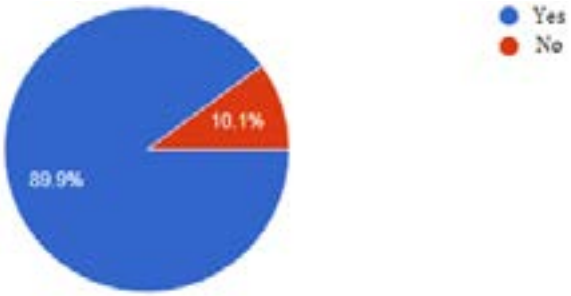



The main source of information for sex education turns out to be the Internet (53.8%), followed by school (39.6%), society (36.1%), family (28.4%) and other forms of education (7.1%). 17.8% of adults did not have any information source for sex education.

**CHART 14:** Influence of sex education in sexual life

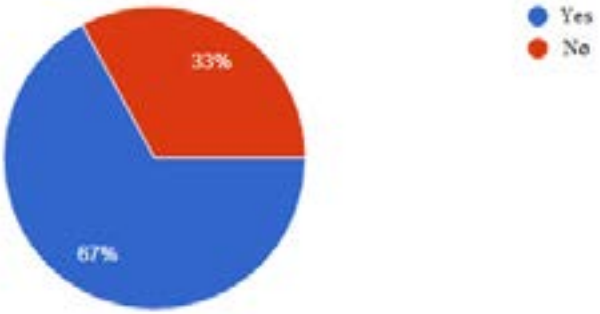
Regarding the question of how much influence sex education has had on their sexual life, 15.8% (n=31) of adults chose the option 'not at all', 22.4% (n=45) chose the option 'a little', 44.8% (n= 90) have chosen the option 'enough' and 17% (n=34) have chosen the option 'a lot'.

**CHART 15:** Inclusion of sex education in high school curriculum




From the data collected, it results that 89.9% (n=180) of the adults included in the study claim that sex education should be included more in the curricula of high schools.

**CHART 16:** More information needed in the topic




From the collected data, it results that a high percentage of adults included in the study, 67% (n=134), think that they need more information on these issues.

## Discussion

The purpose of this study is to determine the level of education for sex-health among young adults and to ponder upon the effects of current sex education available for them and the possibilities of improvement. The main source of information for sex education turns out to be the Internet. The internet being the main source of sex

education form for young adults is not an uncommon knowledge considering most of today's youth regardless their sexuality (Ventriglio & Bhugra, 2019) chooses the internet as a reliable source. Also considering the advancement of technology and the digital culture it is expected that most forums or education programs will be held online.(von Rosen et al., 2017) Having this form of education offered to youth is promising considering that in Albania, but not only, being expressive about sex and sexuality is still a taboo or difficult to discuss about.( Mitchell et al., 2014) Having some sort of privacy to explore, that internet offers, has its positive side, but the issue with the internet is that it also provides unreliable sources of sex education such as pornography which can cause addiction and unhealthy sexual life.(Yunengsih & Setiawan, 2021) Considering that 44% of young adolescents and children in Albania consume pornographic materials daily this rises a concern regarding their sex-health and behavior.(World Vision International, 2013)

Other issues regarding sex education are teaching it, some of the challenges include fear of teachers to discuss controversial subjects, the lack of teacher training to discuss sexuality and the taboo of discussing openly regarding sex issues and discrimination. (Donovan, 1998) Sex education should not be delivered only to heterosexual individuals but also to other spectrums of sexuality and also for individuals with intellectual disabilities. (Lam et al., 2022)

Global public health institutions have had a constant promotion and lobbying against HIV/AIDS and this is reflected on the general knowledge the population has, as seen in our study also.( Gable et al., 2009) On the other hand, we have STDs, such as HPV, which was one of the least known STDs from the subjects, besides the fact that it's one of the most common STDs in the world (Dunne & Park, 2013) and there are yearly campaigns for cervical cancer in Albania.

With globalism and changes in social construct sex-health and behavior of young adults in Albania doesn't have many differences with peers from different nationalities or cultures, all this based on a standardized sex education (Lindberg & Maddow-Zimet, 2012), even though sex education is in constant changes and improvements because of same reasons mentioned. (Leung et al., 2019)

## Conclusion

In summary from the collected data, it results that:

The main source of information for sex education turns out to be the Internet (53.8%). This form of education has had a considerable effect on the subject's sexual life where 44.8% (n= 90) of the subjects think that this form of information is enough for them. 67% (n=134), think that they need more information regarding sex education. Regarding the knowledge about sexually transmitted diseases,

it turns out that the subjects are more informed about HIV/AIDS (96%), while being less informed about condyloma acuminata, HPV, chlamydia and syphilis. The most used protective method turns out to be the condom (66.5%), followed by emergency pills (11.2%) and oral contraceptives (7.6%).

Most of the subjects included in this sample have knowledge regarding sexually transmitted diseases and usage of protection. It should be noted that the source of sex education is not reliable, because the Internet does not always provide safe information about these topics. Actors such as family and school should be more involved in teaching sex education. Information should also be offered regarding more common STDs such as HPV, chlamydia, and syphilis.

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# *Forensic medicine examinations of some Albanian victims after the end of the Kosova war of 1999*

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## Abstract

***Introduction:*** *After the end of the war in Kosovo in 1999, forensic medicine examinations of Albanian victims began to be carried out, mainly by foreign teams, but a part of them also by two teams of forensic medicine doctors from Albania assisted by Kosovar forensic doctors.*

***Methods:*** *As it is known, forensic medicine is a science that is more involved than other disciplines in the events that occur in any period of time, having a close relationship with criminology (the science of the scientific study of criminal phenomena), where the latter receives data highly valued by forensic medicine.*

*Precisely, in such a broad perspective, are also analyzed the forensic data of the cases examined by us. At the beginning of this study, the impressions of the situation in Kosovo after the war are given with pictures of the corpses killed by the Serbian*

*army and paramilitaries, followed by the results of the examinations of many corpses or their remains by us during our stay there.*

*Then some other forensic documents are analyzed, including the book: "Quai des ombres" (Paris 2012) by Professor Lecomte, director of the Medical Institute of Paris, in which, among other things, she shows her memories of the examinations she carried out, of the corpses of Kosovar victims immediately after the end of the Kosovo war.*

***Results:*** *From everything that was seen and examined by us, as well as from the analysis of other materials, the idea was reinforced that the tragic events that preceded the war in Kosovo can be considered as one of the most culminating points of the genocide murders to the Albanian people from its neighbors. But in contrast to all the previous genocidal murders, accurately proven by the numerous forensic examinations of the Albanian victims, the Albanian people reacted more decisively and persistently by creating the KLA (Kosovo Liberation Army) that fighted with the Serbian army and paramilitaries. On the other hand, these massacres were recognized and shocked the entire civilized world, especially the USA, which quickly intervened and freed Kosovo once and for all from the Serbian yoke.*

***Conclusion:*** *It is concluded that: Forensic medicine in its broadest sense constitutes very important evidence for the detection of genocidal murders. In the recent genocide against the people of Kosovo, the forensic evidence, undoubtedly invalidates forensic arguments of Serbia in an irrefutable manner, the completely unimportant, often even false, according to which the Albanians were who have killed the Serbs.*

***Keywords****: Kosovo, forensic evidence of genocide, Serbian genocide against Albanian of Kosovo, Kosovo war.*

## 1. Introduction

After the end of the war in Kosovo in 1999, forensic examinations of the Albanian victims began to be carried out. They were mainly performed by foreign experts, but some of them also by two forensic teams from Albania that went there one after the other during the month of October 1999, to perform some of these examinations together with Kosovar colleagues.

As far as I remember, during our one-week stay in Pristina, we noticed the difficulties caused by the lack of regular electricity and water supply to the citizens, when several months had already passed since the end of the war and the liberation of Kosovo from Serbian yoke.

Kosovar forensic doctors showed us many of the city's buildings, damaged during the NATO bombings, as well as houses and apartments left empty by Serbian citizens, from which they had quickly left or sold during this time.

These images immediately reminded us of the events of many months ago in Albania, in Kukës more but also in Tirana and in all other districts, where the inhabitants of our country sheltered with love and compassion in their homes several hundred thousand Albanians, a large number of children, women and the elderly, violated, tortured and massacred, who had left Kosovo because of the brutal violence against them.

But what affected us the most were the still fresh traces of criminal murders committed by the Serbian army and paramilitaries, mainly against the civilian Albanians population of Kosovo.

During our stay there, our Kosovar colleagues introduced us to cases of dismembered, rotting corpses, of calcined or carbonized skeletal parts, corpses discovered inside wells, some with limbs cut off, of raped women, etc., all of this with the aim of their disappearance, as well as numerous mass cemeteries, some of which were mined that required great care during exhumation. We observed all these in many areas of Kosovo.

Also, we learned about numerous cases of missing persons, who were kidnapped and sent to Serbia, as was the case of a relative of one of the Kosovar forensic colleagues, kidnapped by the Serbian army and who turned out to be missing.

This study will describe some data from the forensic examinations of the corpses of Kosovar citizens killed by the Serbs, carried out by us during that week of our stay there.

Then some other forensic documents will be analyzed, including the book: "Quai des ombres" (Paris 2012) by Professor Lecomte, director of the Paris Medical Institute, in which, among other things, she tells the memories of the examinations performed from her, of the corpses of the Kosovar victims immediately after the end of the Kosovo war.

Ongoing, all the above forensic data are analyzed, in a broad criminal, criminological, ethical, historical, or political perspective, followed by the relevant conclusions.

## 2. Data of some forensic examinations of the remains carried out by us on 23, 24, 25, 26 and 27.10.1999

- **On 23.10.1999**, around noon, in the cemetery of the martyrs of the village of Kleçkë in the municipality of Gllogovci, an examination of an unknown corpse was carried out by us. This corpse was thought to belong to the Kosovar Albanian citizen, G.H., aged 45, with a teaching profession, who on 14.12.1998 in the village of Pashtrik on the border with the Republic of Albania, was killed by the Serbian army and paramilitaries along with several other KLA fighters.

After the identification and opening of the grave, the corpse was taken out, which was presented in an advanced state of decay in the stage of liquefaction and partially saponified, indicating that the death had occurred no less than 6 months ago.

Afterwards, we performed the forensic examination with the external and internal examination, odontological examination and age determination.

In the end, it was concluded that the descriptive and measurement data completely matched those of the murdered person G.H.

Several gunshot wounds were observed on the corpse: one such contact wound on the head and directed from top to bottom and from left to right and three other wounds on the body and left arm, directed mainly from back to front.

The cause of death must have been contusion of the brain.

From these findings, it is clear that the victim was not attacking the aggressors, as he has been turning his back or moving away from them. In this position, they most likely shot him in the body from behind, seriously injuring him, and then when he fell to the ground, but still alive, they approached him and ended him immediately by contact shooting on the head.

-**On 24.10.1999**, in the morgue of the Medical Institute of Prishtina, we examined the remains of the four Albanian victims Sh.M., R.M., A.M. and H.G., found in four separate places in the village of Krushev Obeliq in Kosovo.

From their careful examination, each of the four plastic bags in which each of them was placed were taken out. What was immediately noticeable in these few bones remains was their very dry condition, with a dark colored surface, here and there with a lighter color, made like porcelain, with numerous cracks and breaking when touched. and their coercion. These are features of bones burned to a significant degree (calcified bones).

The determination of their human origin was mainly based on the method of their anatomical description, but also on the use of the medullary index, which is determined by the ratio of the minimum diameter of the medullary canal to the minimum diaphyseal diameter. It resulted in the figures 0.44 which speaks in favor of the human origin of the bones.

Even in these cases, the examination of these few and calcined (burned) bone remains proves the efforts made by the Serbian aggressors to eliminate any traces of the murders of the Kosovar civilian population committed by them.

-**On October 25**, 1999, in the village of Sllatin e Madhe, we took part in the inspection of a massive cemetery in a quadrangular shape with dimensions 6.7 x 4 m, bordered by several houses and several plots. About 15 m further on is another massive cemetery, surrounded by red ribbons tied to four trees at its corners, with the surface at the plot level, covered with herbs and bushes. In these two cemeteries, the corpses of many Kosovo Albanian citizens killed by the Serbs were buried.

In these two cemeteries, we were not able to carry out any action, because they were mined, and for this reason, their control and demining had to be carried out first.

**On 26.10.1999**, we exhumed seven corpses of Albanian citizens of Kosov from a mass cemetery near the Roma cemetery in the village of Miradie e Lartë in the municipality of Fushë Kosova. This cemetery was located on a barren agricultural plot, located between the railway Pristina - Skopje and the river Graçanica. It consisted of two quadrangular parts, one larger, measuring 14 x 4 m and the other smaller, measuring 4 x 1.5 m.

In the examination of one of their corpses, consisting of several separate remains, with the phenomenon of decay present, it was determined that they belonged to a male person, over 50 years old, with multiple injuries mainly from the action of high temperatures.

**On 27.10.1999**, in the morgue of the Forensic Medicine Institute of Prishtina, we performed the forensic examination of another corpse exhumed from the above cemetery of the village of Miradie.

The corpse is male, presented in an advanced stage of decay, with phenomena of mummification and saponification. From the examination of the clothes and other identifying marks, it was proven that it belonged to the Albanian victim, Sh.A., 71 years old, resident of Fushë Kosovë, killed by Serbian military forces in May 1999.

From the external and internal examination of the corpse, where the soft tissues and internal organs were dissolved and only their debris was visible, two severe gunshot wounds were found: one in the head from back to front and the other in chest from front to back.

Cause of death: severe injuries to the brain and chest organs.

So, this is a pure case of shooting death of a civilian Albanian resident, where apparently, the head wound was done to immediately end the life of the victim.

## 3. Other forensic medicine documents of the disappearance of victims and murders discovered after the war in Kosovo

Regarding the disappearances of Albanian victims and their murders discovered after the war in Kosovo, there are countless documents and testimonies, most of which show the serious crimes committed by the Serbian army and paramilitaries, mainly in 1998 and 1999 (Demaliaj,2020; Krisafi, 2022).

As such, the studies of Naim Haliti and Jusuf Osmani can be mentioned, from which these main data are summarized:

"During the period February 1998 - June 1999, 19,440 Albanian citizens were mistreated in Kosovo; 9183 others were killed, 700 people were taken hostage and

126 women were raped. Also, 987,000 people were forcibly displaced from their lands, and another 500,000 were forced to leave their homes. So, more than 1.5 million people became victims of various and inhumane crimes of the Serbian forces".

The corpses of many killed Albanian Kosovars have been moved outside Kosovo in order to eliminate the signs of the crimes committed. This is proven by the opening of many cemeteries in Serbia.

It is also suspected that many corpses were burned in ovens, as in the one in Zverçan etc.

Other documents prove that when the Serbs left Kosovo due to the NATO bombing, they took with them all the documentation loaded on trucks or simply destroyed it.

It should also not be forgotten that some of the Albanian victims of these crimes were not accompanied by forensic examinations immediately after the occurrence of these murders. This is the reason that they have not been reflected in some studies carried out, based on the examination of forensic acts of that time, at the Institute of Forensic Medicine of Pristina (Halitii, 2017).

According to a 2016 Wikipedia document, Serbian crimes against the Albanian population in Kosovo can be summarized as:

- persecution and ethnic cleansing,
- destruction of settlements,
- rapes of women,
- the destruction of mosques, monuments and buildings with traditional architecture,
- disappearance of identity, through the confiscation of identity cards, passports to make it difficult or impossible for displaced persons to return to Kosovo,
- numerous massacres of civilians: Racak, Imeraj, Pemishte/Cerkolez, Suva Reka, Drenica, Izbika, Bela Crkva, Meja, Orahovac, Dubrava prison, Vučitern, etc.
- hiding the corpses by sending them to other places, such as the Trepce mine, in Serbia, or by burning them.

But it should be added that during this time, from some pro-Serbian, anti-Kosovo and anti-Albanian European circles, many false accusations were raised against the KLA, the most important of which are those of Karla del Ponte, the general prosecutor of Switzerland, who was appointed chief prosecutor of the Hague Tribunal in war crimes in Yugoslavia. In her book "The hunt: Me and War Criminals in 2008", she claims that after the end of the 1999 war, the Albanians

of Kosovo and those of the KLA used to traffic human organs from Kosovo to Albania, of 100 to 300 Serbian and other minority citizens. In support of it, Dick Marty, Swiss senator of the Parliamentary Assembly of the Council of Europe, raised a serious but untrue accusation, which he compiled in his report: "Illegal treatment of organs in Kosovo and Albania" that he presented in the Council of Europe in 2011. But more than 10 years have passed and none of the claims raised in this report have been proven. For this reason, the Parliament of Albania in July 2022 submitted to the Council of Europe a resolution against Dick Marty's report (Dita Gazeta, 2022).

However, in the period from January 1998 to June 12, 1999, 281 unarmed Serbian civilians were killed (211 males, 70 females), 123 Serbian civilians disappeared (99 males and 24 females).

Despite of these documented data, an undeniable truth is that in the overwhelming majority, the victims killed and massacred were those of Albanian Kosovar citizens.

However, it should not be forgotten that forensic medicine examinations of serious crimes are usually very shocking. This is because we forensic doctors, as Albanians, Serbs or even from other countries, who have encountered brutal murders and massacres, regardless of the nationality of the victims: Albanians, Serbs, etc., we have been touched by them, showing us a heavy feeling of suffering and despair (Kuka G, 2021).

On this occasion, we are mentioning the memories of Prof. D. Lecomte, who was at that time, director of the Medical Institute of Paris. Immediately after the end of the war in Kosovo, she participated in the forensic examinations of the Kosovar victims killed and massacred by the Serbian army and paramilitaries.

In her book: "Quai des Ombres" (Platform of Shadows), published in Paris in 2003 and 2012, she states among others the following (Lecomte, 2003):

"I have the impression that this post-war mission surpasses all the horrors I have seen during the 20-year practice of my profession..."

"... In a field, the corpses of men, most likely residents of the cities, because they are well-dressed, have been buried in a disorderly manner, put in green sacks. Almost all show signs of torture. His wrists and ankles are crushed. So everything to destroy, to sow terror…."

"... In another place, a resident tells us that at the bottom of the water wells there, women are found inside. After the excavation, well-preserved female corpses are taken out of them, but a forensic examination must be carried out immediately, because the decay process occurs quickly in these cases. We undressed the victims, whose clothes were overflowing with water. Their examination has been very severe; these women were first raped and then thrown alive into the well, where they drowned..."

"…..In a village everything has been flattened, the men of the village have been gathered together and shot in front of a wall where numerous bullet holes have been found. A resident tells us that they are buried in a confined space at the edge of a cemetery. We go there. But beware of mines. Before each mission, we are given an instruction on the different types of mines we may encounter and ways to detect them. Every time we go to a place to examine it, another team carefully explores the terrain."

"In another village, all the members of a family were killed in a house. Blood is scattered everywhere. Women and children were killed in front of the men, who were then shot in the street with a bullet in the back.

"...I remember another case where all the houses were destroyed. A resident shows us the bullet marks on the walls and a heap of ashes in the yard, explaining that the elderly person guarding the house was shot dead and burned in the house fire. From house to house we are shown the same scenario….".

## 4. Analysis of the above forensic medicine data, in a broad penal, criminological, ethical, historical, etc. perspective

From everything that was seen and examined by us, as well as from the analysis of other materials, the idea was reinforced that the tragic events that preceded the war in Kosovo can be considered as the most massive murders of Albanians by their neighbors.

Their examination from a forensic medicine point of view is very important, because, as it is known, Forensic Medicine is a science that is involved more than other disciplines in the events that occur in any period of time, having a close connection with criminology (the knowledge of scientific study of criminal phenomena) (Çipi, 2018; Çipi, 2020).

Precisely, in such a broad perspective not only forensic - criminological, but also penal, ethical, historical, or political, the forensic data of the cases examined by us are analyzed.

These murders have been horrific and very brutal, dismembering corpses, drowning in wells, raping women, killing children, burning them to death and many other unimaginable ways, as mentioned in this material.

In order to justify these serious crimes and to invalidate their very bad effect on world opinion, on the part of certain pro-Serbian European circles, false accusations were raised, that allegedly the Albanians of Kosovo have committed serious crimes against the Serbs by killed and take those bodies to carry out their illegal traffic. In addition, Serbia, taking advantage of the weaknesses of the new state of Kosovo, has tried to amplify the murders of Serbs that may have been committed by the KLA during this time (Prifti, 2020).

First, the data presented were much less and therefore their comparison would be completely inappropriate and worthless.

Serbia has committed a brutal genocide for a century and a half against the Albanian people. The feeling of hatred has been imprinted in the Albanian mind, due to historical massacres commited by the Serbs.

Genocide constitutes what is called the intentional complete or partial, gradual, or immediate destruction of an ethnic group or people, mainly through murder, disintegration of language, culture, national feeling, followed by removal from the land where it lives etc. (Çipi, Sinamati, 2023).

As its most typical manifestation against the Albanian people, it is worth mentioning the savage Greek genocide against the Cham population followed by the annexation of their lands by the Greek state, the Serbian massacres against the Albanians in Kosovo, Montenegro (Tivar massacre) and Macedonia that brought the expulsion and departure of the Albanian population from the provinces where they lived for many centuries.

The documents of this genocide, with the aim of expelling the Albanians from their centuries-old lands, are countless (Islami 2020; Martinsen, 2006).

It is worth remembering in this study, the massacres against Albanians in the Balkan wars of 1912-1913, by the Serbian and Montenegrin armies, from which 10,000 to 25,000 Albanians were killed or died, among them many children, women and the elderly, where many of them had their noses and mouths broken, and others in Kosovo were buried alive. Many others with the removal of ears, nose, and tongue by means of their incisions, with the removal of eyes or even with the removal of the head (decapitation) as well as another part of the victims: burned. So great was the fear that these monstrous crimes of the Serbian army brought, that 40 thousand Albanians were forced to abandon their homes, while some Albanian women killed their children so that they would not fall into the hands of the Serbs (Demaliaj, 2020; Krisafi, 2022; Zhiti, 2022).

Trotsky, one of the leaders of the Bolshevik revolution in Russia and an opponent of Stalin, in interviews as a correspondent of the most widespread newspaper of Southern Russia, "Kievskaya Misl (Kiev opinion)", after visiting the Albanian territories, showed his indignation, for the Slavo-Serb violence and genocide against the Albanians in 1912-1913 (Çipi, 2020).

He wrote: "I ran away terrified that any attempt to defend the Albanians would have been useless... I ran away terrified not to hear the screams caused by the pain... I was not even able to help them".

Meanwhile, addressing one of the Slavophile political figures, he says: "What do you have to say about these methods to ensure the victory of the Slavic element.... doesn't that make you complicit in these animalistic acts, which leave black marks for the whole era".

Unfortunately, these genocidal actions and behavior continued even afterwards, even more so in the 1990s.

To show the humiliating attitude and contempt of the Serbs towards the Albanians, in those years, enough to mention the sign that was placed at the entrance of the "Grand" hotel in Pristina: "Dogs and Albanians are prohibited from entering" (Martinsen, 2006).

But in contrast to all the previous unpunished genocides, this time in this last wild and massive genocide, accurately proven by the numerous forensic medicine examinations of the Albanian victims, the Albanian people reacted more decisively and persistently by creating the KLA, which he encountered the Serbian army and paramilitaries. On the other hand, these terrible massacres were recognized and shocked the entire civilized world, especially the USA, which quickly intervened and freed Kosovo once and for all from the long and hated Serbian yoke.

## 5. Conclusions

Forensic medicine in its broadest sense constitutes a very important evidence for the detection of genocidal murders.

In the recent genocide against the people of Kosovo, the forensic evidence of the brutal and ugly crimes against the Albanians, undoubtedly invalidates in an irrefutable manner the completely irrelevant, often even false, forensic arguments of Serbia, according to which the Albanians were who have killed the Serbs.

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# *Challenges of Fulfilling European Union Directives: The Importance of Clinical Practice at the Bachelor Nursing Study Program*

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## Abstract

***Introduction:*** *Nursing education in EU countries follows EU requirements and directives. Even Albania, as a candidate country in relation to nursing and midwifery education must start planning to implement these standards. EU directives require that 50% of the nursing education curriculum to be converted into hours of laboratory and clinical practice, which should be carried out in specialised hospital units. The non-compliance of the Albanian Nursing Education's programs with these standards has become an issue for our graduates and makes the equivalentation of the nursing program abroad difficult.*

***Aim*:** *To sightsee the nursing programs offered by Higher Education Institutions in Albania and to analyse how they meet the standards defined in the EU directives.*

***Method*:** *The data was collected from a review of the programs of some Higher Education Institutions in Albania, during the academic year 2019-2021.*

***Results*:** *The results obtained from the analysis of the programs offered by the Higher Education Institutions showed that they do not meet the EU recommendations. The number of hours of nursing lab and clinical practice, as well as the operation of practice are below the standards defined in these directives.*

***Conclusion*:** *This study clearly shows the challenges faced by Higher Education Institutions in Albania. The implementation and coordination of Nursing programs with EU directives is a crucial task. The standardisation would enable not only solving the nowadays problems referred by students but would also enable in the future mobility for all lecturers, researchers and nurses who have studied in Albania.*

***Keywords*:** *EU directives, nursing, Higher Education Institution, nursing clinical and laboratory practices.*

## Introduction

The new century is characterized by a dramatic technological revolution. We live in a global and complex atmosphere, under an ever-increasing media society. The school operates with the current concepts that teachers, specialists, policy makers have, but students will come to life many years later, so education workers must be visionary and missionary. The concept of Global Health is advancing with increasing recognition that social, political, economic, environmental and cultural issues affect health and health care across the globe (Bozorgmehr, K. 2010). Nursing faculties are faced with the challenge of finding ways to prepare future nurses with the skills to provide care in an environment that is increasingly influenced by globalization (Patterson JA, at al. 2023). The free movement of the population and the aspiration to join the EU will open employment horizons for all nurses (Kajander-Unkuri, at. al 2013).

Global current affairs consist of many multidimensional changes. these changes are reflected in all areas of life. Changes and global approaches in the direction of health care require adaptation of education and the new philosophy of nursing education.

The goal of the global standards is to eatablishe educational criteria and assure outcomes that: are based on evidence and competency, promote the progressive natyre of education and lifelong learning and ensure the employment of practicioners who are competent and who, by providing quality care, promote positive health outcomes in the population they serve (Global standards for the initial education of professional nurses and midwives Nursing & Midwifery Human Resources for Health, n.d.).

## *Market*

Higher education creates security for the individual and the family, increases the cultural and educational level, the government reduces unemployment figures (Zajacova and Lawrence, 2018). Higher education institutions and postgraduate education contributes to the formation and consolidation of elites, who are put in charge of different sectors with ideas and practical activities (Marginson, 2006). Cross profiles create more employment opportunities, and possibilities to specialize in one direction or another. The labor market needs more technicians, specialists in specific services.

## *Nursing Education*

Nursing education involves a practice-oriented curriculum in which emphasis is placed on both theoretical knowledge and psychomotor skills. In skill-based education, where learning through practice occupies a central role, it is important to ensure the integration of theoretical knowledge into practice (Eyikara, Evrim at al. 2017). There is evidence that has proven the success of clinical practice in the quality of nursing students. In a study was find that nursing students who take part in education programs involving simulations perform fewer medical mistakes in clinical settings and are able to better develop their critical thinking and clinical decision-making skills (Eyikara and Baykara, 2017). In a study conducted by Gill Ballard was proved that one hour of additional teaching and simulated learning improved the ability of nursing students to measure blood pressure accurately... (Ballard, Piper, and Stokes, 2012).

## *The nursing Profession today*

Nursing development and people's health is taking attention globally (Flaubert at al., 2021). Numerous efforts around the world are underway to standardize and support the role of the nurse in health care system. Strengthening the roles of nurses has included many factors around the world. For many years, documents and reports have been compiled to establish the nurse professionally, with the aim of identifying and strengthening the nursing profession. The Munich Declaration urged all relevant authorities "to strengthen nursing and midwifery by improving initial education and access to higher education" and called for "the establishment of the necessary legislative and regulatory framework" (Thomas Keighley 2009). At the Munich declaration (2000) about nurses and midwifery was clearly stated that: "…*nurses and midwives have key and increasingly important roles to play*

*in society's efforts to tackle the public health challenges of our time, as well as in ensuring the provision of high-quality, accessible, equitable, efficient and sensitive health services which ensure continuity of care and address people's rights and changing needs*.". According to the Munich Declaration, nurses and midwives have key and increasingly important roles to play in society's efforts to tackle the public health challenges of our time, as well as in ensuring the provision of high-quality, accessible, equitable, efficient, and sensitive health services which ensure continuity of care and address people's rights and changing needs. Even though specific documents have been compiled to support the nursing profession, and education it seems that the difficulty to adapt these documents at the country level continues.

## *Munich Declaration*

The Second WHO Ministerial Conference on Nursing and Midwifery in Europe, held in Munich Germany, addressed the unique roles and contributions of Europe's six million nurses and midwives in health development and health service delivery. In the Munich Declaration, the Ministers of Health of Member States in the WHO European Region urged relevant authorities to step up action to strengthen nursing and midwifery, and they expressed their own commitment to support this serious effort (The Munich declaration Nurses and midwives: a force for health, 2000; Zajacova and Lawrence, 2018).

The Munich Declaration calls on authorities to "strengthen nursing and midwifery by improving education and access to higher education". Its calls for cooperation to meet European Union requirements using the point of reference, the experience of the countries that joined the EU in 2004 and those that are involved in the Europeanization process. By the declaration, minimum training requirements for nurses are as follows:

| Full time study |
|---|
| 4600 hours of theory and clinical practice (180 ECT) |
| The theoretical part occupies at least on third |
| Clinical part at least half of the total training period |

## *Bologna Declaration*

Also, the Bologna declaration adopted a system of **easily readable and comparable degrees.** Promotion of mobility by overcoming obstacles to the effective exercise of free movement with particular attention to students, teachers, researchers and

administrative staff, recognition and valorisation of periods spent in a European context researching, teaching and training, without prejudicing their statutory rights. Promotion of European co-operation in quality assurance with a view to developing comparable criteria and methodologies. Promotion of the necessary European dimensions in higher education, particularly with regards to curricular development, inter- institutional co-operation, mobility schemes and integrated programmes of study, training and research (www.ehea.info, n.d.). Albania is a signatory of the Bologna Declaration, assuming the realization of its purpose in all aspects compiled.

## *Directives and recommendations of the European Council 2005 (Stockholm)*

Council Directive 77/452/EEC of 27 June 1977 specifies, concerning the mutual recognition of diplomas, certificates, and other evidence of the formal qualifications of nurses responsible for general care, including measures to facilitate the effective exercise of this right of establishment and freedom to provide services (Europa.eu, 2022).

In the directives, the education standards that must be met by countries that accede and those that aspire to be part of the EU are clearly defined. (Directive 92/51/EEC covered diplomas gained on completion of professional education and education and training of less than three years' higher education duration.).

EU directives require that minimum of 50% or 1.5 years of the nursing education curriculum program, should be translated into hours of laboratory and clinical practice and minimum one year of study should be dedicated to the theoretical part. *(*General nurse training *Article 31 of 2005/36/EC lays out the principle requirements for the training of general nurses.* According to the recommendations, (Article 31 of 2005/36/EC): practical part it must be carried out in hospital units, according to a number of different and specialized fields, which provide nursing care.

## *Nursing Education Reform*

The debate surrounding the need for reform in nursing education has been heard for well over a decade. Recently, deficiencies in the quality of patient care, as well as patient safety issues, have led to calls for change in health professions education by nursing organizations and the Institute of Medicine (IOM). The rationale and scope of any proposed curricular revision or changes in teaching practices must be firmly grounded in a comprehensive review of the literature and based on current research findings (Marginson, 2006). The reform focuses on incorporating quality and safety into nursing curricula, conceptual framework design, strategies that address loaded curriculum content, and teaching using alternative pedagogy.

Two major phases were encountered during the last three decades in European Union:

1-Creation of a unified platform with registered European programs,
2- Integration of nursing programs in higher education institutions.

As a result, Western Europe presents a multitude of agreements that regulate nursing programs. Nursing education in these reforms was seen as a vital part of professional promotion and as a very important responsibility of reforming the health care system. Statistics show that these reforms have been partially completed (Forbes and Hickey, 2009).

According to the document for the European Union Standards for Nursing and Midwifery: Information for Accession Countries: program is designed:

"The content of nursing training is laid out in Annex V.2. (2) 5.2.1.

Training programme for nurses responsible for general care. The training leading to the award of a formal qualification of nurses responsible for general care shall consist of the following two parts:

## *Theoretical instruction*

| a. Nursing: | b. Basic sciences: | c. Social sciences: |
|---|---|---|
| – Nature and ethics of the profession<br>– General principles of health and nursing<br>– Nursing principles in relation to:<br>– general and specialist medicine<br>– general and specialist surgery<br>– childcare and paediatrics<br>– maternity care<br>– mental health and psychiatry<br>– care of the old and geriatrics | – Anatomy and physiology<br>– Pathology<br>– Bacteriology, virology and parasitology<br>– Biophysics, biochemistry and radiology<br>– Dietetics<br>– Hygiene:<br>– preventive medicine<br>– health education<br>– Pharmacology | – Sociology<br>– Psychology<br>– Principles of administration<br>– Principles of teaching<br>– Social and health legislation<br>– Legal aspects of nursing |

## *Clinical instruction*

| a. Nursing in relation to: |
|---|
| — general and specialist medicine<br>— general and specialist surgery<br>— childcare and paediatrics<br>— maternity care<br>— mental health and psychiatry<br>— care of the old and geriatrics<br>— home nursing |

One or more of these subjects may be taught in the context of the other disciplines or in conjunction therewith. The theoretical instruction must be weighted and coordinated with the clinical instruction in such a way that the knowledge and skills referred to in this Annex can be acquired in an adequate fashion.

Studies on the quality of nurses have been done. According to the study by Salminen, Melender and Leino-Kilpi it was found that students with the weakest skills were associated with teaching not alternating with practice as well as not constantly encouraging nursing students to seek new information (Salminen et. al., 2009). In another study Phillips points out that finding creative and engaging ways to impart research skills and evidence-based practice in undergraduate nursing programs is essential. As the move making research-based practice the standard in health care gains momentum. Little attention has been paid to how to integrate it in nursing education (Buss, I.C., at al., 1997). For many nurses, the tendency is to perform tasks and skills in a way consistent with the way they were taught in nursing school (Klassen, P.G., at al., 2002).

### *Nursing Education in Albania*

Criteria's of becoming e nurse in Albania include: 12 years of basic education to start studies. The university system offers degrees BA, MA, PhD. Nursing program is design's, bases on ECT system which is divided in theory-practice proportion. The practical - theory rate does not comply with EU recommendations.

## II. Method

### *Purpose of the study*

Taking into account all the above recommendations compiled by leading world organizations and institutions, some of the questions that are posed to educational policies are:

What are the obligations of politics, the state, teaching staff and other interested parties?

What are the university challenges in the conditions that lead to the review of the school's role, compared to traditional education?

What are the university challenges in the conditions of a global society and the integration of Albania in the EU?

What do studies show, comparisons with societies with developed education?

The purpose of this paper is to evaluate the nursing programs offered by the Higher Albanian Educational Public Institutions and how they comply with the standards defined in the EU directives.

*Sample and design of the study*

In this study, evaluation and synthesis of curricula was used to see the weight of clinical practice and how much it facilitates the mobility of students in the EU countries. The data was collected from a review of the programs of several Higher Educational Institutions in Albania, for the 2019-2021 academic years.

The study programs of Tirana University of Medicine, 'Ismail Qemali' Vlora University, 'Aleksandër Mojsiu' Durrës University, 'Luigj Gurakuqi' Shkodër University, 'Aleksandër Xhuvani' Elbasan University were taken as references. In their study programs, the total practice hours were collected and compared with the EU recommendations.

## III. Results

In programs considered from the EU countries, the training of nursing students is based on the alternation of theory with practice, where the latter one occupies at least 50% of the program or 2400 hours. Considering the nursing program designed by EU programs, was observed that combination of theoretical and practical learning was mostly attached to each module. Following the framework approved by the Ministry of Education for Higher Education Institutions has confused educators by making it difficult to regulate professional practice for students studying nursing. This is one of the reasons that nursing programs in Albania do not meet the standards of the European Union. Reading the framework incorrectly has consequences in most the nursing university programs.

According to the results obtained from the analysis of the programs offered by the Higher Educational Institutions in Albania taken in the study, it was observed that they do not meet the recommendations required by the EU.

In all bachelor's nursing programs of Higher Educational Institutions in our country, it turns out that the theoretical part occupies the greatest weight in the program, with more than 50% of the program and about 25% of it was left to clinical practice. The results contradict the EU directives, which clearly state that at least 50% of the program must be clinical practice.

The number of hours of laboratory and clinical practice as well as the organization of practical categories mismatch the below the standards defined in these directives. (See the table.1 below)

**TAB. 1:** Total hours of clinical practice of nursing curricula of Higher Education Institution in Albania

| Public Higher Educational Institutions | Practical hour | Realization of practice according to EU standards | Realization of theory according to EU standards |
|---|---|---|---|
| Vlora | 630 | 26,24% | 278% |
| Tirana | 780 | 32.5% | 240% |
| Shkodra | 1450 | 60,41% | 223% |
| Durresi | 510 | 21,25% | 286% |
| Elbasani | 950 | 39,5% | 256% |

## IV. Discusions and recommendations

The content of the study clearly shows the challenge facing the Higher Educational Institutions in Albania. The implementation and coordination of nursing programs with EU directives, is an urgent task. This would enable not only solving the problems referred by students today, but also enabling mobility in the future for all lecturers, researchers and nurses who have studied and work in Albania.

Compared to the countries of the region, what was noticed is that even though Kosovo has a new nursing program founded in 1999, it has 2270 hours of clinical practice (not including hours of laboratory practice), fulfilling the standard of the European Union to the extent of 95% (Prishtina, n.d.).

The ambiguity associated with nursing programs comes as a result of designing it without relying on international standart for nursing and midwifery education. The problem has its roots in the modifications required to adapt to the bologna card. During this process and the ending of partnerships with nursing institutions in Switzerland, nursing programs moved away from the main purpose of education. The problem deterioreted because the model of the Faculty of Technical Medical Sciences was followed by other public and non-public universities, seriously affecting the future of the nursing profession and above all the quality of nursing care.

The creation of a group of leaders in the field of nursing, to compile the national strategy for the development of nursing education based on the guidelines and directives of WHO, and EU, and not only, but also cooperation with similar universities in developed countries to redesign and harmonize the current programs with identifiable problems, it's an urgent need.

Under development of the network of nursing professionals leads to organisational issues, and professional incapability and low quality of education.

The support of new initiatives, will enrich new perspectives not only to the teaching staff but even more for our students and their future in nursing.

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# *The level of inadequate Pap smears collected by the Gynecology Service of Fier Regional Hospital in Albania*

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## Abstract

***Purpose:*** *This study aimed to determine the level of smears inadequate for Pap test in a population of women in Fier Prefecture in Albania.*

***Material and methods:*** *This is a cross-sectional study including 1254 women who showed up for a Pap test at the gynecology service at the Fier Regional Hospital during 2013 and 2014. The women presented to our service either on their own initiative to perform the Pap test or recommended by the family doctor for this examination.*

*Standard criteria were applied to classify a cervical smear as inadequate for interpretation. Reasons for the inadequate taking of Pap smears are discussed.*

***Results:*** *A total of 234 patients (96.2% females) were included. The average age of women in our study was 39.8 years ± 10.7 (34.2% were 31-40 years old and 27.1% were 41-50 years old). Overall, 9.6% of the cervical smears they were taken inadequately (there was a need to repeat the obtaining of the smear). Almost all materials were obtained from the exocervix and endocervix (in 98.1% of cases for which there is information on this variable). The absence of endocervical cells was the most frequent reason for classifying a smear as unsuitable for interpretation. Insufficient equipment, scarce material for cytological analysis and poor technical preparation can lead to the non-detection of abnormalities and errors in the microscopic analysis of smears.*

***Conclusions:*** *Each member of the team is responsible for the accuracy of the results, but also for the adequacy of the sample. Inadequate smears could lead to the need for repeat tests and increased health care costs. Regular internal control, work quality monitoring as well as continuous training of all experts involved in obtaining, storing and interpreting cervical smears could reduce the level of inadequate Pap smears.*

***Keywords*****:** *Albania, adequacy, cervical cancer, cervical smear, Pap test.*

## Introduction

The Pap test is one of the most effective screening tests for a common cancer, such as cervical cancer. Its massive use in developed countries has made squamous cell carcinoma the 10th most common cancer in women, while in developing countries where screening programs are not consolidated or not offered, this carcinoma is the most frequent malignant lesion among women (Parkin, Läärä and Muir, 1988). Clearly, the application of the Pap test for the screening of cervical cancer has been accompanied by a spectacular decrease in the incidence of this cancer in all developed countries, as for example in Iceland, the Nordic countries, Canada, the USA, etc. (Gustafsson et al., 1997). Meanwhile, in Norway, which decided not to implement a national screening program based on the Pap test, an increase in the incidence of squamous cell carcinoma of the cervix was observed between 1955 and 1975; subsequently, with the introduction of Pap test screening, a large reduction in the incidence of squamous cell carcinoma of the cervix was observed (Lönnberg et al., 2015). These data demonstrate the effectiveness of Pap test-based screening in reducing the incidence of squamous cell carcinoma in human populations; most likely the Pap test is the only effective screening test for cancer to date (Lieu, 1996; De Strooper et al., 2016).

An ideal screening test should have 100% sensitivity, however, few screening tests are 100% sensitive and the Pap test is no exception. A recent study conducted by the College of American Pathologists reported a Pap test false-negativity rate ranging from 5% (if a positive sample is defined as LSIL or worse) to 12.5% (if a positive sample is defined as ASCUS or worse); these errors refer only to false-negative results of laboratory origin, not including false-negative results due to error in obtaining or storing tissue samples (Lieu, 1996).

Intra-observer variation, such as over-diagnosis and under-diagnosis, is the main cause of misdiagnosis and occurs in all observers, regardless of the number of years of experience performing cytological examinations; interobserver variation also contributes to misdiagnosis, although this is influenced by the number of years of experience; sampling error (incorrect procedures for obtaining vaginal or cervical tissue material or in storing the material) in both cytological examination and biopsy contributes to discrepancies between cytological and histological diagnosis (Lieu, 1996).

The issue of inappropriate smears is important as it does not allow reading the smear and interpreting the results. This can lead to the loss of precious time for women, delaying the diagnosis and possible treatment of cervical lesions. An inadequate Pap test, by definition, is one in which the detection of abnormalities of the cervical epithelium is impossible and uncertain; for this reason, the ability to detect mild and severe intraepithelial lesions is significantly reduced and false negative diagnoses are also possible [Gavranović, Novak and Bolanca, 2011]. For a smear to be considered suitable for the Pap test, at least 10% of well-preserved and visible squamous cells must be present, being suitable for cytological analysis, according to the Bethesda Classification System (Solomon et al., 2002).

In our country, the Pap test continues to be the main screening test for cervical lesions. However, data on the level of inappropriate smears is lacking. In this context, the aim of this study was to determine the level of smears inadequate for Pap test in a population of women in Fier County, as well as to shed light on the factors that influence this phenomenon.

## Methodology

### *Study design*

This is a cross-sectional study. The study population included all women who showed up for a Pap test at the gynecology service at the Fier Regional Hospital during 2013 and 2014.

In total, during this period, 1254 women presented to our service either on

their own initiative to perform the Pap test or recommended by the family doctor for this examination.

### *Data collection*

Initially, women's basic socio-demographic data were collected, such as age, place of residence, marital status.

In addition, in the framework of this scientific study, other data were collected, which are mainly related to the taking of smears in participating women. The obtained material was evaluated for its adequacy: if the examination of the smear showed that there was not a sufficient number of cells, or the cells were clustered, or they were obscured blood, inflammatory processes or mucus, then this sample was considered inappropriate. Samples obscured to the level of more than 75% by blood or inflammation were considered unsuitable for the Pap test.

To evaluate a sample obtained from the cervix as adequate, we applied the criteria of the Bethesda System, according to which an adequate sample for Pap test must contain two groups of five endocervical cells and/or squamous metaplastic cells; at least ten percent of the lamella should be covered with cellular material. Once the sample is assessed as satisfactory, elements such as the presence or absence of a transformation zone, or obscuration from blood or inflammation can be reported (Pangarkar, 2022). Regarding the presence of cells, in smears adequate for Pap test they should range between 8,000 and 20,000, with a minimum limit of 5,000 cells but which can go up to 2 thousand in atrophic smears, after hysterectomy or after therapy; relative to the transformation zone, an adequate smear should have at least ten well-preserved endocervical or squamous metaplastic cells that are solitary or organized in groups (Pangarkar, 2022).

### *Statistical analysis*

Absolute numbers and corresponding percentages were used to describe categorical data. All statistical analyzes were performed through the statistical package Statistical Package for Social Sciences, version 26 (IBM SPSS Statistics for Windows, version 26).

## Results

Table 1 presents data related to the distribution of women in the study according to their age group. The average age of women in our study was 39.8 years. The most frequent age group was 31-40 years old, represented by 34.2% of women, followed

by the 41-50 age group (27.1%), the 21-30 age group (19.5%) and the age group >50 years represented by 16.4%. Only 2.7% of the subjects were 20 years of age or younger at the time of the study.

**TABLE 1.** Distribution of subjects in the study according to age group

| Variable | Absolute number | Percentage (%) |
|---|---|---|
| Total | 1254 | 100.0 |
| Age (mean ± standard deviation) | 39.8 ± 10.7 | |
| Age-group<br>≤20 years<br>21-30 years<br>31-40 years<br>41-50 years<br>>50 years | <br>34<br>245<br>429<br>340<br>206 | <br>2.7<br>19.5<br>34.2<br>27.1<br>16.4 |

Table 2 presents the data related to the adequacy of the smears obtained for cytological examination. It turned out that in 90.4% of cases the smears for the cytological examination were taken adequately, while in 9.6% of the cases they were taken inadequately (there is a need to repeat the obtaining of the smear).

**TABLE 2.** Data related to the adequacy of obtaining the Pap smear

| Variable | Absolute number | Percentage (%) |
|---|---|---|
| Adequacy of Pap smear<br>Yes<br>No | <br>1134<br>120 | <br>90.4<br>9.6 |
| Total | 1254 | 100.0 |

Table 3 presents data related to the type of material used for cytological examination, referring to the anatomical region from which the material was obtained.

Almost all materials were obtained from the exocervix and endocervix (in 98.1% of cases for which there is information on this variable). Meanwhile, in 1.5% of cases the material was taken only from the exocervix, in 0.2% of the cases it was taken from the endocervix, in 0.2% of the cases it was taken from the vagina + exocervix and in 0.1% of the cases it was taken from the vagina + exocervix + endocervix (Table 3).

**TABLE 3.** Data related to the type of material used for cytological examination

| Variable | Absolute number | Percentage (%) | Valid percentage (%) |
|---|---|---|---|
| Material type | | | |
| From the exocervix | 19 | 1.5 | 1.5 |
| From the endocervix | 2 | 0.2 | 0.2 |
| From exocervix + endocervix | 1217 | 97.0 | 98.1 |
| From the vagina + exocervix | 2 | 0.2 | 0.2 |
| From the vagina + exocervix + endocervix | 1 | 0.1 | 0.1 |
| Missing da | 13 | 1.0 | |
| Total | 1254 | 100.0 | 100.0 |

## Discussion

The current study is one of the few studies that sheds light on the level of smears that are inadequate for the Pap test examination in our country. This study reported that about one-tenth (9.6%) of the smears were taken in inadequate ways.

Our results are much higher compared to a study carried out in Tirana, which refers to 5416 smears tested between the period January 2009 - January 2012 at the Obstetric-Gynecological University Hospital "Queen Geraldine" (Xhani and Filipi, 2013). The average age of women in this study was 42.8 years (Xhani and Filipi, 2013), while in our study the average age of women was around 40 years. In the study in Tirana, about 99.1% of smears were considered suitable for Pap test, while 0.9% of smears were considered unsuitable based on the Bethesda System (Xhani and Filipi, 2013). For comparison, in our study in the Fier District, about 9.6% of smears were categorized as inadequate, a much higher level compared to the result in the Tirana study. It is unclear the reason for this large difference in the level of strips unsuitable for interpretation between our study and the study in Tirana. It is necessary to carry out other studies to replicate our findings, or those of the study in Tirana, and illuminate the reasons for this discrepancy.

However, this level of unsuitable smears in Fier County is comparable to a study in Croatia, where among 12,242 smears, 1,594 or about 13% of them were considered unsuitable for interpretation (Gavranović, Novak and Bolanca, 2011).

The reasons for this high level of unsuitable smears in our study could be many. Some reasons for considering smears inappropriate include obscuring of the smear from the presence of red blood cells or inflammation. One reason may be related to the time when the cervical sample was taken (taking cervical material during a woman's period, for example). Also, the presence of inflammation is something common in the cervical material that will be subjected to the Pap test (Baka et al., 2013), and the presence of inflammatory changes in the Pap test is not an absolute indicator of genital tract infection, especially in asymptomatic women given that

a significant percentage of women with inflammation in the Pap test (59.6%) and of women with no inflammation in the Pap test (32.9%) are positive for various pathogens in the cervical culture (Baka et al., 2013). If the cytological criteria of the presence of inflammation in the Pap test are met, then a note is usually made to take this detail into account; however, the presence of inflammation in the Pap test is usually associated with a low predictive value regarding the presence of genital pathogens, especially in asymptomatic women (Bertolino et al., 1992).

The most common reasons for an inadequate sample are the lack of endocervical epithelium, the density of staining, and the coverage of cells with numerous inflammatory elements and erythrocytes; other reasons are related to the presence of foreign material, poor cell fixation or poorly stained preparations (Gavranović, Novak and Bolanca, 2011).

The presence of endocervical cylindrical cells and metaplastic cells is evidence that the sample was taken correctly; the smears that we consider satisfactory must be taken from a suitable anatomical site, with a sufficient number of cells; the material should be well fixed as well as suitably colored.

In our results, the absence of endocervical cells was the most frequent reason for classifying a smear as unsuitable for interpretation. The absence of endocervical cylindrical cells and especially metaplastic epithelial cells from the transformation zone leads to the possibility of a false negative test result, because the sample is not representative of the anatomical site.

In a smear that is not well taken, the cells can be damaged or applied in a thick layer (thicker than necessary). In these cases, it is impossible to assess the abnormality due to the covering of the cells either by inflammatory elements or blood. Therefore, before taking the cell sample, it is necessary to wipe the cervix with cotton to remove the layer of exfoliated, dead cells and excess mucus; likewise, when applying the material to the slide, care must be taken to place the cells with a sliding movement so as not to damage them and they must be placed in a thin layer; cells that are placed in a thick layer tend to fix poorly, so the color of the preparation is weak; if the material is not well fixed, the cells cannot be stained correctly; dried cells do not take ink well and such a smear cannot be read.

Staining with hematoxylin for a long time leads to more intense staining of the nuclei, which results in hyperchromasia of the nuclei; the chromatin is dark, the visualization of the chromatin distribution is poor and it is possible to evaluate such smear as abnormal (Sahay et al., 2013); unfiltered hematoxylin can also hinder qualitative analysis of preparations; very strong staining with cytoplasmic dyes "orange G (OG)" and "eosin azure (EA)" can also make analysis of the preparation difficult (Ethos Biosciences, 2022).

The introduction of the Bethesda classification system led to an increase in the accuracy of the diagnosis, mainly due to the appropriateness of the sample (Islam

et al., 2004). Based on literature data, it is estimated that the level of inappropriate smears fluctuates between 3.% and 5.9% (Islam et al., 2004; Treacy et al., 2009). A study in India among 1650 women reported a rate of 6.4% of smears unsuitable for interpretation (Sachan et al., 2018). In developed countries, the level of inappropriate smears is very low. For example, a study among 56,563 Pap test smears reported that the rate of smears classified as inappropriate was only 0.47% (Quiroga-Garza et al., 2014). However, as we mentioned above, in our study this level was 9.6%, i.e. higher than the reports in the literature, but we recall that an even higher level than ours was reported in Croatia where 12.8% of smears were considered unsuitable for interpretation (Gavranović, Novak and Bolanca, 2011). In this context, we can state that the result related to the level of cervical smears taken inappropriately in Fier Prefecture is within the levels reported in the international literature.

Researchers have shown that the samples are more adequate if the endocervical smear is obtained with adequate equipment and recommend the use of the "broom-type" brush, which allows for the simultaneous collection of elements from the endocervix and exocervix (Day, Deszo and Freund, 2002). As a reminder, about 98.1% of the materials obtained in our study refer exactly to the area of the endocervix and the exocervix simultaneously.

## Conclusion

Insufficient equipment, scarce material for cytological analysis and poor technical preparation can lead to the non-detection of abnormalities and errors in the microscopic analysis of smears; this means that each member of the team is responsible for the accuracy of the results, but also for the adequacy of the sample; it is possible for the above causes to be reduced or minimized if regular internal control is carried out, work quality monitoring as well as continuous training of all experts involved in obtaining, storing and interpreting cervical smears. Finally, if cervical epithelial abnormalities or lesions are not adequately detected, this may lead to the need for repeat tests, automatically leading to increased health care costs.

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# *The effectiveness of mobilization and manual therapy on non-specific neck pain - A literature review*

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## Abstract

***Introduction:*** *Non-Specific neck pain is one of the common musculoskeletal problems that affects most working age. Non-Specific Neck pain causes problems as it relates to disability. Pain is the typical worrying sign for the patient. The prevalence is highest in middle age, with women being affected more than men. The prevalence of non-specific neck pain varies, with a mean point prevalence of 7.6% (range 5.9–38.7%) and mean lifetime prevalence of 48.5% (range 14.2–71.0%).*

***Methods:*** *The aim of this study was to perform a systematic review of the literature of the effectiveness of manual therapy and mobilization for non-specific neck pain. A literature search of PubMed and CINAHL was performed. Inclusion criteria included randomized controlled trials of manual therapy and mobilization interventions in*

*acute neck pain. Like Outcomes were used pain relief, disability/function, (Disability) and patient satisfaction. The PEDro scale was used for quality assessment of eligible studies.*

***Results:*** *The search identified 29 articles and 6 full-text articles were assessed. Two studies met the inclusion criteria. According to the pedro scale the study of Ruud Groeneweg et al met all the criteria and was evaluated with 11 points.*

***Conclusion:*** *Both articular mobilization and manual therapy are effective in non-specific neck pain. In future studies, a larger number of studies should be taken into consideration to increase the level of reliability.*

***Key words:*** *Non-Specific neck pain, RCT (Randomized controlled trial), reviews study, manual therapy, PEDro scale.*

## Introduction

Pain in the neck is a common problem in people of working age, and an important cause of disability (Sarquis., 2016). Neck pain and other musculoskeletal pain is a common complaint in many developed countries, and an important cause of incapacity for work (Matsudaira, K., 2011).

In our study we include nospecific pain that causes pain with a postural or mechanical basis, often called cervical spondylosis. Non-specific neck pain may include some people with a traumatic basis for their symptoms (Binder A. I. 2008).

It is thought that about two thirds of people will experience neck pain at some time. The prevalence is highest in middle age, with women being affected more than men. The prevalence of neck pain varies widely between studies, with a mean point prevalence of 7.6% (range 5.9–38.7%) and mean lifetime prevalence of 48.5% (Patients with neck pain not uncommonly experience symptoms of dizziness/ light headedness and unsteadiness (Sremakaew M., 2018). usually that patients have impaired proprioception and postural instability which account for these symptoms. Dizziness and unsteadiness have been shown to be predictors of both poorer recovery and poorer response to musculoskeletal treatment (Sremakaew M., 2018). There are numerous studies that use different treatment methods for the treatment of neck pain. We included spinal chiropractic treatment, mulligan therapy, Maitland therapy, massage, apparatus therapy etc.

In our study, we evaluated neck pain in active working ages excluding third age. How does the effect of manual therapy and mobilization affect neck pain? Non-specific neck pain has an average spread of 14.2 to 71.0% (Binder A. I. 2008).

In studies at Cochrane reviews investigated the effects of therapeutic interventions of neck pain with manipulation and mobilization and other therapy

such at exercise, acupuncture etc, concluded that there is too little evidence to recommend for or against these somatic therapies (Gross, A. R.,2004). In this review we evaluated the efficacy of manual therapy and mobilization for non-specific neck pain. Regardless of the cochrane database there are numerous studies evaluating the efficacy of mobilizations and manual therapy for neck pain.

## Methodology

### *Literature Search*

This systematic review study was based on data collected from electronic databases such as Pub Med, Medline, Cochane for the period 2010-2019. In data processing were taken five reviewers

("S.V", "A.L", "E.C"), during the collection of materials there was a restriction on the studies as they were abstract and had to be paid for full study visibility, the studies were in English. Reviewers to collect this data used keywords such as "physiotherapy", "rehabilitation", "manual therapy", "mobilization", "neck pain", "randomized trials", "Pedro Scale".

### *Inclusion Criteria*

All studies included in this review were in English. The inclusion criteria in our study were the age of patients 25-45 years, although during the search we found a study evaluating the effects of manual therapy on neck pain in older persons, (Buyukturan, O., 2018). study evaluated the positive effects regarding pain relief, disability in neck pain. Another element of the criterion included in our study was nonspecific neck pain. All acute neck pain and randomized studies will help build the efficacy charts of studies included through the Pedro.

### *Exclusion Criteria*

All other forms of study such as review, systematic review, case study was excluded in our study. We excluded from the study older persons, all forms of treatment that have nothing to do with manual therapy. In our study we also excluded patients who had previously undergone surgery of the cervical spine

**TABLE 1:** Eligibility Criteria for Including Studies in the Review

| Topic | Inclusion Criteria | Exclusion Criteria |
|---|---|---|
| Participants | Patients 25-45 years old | More thea 80 years old |
| Intervention | A manual therapy intervention | |
| Comparison | Manual therapy combined with other therapy for example with physical therapy | Study examining an intervention focused on a specific pathology |
| Outcome | Pain relief and Neck Disability Index (NDI) | No measure of primary outcomes |
| Design | Randomized controlled trial | Review study, systematic study, case study |

**Data Extraction**

Data extracted from the studies included authors' names and affiliations, study year, study design, sample size, randomization, participant characteristics, type and timing of interventions, primary outcomes, treatment effects, and key findings of the study. Data extraction was undertaken by 2 reviewers (S.V.S., A.L.Z). One reviewer (E.C.H) formatted a merged data extraction document.

**FIG 1.** PRISMA 2009 flow diagram. RCT, randomized controlled trial

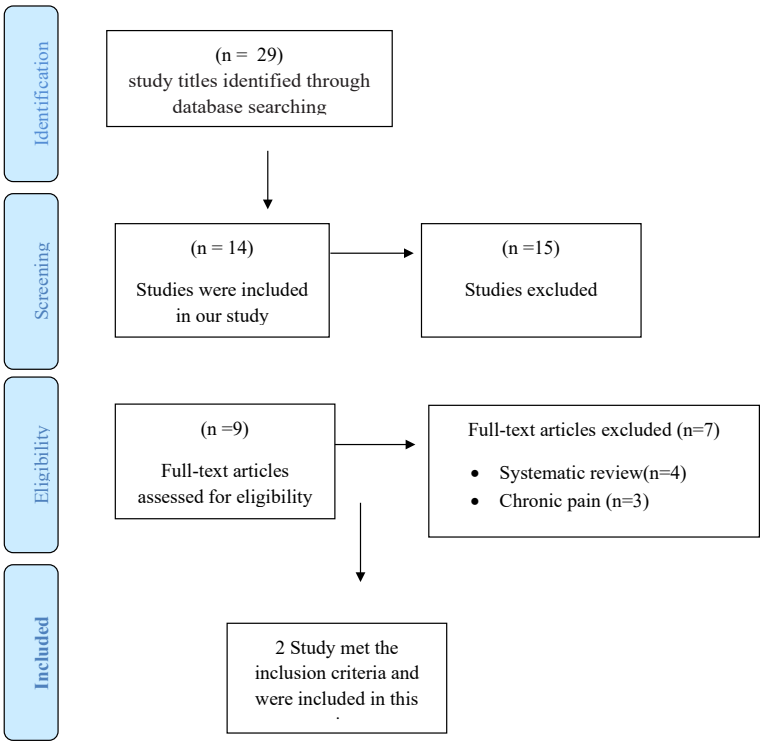

**TABLE 2:** Characteristics and key findings of the two studies included in the literature review

| Study (year) | Follow up (The number of participants) | Study intervetion | Trial design | Primary and Secondary Outcomes | Result |
|---|---|---|---|---|---|
| Ruud Groeneweg et al [7] (2017) | N=181 1 year follow-up | Gr 1MTU (Manual Therapy) Gr 2 PT (physical therapy) | RTC A pragmatic randomized controlled trial | Primary Outcomes 1. Neck Disability Index; 2.Numeric Rating Scale for Pain; 3.Global perceived effect (GPE); Secondary Outcomes 1. Disability and Health (ICF). | Statistically significant results only for GPE variables in the first 3 weeks of treatment in Manual therapy group compared to Phyisical therapy group. For the other variables there were no differences between the groups |
| Sremakaew M et al[8] (2017) | N=168 Six week follow up | Gr1. local neck treatment; Gr.2 local treatment plus tailored sensorimotor exercises; Gr.3 Local treatment plus balance exercises; Gr.4 Local treatment plus sensorimotor and balance exercises. | RCT single blind | Primary Outcomes 1.Postural sway, 2.Cervical joint position error; Secondary Outcomes 1.Gait speed; 2.Dizziness intensity; 3.Neck pain intensity; 4. Neck disability; 5.Pain extent and location; 6.Cervical range of motion ROM, 7.Functional ability; 8.Perceived benefit; 9.Quality of life. | There are significant differences between the intervention group and the control group. . |

**TABLE 3**

| Author | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | Point |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ruud Groeneweg et al | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 11 |
| Sremakaew M et al[8] | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 8 |

## Results

In the Prisma table which summarizes how literature is collected is shown in Fig. 1, from n = 29 studies identified by their title and about the impact and effects of manual therapy on nonspecific neck pain were excluded on the basis of exclusion criteria n = 15 and included on the basis of inclusion criteria number =14 studies. Of these n = 14 studies, nine of them were complete articles and n = 7 were excluded because four studies were literature review and three studies treated chronic neck pain. At the end of our search only two of the studies met our study criteria.

In table number two they are specified the data for two studies that met the inclusion criteria in our study. The study of (Groeneweg, R.,2017), which was conducted in 2017, was a randomized pragmatic study involving patients aged 17-80 years with a one-year follow-up. Where patients were divided into two groups in one of the groups MT grup applied manual therapy on cervical articulation for nonspecific neck pain while the other group was PT grup who applied massage therapy, cervical traction, active-passive exercises, and muscle stretching on these patients. A large number of tests were applied, and the results confirmed the absence of significant differences between the two groups.

While in the (Sremakaew, M., 2018) study that was conducted in 2017, it was a randomized, blind study. Patients were divided into four groups, in the first group was applied local neck treatment, in the second group was applied local treatment plus tailored and sensorimotor exercise in the third group was applied local treatment combined with balance exercises and in the group of four local treatment was combined with sensoriometor and balance exercise. At the end of the study, general guidelines for the rehabilitation of patients suffering from non-specific neck pain were reported.

Table three presents results of evaluation according to PEDro scale. Both studies included in our study had a low risk of bias, as the study of (Groeneweg, R.,2017), had maximum scoring by PEDro scale while study of (Sremakaew, M., 2018) achieved satisfactory results of eight points.

The tests used in our study were numerous among them: NRS (numerical pain scale), NDI (disability index of neck movements), CEQ (reliability / expectation questionnaire, FABQ (confidence questionnaire and avoidance of fear), SP-36 short form -36, MCIC (minimal clinically significant change), GPE (global perceived effect), ICF (international classification of disability and health functioning, NRS-P (intensity of pain neck in the following weeks), Posture oscillations, walking speed, incorrect positioning of cervical vertebrae articulations, intensity of dizziness, degree and location of pain, neck amplitudes, quality of life.

## Discussions

In the study of (Bautista-Aguirre, F., 2017) which was a randomized study, which evaluated the effect of manual therapy at the level of cervical and thoracic nerves in patients with chronic mechanical neck pain. This study involved 88 patients who were divided into three groups 1) cervical group (N. = 28); 2) thoracic group (N. = 30); and 3) control group (N. = 30). This study concludes that thrust manipulation is no more effective than placebo to induce immediate changes on mechano sensitivity of upper limb nerve trunks and grip strength in patients with chronic non-specific mechanical neck pain. Unlike our study which does reflect the positive results of manual therapy in neck pain.

In the study of (Langenfeld, A.,2015) it was a randomized study that assessed the effects of manual manipulations versus mechanically assisted manipulations of the thoracic column in patients with neck pain. This study concluded that both interventions will improve neck pain. This would be a significant finding, as thoracic spine manipulation for neck pain does not carry the same risk of injury as cervical spine manipulation. Study of (Langenfeld, A.,2015) had positive results for neck pain, like our study.

In the study of (Sun, Z. R., 2014), which was a randomized study, he evaluated the effect of Acupuncture for acute neck pain caused by stiff neck. In the study was involved thirty-six participants with acute neck pain, randomly divided into two groups. Participants in the control group will receive massage on the local neck region (5 min each session, three times a day for 3 days). In addition to massage, patients in the treatment group will receive acupuncture (one session a day for 3 days). At the end of the study, important clinical evidence was provided on the feasibility and efficacy of acupuncture treatment for stiff neck patients with acute neck pain. As in our study two of the studies included in literature review we notice positive results or confidential results that do not show obvious differences between groups. But we can say that most studies confirm the obvious positive results of the impact of manual therapy on nonspecific neck pain.

## Limitations

The main limitation of this study is the literature review that includes only 2 randomized studies, which completed inclusion criteria. One of the studies did not even produce any visible results but only created the opportunity to use their protocol formally by clinical physiotherapists.

## Conclusions

Both articular mobilization and manual therapy are effective in non-specific neck pain. In future studies, a larger number of studies should be taken into consideration to increase the level of reliability.

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# *Ceftriaxone-associated side effect findings in children's abdominal ultrasonography*

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## Abstract

***Introduction:*** *Ceftriaxone is a third-generation cephalosporin, which has a broad spectrum of activity against Gram-negative and Gram-positive bacteria. It can sometimes induce biliary sludge or stone formation because of the interaction with Calcium ions.*

*The aim of this study is to describe the epidemiology of the side effects after the ceftriaxone therapy in hospitalized pediatric patients and to follow up the group of suspected Ceftriaxone-induced adverse effects.*

***Methods:*** *This prospective study was conducted in different Pediatric Services of the University Hospital Center "Mother Theresa", Tirana, during the period October 2021-March 2022. We studied the ultrasonographic data of 80 patients admitted to these services, who had been on Ceftriaxone therapy.*

***Results:*** *All the females aged from 5-10 years old, and males aged from 6-12 years old, underwent ultrasound examination for other reasons and 21.25% of the cases resulted with pseudolithiasis, while 3.75% with nephrolithiasis. According to the total number of cases, 70.6% of them were asymptomatic. Only 29.4 % of the patients referred right upper quadrant pain and 1 of them showed nausea. The symptoms begun from 5$^{th}$-7$^{th}$ day and last 20 days. The ultrasound imaging performed from 5$^{th}$- 10$^{th}$days after Ceftriaxone administration, showed gallbladder sludge and pseudolithiasis in the symptomatic patients, ranged 8-12 mm, and renal microlithiasis <3mm. These patients were followed with ultrasound exam after 1 month.*

***Conclusion:*** *From all pediatric patients treated with Ceftriaxone and followed with ultrasonography, 21.25% resulted with collateral associated gallbladder pseudolithiasis as side effect from ceftriaxone-therapy, found by ultrasonographic evaluation. None of the cases was complicated with gallbladder hydrops, pancreatitis or hydronephrosis. After the Ceftriaxone therapy was discontinued, the condition resolved spontaneously.*

***Key Words:*** *ceftriaxone, gallbladder pseudolithiasis, nephrolithiasis, ultrasound*

## Introduction

Ceftriaxone is a third-generation cephalosporin, which has a broad spectrum of activity against anaerobic and aerobic Gram-negative and Gram-positive bacteria (Richards et. al., 1984).

From 33 to 67% of a ceftriaxone dose is excreted in the urine as unchanged portion while the remainder is secreted in the bile and found in the feces as inactive compounds (www.accessdata.fda.gov/drugsatfda_docs/label/2009/0550585s063lbl.pdf).

It can sometimes induce biliary sludge or stone formation as a Calcium-Ceftriaxone salt, because of the interaction with Calcium ions (Katzung, 2018; Shiffman et al., 1990; Park et al., 1991; Schmutz et al., 2011). Most of the cases affected by this condition are adults and elderly people but also children can develop it (Yoshida et al., 2019; Hotta et al., 2021; Papadopoulou et al., 1999; Prince and Senac, 2003; Ozturk et al., 2005; Araz et al., 2007).

The aim of this study is to describe the distribution, frequency, and pattern of the side effects after the ceftriaxone therapy in hospitalized pediatric patients and to follow up the group of suspected Ceftriaxone-induced adverse effect.

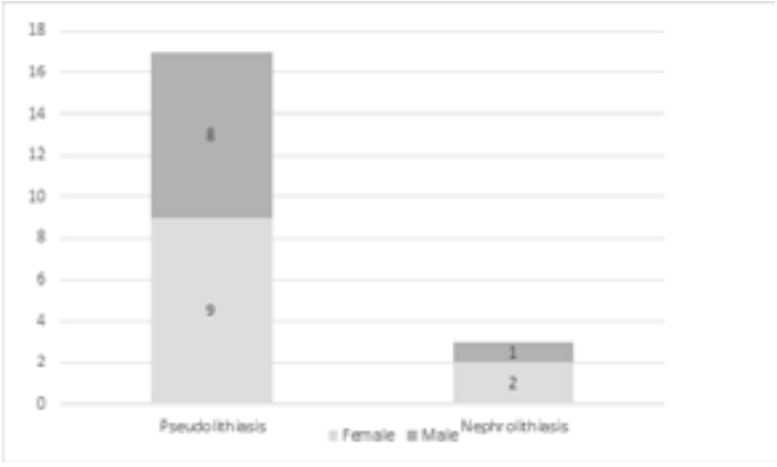
## Methods

This is a prospective study, conducted in different Pediatric Services of the University Hospital Center "Mother Theresa", Tirana, during the period October 2021-March 2022. We studied the data of 80 patients admitted to these services for different diagnosis, who had been on Ceftriaxone therapy. During the hospitalization, ceftriaxone was administered intravenously at dosage of 50-100 mg /kg/d, given in 2 doses, in monotherapy (cases with multiple antibiotics therapy were excluded). All the patients underwent ultrasound examination for other reasons. Ultrasonographic evaluations were performed during 4-5$^{th}$ day and 8-10$^{th}$ days after the first dose administration. The patients who resulted with biliary sludge, pseudolithiasis or nephrolithiasis were followed with an ultrasound exam after 1 month.

## Results

Female predomination was 43 % of the hospitalized children (n=34) aged 5–10 years old, and 57 % of them were male (n=46) aged 6-12 years old.

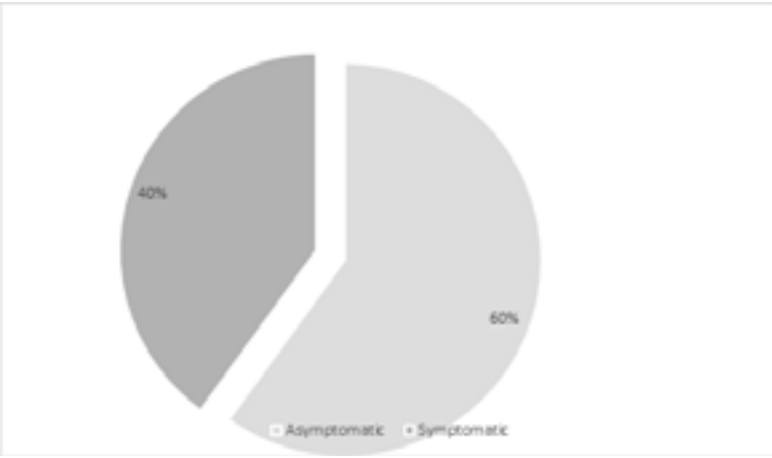
**FIGURE 1.** Patients number according to diagnosis




According to the total number of cases, 21.25% (n=17, n=9 females, n=8 males) resulted with biliary stone (pseudolithiasis), respectively 53% females and 47% males.

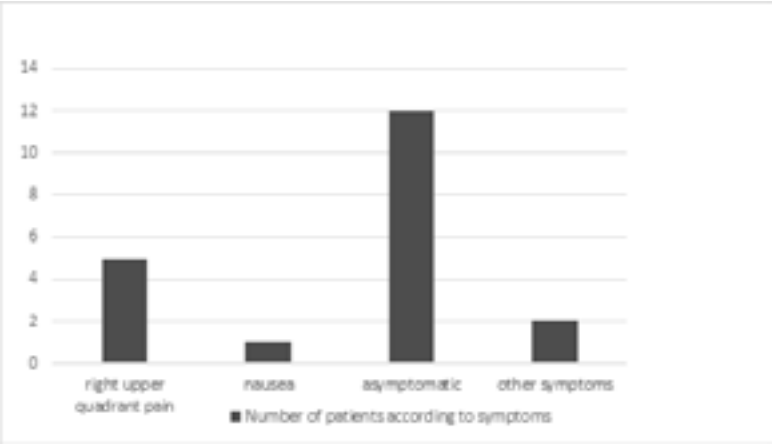
Nephrolithiasis resulted in 3.75% of the patients (n=3, n=2 females, n=1 male), respectively 66,7 % females and 33,3 % males (Figure 1).

**FIGURE 2.** Patients number according to symptoms




Referring to the studied data (Figure 2) 60% of the patients were asymptomatic (n=12), 40% were symptomatic (n=8).

**FIGURE 3.** Patients number according to clinical signs




The symptoms began from 5th-7th day and last 20 days. Only 29.4 % of the patients (n=5) referred right upper quadrant pain (2 male and 3 females) and only 1 of them showed nausea (Figure 3).

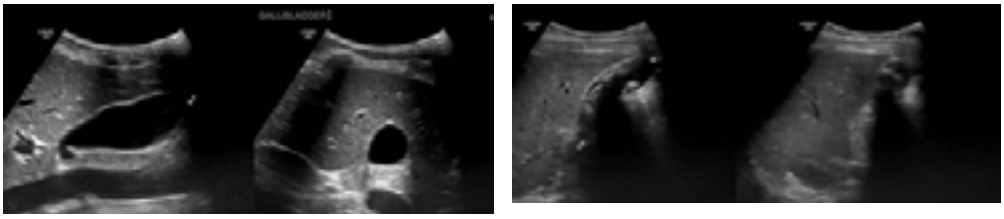
The ultrasound imaging performed from 5th- 10th day after the administration

of Ceftriaxone, showed gallbladder sludge and pseudolithiasis in the symptomatic patients, ranged 8-12 mm, and renal microlithiasis <3mm (Table 1), (Fig.4/b, Fig. 5/a).

**TABLE 1.** Calculus dimensions in ultrasonography according to the diagnosis

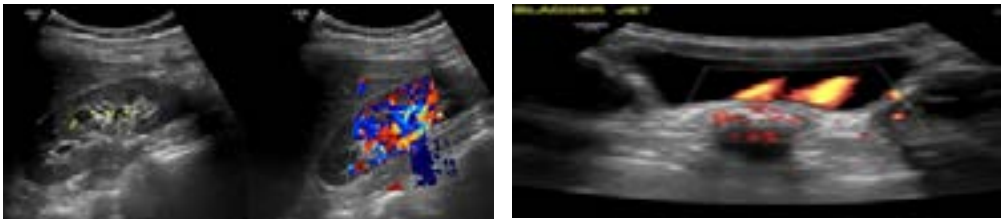
| Diagnosis | Calculus dimensions in mm |
|---|---|
| Pseudolithiasis gallbladder | 8-12 |
| Nephrolithiasis | 1-3 |

**FIGURE 4.** a) Normal gallbladder without calculi, b) Gallbladder calculus (Pseudolithiasis)



a) b)

**FIGURE 5.** a) Nephrolithiasis, b) Free urinary flow



a) b)

It was suspected to have a Ceftriaxone-induced adverse effect and for this reason ultrasound exam follow up was proposed. The patients who had biliary sludge, pseudolithiasis or nephrolithiasis were followed with ultrasound exam after 1 month. None of the cases was complicated with gallbladder hydrops, pancreatitis or hydronephrosis. The pathological condition resolved spontaneously after Ceftriaxone discontinuation.

## Discussion

The World Health Organization (WHO) and US Food Drug Administration (FDA) recommend a dual therapy with ceftriaxone and gentamicin for the

treatment of neonates aged 0–28 days with severe infections (Bartkowska-Śniatkowska et al., 2015; http://www.who.int/selection_medicines/committees/subcommittee/2/Ceftriaxone.pdf.). A dose of 50 mg/kg is recommended for neonates younger than 72 hours and 100 mg/kg for those older than 28 days (Van Reempts et al., 1995). The same doses were used in our study, in patients aged 5-12 years old. Part of a ceftriaxone dose, 33% to 67%, is excreted in the urine as unchanged drug and the residue is secreted in the bile and found in the feces as microbiologically inactive compounds (www.accessdata.fda.gov/drugsatfda_docs/label/2009/0550585s063lbl.pdf). Based on the literature, if the concentration of ceftriaxone in the gallbladder exceeds a specific limit, it can precipitate with calcium ions secreted with the bile acids. Because of this process, biliary sludge as a side effect of ceftriaxone therapy can be composed mainly of calcium-ceftriaxone complexes (Katzung, 2018). This biliary sludge can cause stone formation and may develop into ceftriaxone-induced biliary pseudolithiasis.

A case with "ceftriaxone pseudolithiasis" was first reported by Schaad in 1986 (Schaad et al., 1986). In this study, the condition resolved spontaneously after ceftriaxone discontinuation. The incidence of ceftriaxone- associated pseudolithiasis in this study was 46.5%, while in the study of Biner et al., (Biner et al., 2006) pseudolithiasis was reported in 10% of the cases, followed by gallbladder sludge with 7% and nephrolithiasis with 0.6%. In the study of Ozturk et al. (Ozturk et al., 2005). [18] 57.57% of the cases resulted with pseudolithiasis and sludge in the gallbladder. In the study of Onlen et al. (Onlen et al., 2007) 32.5% of the cases resulted with biliary sludge and gallstone and 67.5% were normal. In our study pseudolithiasis resulted in 21.25%, followed by nephrolithiasis in 3.75% of the cases. So, biliary pseudolithiasis usually occurs in children receiving high doses of ceftriaxone, while nephrolithiasis is uncommon after ceftriaxone therapy.

These rates may be underestimated because most cases with ceftriaxone therapy are without symptoms, but sometimes it can be associated with abdominal pain in the right upper quadrant or nausea. In the study of Biner et al. 19% of the cases were symptomatic, while in Ozturk et al. all the cases were asymptomatic. In another study of Schaad et al., (Schaad et al., 1988) [20] 18.75% were symptomatic, 6.25% of whom had urolithiasis with renal colic and obstructive pyelectasia. In our study 29.4% of the cases were symptomatic, referring right upper quadrant pain. There is no sex predominance in most studies (Ozturk et al., 2005; Araz et al., 2007; Heim-Duthoy et al., 1990; Al Saidi et al., 2021) while in our study females predominate over males in a 1.1:1 ratio. The symptoms in the symptomatic patients begun from $5^{th}$-$7^{th}$ day and last 20 days. There were no complications in these cases. In the study of Biner et al., (Biner et al., 2006) the abnormalities resolved after 10-30 days, while in Schaad et al., (Schaad et al., 1988) ultrasonographic abnormalities resolved after 2-63 days after cessation of the drug.

The major limitations of this study are the low number of cases and the absence of monitoring ceftriaxone concentration in plasma.

## Conclusion

In this study were reported 80 cases of pediatric patients treated with Ceftriaxone therapy at a dosage of 50-100 mg /kg/d. From the ultrasonographic imaging performed from 5$^{th}$ to 10$^{th}$ days after Ceftriaxone administration, 20 patients resulted with collateral associated gallbladder pseudolithiasis and nephrolithiasis as side effect from ceftriaxone-therapy, found by ultrasonographic (echographic) evaluation. None of the cases was complicated with gallbladder hydrops, pancreatitis or hydronephrosis. After the Ceftriaxone therapy was discontinued, the condition resolved spontaneously. Since ceftriaxone is increasingly being prescribed, we should be aware of the potential side effects and be more careful when using it in monotherapy or multiple therapies.

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