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Verbal Order Process, Control and The Results Evaluation at a University Hospital

Bir Üniversite Hastanesinde Sözel İstem Alma Süreci, Kontrolü ve Sonuçlarının Değerlendirilmesi

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ABSTRACT

In hospitals, the immediate administration of the treatment recommended by the physician is important for the patient safety, quality patient care, not prolonging the hospitalization length and expense. When considering near-miss/happened medication administration error in patient safety, it is discovered that verbal requests also play a role.
Aim: This study was conducted in a university hospital using a standardized verbal request process, control and result evaluation to identify problems that develop throughout the implementation process and to offer solutions.
Design/Method: The study was carried out by retrospectively assessing verbal requests given between January and December 2019 in accordance with the standard of taking verbal request used in a 110-bed university hospital. The data were analyzed based on the department, the status of requests within and outside of working hours, the presence of the physician's signature on the form, academic staff, and the physician's full-time/contracted job status. The SPSS 24 software was used to analyze the data.
Results: It was established that a total of 2033 verbal requests were put in the hospital where this study was conducted; with medicine accounting for 51.6% (n=1048) of the verbal requests. It was determined that 53% (n=57) of the doctors who put in verbal requests were contracted, 47% (n=51) were permanent employees, and 50.6% (n=531) of the requests were given during working hours and 49.4% (n=517) were given outside of working hours.
Conclusion: Considering the research results, it was detected that the number of signed verbal requests is low; that, despite the institution's large number of contracted doctors, their own staff physicians use many verbal requests and do not sign the forms; and that more verbal requests are given during working hours.

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ÖZET

Hastanelerde; hekim tarafından hastaya uygulanması order edilen tedavinin en kısa sürede yapılması hasta güvenliği, kaliteli hasta bakımı, hastanın yatış süresinin uzamaması ve maliyet açısından önemlidir. Hasta güvenliği içerisinde yer alan ramak kala/gerçekleşen ilaç uygulama hatalarına bakıldığında; sözel istemlerin de rol aldığı görülmektedir.
Amaç: Bu çalışma, bir üniversite hastanesinde standardize edilen sözel istem alma süreci, kontrolü ve sonuçlarının değerlendirilmesi, uygulama sürecinde ortaya çıkan sorunların belirlenmesi ve çözüm önerilerinin sunulması amacıyla yapılmıştır.
Yöntem: Çalışma 110 yataklı bir üniversite hastanesinde uygulanmakta olan sözel istem alma standardına göre Ocak-Aralık 2019 tarihleri arasında verilen sözel istemlerim retrospektif olarak incelenmesi ile gerçekleşmiştir. Veriler bölüm, mesai saatleri içinde ve dışında istem verilme durumu, formda hekim imzasının olması, istem veren hekimlerin akademik kadro, tam zamanlı/anlaşmalı çalışma durumuna göre değerlendirilmiştir. Veriler SPSS 24 programı kullanılarak analiz edilmiştir.
Bulgular: Araştırmanın yapıldığı hastanede toplamda 2033 sözel istem verildiği; sözel istemlerin %51,6 (n=1048)'inin ilaç, %48,4 (n=985)'sinin taburcu istemi; %2,1 (n=44)'inin imzalı olduğu, imzalı sözel istemlerin hastane içerisinde bir bölümün doktorlarına ait olduğu tespit edilmiştir. İstemlerin %64'ünün (n=1301) Kadın Doğum Bölümü hekimlerine ait olduğu, sözel istem veren doktorların %53 (n=57)'unun anlaşmalı, %47 (n=51)'inin kadrolu çalıştığı; istemlerin %50,6'sının (n=531) mesai saatleri içerisinde ve %49,4'ünün (n=517) mesai saatleri dışında verildiği sonucuna ulaşılmıştır.
Sonuç: Araştırma sonuçlarına bakıldığında; imzalı sözel istem sayısının az olduğu; kurumun anlaşmalı doktor sayısının fazla olmasına karşın kendi kadrolu hekimlerinin de sözel istemi fazla kullandığı ve formları imzalamadığı; mesai saatleri içinde daha fazla sözel istem verildiği tespit edilmiştir.

1. Introduction

The health care system's first responsibility is ensuring patient safety. Medication errors are the most prevalent sort of medical error in hospital settings (1,2,3). Joint Commission on Accreditation of Healthcare Organizations (JCAHO) defines the concept of medical error as "the patient being harmed as a result of a healthcare professional acting in an inappropriate and unethical manner and acting inadequately and negligently in professional practices" (4). Medication errors, which are one of the ongoing problems in health care systems, threaten patient safety and can lead to wrong treatments, injuries and even death, as well as a prolonged hospital stay and an increased cost of treatment. Although medication administration is a multidisciplinary process, it begins with the physician's order following the patient examination and ends with the administration of the medication by the nurse, physician, the patient himself or their relatives, recording of the administration, and observing the correct response (3.5-8). Nurses are involved in all the practices aimed at protecting and promoting the health of individuals, families, and society; as well as providing treatment in case of illnesses. Nurses carry out their nursing responsibilities in accordance with applicable laws and regulations, particularly the nursing laws, by utilizing their independent, semi-dependent, and dependent roles in health care (1,2). Concordantly, among nursing roles, medication administration plays a critical part.. Medication errors can occur in any setting, at any step of the medicine administration continuum such as nurse medicine administration, medication, order delivery, product labelling, packaging, naming, and compounding of the product, as well as any of the distribution, education, monitoring, and usage systems (3). There are also factors that predispose to the occurrence of the error, just as there are causes for the error to occur. Knowing the factors affecting the occurrence of errors can help remove the factors that cause errors from the environment (9). Knowing the elements that influence the incidence of mistakes can aid in the removal of the factors that create errors from the environment. Establishing the procedure, , standardizing it, controlling it, analyzing the outcomes, and making the required modifications all contribute to ensuring patient safety. The hospitals should establish a standardized for taking verbal requests for patient treatment when physicians are out of working hours or are not available during the business hours. To ensure that the process runs well, it is vital to control and correct any flaws and malfunctions by making improvements. This study was carried out in a university hospital to assess the standardized verbal order procedure, control, and outcomes, as well as to identify the problems that arise during the implementation process and to suggest solutions.

1.1. Purpose of the Study

This study was carried out in a university hospital to assess the standardized verbal order procedure, control, and outcomes, as well as to identify the problems that arise during the implementation process and to suggest solutions.

2. Materials and Methods

This is a descriptive study. The study was conducted by retrospectively by reviewing 2033 verbal orders issued between January and December 2019 in accordance with the verbal order taking standard used in a 110-bed university hospital. Within the scope of the developed standardized, physicians at the hospital where this research carried out are required to sign the relevant form within 24 hours and put the verbal order in writing via the hospital operating system.

2.1. Data Collection

Data were collected using the "Verbal Communication Form" used in the hospital and the statistical documents obtained from the hospital's operational system. Two copies of "Verbal Communication Forms" completed within verbal requests within the hospital. One copy is sent to the patient's file, while the other is forwarded to the quality unit. There are areas on the Verbal Communication Form for identity verification stickers containing the patient's name, surname, father's name, identification number, date of birth, hospitalization number, and so on. It also includes the names and surnames of the people who gave and received the verbal order, date, time, signature, "verbal order read back/not read back" area, and the physician's signature. The workflow diagram is given below (Figure 1).

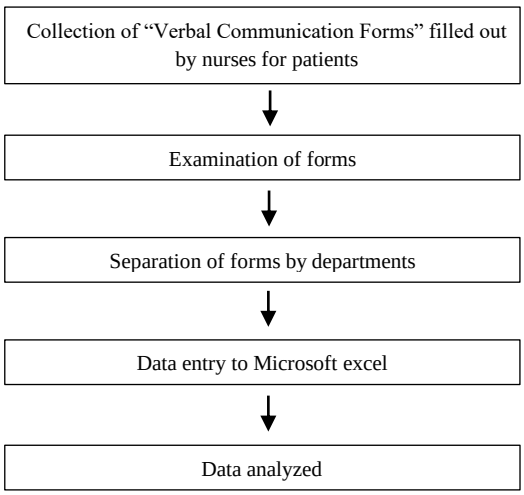

Figure 1. The workflow diagram

2.2. Data Analysis

All data was then uploaded to quantitative data analysis software SPSS 24. The data were analyzed by using SPSS 24 software. The data were analyzed under the following headings: the department name, the date and time of the verbal order, whether ordered medications were administreted during or after working hours, the presence of the physician's signature on the form, whether the physician who gave the order is a member of the academic staff, whether the physician is a full-time employee of the institution or a contracted physician.

2.3. Ethical Consideration

This study was approved by Faculty of Medicine Clinical Research Ethics Committee on 09.10.2019 under the number KAEK-118/063.

2.4. Limitations of the Study

This research is confined to the verbal orders of patients who were hospitalized in the hospital where the study was conducted between 01 January – 30 December 2019. Orders given by physicians with their own passwords and names via the hospital operating system were not included in the study.

3. Findings

It was determined that 2033 verbal orders were issued in the hospital between January 2019 and December 2019.Within the scope of the developed standardization, physicians are expected to sign the relevant form within 24 hours and put the verbal order in writing via the hospital operating system. Furthermore, physicians are divided into two groups. The institution works with a total of 468 physicians, including 84 physicians (of 40 academic staff) and 384 contracted physicians (the physician only performs surgery, 138 of which are in obstetrics and gynaecology department). Written “Physician Order Form” is used in routine practice for contracted physicians in the institution, and the hospital operating system is used for staff physicians.

It was determined that 51.6% (n=1048) of the verbal orders were for medication, while 48.4% (n=985) were for patient discharge. 2.1% (n=44) of verbal orders were signed. It has been detected that the signed verbal orders belong to the physicians of a department in the hospital (Table 1).

Table 1. Verbal communication form usage status by month

	Jan	**Feb**	**Mar**	**Apr**	**May**	**June**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
Total Number of Verbal Communications	157	149	186	183	164	158	172	142	178	175	198	171	**2033**
Medication	103	85	91	86	82	66	72	64	92	102	99	106	**1048**
Discharged	84	63	93	80	86	60	67	106	86	94	82	84	**985**
Signed	**5**	**2**	**2**	**2**	**3**	**3**	**7**	**8**	**5**	**4**	**1**	**2**	**44**

When the rates of verbal orders by departments were examined, it was detected that the vast majority of 64% (n=1301) of the verbal orders were given by the physicians of the and Obstetrics and Gynaecology Department and 7.8% (n=159) by doctors of the General Surgery Department. 25% (n=27) of these physicians belongs to the Department of Obstetrics and Gynecology, and 19.4% (n=21) of them belongs to the Department of Anesthesiology and Reanimation. According to these physicians employment status, it was determined that 53% (n=57) of the 108 physicians who gave verbal orders are contracted physicians and the rest 47% (n=51) are staff physicians (Table 2).

Considering the time of verbal orders according to the departments 50.6% (n=531) of verbal orders were issued during working hours (08:30-18:00), while 49.4% (n=517) were given outside of working hours (after 18:00 or on weekends) (Table 3).

Table 2. Number of staffed/contracted physicians who gave verbal orders and verbal order numbers based on the departments

Department	Codes of Physicians Who Gave Verbal Order	Number of Physicians		Number of Verbal Orders		Physician	
		n	%	n	%	Staffed Physician of the Institution	Contracted Physician
Obstetrics and Gynaecology	D1,D2,D3,…,D25, D26, D27	27	25,0	1301	64.0	5	22
General Surgery	D28,D29,…,D34	7	6.5	159	7.8	6	1
Gastroenterology	D35,D36,D37	3	2.8	123	6.1	3	0
Cardiology	D38,D39,D40,…,D42,D43	6	5.6	111	5.5	6	0
Internal Medicine	D44	1	0.9	17	0.8	1	0
Paediatric Surgery	D45,D46	2	1.9	10	0.5	0	2
Anaesthesiology and Reanimation	D47,D48,…,D66, D67	21	19.4	35	1.7	6	15
Neurosurgery	D68,…,D72	5	4.6	56	2.8	1	4
Paediatrics	D73,D74,…,D78,D79	7	6.5	9	0.4	7	0
Orthopaedics	D80,D81,D82,D83	4	3.7	16	0.8	1	3
E.N. T	D84,D85,D86,D87	4	3.7	11	0.5	1	3
Endocrinology	D88	1	0.9	57	2.8	1	0
Haematology	D89	1	0.9	19	0.9	0	1
On-duty physician	D90	1	0.9	21	1.0	1	0
Chest Diseases	D91,D92	2	1.9	11	0.5	2	0
Urology	D93,D94,D95	3	2.8	24	1.2	3	0
Infectious Diseases	D96	1	0.9	23	1.1	1	0
Cardiovascular Surgery	D97,D98,D99	3	2.8	9	0.4	3	0
Plastic Surgery	D100,D101,…,D104	5	4.6	8	0.4	0	5
Dermatology	D105	1	0.9	4	0.2	1	0
Neurology	D106	1	0.9	4	0.2	1	0
Nephrology	D107	1	0.9	4	0.2	1	0
Ophthalmology	D108	1	0.9	1	0.0	0	1
TOTAL		**108**	**100.0**	**2033**	**100**	**51 (47%)**	**57 (53%)**

Table 3. Status of verbal medication orders given by departments during/after working hours

Department	Number of Verbal Orders		During/Outside Working Hours	
	n	%	During Working Hours	Outside Working Hours
Gynaecology and Obstetrics	316	30.2	149	167
General Surgery	159	15.2	90	69
Gastroenterology	123	11.7	92	31
Cardiology	111	10.6	24	87
Internal Medicine	17	1.6	14	3
Paediatric Surgery	10	1.0	4	6
Anaesthesiology and Reanimation	35	3.3	15	20
Neurosurgery	56	5.3	35	21
Paediatrics	9	0.9	6	3
Orthopaedics	16	1.5	10	6
E.N.T	11	1.0	7	4
Endocrinology	57	5.4	22	35
Haematology	19	1.8	15	4
On-duty physician	21	2.0	0	21
Chest Diseases	11	1.0	6	5
Urology	24	2.3	8	16
Infectious Diseases	23	2.2	16	7
Cardiovascular Surgery	9	0.9	5	4
Plastic Surgery	8	0.8	4	4
Dermatology	4	0.4	4	0
Neurology	4	0.4	2	2
Nephrology	4	0.4	2	2
Ophthalmology	1	0.1	1	0
TOTAL	**1048**	**100.0**	**531 (50.6%)**	**517 (49.4%)**

4. Discussion

Medication errors are defined as a preventable incident that causes the patient to suffer from the medicine or to take the incorrect medicine. Pharmaceutical applications are a multidisciplinary procedure that comprises the physician's medicine order, medicine supply, preparation, administration, recording, observation and follow-up on medicine effects (12). Yöntem et al. (2019) stated that 83.1% of nurses followed the doctors' verbal order, 41.3% of them did not double-check on high-risk medicines, and 90% of nurses checked patient allergies and identity information before applying (13).

Bilsin's (2020) study demonstrated that excessive workload, lack of communication, misunderstanding of the verbal request, illegible handwriting of the doctor, not putting the verbal request in writing, lack of orientation of the nurse and lack of education, usage of an abbreviation in the name of the medicine, lack of knowledge about medicine administration and preparation, misinterpretation of the physician's request, mislabeling of the medicine, incorrect packaging of the prepared medicine etc. were all factors identified as medication errors (12). In the literature when the causes of medicine administration errors originating from nurses and other health professionals are investigated; it is stated that factors such as not

complying with duties and regulations, not knowing the allergic history, giving the medicine in the wrong way, wrong treatment time, giving the medicine inappropriately, communication problems, insufficient medicine information, carelessness, not checking the patient's identity, keeping records incompletely, insufficient information about patient safety, inadequate number of employees, long working hours, use of abbreviations, taking a verbal request, dividing the treatment preparation process for other reasons, not performing double checks, uncertainty in the requirements, not taking the file to the patient's room while administering medication, neglecting the six right principles are stated to be among the medical administration error reasons (14-18,20-23). Another research, focused on not taking verbal requests except in emergencies. Participants in the study, on the other hand, indicated that the medicine should not be administered without a request, that the necessity of verbal requests should be minimized, and that the requests should be written in a clear and understandable way. It has been concluded that these suggestions might be related to the physicians' disapproval of their verbal requests within 24 hours, the absence of two suitable people in the field at all times to receive verbal requests, and the physicians' desire to use this situation outside of emergencies (18,19). When the studies were examined, the causes of medication errors were looked at in general. Medication errors are one of the sub-goals of patient safety. In studies examining medication errors, it has been concluded that verbal order causes errors. Reducing the number of verbal orders will primarily contribute to the reduction of medication errors and then to ensuring patient safety. in order to reduce the number of verbal orders, first of all, the institution needs to develop a procedure on this issue, follow the process, identify deficiencies and make improvements.

5. Conclusion and Recommendations

Applying the treatment ordered by the physician for the patient as soon as possible is critical for patient safety, the quality of patient care, not prolonging the hospitalization duration and minimizing cost. Considering the research results, it was detected that the number of signed verbal requests is low; that although the number of contracted doctors in the institution is high, their own staff physicians also use many verbal requests and do not sign the forms; and that more verbal requests are given during working hours. Regarding the identified flaws and improvement of the process, it is suggested that training to physicians and nurses is provided to increase awareness, especially among permanent staff physicians; that contracted physicians are informed by different means such as e-mails and text messages to their phones; that remote access is made applicable for accessing the hospital information operating system outside of working hours; that contracted physicians are given their own passwords from the hospital information operating system and the requests are put in via the system; that by looking specifically at the physician's codes, physicians who put in a lot of requests are conferred with, that verbal requests during working hours are prevented by corporate policies except for emergencies.

Conflict of Interest: The authors declare no conflict of interest.

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Authorship Contribution:

TM: Study design, data collection, data analysis, study supervision, manuscript writing, critical revisions for important intellectual content

YÖ: Study design, study supervision, manuscript writing

MA: Study supervision

AY: Study supervision

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