International Journal of Human Sciences ISSN:1303-5134

Volume: 4 Issue: 2 Year: 2007

www.insanbilimleri.com/en

The characteristics of physically restrained patients in intensive care units

İsmet Eşer*

Leyla Khorshid**

Gülendam Hakverdioğlu***

Abstract

Purpose: The purpose of this study was to determine the characteristics of physically restrained patients in intensive care units, who made the decision to apply restraints, the times they were used and the characteristics of the patients, in other words, the potential reasons why physical restraints were being used.

Methods: The research population for this descriptive study was the 115 patients who were being physically restrained. Data were collected with an observation and interview forms. Form 1 was completed by the researcher by observing the patient and reviewing the patient record. Form 2 was completed by interviewing the nurse caring for the patient being physically restrained. Chi-square test was used in analysis of the data.

Findings: There was no difference between the rate of injuring patients with physical restraints and the length of time of physical restraint in different ICUs. The percentage of patients which had three and four extremities restrained was higher in the Gastroenterology ICU than the others. The most common type of restraint was observed to be bilateral wrist restraints. For most of the patients the physical restraints were used for 1-7 days. The majority of the decisions to restrain patients were made by the nurses. In this study health care personnel tried using alternative methods in 74.8% of the patients before using physical restraint.

Conclusion: Knowing the injuries that can occur from the use of physical restraints and the characteristics of patients being physically restrained can be a guide in nursing care planning and in management. Physical restraint is an important problem in our hospital intensive care units. Also the absence of a monitored form for recording information about physical restraints may be a cause for legal problems. There is a need for the development of standards and appropriate materials for physical restraining.

Key words: Intensive care, physical restraint, nursing care

* Department of Nursing, School of Nursing, Ege University, İzmir, Turkey, iseser54@yahoo.com

**Department of Nursing, School of Nursing, Ege University, İzmir, Turkey, leyla.khorshid@ege.edu.tr

*** Department of Nursing, School of Nursing, Ege University,İzmir, Turkey, gulendam.hakverdioglu@ege.edu.tr

Eşer İ, Khorshid L, Hakverdioğlu G. (2007). The characteristics of physically restrained patients in intensive care units. *International Journal of Human Sciences* [Online]. 4:2. Available: http://www.insanbilimleri.com

Yoğun bakım ünitelerinde fiziksel tespitli hastaların özellikleri

Özet

Amaç: Bu çalışma yoğun bakım ünitelerinde tespit uygulanmasına kimin karar verdiği, tespit uygulanan hastaların özellikleri, fiziksel tespit kullanımı için potansiyel nedenler gibi fiziksel tespitli hastaların özelliklerinin belirlenmesi amacıyla planlanmıştır.

Yöntem: Bu tanımlayıcı çalışmada araştırma popülasyonunu fiziksel tespit uygulanan 115 hasta oluşturmuştur. Veriler gözlem ve görüşme formları kullanılarak toplanmıştır. Form 1 araştırmacı tarafından hasta kayıtlarının incelenmesi ve hastanın gözlenmesi yoluyla toplanmıştır. Form 2 fiziksel tespitli hastaların bakımı ile ilgili hemşirelerle görüşme yapılarak toplanmıştır. Verilerin analizinde ki kare yöntemi kullanılmıştır.

Bulgular: Fiziksel tespitli hastaların yaralanma oranları ve fiziksel tespit uygulanma süreleri arasında yoğun bakım üniteleri arasında fark bulunmamıştır. Gastroenteroloji yoğun bakım ünitesinde üç ve dört ekstremitesinden tespitli hasta oranı diğer yoğun bakım ünitelerine göre daha yüksek bulunmuştur. En yaygın kullanılan tespit tipinin iki taraflı bilek tespiti olduğu gözlenmiştir. Hastaların çoğuna 1-7 gün arasında fiziksel tespit uygulanmıştır. Hastalara tespit uygulama kararı çoğunlukla hemşireler tarafından verilmektedir. Bu çalışmada sağlık bakım personelinin fiziksel tespit uygulamadan önce hastaların %74.8'inde alternatif yöntemleri denediklerini belirtmiştir.

Sonuç: Fiziksel tespitli hastaların özelliklerinin ve fiziksel tespit kullanılması sonucunda meydana gelebilecek yaralanmaların bilinmesi hemşirelik bakımının planlanmasında ve yönetiminde rehber oluşturabilir. Fiziksel tespit bizim hastanelerimizin yoğun bakım ünitelerinde önemli bir problemdir. Ayrıca fiziksel tespitler hakkında bilgilerin kaydedilmesi için izlem formlarının olmaması yasal problemler için bir neden oluşturabilir. Fiziksel tespitler için uygun materyallerin ve standartların geliştirilmesine gereksinim vardır.

Anahtar sözcükler: Yoğun bakım, fiziksel tespit, hemşirelik bakımı

Eşer İ, Khorshid L, Hakverdioğlu G. (2007). The characteristics of physically restrained patients in intensive care units. *International Journal of Human Sciences* [Online]. 4:2. Available: http://www.insanbilimleri.com

1. INTRODUCTION

Individuals who are admitted to an intensive care unit (ICU) who are bedridden, disoriented and agitated are a group with a particular need for protection and safety. One of the methods used to ensure patients' safety in health care institutions is the use of physical restraints. Physical restraint is defined as a physical or mechanical tool tied to a patient's body or the use of physical strength of health care personnel for a short period of time with patients to limit patient's movements or to prevent the patient from moving easily (Burke, 2002; Wigder, 2002; Vassallo, et al., 2005; Evans, Wood & Lambert, 2002).

Minnick et al. (2001) determined that physical restraints are used 3-20 times more often in ICUs than other units and this rate is higher in 30% of patients. In a study conducted in our country by Tel, Beyaztaş and Aslan (2001) health care personnel stated that the use of physical restraints is widespread in hospitals and that the most common type of physical restraint used by physicians and nurses is the wrist restraint.

The purposes of using physical restraints in hospitals are to prevent patients from falling out of bed, to prevent patients from removing tubes that are attached to them, to maintain a bedridden patient's position in bed and for health care personnel to be able to give medical treatment (Taylor, Lillis & LeMone, 2001; Eşer & Hakverdioğlu, 2006).

Before using physical restraints on patients health care personnel need to try alternative methods. Some of these methods include using low beds and bedrails to prevent patients from falling out of bed, preventing the patient from being alone, leaving the call button in a place that is easily accessible to the patient and answering the patient's call immediately (Sullivan-Marx, 2001; Chien, 2000; Sweeney-Calciano, Solimene & Forrester, 2003).

A correlation has been found between the use of physical restraints and negative patient outcomes. International research has determined that physical restraints used for the purpose of ensuring patient safety result in many physical, psychological and social injuries (Choi & Song, 2003; Hantikainen & Kappeli, 2000; Bray, et al., 2004; Clark, 2005; Morrison, et al., 2000; Cotter, 2005).

The physical injuries that can occur as a result of the use of physical restraints include decrease in muscle tone, orthostatic hypotension, urinary and fecal incontinence, increased risk of nosocomial infection, edema in lower extremities, pressure ulcers, strangulation, contractures, decrease in physical functions, cardiac arrest, muscle atrophy and death from

Eşer İ, Khorshid L, Hakverdioğlu G. (2007). The characteristics of physically restrained patients in intensive care units. *International Journal of Human Sciences* [Online]. 4:2. Available: http://www.insanbilimleri.com

asphyxia (Sullivan-Marx, 2001; Sweeney- Calciano, Solimene, & Forrester, 2003; Morrison, et al., 2000; Cotter, 2005; Martin & Marthisen, 2005; Kozub & Skidmore, 2001; Janelli, Dickerson & Ventura, 1995; Lusis, 2000).

The psychological injuries that can occur from the use of physical restraints include fear, increased confusion, anger, depression, increased anxiety, loss of self esteem, sleeplessness, delirium, embarrassment, decrease in self confidence and respect and disturbance in body image (Bonn, 1995; Morrison, et al., 2000; Cotter, 2005; Martin & Marthisen, 2005; Huffman, 1998; Winston, et al., 1999).

Although it is thought that the use of physical restraints is widespread in our country, limited research has been conducted on this subject. We think that this research will make an important contribution to the nursing literature on the status of the use of physical restraints and the characteristics of patients who are physically restrained to create a data base for future research on this subject.

The purpose of this descriptive study was to determine the characteristics of physical restraint use in ICUs, including the kinds of physical restraints used, the times they were used and the characteristics of the patients, in other words, the potential reasons why physical restraints were being used.

2. INSTRUMENTS AND METHODS

The research was conducted in the Neurosurgery, Neurology, Pulmonary Medicine, Gastroenterology and Medical Adult ICUs of Ege University Medical Faculty Hospital between July 2005 and December 2005. A convenience sample included 115 adult patients in the adult ICUs who were physically restrained between these dates. Ege University Medical Faculty Hospital is a teaching hospital and has 1870 patient beds and twelve adult intensive care units. The five ICUs which have patients undergoing long-term treatment and which use physical restraints more frequently were included in the research.

Ethical Considerations

Permission to conduct the research was obtained from the hospital's ethics committee and Ege University School of Nursing scientific ethics committee. Because the physically restrained patients were unconscious their permission to participate in the research was not able to be obtained, however verbal permission was obtained from the patient’s family and

Eşer İ, Khorshid L, Hakverdioğlu G. (2007). The characteristics of physically restrained patients in intensive care units. *International Journal of Human Sciences* [Online]. 4:2. Available: http://www.insanbilimleri.com

all information about the patients was kept confidential and no interventions were done to patients.

Two separate questionnaire forms were used for data collection. Form 1 was a patient observation and evaluation form used to determine the characteristics or conditions of the patients who were being physically restrained. This form was completed by the researcher by observing the patient and reviewing the patient record. Form 2 was completed by interviewing the nurse caring for the patient being physically restrained. These questions were asked the nurse by the researcher, also the researcher read the items from Form 2. Form 2 consisted of questions related to applying the restraints. Some of the questions included on this form were, "When was the patient restrained?", "Why was the patient restrained?", and "Who decided to restrain the patient? The nurse or the physician?" "Did you use alternative methods before restraining the patient?".

Chi-square test was used in data analysis in SPSS version 11.0 packet program.

3. FINDINGS AND DISCUSSION

Most of the ICU patients in the sample who were being physically restrained were in the Neurology (39.1%), Neurosurgery (23.5%), and Gastroenterology ICU (19.1%). Half (50.4%) of the patients were female and the mean age was 65.4 years (min: 18, max: 97). The majority of physically restrained patients have cognitive deficits and are elderly (65-70 years and older) (Morrison et al., 2000; Karlsson et al., 2001; Hendel, Fradkin & Kidron, 2004; Bourbonniere et al., 2003).

The invasive procedure conducted with 29.7% of the patients was a peripheral intravenous catheter (IV) and also with 29.7% of the patients was a Foley urinary catheter. The restraints used for 47% of the patients was physical restraints on both wrists, for 30.4% was one wrist restraint, for 14.8% was restraints on both wrists and both ankles (Table 1). The most common type of restraint was observed to be bilateral wrist restraints. This finding is explained by the primary purpose stated for using physical restraints on patients which was to prevent them removing the tubes attached to them (Table 2).

In a study conducted by Martin and Marthisen (2005) in ICUs wrist restraints were the most frequently used type of physical restraint. In the study by Choi and Song (2003) bilateral wrist restraints were used the most.

Eşer İ, Khorshid L, Hakverdioğlu G. (2007). The characteristics of physically restrained patients in intensive care units. *International Journal of Human Sciences* [Online]. 4:2. Available: http://www.insanbilimleri.com

In this research the overwhelming majority of patients (81.7%) were physically restrained using a restraint made up of a foam interior and green colored cloth exterior fabric (Table 1). In the study by Tel, Beyaztaş and Aslan (2001) the physicians and nurses stated that they used material from hospital fabric for physically restraining patients. Because there is no specific material available for physically restraining patients in our country the patients' risk for injury from the restraints may be higher.

In 60.9% of the patients the physical restraints were used for 1-7 days, in 23.5% for less than one day, in 8.7% for 8-14 days and in 7% for 15 days or more. The majority of the patients were in the Neurology and Neurosurgery ICUs which may be because problems with consciousness and needing extended periods for invasive procedures extended the time when physical restraints were needed. The health care personnel applied physical restraints just before initiating invasive procedures before patients could begin to remove their catheters or equipment.

The reason why health care personnel applied physical restraints was in parallel with the increase in invasive procedures done to the patient; 57.3% of the causes for using restraint was the need to prevent patients from removing their tubes. The other reasons were to prevent the patient from falling out of bed (26.3%) and to be able to control patients' behaviors (12.9%) (Table 2). For 61.7% of the patients there was one reason, for 29.6% there were two, for 7.8% there were three and for 0.9% there were five reasons for using physical restraints. Tel, Beyaztaş and Aslan (2001) determined that the most common type of physical restraint used by physicians and nurses was the wrist restraint.

In this study health care personnel tried using alternative methods in 74.8% of the patients before using physical restraint. The types of alternative methods tried included talking with patients (75.9%) and giving tranquilizing medications (13.8%) (Table 3). Some of the alternative methods used by the nurses, according to the literature, are effective methods for comforting patients and decreasing agitation. However the method stated as giving the patient a tranquilizing medication is not an alternative method, this “method” is, in fact, the use of a chemical restraint on the patient. Tel, Beyaztaş and Aslan (2001) determined that 39% of the health care personnel did not try an alternative method before physically restraining patients but 24% tried giving explanations to patients to calm them.

In this research the decision to physically restrain 67.8% of the patients was made by the nurses, only 0.9% of them by the physician, and 31.3% of them by both nurse and

Eşer İ, Khorshid L, Hakverdioğlu G. (2007). The characteristics of physically restrained patients in intensive care units. *International Journal of Human Sciences* [Online]. 4:2. Available: http://www.insanbilimleri.com

physician. The reason why the majority of the decisions to restrain patients were made by the nurses may have been a result of their continual presence with the patients and their being responsible for their care and treatment.

After the use of physical restraints 13% (n:15) of the patients had changes in their general condition. An increase in agitation was found in 66.8% (n:10) of the patients who were observed to have a change (n:15) in their general condition after applying physical restraints (Table 4).

A physical injury occurred as a result of being physically restrained in 19.1% of the patients (Table 5). In the overwhelming majority of the patients (80.9%) no physical injury related to the physical restraint was observed. Most health care personnel in ICUs apply physical restraints to patients because they are concerned that they will injure themselves. The physical restraint may make the nurses relax. Choi and Song (2003) determined that one of the two most common reasons reported by nurses for using physical restraints is for the personnel to be able to relax (26.1%).

The injuries (n:22) that were observed from use of physical restraints were bruising (40.9%), edema (31.9%), 13.6% redness, and 13.6% for all symptoms (Table 5). The reason for an increase in patient agitation may be because of the bruising, edema and redness in the physically restrained extremity.

The use of physical restraints was documented on the observation form in 67.8% of the patients in the research but no documentation on the observation form was found for 32.2%. In the study by Kow & Hogan (2000) the nursing observation forms for 150 physically restrained patients were examined and in six patients there was no doctor's order for the physical restraint.

There was a difference between the rate of patients being physically restrained in different ICUs ($x^2 = 36.42$, $p<0.001$). The rate of patients being physically restrained was higher in the Neurology ICU than others. This result may be related to the higher number of patients in this unit than the others. Also in this unit the number of nurses per patient is less than the other ICUs.

There was a difference between the number of extremities physically restrained in patients in different ICUs ($x^2 = 30.22$, $p<0.001$). The percentage of patients which had three and four extremities restrained was higher in the Gastroenterology ICU than the others. This

Eşer İ, Khorshid L, Hakverdioğlu G. (2007). The characteristics of physically restrained patients in intensive care units. *International Journal of Human Sciences* [Online]. 4:2. Available: http://www.insanbilimleri.com

result may be due to complications from their medical diagnoses and the fluid and electrolyte imbalance the patients were experiencing.

There was no difference between the percentage of patients injured by physical restraints ($x^2 = 1.86$, $p>0.05$) and the length of time they were restrained ($x^2 = 6.60$, $p>0.05$) in different ICUs.

Also, there was no difference between the percentage of number of extremities being physically restrained in patients ($x^2 = 6.60$, $p>0.05$) and physical injury ($x^2 = 0.59$, $p>0.05$) from the physical restraints in patients who are in different age groups.

5. CONCLUSION

In this research most of the ICU patients who were being physically restrained were in the Neurology ICU. The most common type of restraint was observed to be bilateral wrist restraints. The overwhelming majority of patients were physically restrained using a restraint made up of a foam interior and green colored cloth exterior fabric. In most of the patients the physical restraints were used for 1-7 days. The majority of the decisions to restrain patients were made by the nurses. In this study health care personnel tried using alternative methods in 74.8% of the patients before using physical restraint. Finally physical restraining is an important problem in this hospital. In addition there are no monitored record forms for physically restrained patients. Knowing the characteristics of patients being physically restrained, determining the injury that physical restraints can cause in patients, determining situations that require monitoring of the use of physical restraints, and evaluation of documentation procedures are important and can be a guide in the planning of nursing care and management of physically retrained patients.

6. RELEVANCE TO CLINICAL PRACTICE

Nursing observation forms for monitoring patients who are physically restrained in hospitals need to be developed. Based on these forms nurses need to plan appropriate nursing interventions for patients who are physically restrained. Continuing education programs need to be given to nurses about the requirements in caring for physically restrained patients and the need to try alternative methods before physically retraining patients and standards need to be determined for the use of physical restraints. Nurses must try alternative methods before

Eşer İ, Khorshid L, Hakverdioğlu G. (2007). The characteristics of physically restrained patients in intensive care units. *International Journal of Human Sciences* [Online]. 4:2. Available: http://www.insanbilimleri.com

they apply physical restraint. Finally, nursing standards need to be written for the use of physical restraint in hospitals.

References

1. Burke, A. (n.d). Restraints: Working towards a restraint free environment. Retrieved April 26, htpp://www.nursingceu.com/NCEU/courses/restraints.2002

2. Wigder, H. N. (n.d.). Restraints. Retrieved April 28, http://www.emedicenr.com/emerg/topic//6.htm.2002.

3. Vassallo, M., Wilkinson, C., Stockdale, R., Malik, N., Baker, R., & Stephen, A., (2005). Attitudes to restraint for the prevention of falls in hospital. Gerontology, 51 (1), 66-69.

4. Evans, D., Wood, J., & Lambert, L., (2002). A review of physical restraint minimization in the acute and residential care settings. Journal of Advanced Nursing, 40 (6), 616-625.

5. Minnick, A., Leipzig, R. M., & Johnson, M. E., (2001). Elderly patients' reports of physical restraint experiences in intensive care units. American Journal of Critical Care, 10 (3), 168-171.

6. Tel, H., Beyaztaş, Y. F., & Aslan, D. B., (2001). Sağlık personelinin hastaya fiziksel tespit uygulaması ile ilgili görüş ve yaklaşımlarının incelenmesi (Examination of health care personnel's opinions and approaches to use of physical restraints with patients). 2nd Ulusal Tıbbi Etik Kongresi Kitabı, 323- 336.

7. Taylor, C., Lillis, C., & LeMone, P., (2001). Fundamentals of nursing the art & science of nursing care (4th ed.). Lippincott Williams & Wilkins, Philadelphia.

8. Eşer, İ., & Hakverdioğlu, G. (2006). Fiziksel tespit uygulamaya karar verme (Decision to use physical restraints). Cumhuriyet Üniversitesi Hemşirelik Yüksekokulu Dergisi, 10 (1), 37-42.

9. Sullivan – Marx, E. M., (2001). Achieving restraint – free care of acutely confused older adults. Journal of Gerontological Nursing, Thorofare, 27 (4), 56- 61.

10. Chien, T. W., (2000). Use of physical restraints on hospitalized psychogeriatric patient. Journal of Psychosocial Nursing & Mental Health Services, 38 (2), 13- 22.

11. Sweeney- Calciano, J., Solimene, A. J., & Forrester, D. A., (2003). Finding a way to avoid restraints. Nursing, 33 (5), 32hn1-32hn4.

12. Choi, E., & Song, M., (2003). Physical restraint use in a Korean ICU. Journal of Clinical Nursing, 12, 651-659.

13. Hantikainen, V., & Kappeli, S., (2000). Using restraint with nursing home residents: A qualitative study of nursing staff perceptions and decision-making. Journal of Advanced Nursing, 32 (5), 1196-1205.

14. Bray, K., Hill, K., Robson, W., Leaver, G., Walker, N., O'Leary, M., et al., (2004). British association of critical care nurses position statement on the use of restraint in adult critical care units. Nursing in Critical Care, 9 (5), 199-212.

15. Clark, M. A., (2005). Involuntary admission and the medical inpatient: Judicious use of physical restraint. Medsurg Nursing, 14 (4), 213-219.

Eşer İ, Khorshid L, Hakverdioğlu G. (2007). The characteristics of physically restrained patients in intensive care units. *International Journal of Human Sciences* [Online]. 4:2. Available: http://www.insanbilimleri.com

16. Morrison, E. F., Fox, S., Burger, S., Goodloe, L., Blosser, J., & Gitter, K., (2000). A nurse-led, unit-based program to reduce restraint use in acute care. Journal of Nursing Care Quality, 14 (3), 72-80.
17. Cotter, V. T., (2005). Restraint free care in older adults with dementia. Keio J Med, 54 (2), 80-84.
18. Janelli, L. M., Dickerson, S. S., & Ventura, M. R., (1995). Focus groups: Nursing staff's experiences using restraints. Clinical Nursing Research, 4 (4): 425- 441.
19. Kozub, M. L., & Skidmore, R., (2001). Seclusion & Restraint: Understanding recent changes. Journal of Psychosocial Nursing & Mental Health Services, 39 (3), 24- 31.
20. Lusis, S., (2000). Update on restraint use in acute care settings. Plastic Surgical Nursing, 20 (3), 145-150.
21. Martin, B., & Marthisen, L., (2005). Use of physical restraints in adult critical care: A bicultural study. American Journal of Critical Care, 14 (2), 133-142.
22. Bonn, K. L., (1995). What is a restraint? Nursing Homes Long Term Care Management, 4 (8), 38.
23. Huffman, G. B., (1998). Intervention to reduce use of restraints in nursing homes. American Family Physician, 57 (3), 538.
24. Winston, P. A., Morelli, P., Bramble, J., Friday, A., & Sanders, J. B., (1999). Improving patient care through implementation of nurse-driven restraint protocols. Journal of Nursing Care Quality, 13 (6), 32-46.
25. Karlsson, S., Bucht, G., Eriksson, S., & Sandman, P., (2001). Factors relating to the use of physical restraints in geriatric care settings. Journal of the American Geriatrics Society, 49 (12), 1722-1728.
26. Hendel, T., Fradkin, M., & Kidron, D., (2004). Physical restraint use in health care settings: Public attitudes in Israel. Journal of Gerontological Nursing, 30 (2), 12-19.
27. Bourbonniere, M., Strumpf, N. E., Evans, L. K., & Maislin G., (2003). Organizational characteristics and restraint use for hospitalized nursing home resident. Journal American Geriatric Society, 51, 1079-1084.
28. Kow, J. V., & Hogan, D. B., (2000). Use of physical and chemical restraint in medical teaching units. Canadian Medical Association Journal, 162 (3), 339.

Eşer İ, Khorshid L, Hakverdioğlu G. (2007). The characteristics of physically restrained patients in intensive care units. *International Journal of Human Sciences* [Online]. 4:2. Available: http://www.insanbilimleri.com

EK:

Table I. Types of and Material Used for Physical Restraints

Types of Restraints	n	%
Wrists on both sides	54	47.0
Wrist on one side	35	30.4
Wrists and ankles on both sides	22	14.8
Wrists on both sides and one ankle	5	4..3
Wrists and ankles on both sides and chest	2	1.7
Wrist and ankle on one side	1	0.9
Ankle on one side	1	0.9
Characteristics of Restraint Material		
Green foam tie	94	81.7
Gauze	15	13
Gauze and green foam tie	6	5.2
Total	115	100

Table II. Reasons for Using Physical Restraints

Reasons	N	%
To prevent patient from removing tubes attached to them	98	57.3
To prevent patient from falling out of bed	45	26.3
To be able to control patients' behaviors	22	12.9
To allow health personnel to give medical treatment	4	2.3
To maintain bedridden patients' position in bed	2	1.2
Total	171*	100

* More than one purpose was stated

Table 3. Number of Alternative Methods Tried by Nurses Before Physical Restraints

Tried Using Alternative	N	%
Yes	86	74.8
No	29	25.2
Total	115	100
Alternative Methods		
Talking with patient	22	75.9
Giving patient a tranquilizing medication	4	13.8
Having a relative talk with the patient	2	6.9
Supporting patient with pillow	1	3.4
Total	29	100

Eşer İ, Khorshid L, Hakverdioğlu G. (2007). The characteristics of physically restrained patients in intensive care units. *International Journal of Human Sciences* [Online]. 4:2. Available: http://www.insanbilimleri.com

Table IV. Changes Observed in General Condition of Patients After Application of Physical Restraints

Changes	**N**	**%**
Not present	100	87
Present	15	13
Total	115	100
Observed Changes		
Increase in agitation	10	66.8
Calmed	3	20
Crying-Moaning	1	6.6
Bradycardia	1	6.6
Total	15	100

Table V. Physical Injuries Observed On Extremities

Physical Injury	**N**	**%**
No	93	80.9
Yes	22	19.1
Total	115	100
Observed Injuries		
Bruising	9	40.9
Edema	7	31.9
Redness	3	13.6
All	3	13.6
Total	22	100