

EXPERIENCES OF PATIENTS TREATED IN THE REANIMATION UNIT REGARDING PAIN EXPERIENCE, ADEQUATE PAIN ASSESSMENT AND PAIN ALLEVIATION

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An intensive care and reanimation unit (ICU) is a hospital ward that provides optimal care and treatment for critically ill patients. The reanimation unit is a very stressful environment for patients. Aims of the study were to evaluate and identify the pain experience of ICU patients and adequate assessment of pain. This study was conducted as a prospective, observational study involving 121 patients treated in the Reanimation Department, Emergency Center, Clinical Center of Vojvodina. All the examined patients over 18 years of age hospitalized in this Department who met inclusion criteria were interviewed at the bedside. Data were collected by using the questionnaire filled in by a doctor during their conversation with a patient. Thirty-two point two percent of patients were hospitalized from 3 to 7 days, the same percentage of patients were hospitalized for more than 7 days, while 21.5% were hospitalized 1–3 days and 14.1% for one day. Sixty-one point eight percent of the patients reported inability of speech, 14.5% of patients stated their inability of speech and not knowing who to refer to as a problem. Sixty-four point four six percent of patients received analgesic therapy soon after complaining of pain, while 4.13% of patients reported not having analgesics after complaining of pain. Eighty-four point one percent of patients received therapy intravenously. Fifty-six percent of patients answered positively and 3.5% of patients were not satisfied with prescribed analgesics. Fifty-five point three seven percent of patients had the strongest daytime pain. Many factors contributed to increased pain intensity: the extent of performed surgical treatment, surgical wound, injuries and fractures, numerous medical procedures, prolonged immobility in bed and back pain as a consequence.

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Introduction

An intensive care and reanimation unit (ICU) is a hospital ward that provides optimal care and treatment for critically ill patients. Critically ill patients admitted to intensive care unit (ICU) due to the nature of illness and/or injury, with impaired vital functions, require specialized treatment and continuous monitoring directed at supporting vital functions. Pain is a major problem in critically ill

patients (1-5). There are multiple contributing factors that cause pain: recent diseases and injuries, trauma, routine medical procedures (3, 5, 6). The postoperative period of major surgeries is extremely painful, and pain is the most common complication during that time (2). Postoperative pain in the reanimation units causes great discomfort in patients, but critically ill patients are not able to communicate about their suffering due to continuous administration of sedatives and analgesics (3). Thus, pain relief and patients' comfort are becoming a priority, not only for ethical and humane issues, but also for providing physical, mental and social benefits (4).

The reanimation unit is a very stressful environment for patients. They face numerous stressors: pain, painful invasive and noninvasive procedures, inability to get up, constant noise, disturbance in sleeping cycle, lack of privacy, fear and anxiety regarding the treatment outcome, the absence of family members in difficult situations, crowding with unfamiliar people and so on. All of these may cause high levels of anxiety and agitation in patients. Also, disruption of normal sleep pattern may weaken the immune system, increase susceptibility

to infections, and delay wound healing and overall recovery. Pain is a significant problem in critically ill patients (1-5). Pain during nursing procedures is rather common, and even routine procedures, such as transfer of patients, are associated with significantly high pain intensity. According to some studies repositioning and turning the patient is the most painful procedure (5, 7, 8). For all these reasons, pain monitoring and management in reanimation units is considered a priority and an ethical obligation of all health professionals (9, 10).

It is necessary to humanize intensive care units (1). This concept is becoming more and more used and it is related to pointing out the importance of creating comfortable environment that meets the needs of patients and respect for the patient, not observing patient as 'a disease'. The aim is to create an environment where a patient is seen as a human being, not an object, promoting interpersonal relationship. Humanization of reanimation units is closely related to behavior of health professionals in stressful surrounding, in pain and anxiety control, and in providing better psychological and emotional comfort to patients (11).

Experience of patients treated in the reanimation unit in relation to pain experience, adequate pain assessment and pain relief, might contribute in

humanizing such wards, preventing unnecessary harm being done to patients. Therefore, this study was also aimed at providing information on patients' experience in the reanimation unit in relation to pain assessment and pain management, and experience related to stressors patients were exposed to.

Aims of the study were to evaluate and identify pain experience of ICU patients and adequate assessment of pain and its alleviation as well.

Patients and methods

This study was conducted as a prospective, observational study involving 121 patients treated in the Reanimation Department, Emergency Center, Clinical Center of Vojvodina. The Reanimation Unit has 15 beds for surgical patients, but also for patients with threatened vital functions that require support. All the examined patients over 18 years of age hospitalized in this Department who met inclusion criteria were interviewed at the bedside immediately before transferring to another unit or Clinic of the Vojvodina Clinical Center, or to another clinical facility.

Data were collected by using the questionnaire (Appendix 1) filled in by a doctor during their conversation with a patient.

Appendix 1. QUESTIONNAIRE

1. Date of birth:	
2. Gender:	
3. Cause of hospitalization:	a) polytrauma b) postoperative pain c) sepsis d) other.....
4. Length of stay at Intensive Care Unit:	a) 1 day b) 1-3 days c) 3-7 days d) more than 7 days
5. Did you have any problems in expressing your pain?	a) yes b) no
6. If 'yes', what was the problem?	a) inability to speak b) I did not know who to address c) nobody listened
7. Were you asked questions about pain during your stay in the Reanimation Unit?	a) yes, several times a day b) yes, only occasionally c) no, nobody asked me about pain
8. If 'yes', what were the questions like?	a) only if I had pain or not b) using numeric pain scale (0-10) e) questions about pain characteristics d) other
9. If you were asked about pain, who asked the questions?	a) doctors b) nurses
10. When complaining of pain, did you get help?	a) yes, I received medication soon b) yes, but I waited long time to get medication c) no, I did not receive medication when I complained of pain
11. How was the medication administered?	a) intravenously b) orally
12. Did the medication received alleviate pain?	a) yes, completely b) yes, partially c) no, I did not feel any relief

13. When was the pain strongest?	a) during the day b) at night
14. Did you experience fear and anxiety during your stay in the Reanimation Unit?	a) yes b) no
15. What was most painful?	a) surgical wound b) wound dressing c) backache d) arterial and venous catheter placement e) central venous catheter placement f) probes and catheter placement g) thoracic drains placement h) maintain hygiene i) application of enema j) inflating cuffs for pressure measurement k) frequent venipunctures
16. Was there any procedure that caused pain and was not mentioned in the previous question?	a) yes b) no
17. If yes, which one?.....	

Data on age, gender, reason for hospitalization and length of hospital stay were entered. Then questions about pain were asked, problems with reporting the pain level, followed by questions on health care professionals in relieving the patients' pain, as well as the efficacy of applied treatment. The last set of questions was related to pain during routine medical procedures. The questionnaire used in this study was a redesigned questionnaire from a study referred to as a reference No. 1, Chapter 7.

The study enrolled all the patients who were conscious, coherent, and oriented in time and space at the moment of transfer.

Patients with cognitive disorders and those unable to answer the questions for any reason were excluded from the study. Patients who withdrew from the research during the interview were also excluded from the study. Participation in the study was on voluntary basis.

Collected data were coded and entered into a database in Excel. The database was specially designed for the needs of research. During the statistical data processing, descriptive statistics were calculated: frequency, mean value, median value,

median, standard deviation, the minimum, the maximum, percentage. The results of the study are shown in tabular form.

Microsoft Excel 2007 and software package Statistica 13 (StatSoft Inc., Tulsa, OK, USA) with the University License, University of Novi Sad, were used for statistical analysis.

Results

A total of 121 patients were interviewed in this study. Mean age of patients was 58.6 ± 13.1 years, in the range from 33 to 86 years. Fifty percent of patients were under the age of 58 years. Forty-six point three percent were males and 53.7% females, as illustrated in Table 1.

The majority of patients were admitted to the Reanimation Unit postoperatively (39.7%), other medical causes were present in 26.4% of cases, then polytraumatized patients in 18.2% of cases and sepsis as a reason of hospitalization was present in 15.7% patients. Results related to causes of hospitalization are shown in Table 2.

Table 1. Mean age of study participants

	N	Average	Median	Minimum	Maximum	Standard deviation (SD)
Age	121	58.6	58.0	33.0	86.0	13.1

Table 2. Causes of hospitalization

Cause of hospitalization	Number	Percentage
1. polytrauma	22	18.2
2. postoperatively	48	39.7
3. sepsis	19	15.7
4. other	32	26.4

As for the length of hospital stay in the Reanimation Unit, 32.2% of patients were hospitalized from 3 to 7 days. The same percentage of patients were hospitalized for more than 7 days, while 21.5% were hospitalized 1-3 days, and 14.1% of patients for one day.

When asked about problems in communicating about pain, 45.5% of patients reported that there had been a problem, as illustrated in Table 3.

When asked about the type of problem, most of the patients reported inability of speech (61.8%), 14.5% of patients stated their inability of speech and not knowing who to refer to as a problem, as shown in Table 4.

When asked about being questioned about pain during their stay in the Reanimation Unit,

majority of patients answered positively (57.8%), while 5.8% of patients answered they had never been asked about pain during their stay in the Reanimation Unit. Methods of pain history taking are shown in Table 5.

The study showed that the greatest number of patients were asked about the pain equally by nurses and doctors (52.7%), but only 8 patients reported being asked about pain only by nurses (7.1%).

Majority of patients (64.46%) received analgesic therapy soon after complaining of pain, while 5 patients reported not having analgesics after complaining of pain (4.13%), as seen in Table 6.

Table 3. Patients' problems in expressing pain level

Did you have any problems in expressing your pain?	Number	Percentage
1. Yes	55	45.5
2. No	66	54.5

Table 4. Patients' problems related to expressing the pain

If 'yes', what was the problem:	Number	Percentage
1. Inability of speech	34	61.8
2. I did not know who to speak to	4	7.3
3. Nobody listened to me	3	5.5
4. Inability of speech and nobody listening	5	9.1
5. Inability of speech and not knowing who to talk to	8	14.5
6. Inability of speech, not knowing who to talk to and nobody listened	1	1.8

Table 5. The way pain history was taken

How were the questions about pain asked?	Number	Percentage
1. By asking only if I had pain or not	50	42.7
2. By using numeric pain scale (0-10)	15	12.8
3. By asking about pain characteristics	7	6.0
4. Other	3	2.6
5. By using numeric pain scale (1-10); questions on pain characteristics	26	22.2
6. By asking only if I had pain or not; questions on pain characteristics	4	3.4
7. By asking only if I had pain or not; questions on pain characteristics	1	0.9
8. By asking only if I had pain or not; using numeric pain scale (0-10)	8	6.8
9. By asking only if I had pain or not; using numeric pain scale; asking questions on pain characteristics	3	2.6

Table 6. Time interval in administering analgesic therapy

When complaining of pain, did you get the treatment:	Number	Percentage
1. Yes, I received medication soon	78	64.46
2. Yes, but I waited long time before receiving the medication	33	27.27
3. No, I did not get medication after complaining of pain	5	4.13

As it has been expected, the greatest number of patients received therapy intravenously (84.1%).

Regarding easing the pain after administered therapy, 56% of patients answered positively, and 3.5% of patients were not satisfied with the prescribed analgesic treatment.

In relation to time of the day when intensity of pain was the strongest, most of the patients said that the pain had been the strongest during daytime (55.37%), as shown in Table 7.

When asked about the feelings of fear and anxiety while in the Reanimation Unit, most patients (58.3%) answered positively.

For most of the patients back pain was dominant pain (47.1%) as a consequence of prolonged immobility, followed by surgical wound (38.8%), central venous catheter placement (30.6%), frequent venipunctures (26.5%), and nursing care as well (24.8%). These results are given in Table 8.

Most patients could not recollect any other procedure that caused pain during their stay in the Reanimation Unit. According to those who reported it (13.22%), the most painful procedure was aspiration (18.75%), followed by uncomfortable anti-decubitus mattresses and transfer from the bed to stretcher (12.5%), as shown in Table 9.

Table 7. Time interval in having pain

When was the pain more intense:	Number	Percentage
1. During the day	67	55.37
2. At night	36	29.75
3. Both during the day and at night, regardless the time of the day	15	12.39

Table 8. Contributing factors to most intense pain in patients

What was most painful experience during your stay in the Reanimation Unit?	Number	Percentage
1. Surgical wound	47	38.8
2. Wound dressing	20	16.5
3. Backache	57	47.1
4. Arterial and venous lines placement	24	19.8
5. Central venous catheter placement	37	30.6
6. Probes and catheter placement	30	24.8
7. Thoracic drain placement	26	21.5
8. Hygiene maintenance	30	24.8
9. Receiving enema	20	16.5
10. Inflation of the cuffs for pressure measurement	12	9.9
11. Frequent venipunctures	32	26.5

Table 9. Procedures that caused pain in patients

What procedure caused your pain?	Number	Percentage
Extubation	1	6.25
The presence of urinary catheter	1	6.25
Aspiration, coughing	3	18.75
Antidecubitus mattress	2	12.5
Turning to the side	1	6.25
Transfer from bed to stretcher	2	12.5
Decubitus wounds	1	6.25
Nursing care, physical therapy	1	6.25
Drain removal	1	6.25
Pain while swallowing	1	6.25
Getting out of bed	1	6.25
Cold showers	1	6.25
Total:	16	

Discussion

The aim of the study was to investigate patients' experience in the Reanimation Unit regarding pain experience, adequate pain assessment and pain relief. Majority of patients in this study were females (53.7%). Mean age of the patients was 58.6 13.1 years, ranging from 33 to 86 years. Fifty percent of patients were under 50 years of age.

Fear and anxiety were most present in the group of patients who were in the Reanimation Unit from 3 to 7 days (40%), then in the group hospitalized for more than 7 days (35.7%). Fear and anxiety during the hospital stay in the Reanimation Unit were present in 58.3% of cases in comparison to the total number of patients. Fear and anxiety are consequences of pain, too much noise caused by alarms, telephones, shouting, and lack of empathy from the health-care team (6). All aforementioned result in sleep disturbances and disruption of circadian rhythms, which might lead to the development of delirium, especially in elderly patient (6, 7).

Pain is a subjective phenomenon. Its intensity is influenced by social and cultural beliefs, personal emotions, mental status, and understanding of pain and it is related to positive or negative expectations from patients (12, 13). Pain is expected and accepted by some people, but not by others (14-16). Different people under similar or identical circumstances may experience pain in a completely different way (17). Although most patient reported not having problems in expressing pain, 45.5% of patients reported some kind of a problem. In most cases, patients mentioned inability to speak (61.8%), followed by inability to speak associated with the fact that they did not know who to speak to (14.5%).

According to the study results, 57.8% of patients said they had been asked about the pain several times a day, while 5.8% of patients reported nobody at all had asked them about the pain during their stay in the Reanimation Unit. The patients answered the question of how they were asked about the pain during their hospitalization as follows: most patients (42.7%) were asked a simple question of whether they were having any pain or not, while 22.2 % of patients were asked to answer the questions about pain by using numeric pain scale; they were also asked to describe the pain. Such an approach by asking simple question whether the pain is present or not is not in accordance with the literature recommendations which suggest the importance of pain assessment scale in order to achieve a more efficient therapy and treatment outcomes (18-20). The scale is used to define pain, to quantify pain intensity, to uniformly monitor and provide better treatment. The use of scales would certainly contribute to better pain intensity tracking and to better communication among health-care professionals by having a more clear perception of pain syndrome and response to administered analgesic treatment. It would be ideal to use a uniform pain assessment scale, but it is often not possible, considering diversities of patients.

The questions about pain were asked both by doctors and by nurses (52.7%), while pain assess-

ment was performed by doctors (40.2%). Patients consider health-care workers, especially nurses, as protective persons who take care about their needs during the period of suffering and vulnerability (21).

Majority of patients reported to have received adequate analgesic treatment soon after making a complaint about pain (64.46%), while 5 patients revealed they had not received any medications after complaining of having pain (4.13%). It is difficult to assess pain objectively due to its subjective and multidimensional nature. That is why so called verbal self-report is of key importance. Pain is often underestimated, especially by doctors and nurses as well, since pain relief is often not a primary concern, resulting in the lack of prevention measures and reaction only at the moment of patient's complain about pain (22). In 84.1% of cases, analgesics are administered by intravenous injections.

Most of the patients reported that the analgesic therapy they had received was entirely satisfactory (56%), while 47% of them said that received analgesics resulted in a partial pain relief only. Four patients had pain even after administered therapy. Pharmacotherapy for pain management is necessary in postoperative period (23). Prescribed drugs have proved effective in this study since 56% of patients reported complete pain relief. This result is in accordance with previous studies that conducted research on pain control in patients in the Reanimation Unit, when the pain was of moderate intensity providing timely strong analgesics were given (12, 13). Pharmacotherapy is the best way of pain management, but other measures are also available, such as relaxation and distraction techniques, regardless of patient-controlled analgesia. These techniques are especially useful in case of painful procedures, such as wound dressing, turning the patient, care and physical therapy, or while waiting for the effect of already administered analgesics. Being an empathetic health professional and recognizing patient's pain, contribute to minimizing pain (24).

Patients mostly suffer from pain during daytime (55.37%), while 12.39% of patients had pain during the day and at night as well. This is related to numerous painful invasive medical procedures performed during the day, to patients' transport, diagnostic procedures, physical and respiratory therapy.

The most dominant pain in patients treated in the Reanimation Unit was back pain, even in 47.1% of patients. According to Gelinias et al. studies, pain increases morbidity and mortality rate in cardio-surgical patients. Even 62% of cardio-surgical patients identify body movement as the main pain trigger. This is in accordance with our study as well. Other studies conducted after thoracic and abdominal surgeries also showed that the pain was stronger after body movements and respiratory physical therapy (15, 16). Immobilization aiming at the reduction of pain is a very dangerous method of relieving the pain. Immobilization may be considered as an important pain indicator (25). The second worst pain occurred as a consequence of surgical wound (38.8%). As for painful procedures, placement of central venous catheter was the most painful procedure (30.6%); frequent peripheral venipuncture was a painful procedure in (26.5%) of patients. It is

interesting that nursing care procedures and hygiene maintenance resulted in severe pain in 24.8% of patients.

Patients also reported the following painful procedures: pain from antidecubitus mattress, lateral turning, endotracheal aspiration, breathing exercises, coughing, drains removal, and decubitus ulcers. According to the patients who reported painful procedures (13.22%), the most painful procedure was aspiration (18.75%), followed by uncomfortable anti decubitus mattress, and transfer from bed to stretcher (12.5%). In a study by Arroyo et al. (26), it was confirmed that 30% of patients identified endotracheal aspiration as the most painful procedure. It is also interesting that a study by Aslan et al. showed that antidecubitus air mattress caused pain in 6.7% of patients, a result that no other studies have reported so far. In our study, two patients reported pain because of antidecubitus mattress (1.65%). Such results are in accordance with

the results of studies that investigated procedural pain in the Reanimation Units (27).

Conclusion

Patients hospitalized in the Reanimation Unit were completely satisfied with pain control and medication effectiveness. However, many factors contributed to increased pain intensity: the extent of performed surgical treatment, surgical wound, injuries and fractures, numerous medical procedures, prolonged immobility in bed and back pain as a consequence.

Pain is the fifth vital sign, so the pain intensity should be assessed at the same time as other vital signs are checked, but also in emergency situations when invasive medical procedures, nursing care and physical therapy are performed.

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ISKUSTVA BOLESNIKA LEČENIH NA ODELJENJU REANIMACIJE, VEZANA ZA DOŽIVLJAJ BOLA, ADEKVATNOST PROCENE I KUPIRANJA BOLA

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Jedinica intenzivne nege i reanimacije (JIL) je bolničko odeljenje u kojem se pruža optimalna nega kritičnim bolesnicima i vrši se lečenje kritičnih bolesnika. Odeljenje reanimacije je vrlo stresno okruženje za bolesnike. Ciljevi ovog istraživanja bili su procena i identifikacija iskustva bola kod bolesnika na intenzivnoj nezi i adekvatna procena bola. Ova studija sprovedena je kao prospektivna, opservaciona studija na 121 bolesniku, lečenom na Odeljenju reanimacije Urgentnog centra Kliničkog centra Vojvodine. Svi pregledani bolesnici, koji su zadovoljili kriterijume uključivanja u studiju, hospitalizovani na ovom odeljenju, bili su stariji od 18 godina i intervjuirani su uz krevet. Podaci su prikupljeni korištenjem upitnika, koji je lekar ispunio tokom razgovora s bolesnikom. U trajanju od 3 do 7 dana hospitalizovano je 32,2% bolesnika, isti procenat bolesnika hospitalizovan je u trajanju dužem od 7 dana, dok je 21,5% hospitalizovano od jednog do 3 dana, a 14,1% na jedan dan. Nemogućnost govora navelo je 61,8% bolesnika, 14,5% bolesnika kao problem navelo je nemogućnost govora i zbunjenost po pitanju toga kome bi se obratili. 64,46% bolesnika primilo je analgetsku terapiju ubrzo nakon žalbe na bol, dok je 4,13% bolesnika izjavilo da ne uzima analgetike i nakon što su se žalili na bol. 84,1% bolesnika primilo je terapiju intravenozno. Na pitanja o zadovoljstvu lekom, potvrdno je odgovorilo 56% bolesnika, dok 3,5% bolesnika nije bilo zadovoljno propisanim analgeticima. Najjači dnevni bol imalo je 55,37% bolesnika. Pojačanju intenziteta bola doprineli su brojni faktori: opseg izvedenog hirurškog lečenja, hirurška rana, povrede i prelomi, brojni medicinski zahvati, dugotrajna nepokretnost u krevetu i, kao posledica toga, bol u leđima.

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Ključne reči: bol, intenzivna nega, reanimacija, analgetska terapija