

Evaluate the level of observing the pre-operative standard care principles in the elderly people admitted to the surgical rooms in educational hospitals of Iran University of Medical Sciences in 2017-2018

Sheyda Ahmadi¹, Sedigheh Hannani^{2*}, Leyla Sadati³

¹ Operating Room Department, Faculty member of medical, Iran University of Medical Sciences, ² Operating Room Department, Faculty of medical, Iran University of Medical Sciences, Tehran, Iran. ³ Operating Room Department, Faculty member of medical, Alborz University of Medical Sciences, Karaj, Iran.

Correspondence: Sedigheh Hannani, Operating Room Department, Faculty of medical, Iran University of Medical Sciences, Tehran, Iran, Email: sd.hannani@yahoo.com

ABSTRACT

Background: Accurate pre-operative evaluation can have an effective role in preventing many adverse effects of surgery in the elderly people. Without doubt, this requires having committed, skilled, and experienced nurses in the field of surgery and operating room. Evidence suggests that health care providers, such as nurses, do not have adequate ability to diagnose the problems of the elderly people in the surgical units, despite increasing physical and mental needs of the elderly people. The objective of this study was to evaluate the level of observing the care standard principles in the elderly admitted to the operating room of the Iran University of Medical Sciences in 2017-2018. The current research was a cross-sectional study conducted since March 2017 to August 2018 at the educational hospitals of Iran University. **Methods and Materials:** In this research, 151 elderly people who were candidate for surgery and aged 60 years and over participated in this study by using convenient sampling method. The data collection tool included a researcher-developed checklist, which its validity was confirmed through content validity and its reliability was confirmed through simultaneous observation of the researcher and calculation of the correlation coefficient of the scores. In this research, standard cares specified in the checklist were compared with cases recorded in the patients' medical file. The data were analyzed using spss21 software. **Results:** The results revealed that 69 (45.7%) of the participants in this study were male and 82 (54.3%) were female and 51.7% of them suffered from cardiovascular diseases. In comparing the cases recorded in the medical file with the cases completed in the checklist by the researcher, the highest difference was obtained in skin diseases (73.4% difference) and the lowest difference was related to the diabetes disease (3.85% difference). In general, there was a 16.7% difference between the cases recorded in the medical file and the cases completed on the checklist by the researcher. **Conclusion:** Based on the results of current research, there is a relatively large difference between pre-operative cares provided for the elderly people and the standards in this area, especially in cases such as skin care. Thus, it is recommended to pay more attention to the care of the elderly people in the surgical units and the medical team to receive the necessary trainings on the special needs of the elderly people who are candidate for surgery. Serious monitoring and training for the care team should be considered before the surgery.

Keywords: elderly, surgery, preoperative care, standard

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Introduction

The elderly population refers to a group of people aged 60 years or more^[1]. The population of elderly people is growingly increasing in the world. In America, elderly population growth is faster than other groups of people and it is expected to reach 89 million people between the years 2010 and 2050^[2]. In Iran, based on the Population and Housing Census of 1956, the elderly population of was 5 percent, and this figure was 5.5% and 7.5% in 1986 and 2006, respectively. Considering the

increasing trend of elderly population, it is expected that elderly population in to reach 10 million people in 1400^[3].

As the elderly population grows, it is expected that the demand for all kinds of surgical services to increase. This increase is estimated to be 31% in vascular surgery and 18% in general surgery^[4, 5] Nowadays, in light of developments in science and technology, the invention of new therapies, proper nutrition and health, not only the elderly people have a long life span, but also they enjoy better conditions and better quality of life, such as the use of more health and welfare facilities^[6]. For example, while the age was considered as a contraindication for surgical procedures over the past years, it is no longer a limitation, and a safe surgery for elderly people is nowadays possible with the help of new anesthesia and surgery tools and methods^[7]. It should be noted that the elderly patients undergoing surgery are vulnerable populations and should be carefully evaluated, since they suffer from disabilities due to their physiological and anatomical changes caused by aging and it can exacerbate unwanted complications before, during, or after surgery in this age group^[8]. Thus, this group of patients requires more accurate and extensive care compared to younger patients before and after surgery^[9].

The pre-operation means the time interval between the patient's admission and his transfer to the operating room and doing surgery. The cares of this period focus on preparing the patient in terms of physical and mental conditions for surgery. For this purpose, the nurse obtains adequate information from the patient and designs a comprehensive and coherent care plan to identify the factors threatening the patient's health and provide the safe care for the patient^[8]. He should be able to identify the pathophysiological changes caused by aging and to distinguish between natural changes related to aging with pathophysiological changes and evaluate the elderly patients in terms of cognitive status and sensory functions such as vision and hearing, muscle mass, imbalance status caused by harm, nutritional status and fasting status of patient, and general health status^[8, 10] Hence, given the prevalence of adverse outcomes and complications of surgery and anesthesia in the post-anesthetic period, the surgery caregivers should have accurate evaluation of the current status of the patients^[11].

Performing accurate evaluation is impossible without standard tools. Without doubt, one of the most important tools used in accurate evaluation and provision of care is the use of the guidelines developed in each area. The use of standard care guidelines in elderly people is an important element of decision making in the health system and its implementation leads to reduced unnecessary and hazardous interventions and it leads to reduced rate of mortality and excessive costs imposed on elderly people by helping the caregivers make correct decisions^[12]. Thus, due to the lack of using standard guidelines in implementing pre-operative cares in the elderly people and increased population of this group of patients in surgical units, this research was conducted to evaluate the level of observing the pre-operative standard care principles in the elderly people admitted to the surgical rooms in educational hospitals of Iran University of Medical Sciences in 2017-2018.

Materials and methods

The current paper is a cross-sectional descriptive study conducted during the period from February 2017 to July 2018. The research population included all elderly patients admitted to the surgical units of the hospitals affiliated to Iran University of Medical Sciences. In this study, 151 subjects were selected as research subjects using convenient sampling method among those who were candidate for elective surgery and age 60 years and over. The exclusion criteria of research included the participants' unwillingness to participate in the study and the inability to communicate with the participants to complete the questionnaire. The tool used in this research was a researcher-developed questionnaire consisting of two sections. The first section included demographic information of patients, and the second section involved evaluating pre-operative standard cares provided for the elderly people in 6 dimensions of physical, cognitive diseases, drugs, and laboratory results, evaluation, counseling and recording of preoperative form.

Validity of the questionnaire was confirmed by content validity and through a survey of experts of operating room, surgery and anesthesia. In order to confirm the reliability of the research tool, the simultaneous observation method and the consensus of the evaluators and correlation coefficient calculation were used. The correlation coefficient of the present questionnaire was calculated 0.9. Data were analyzed using SPSS software and descriptive statistics and qualitative tests of Kendall and Chi-square.

Results

The results presented in this paper are part of the results of the master thesis with the Ethics code of IR.IUMS.REC 1396.9513101001 at Iran University of Medical Sciences. Out of 151 participants in this study, 69 (45.7%) were male and 82 (54.3%) were female. In this study, 58 patients (38.4%) were at the age range of 60 to 70 years and 70 patients (46.4%) were at age range of 71-80 years and 23 patients (15.2%) were at the age range of over 81 years. Other demographic information is presented in Table 1.

The results of examining the cases recorded in the medical file and the items completed in the checklist by the researcher in the physical dimension are shown in Tables 2 and 3.

Table 1. Comparison of frequency of demographic characteristics of research samples

Demographic information of patients	number	percentage
Age		
60-70	108	%71.5
Up 70	43	%28.5
sex		
male	82	%54.38

female	69	%45.7
total	151	%100
address		
city	71	%47
village	46	%30.5
metropolis	34	%22.5
total	151	%100
education		
illiterate	84	%55.6
literate	67	%44.4
total	151	%100
Surgical type		
general	53	%36.3
orthopedic	18	%12.3
female	10	%6.8
eye	20	%13.7
nerves	4	%2.7
ecology	11	%7.5
heart	30	%20.5
total	151	%100

Table 2. Comparison of the underlying disease cases recorded in the medical file and cases extracted by the researcher in terms of frequency in the research samples

Underlying diseases	Frequency of cases investigated by the researcher	Frequency of cases registered in the case	The proportion of cases recorded in the case to the cases investigated by the researcher	The difference between the percentage recorded by the investigator and the case
Hypertensive cardiovascular disease	79	65	%82/2	17.80%
lung disease	27	20	%74	26.00%
Gastrointestinal disease	33	17	%56	44.00%
Musculoskeletal disorders	23	19	%82/6	17.40%
Psychiatric diseases	22	15	%68/2	31.80%
Skin diseases	15	4	%26/6	73.40%
allergy	30	25	%83/3	16.70%
Entdiseases	10	5	%50	50.00%
Kidney diseases	29	24	%82/7	17.30%
Genital diseases	17	10	%58/8	41.20%
Endocrine diseases	21	17	%80/9	19.10%
diabetes mellitus	52	50	%96/15	3.85%

Low vision and blindness	50	48	%96	4.00%
Glasses and artificial eye	70	70	%100	0.00%
Hearing impairment	26	23	%88/46	11.54%
Hearing aids	22	22	%100	0.00%
Deformity of the spinal cord	9	5	%55/55	44.45%
disability	7	6	%85/7	14.30%
Cane ,walker ,wheelchair	42	42	%100	0.00%

Table 3. The total number of recorded cases of physical diseases in the medical file compared to cases recorded by the researcher using the standard checklist

	Frequency of cases registered by the researcher	Frequency of cases registered in the cases	The ratio of the cases recorded in the case to the records recorded by the researcher	The difference between the percentage recorded by the investigator and the case
Check the physical condition	584	487	%83.3	%16.7

Discussion

One of the main duties of the health caregivers in the pre-operative stage is to monitor the patient in terms of diseases and underlying problems. A high percentage of the elderly people are involved with a large number of these diseases and physical problems, due to physiological changes caused by increasing age. Thus, they should be identified and treated. Based on the results of this study, out of 151 research samples, 584 cases of various underlying diseases in physical dimension including cardiovascular diseases, blood pressure, psychiatric disorders, diabetes, and gastrointestinal diseases were recorded by the researcher during the evaluation, while this figure was 487 cases recorded in the medical file of patients. In other words, 16.7% difference was found between the real rate of underlying physical diseases and the cases recorded in the medical file, reflecting the fact no pre-operative counselling has been provided.

The most commonly reported case in the underlying diseases examined in this study was cardiovascular diseases and hypertension. Based on the results of this study, 79 (52.31%) of the samples had a cardiovascular disease or hypertension according to the completed checklist, while only 65 of them were identified by the health care team and counselling was provided for them. In other words, 17.8% of patients with cardiac disease were sent to the operating rooms without any counselling and treatment. Mohammadi et al also reported that elderly people suffered from various types of physical diseases, especially hypertension and they referred to importance of paying attention to this issue, which is in line with the results of the present study [13].

Kure et al also reported that hypertension was very common in the elderly patients and the necessity of taking care of the elderly patients in the use of antihypertensive drugs. Their results are in line with those of present study^[14]. Lack of paying attention to cardiovascular diseases and hypertension can lead to adverse and irreversible complications in the elderly people. In this regard, Haji Abdollah conducted a study entitled "risk factors and follow-up of outcome of surgical treatment in the elderly people aged over 65 years and reported that elderly people with cardiovascular diseases experience higher morbidity and longer hospitalization. Their results are in line with results of the present study^[15]. This issue emphasizes the importance of nurses and caregivers' knowledge of preoperative care, especially in the elderly age group.

In a study to compare the cases recorded by the researcher with written documents in the medical file of patients, the greatest difference was reported in skin diseases (73.4% difference). Unfortunately, this issue reflects the fact that nurses and physicians do not pay attention to this issue. Thus, nurses are required to pay more attention in evaluating the skin of elderly patients at the preoperative stage. Unhealthy skin is one of the key factors in the occurrence of pressure ulcers. Along with other factors such as immobility and reduced activity, malnutrition, mental status and the use of steroid drugs in the elderly people, it can lead to pressure ulcer^[16]. Thus, surgical nurses are required to record and report any minor lesions and damage in the skin of patient before surgery, by referring to site and type of lesion, such as dryness, ulcer and bruises^[8]. Referring to factors affecting the onset of pressure ulcer in the elderly people, Jial emphasized the importance of its evaluation and control using comprehensive approach and the role of all members of the care and medical team, including nurses, physicians, physiotherapists, and so on in its prevention and control^[17].

Conclusion

According to results of this study, it seems that in some cases, pre-operative care in elderly people is far from the standards defined based on global guidelines. The most important of them might be lack of a standard checklist to control all aspects of care provided for elderly people. In addition, care team negligence of this group of patients who, unfortunately, are not able to establish effective communication with care team due to disabilities such as hearing and visual impairment, illiteracy, and lack of language skill, and many of the cases influential in the surgery and anesthesia are neglected, so it can lead to irreversible complications of surgery and anesthesia. Hence, it is recommended that in addition to standardizing the elderly care checklist, care team to receive specialized trainings in this regard and observe the pre-operative care standards in elderly people.

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Limitations of the current study

To determine the care standards, this study used the documents and cases recorded in the medical file of the patients and no interview was performed with the care team. Thus, some cases might be obtained by telephone or orally, but not recorded in the medical file, which might affect the results of this study.

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