ORIGINAL ARTICLE

CONTENTS

Assessment of interpersonal communications between doctors and patients in a military hospital: Factor analysis of the hcahps survey

Oleksandr M. Korneta, Iryna A. Holovanova, Maksym V. Khorosh
POLTAVA STATE MEDICAL UNIVERSITY, UKRAINE, POLTAVA

ABSTRACT

Aim: The aim of the study was to assess interpersonal communication between doctors and patients in a military hospital using factor analysis of the HCAHPS questionnaire.

Materials and Methods: A cross-sectional study was conducted, during which military personnel who were undergoing inpatient treatment in Poltava and Kremenchuk hospitals were surveyed. The HCAHPS questionnaire consists of 21 individual-level questions that are presented as 8 hospital-level indicators to reflect specific aspects of the healthcare experience. The process of extracting factors from the correlation matrix using principal component analysis led to the identification of factors. Factors were removed until then, regardless of whether the factor's influence on the variance was significant or not.

Results: The percentage of variance is the largest in the first factor – 36.566%. The higher the percentage of variance, the greater the weight of this factor. Therefore, the first factor has the largest percentage of loading. The cumulative percentage accumulated to the last factor is 69.351, which indicates an appropriate factor solution. Factor analysis allowed us to identify 4 main components that determine the main features of patient satisfaction with medical care: "Responsibility for one's health", "Adherence to treatment", "Deontology" and "Mercy".

Conclusions: Based on the fact that patient satisfaction with care is a predictor of his future behavior regarding the attitude towards treatment, it can be stated that all the established components are extremely important for further obtaining a positive result of the patient's recovery. Therefore, organizational work aimed at improving the established predictors is of great importance for the organization of medical care.

KEY WORDS: factor analysis, military hospital, interpersonal communications, HCAHPS, quality of medical help

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INTRODUCTION

Since 2008, the Centers for Medicare and Medicaid Services (CMS) has been surveying patients using the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey to assess patients' perceptions of care [1, 2]. Conducting such a study in Ukraine will allow to evaluate communications with medical personnel and the quality of medical care in the conditions of a full-scale Russian invasion of the country, which will significantly change the access and organization of medical care to the population. The HCAHPS questionnaire allows you to assess the result of complex human behavior, which culminates in communication between the service provider - a healthcare professional - and its consumer - a patient [3, 4].

As a result of such communication, feelings and needs on both sides are revealed. On the patient's side, this may include the prognosis of the disease, its severity, cost, emotional support, side effects of treatment, preservation of autonomy and respect. Communication itself contains the process, context, and purpose of the meeting. Since medical personnel, by virtue of their professional knowledge and skills, own the situation, they are the subject in this relationship. On the one hand, this gives the right to manage the patient and prescribe treatment. On the other hand, the patient acts as an object and also has the right to treatment with respect and empathy from the medical staff towards his person [5].

The needs of the provider may be clinical, logistical, or resource-related due to shortages. Often the needs of the patient and the healthcare professional coincide, but they may also conflict. Furthermore, needs are often complex and vary significantly between patients [2]. Ultimately, it is necessary to make a joint decision, the proposal of which initially comes from the medical worker. It is necessary to take into account that communication takes place in the current mode, that is, during the stay in the hospital, as well as after discharge. Therefore, it is important to take into account all components of the context of the conversation.

The success of treatment will depend on how much the patient agrees to carry out the doctor's prescription. Therefore, understanding in the relationship of the doctor-patient, nurse-patient pair is of extremely great importance [6].

AIMS

The aim of the study was to assess interpersonal communication between doctors and patients in a military hospital using factor analysis of the HCAHPS questionnaire.

MATERIALS AND METHODS

A cross-sectional study was conducted, during which military personnel who were undergoing inpatient treatment in Poltava and Kremenchuk hospitals were surveyed. Military personnel who were undergoing inpatient treatment there were surveyed. A Google form questionnaire was sent to patients.

The HCAHPS questionnaire consists of 21 individual-level questions that are presented as 8 hospital-level indicators to reflect specific aspects of the healthcare experience [7-9]:

I. Nurses' communication:
1. How often during your hospital stay did the nurses treat you with courtesy and respect?
2. How often did the nurses listen to you carefully during your hospital stay?
3. During your hospital stay, how often did the nurses explain things in a way that you could understand?

II. Doctors' communication:
4. How often during your hospital stay did the doctors treat you with courtesy and respect?
5. How often did the doctors listen to you carefully during your hospital stay?
6. During your hospital stay, how often did the doctors explain things in a way that you could understand?

III. Responsiveness of suppliers:
7. How often during your hospital stay, after you pressed the call button, did you receive help as soon as you wanted it?
8. Do you need help from nurses or other hospital staff to get to the toilet or use the bedpan while you are in the hospital?
9. How often were you helped to get to the toilet or use the bedpan whenever you wanted?

IV. Cleanliness of the hospital environment and silence of the hospital environment
10. How often were your room and bathroom clean during your hospital stay?
11. How often was it quiet around your room at night during your stay in the hospital?

V. Communication about medications:
12. Were you given any medications during your hospital stay that you had not taken before?
13. Before giving you any new medication, how often did the hospital staff tell you what the medication was for?
14. How often did hospital staff describe possible side effects in a way you could understand before giving you any new medication?

VI. Checkout information
15. During your hospital stay, did doctors, nurses, or other hospital staff talk to you about whether you would get the care you needed when you left the hospital?
16. Did you receive written information during your hospital stay about what symptoms or health problems to look out for after you leave the hospital?
17. During my stay in hospital, the staff took into account my preferences and those of my family or carer when deciding what my health care needs would be after I was discharged.
18. When I left the hospital, I had a good understanding of the things I was responsible for in managing my health.
19. When I left the hospital, I clearly understood the purpose of taking each of my medications.

VII. Overall satisfaction with the hospital:
20. We would like to know your overall assessment of your stay at [Hospital Name]. This is a stay that ended around [discharge date]. Please do not include any other hospital stays in your response.

VIII. The likelihood that they would recommend the hospital to a close friend or family member
21. Would you recommend this hospital to your friends and family?

Patients provide answers to the proposed questions on a Likert` scale: 1 - "never", 2 - "sometimes", 3 - "usually", 4 - "always". Only one question "Were you given any medication that you had not taken before" contains 2 answer options: "yes" and "no". [10].

STATISTICAL ANALYSIS

Data entry and statistical analysis were performed using IBM SPSS version 25.0. The process of extracting factors from the correlation matrix using principal component analysis led to the identification of factors. The first task of factor analysis was to select interacting variables whose mutual correlations accounted for the largest share of the variance. These variables formed the first factor. The first factor was then eliminated from the remaining variables and those whose interaction accounted for the largest proportion of the remaining

Table 1. Socio-demographic profile of military personnel who were inpatients in the hospital.

Demographic characteristics		Number of respondents	
		Abs.	%
Gender	Man	83	94.3
	Woman	5	5.7
	Total	**88**	**100.0**
Marital status	Lonely	14	15.9
	In a steady relationship	9	10.2
	Married	53	60.2
	Divorced	11	12.5
	Widower/widow	1	1.1
	Total	**88**	**100.0**
Place of residence	City	68	77.3
	Village	17	19.3
	Urban-type settlement	3	3.4
	Total	**88**	**100.0**
Education level	Average education	16	18.2
	Secondary special education	38	43.2
	Higher education	34	38.6
	Total	**88**	**100.0**
Profession	Builder	9	10.2
	Military	38	43.2
	Driver	11	12.5
	Teacher	2	2.3
	Economist	4	4.5
	Electric gas boiler	4	4.5
	Engineer	3	3.4
	Medical worker	6	6.8
	Mechanic	4	4.5
	Worker	4	4.5
	Lawyer	3	3.4
	Total	**88**	**100.0**
Military status	Sewage service soldier	4	4.5
	Contract soldier	12	13.6
	Professional military	8	9.1
	Mobilized	64	72.7
	Total	**88**	**100.0**
Rank	Cadet	1	1.1
	Ordinary	38	43.2
	Sergeant	23	26.1
	Officer	10	11.4
	Other	16	18.2
	Total	88	100.0
Hospital location	Poltava	30	34.1
	Lubny	58	65.9
	Total	88	100.0

Source: compiled by the authors of this study

Table 2. KMO-value and Bartlett criterion

Indicator	Value
Kaiser-Mayer-Olkin sampling adequacy measure (KMO)	0.762
Sphericity test - approximate Chi-square	901.132
Barletta criterion	171
p-value	<0.001

Source: compiled by the authors of this study

variance were again selected. These variables formed the second factor. The procedure for removing factors was continued until all the total variance of the variables was exhausted independently. Factors were removed in descending order of their influence on the variance of the variables. Factors were removed until then, regardless of whether the factor's influence on the variance was significant or not.

The next step after extracting the factors was to rotate them. The goal of rotation was to obtain a simple structure, which corresponds to a larger loading value of each variable on only one factor and a smaller one on the other factors. The loadings reflected the relationship between the variable and the factor, being similar to the correlation coefficient. The loading value lies in the range from -1 to 1. The ideal simple structure assumes that each variable has zero loading values on all factors except one, for which the loading of this variable is close to 1/-1 [11].

To identify the most significant factors and their structure, we used the principal components method. The mathematical model of principal components is based on the logical assumption that the values of a set of interdependent features generate some general result, which helps to identify hidden indicators (factors) that are responsible for the presence of linear statistical relationships (correlations) between them[12].

When using a conventional correlation matrix, the number of common factors was considered equal to the number of eigenvalues greater than or equal to one (Kaiser criterion), and only those factors were selected that caused a "separate" variance equivalent to at least the variance of one variable. The eigenvalues were plotted on the graph depending on the ordinal number of the factor (having previously ranked them in order of "decreasing importance"), by selecting the number of factors at the "inflection point" of the steep section of the graph into the gentle section. This technique, proposed by Cattell, is called the "rocky scree criterion" [13]. A probability <0.05 was considered statistically significant.

ETHICS

This work complies with the principles of the Declaration of Helsinki.

RESULTS

The medical and demographic characteristics of the respondents are presented in Table 1, and as indicated therein, the majority of patients were married (60.2%), lived in rural areas (19.3%), were male (94.3%), and most of them were military personnel (43.2%) (the profession they had before the war is indicated here). The average age of patients was 39.5±8.7% (max -59.0%; min - 24.0%).

As shown in Table 2, the KMO (Kaiser-Meyer-Opkin) value demonstrates acceptable sample adequacy for factor analysis. Bartler's sphericity test shows a statistically significant result (p<0.00). Therefore, the selected number of factors is sufficient to explain the sample coefficients [14].

By default, in the factor analysis procedure, each variable has a unity value. This indicator is equal to the fraction of the variance of a variable due to the cumulative influence of factors. In this case, "Understanding responsibility for one's health" – 0.923 makes the greatest contribution to the community of other variables. "Understanding responsibility for one's health" is a guarantee that the patient will continue treatment related to the underlying disease after discharge (Table 3).

The percentage of variance is the largest in the first factor – 36.566%. The higher the percentage of variance, the greater the weight of this factor. Therefore, the first factor has the largest percentage of loading. The cumulative percentage accumulated to the last factor is 69.351, which indicates an appropriate factor solution (Table 4, Fig.1).

A correlation matrix was created to identify relationships between respondents' responses in order to assess the quality of communication between medical personnel and military patients. The correlation matrix of responses is presented in Table 5.

When determining the correlations between responses regarding medical staff communication, it can be noted that the average level of correlation is between:

• **"Polite attitude of nurses"** was related to " Attentive listening by nurses", "Polite attitude of doctors ", "Nurses' clear explanations" and "Doctors' clear explanations",

Table 3. Matrix of components and commonalities

Question	Primary	Withdrawal
I. Nurses' communication		
Polite attitude	1.000	0.661
Attentive listening	1.000	0.551
Clear explanation	1.000	0.577
II. Doctors' communication		
Polite attitude	1.000	0.852
Attentive listening	1.000	0.766
Clear explanation	1.000	0.791
III. Responsiveness of suppliers		
Getting help immediately after the call	1.000	0.494
Do you need help getting to the toilet?	1.000	0.733
Did they help you get to the toilet or use the bedpan?	1.000	0.814
IV. Cleanliness of the hospital environment and silence of the hospital environment		
Bathroom cleanliness	1.000	0.440
Silence at night	1.000	0.549
V. Communication about medications		
Medicines were given that had not been taken before	1.000	0.490
Explanation of the use of new medications	1.000	0.821
Explanation of side effects	1.000	0.864
VI. Checkout information		
Did the doctors and nurses talk about getting care after discharge?	1.000	0.454
Did you receive any recommendations after discharge?	1.000	0.845
Taking into account personal needs in medical care	1.000	0.742
Understanding responsibility for one's health	1.000	0.923
Understanding the purpose of taking each medication	1.000	0.875
VII. Overall satisfaction with the hospital		
Overall assessment of hospital stay	1.000	0.677
Recommending the hospital to friends	1.000	0.586

Source: compiled by the authors of this study

Table 4. Dispersive characteristics of the identified factors

Component	Initial eigenvalues			Sums of squares of extraction loadings			Sums of squares of rotation loadings		
	Total	% variance	Cumulative %	Total	% variance	Cumulative %	Total	% variance	Cumulative %
1	6.947	36.566	36.566	6.947	36.566	36.566	3.731	19.636	19.636
2	1.836	9.665	46.231	1.836	9.665	46.231	2.887	15.196	34.833
3	1.815	9.553	55.784	1.815	9.553	55.784	2.383	12.540	47.373
4	1.539	8.098	63.882	1.539	8.098	63.882	2.267	11.933	59.306
5	1.039	5.469	69.351	1.039	5.469	69.351	1.909	10.045	69.351

Source: compiled by the authors of this study

"Quietness at night", and "Did you receive recommendations after discharge".

• **"Nurses' attentive listening"** correlated with "Doctors' polite attitude", "Doctors' attentive listening", and "Doctors' clear explanation".

• **"Clear explanation from nurses"** was associated with "Clear explanation from doctors".

• **"Doctors' polite attitude"** is associated with "Doctors' attentive listening", "Doctors' clear explanation", "Bathroom cleanliness", "Quiet at night", "Explanation

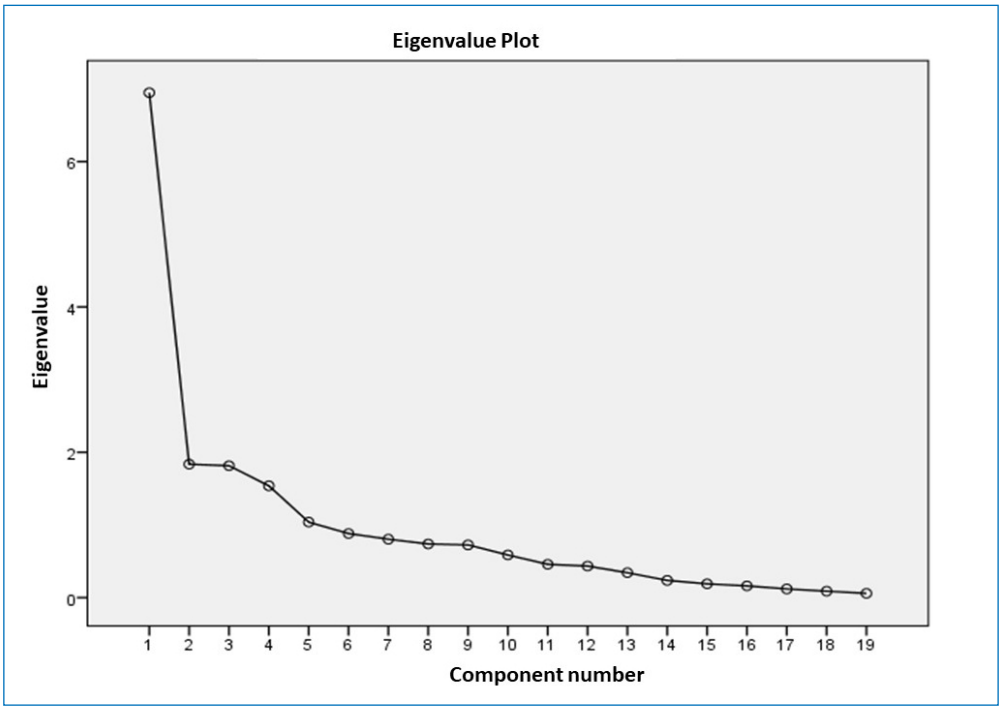

Fig. 1. Distribution of significant factors of satisfaction with communication
Picture taken by the authors

of side effects", "Taking into account personal needs in medical care", "Understanding responsibility for one's health". An inverse correlation was found with "Did doctors and nurses talk about receiving care after discharge". Obviously, this option does not depend on "Doctors' polite attitude", care after discharge is provided regardless of the doctor's manners.

• **"Listening attentively to doctors"** refers to "Clear explanation by doctors", "Cleanliness of the bathroom", "Overall assessment of the hospital stay".

• **"Clear explanation from doctors"** – with Cleanliness of the bathroom, "Quietness at night, with "Taking into account personal needs in medical care", "Understanding responsibility for one's health", "Understanding the purpose of taking each medication", "Overall assessment of the hospital stay", "Recommendation of the hospital to friends".

• **"Did they help you get to the toilet or use the bedpan?"** correlates with "Overall Hospital Stay Rating".

• **"Bathroom cleanliness"** with "Explanation of side effects", "Overall assessment of hospital stay".

• **"Quiet at night"** correlates with "Explanation of side effects", "Overall assessment of hospital stay".

• **"Explanation about the use of new medications"** with "Explanation about side effects", "Overall assessment of the hospital stay", "Recommendation of the hospital to friends".

• **"The explanation of side effects"** is related to "Overall assessment of hospital stay", "Recommendation of the hospital to friends".

• **"Taking into account personal needs in medical care"** correlated with "Understanding responsibility for one's health,""Understanding the purpose of taking each medication," and "Overall assessment of the hospital stay."

• **"Understanding responsibility for one's health"** with "Understanding the purpose of taking each medication", "Overall assessment of the hospital stay".

• **"Overall assessment of the hospital stay"** with "Recommendation of the hospital to friends."

Factor analysis allowed us to identify 4 main components that determine the main features of patient satisfaction with medical care (Table 6).

The first factor was the largest and included the following components that were of greatest importance:

- *«Polite attitude of doctors»*
- *«Clear explanation from doctors»*
- *«Polite attitude of nurses»*
- *«Silence at night»*
- *«Attentive listening by nurses»*
- *«Attentive listening by doctors»*
- *«Getting help immediately after the call»*
- *«Did they help you get to the toilet or use the bedpan?»*
- *«Explanation of the use of new medications»*
- *«Explanation of side effects»*
- *«Bathroom cleanliness»*
- *«Taking into account personal needs in medical care»,*

Table 5.

№		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	Polite attitude of nurses	1.000																				
2	Attentive listening by nurses	**0.501**	1.000							**zz**												
3	Clear explanation from nurses		0.318	1.000																		
4	Polite attitude of doctors	**0.567**	**0.678**	0.370	1.000																	
5	Attentive listening by doctors	0.289	0.409	0.184	**0.661**	1.000																
6	Clear explanation from doctors	**0.547**	**0.590**	**0.408**	**0.850**	**0.637**	1.000															
7	Getting help immediately after the call	0.312	0.326	0.207	0.390	0.203	0.325	1.000														
8	Do you need help getting to the toilet?	0.164	0.117	0.163	0.155	0.172	0.144	0.216	1.000													
9	Did they help you get to the toilet or use the bedpan?	0.252	0.231	-0.023	0.220	0.267	0.153	0.309	**0.666**	1.000												
10	Bathroom cleanliness	0.244	0.348	0.212	**0.491**	**0.410**	**0.424**	0.382	0.176	0.261	1.000											

Table 5. cont.

11	Silence at night	1.000									
12	Medicines were given that had not been taken before	0.185	1.000								
13	Explanation of the use of new medications	.384	.376	1.000							
14	Explanation of side effects	**0.406**	**0.393**	**0.860**	1.000						
15	Did the doctors and nurses talk about getting care after discharge?	-0.213	0.028	-0.120	-0.126	1.000					
16	Did you receive any recommendations after discharge?	0.060	-0.092	-0.017	-0.005	-0.041	1.000				
17	Taking into account personal needs in medical care	0.327	0.190	0.232	**0.381**	**-0.395**	-0.083	1.000			
18	Understanding responsibility for one's health	0.370	0.180	0.176	0.274	**-0.390**	0.093	**0.841**	1.000		
19	Understanding the purpose of taking each medication	0.377	0.163	0.177	0.226	-0.303	0.070	**0.754**	**0.862**	1.000	
20	Overall assessment of hospital stay	**0.418**	0.107	**0.412**	**0.547**	-0.311	-0.063	**0.428**	**0.412**	0.248	1.000
21	Recommending the hospital to friends	0.336	0.081	**0.408**	**0.481**	-0.296	0.004	0.311	0.193	0.201	**0.572**
		0.358	0.089	.231	0.243	-0.244	-0.016	0.324	0.283	0.242	**0.470**
		0.183	0.153	.253	0.227	-0.252	0.060	0.237	0.239	0.276	0.106
		0.126	0.202	.212	0.212	-0.204	0.130	0.190	0.163	0.128	0.120
		0.394	0.049	.161	0.172	-0.397	0.032	0.162	0.199	0.172	0.321
		0.530	0.137	.141	0.363	-0.423	0.016	**0.491**	**0.481**	0.433	**0.586**
		0.332	0.119	.180	0.320	-0.415	0.026	0.331	0.268	0.221	**0.561**
		0.597	0.119	.295	0.440	**-0.408**	0.043	**0.465**	**0.422**	0.359	**0.648**
		0.328	0.030	.175	0.313	-0.164	0.021	0.155	0.181	0.187	0.322
		0.305	0.010	.216	0.263	-0.208	0.019	0.287	0.191	0.198	0.447
		0.526	0.082	.333	0.368	-0.359	-0.005	0.309	0.390	0.395	**0.517**

Table 6. Component matrix

	Component				
	1	2	3	4	5
Polite attitude of nurses	0.702	-0.133	-0.070	-0.036	0.298
Attentive listening by nurses	0.638	-0.330	-0.225	0.109	0.026
Clear explanation from nurses	0.480	-0.326	-0.087	-0.100	0.479
Polite attitude of doctors	0.855	-0.183	-0.232	-0.002	-0.124
Attentive listening by doctors	0.635	-0.096	-0.178	0.124	-0.436
Clear explanation from doctors	0.810	-0.066	-0.324	-0.054	-0.093
Getting help immediately after the call	0.488	-0.083	-0.074	0.402	-0.021
Do you need help getting to the toilet?	0.334	0.162	0.424	0.638	0.120
Did they help you get to the toilet or use the bedpan?	0.400	0.262	0.368	0.655	-0.050
Bathroom cleanliness	0.564	-0.042	-0.077	0.166	-0.355
Silence at night	0.659	-0.056	0.033	-0.097	0.102
Medicines were given that had not been taken before	0.248	0.117	0.591	-0.198	-0.216
Explanation of the use of new medications	0.505	-0.189	0.693	-0.207	0.014
Explanation of side effects	0.626	-0.189	0.585	-0.282	0.001
Did the doctors and nurses talk about getting care after discharge?	-0.520	-0.198	0.244	-0.273	0.070
Did you receive any recommendations after discharge?	0.029	0.088	-0.042	0.282	0.498
Taking into account personal needs in medical care	0.663	0.568	-0.044	-0.244	-0.052
Understanding responsibility for one's health	0.637	0.673	-0.099	-0.217	0.114
Understanding the purpose of taking each medication	0.583	0.669	-0.078	-0.206	0.197
Overall assessment of hospital stay	0.750	-0.221	-0.042	-0.168	-0.188
Recommending the hospital to friends	0.690	-0.402	0.017	-0.007	0.263

Source: compiled by the authors of this study

when the staff decided, «Did you receive any recommendations after discharge?»

- *«Understanding responsibility for one's health»*

The second component was less loaded and included the following variables:

- ***«Taking into account personal needs in medical care», when the staff decided, «Did you receive any recommendations after discharge?»***
- ***«Understanding responsibility for one›s health»***
- ***«****Understand the purpose of taking each medication****»***
- ***«****Did you receive any recommendations after discharge?****»***
- ***«****Taking into account personal needs in medical care****»***
- ***«****Overall assessment of hospital stay****»***
- ***«****Recommending the hospital to friends****»***

The third component was less loaded and included:

- ***«****Did they help you get to the toilet or use the bedpan?****»***
- ***«****Medicines were given that had not been taken before****»***
- ***«****Explanation of the use of new medications****»***
- ***«****Explanation of side effects****»***

The fourth component included the fewest variables:

- ***«****Getting help immediately after the call****»***
- ***«****Do you need help getting to the toilet?****»***
- ***«****Did they help you get to the toilet or use the bedpan?****»***

DISCUSSION

Considering the correlations that were significant, it can be argued that the understanding of medical staff at all levels affects how they communicate with patients, how they can effectively explain the need to observe a silence regime, provide recommendations, explain the importance of taking medications, take into account the wishes and responsibilities of patients. Attention and respectful treatment of patients, such as getting to the restroom, affects the hospital rating and recommendations of the hospital to consumers.

Based on the results of the factor analysis, it was found that the first component was the largest and included ingredients that spoke about the attitude of medical staff towards the patient, namely, how communication between doctors and nurses can influence the patient to feel comfortable, despite the conditions of the hospital. All these variables speak about adherence to ethical rules within the framework of communication in the "doctor-nurse - patient-doctor" model, about the moral duty, ethical obligations and ethical norms of behavior of medical personnel, which ensure the optimal quality and effectiveness of their work to restore and preserve people's health [15]. Therefore, this

component was called "Deontology." According to the German philosopher Immanuel Kant, deontology is an ethical approach focused on rules and professional duties [16]. Kant's deontological philosophy stems from his belief that humans have the ability to reason and understand universal moral laws that they can apply to all situations. Unlike many other ethical theories, deontology does not focus on the consequences of individual actions [17]. The personal emotions behind actions are also irrelevant in Kantian deontology, as Kant believed that people do not always have rational control over their feelings. Instead, the intention behind the chosen actions is much more important. Therefore, deontologists judge actions based on what most people believe to be morally right, regardless of the actual consequences. [18].

The second component included variables that indicated feedback from the patient as a reaction to the deontological attitude of medical personnel towards him. It is obvious that every person who enters the hospital has many questions about their health, and all these questions are components of the anxiety experienced by a person who has become ill or injured. When these things are explained to a person, they show care for them, inviting them to trust. If medical personnel behave in this way, talking about medications, explaining what side effects may be, and at the same time helping the patient solve urgent, including physiological needs - getting to the toilet, then this component can be called **"Responsibility for one's health".**

The third component deals with medications and providing assistance with physiological needs. Patients noted that they were given medications that they had not previously taken and there is an indicator that indicates information about side effects, which indicates their responsible attitude to treatment. Therefore, the third component was called **"Adherence to treatment"**.

Only the response of medical personnel to patients' requests for help was discussed in the last, fourth component. A person who has begun to recover, feeling a surge of strength, still needs help with basic things so that medical personnel hear the call, the request, and come to support the victim. You can observe, or you can act – help. This is more about the vocation of a medical worker, which is why this component was named **"Mercy"**, because that was the first name of nurses – sister of mercy.

In our work, we examined interpersonal communication between patients and medical staff through the HCAHPS questionnaire. Factor analysis allowed us to identify components related to the attitude of medical staff towards patients: **"Deontology"** and **"Mercy"** and also in the form of feedback from patients - **"Responsibility for one's health"** and **"Adherence to treatment".** By their attitude through adherence to deontological rules and compassion, doctors create satisfaction. Patient satisfaction is one of the most important indicators of quality outcomes in assessing the productivity of health care systems and personnel [16]. As stated in the Institute of Medicine report, communication is at the heart of patient satisfaction and is essential for providing patient-centered care that respects the individual's unique characteristics, needs, and values [19, 20]. Satisfaction with services, communication between patient and provider are associated with important health outcomes such as: adherence to treatment, medication errors, and readmissions [21-24]. Moreover, effective communication is vital for meaningful information exchange, such as obtaining a complete and accurate medical history for diagnosis and treatment plans [19]. Satisfaction is always patient-centered, driven by the relationship between patient and healthcare professional, and ultimately influences treatment outcomes [20]. Although outcomes and satisfaction are related, the concept of "satisfaction" encompasses more than just outcomes. When determining their satisfaction with the care they receive, patients are more likely to focus on their current health status than on the level of improvement they have experienced [21, 24]. Patient satisfaction with healthcare is considered a measure of the quality of care. Pascoe defined patient satisfaction as "the response of the recipient of healthcare to important aspects of context, process, and outcome."

Patient satisfaction measures focus on patient reports or treatment evaluations, reflect the patient's perspective, and target parameters of care that patients can evaluate (i.e., patient-centered components of care).

From a hospital perspective, clinical staff and managers should be interested in patients' perceptions of care because diagnosis and treatment depend on clear, understandable communication with patients and the provision of necessary information, as well as on patients' participation in the treatment process. Patient satisfaction with care is a predictor of future behavior (e.g., adherence to doctor's appointments and intention to return to the same hospital).

Patient preferences and satisfaction can be used by providers to help make choices about how care is organized and delivered (e.g., scheduling visits and discharges), patient satisfaction can be a direct or indirect measure of outcome (e.g., how well the patient functions/acts toward their health), and as Donabedian noted, "the achievement and retention of health and satisfaction is a primary validator of the quality of care" [24]. The development of medical knowledge, especially

rehabilitation services, is historically linked to times of war [19, 20]. The disciplines of physiotherapy, physical and occupational therapy, rehabilitation engineering, and vocational rehabilitation were largely formed in response to the needs of wounded soldiers returning from World Wars I and II [19, 21, 22].

From the perspective of the patient, who in our case is a serviceman who has been injured as a result of hostilities and requires special attention, adherence to deontology and the manifestation of compassion on the part of medical professionals is of great importance, since, as noted by the UKRSOF surgeons, victims present with multiple potentially fatal injuries at the same time, requiring several emergency damage control interventions before clinicians can begin caring for the next patient [22, 23].

Statistics published by Ukrainian doctors show that over 70% of all Ukrainian combat casualties were caused by artillery and missile attacks by Russian troops, which led to significant polytrauma of many organ systems [24]. So, the wounded arrive at the hospital from the battlefield in serious condition, requiring intensive treatment and care with adherence to deontology and compassion. As a sign of the achieved goal, patients will demonstrate **"Responsibility for one's health"** and **"Adherence to treatment"** in satisfaction [25].

CONCLUSIONS

Thus, according to the results of the factor analysis of satisfaction with medical care among military personnel, it can be stated that the greatest influence falls on the nature of communication with patients, how they can effectively explain what needs to be done, taking into account the wishes of patients. In addition, this also affects the formation of a responsible attitude towards their health in the patient. It has also been established that satisfaction with medical care in the institution is influenced by the internal atmosphere that exists in the hospital, the attitude of medical staff towards the patient and towards each other. Based on the fact that patient satisfaction with care is a predictor of his future behavior regarding the attitude towards treatment, it can be stated that all the established components are extremely important for further obtaining a positive result of the patient's recovery. Therefore, organizational work aimed at improving the established predictors is of great importance for the organization of medical care.

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CONFLICT OF INTEREST

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CORRESPONDING AUTHOR

Maksym V. Khorosh
Poltava State Medical University
24 Shevchenko St., 36000 Poltava, Ukraine
e-mail: indarion0@gmail.com

ORCID AND CONTRIBUTIONSHIP

Oleksandr M. Korneta: 0000-0001-7924-1947 B C D
Iryna A. Holovanova: 0000-0002-8114-8319 A E F
Maksym V. Khorosh: 0000-0002-2083-1333 C D

A – Work concept and design, B – Data collection and analysis, C – Responsibility for statistical analysis, D – Writing the article, E – Critical review, F – Final approval of the article

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