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Original article

Reduced patient demands in hospitals and their determinants

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Abstract

Objectives: The purpose of this study was to analyze the extent to which patients have suppressed their demands during their hospital stay and to examine the factors that determine this reduction in demands.

Methods: The data, which provided the basis for this study, were obtained from a postal survey utilsing the Cologne Patient Questionnaire (CPQ) that was sent to 1,548 patients who had been treated in 1 of 3 hospitals in Germany. The survey itself was conducted within the scope of the research project entitled "Organizational Governance Using Biopsychosocial Codes" (U-BIKE-Studie).

Results: Eight hundred fifty-five patients completed and returned the questionnaire (55.2 % response rate). Descriptive analyses showed that less than one-half of the patients surveyed had suppressed their needs and reduced their demands during their hospital stay. Multiple linear regression analyses revealed that "reduced patient demands" in hospitals are primarily determined by a general tendency on the part of patients to excuse errors and inconviences arising during the hospital stay, a tendency that is strongly associated with the (traditional) concept of the patient role. These analyses also demostrated that such a reduction is also determined by hospital services and hospital stay-related aspects.

Conclusions: The analyses of this study revealed that fewer patients than initially expected had indeed reduced their demands during their hospital stay. Apart from the patient's experiences during their most recent hospital stay, this reduction in demands depends primarily on the patient's "tendency to excuse" and thus on the concept of the patient's role. Taking the concept of "reduced patient demands" in hospitals into consideration can help make the hospital stay more patient-oriented and ensure that the evaluation and interpretation of the hospital stay will be interpreted in light of the concept of the patient role.

Keywords: Patient survey – Patient role – Hospital – Patient demands – Patient satisfaction – Patient orientation.

Patient orientation is considered a key quality criterion of health care[1,2] and is currently an explicit goal of hospital management in many hospitals. Patient surveys are a possible way of evaluating the needs and experiences of patients and of studying a hospital's level of patient orientation.[1–4]

One possible means of ascertaining the degree of patient-oriented care offered by a particular hospital is by surveying the level of patient involvement in care or patient satisfaction. Another possible means, though until now rarely used approach, is to examine the extent to which patients have suppressed their demands during their hospital stay. An unusually high reduction of regular patient needs can indicate that a hospital does not provide adequate patient-oriented care and does not meet client orientation expectations, an aspect which is becoming increasingly important for a hospital's economic success.[1,5,6]

Analyzing "reduced patient demands" in hospitals can also have a positive impact on critical theoretical and methodologic discussions regarding patient surveys.[1,7–10] In general, the particular situation of inpatients tends to be disregarded when designing patient surveys or when interpreting results.[8,11]

For this reason, the "reduced patient demands" in hospitals-scale was developed within the scope of the Cologne Patient Questionnaire (CPQ; Kölner Patientenfragebogen) in order to address this issue precisely.[12] The scale measures the reduc-

tion and suppression of regular patient needs during the hospital stay.[13] When interpreting the results of patient surveys, the scale makes it possible to account for the specific treatment situation taking place alongside this reduction of demands.

The "reduced patient demands" in hospitals scale was developed based on the assumption that inpatients must become accustomed to standardized hospital routines and specified standards, both of which contradict their normal everyday lives. This is how Siegrist[14] summarizes, among others things, the overall daily routine in hospitals to which patients must conform. The patients must adjust to being constantly accessible to others or to being bothered at any time of day. From this, we can assume that patients suppress their regular needs and reduce their demands during their hospital stay.

Recently, there have been increased attempts to make everyday hospital life more patient-oriented and to thereby keep a patient's regular needs from being suppressed. These attempts include adjusting wake-up times to patient needs or minimizing the number of patients per room. Despite these attempts, everyday hospital life remains bound to inconveniences, such as appointment delays due to structural guidelines.

Assuming the degree of "reduced patient demands" in hospitals varies from hospital-to-hospital and can be influenced, in particular, by hospital services, such as the suitability of the daily routine, the perceived business of physicians, neglect by hospital staff, and / or other factors related to the hospital stay. These factors should definitely be taken into consideration when analyzing the determinants of "reduced patient demands" in hospitals.

Furthermore, the extent to which everyday demands are reduced can vary depending on patient- or illness-related factors. For instance, the literature asserts that a certain number of patients agree to reduce their demands during their hospital stay in the hope of a speedy recovery. From this, it can be inferred that the role taken by the patient can determine how that particular patient adapts to the hospital stay. This role concept is frequently used to explain why people adhere to situational guidelines that are not always suited to personal needs. According to this concept, situational aspects, as well as both the expectations and social roles associated with these aspects, have a strong influence on a person's thinking, feelings, and actions.[15] Inpatients are faced with a number of role expectations, such as adapting to hospital life or being grateful for the hospital staff. What is more, they are expected to excuse any issues, such as the staff's lack of time and appointment delays. In summary, Koll (author's translation) states that a "good" hospital patient "more or less willingly" submits himself/herself "to the actions and commands of hospital staff."

This profile of a "good" hospital patient is based on the image of the paternalistic, passive, afflicted, suffering, and complacent patient who accepts the decisions of the physician without question because of his/here role as an expert.[16] This view has been questioned and debated since the 1970s. Current study results have identified that there are more than just this type of patient. Apart from the traditional paternalistic patient, two other types of patients have come to be recognized: the active, self-dependent patient who keeps himself/herself informed and wants to be included in decision-making processes, and the patient who falls somewhere between both the traditional and the active patient types.[17–20]

The description of everyday hospital life reveals that it especially stands in direct conflict with the desires of the active, self-dependent patient. As a result, this type of patient would have to significantly reduce his demands during the hospital stay. Contrary to this, patients who embody the traditional patient role either do not feel that their demands are being reduced or they do not look upon such a reduction as being negative and are, therefore, satisfied with the hospital stay.

In continuing with the studies and findings discussed above, the present study focused on the extent to which hospital patients have suppressed their demands and, in doing so, have adapted to everyday hospital life (study question 1). Based on the above considerations, it is assumed that the majority of patients have significantly reduced their demands and suppressed their needs during their hospital stay due to the objectively unfavorable situation in the hospital and to patient-related role expectations.

To understand why patients suppress their needs, the next stage of the study focused on the factors influencing "reduced patient demands" in hospitals (study question 2). Given that there have been no previous theoretical or methodologic findings based on the considerations discussed above, it is assumed that both patient- and illness-related factors, as well as hospital-stay related factors and hospital services, have an influence on "reduced patient demands" in hospitals. This assumption is consistent with the findings of patient satisfaction research.[1,4] The response to study question 2 helps to discern whether a reduction of patient demands in hospitals is more of a means of measuring the attitude that patients have adopted when judging their hospital stay or whether this reduction can be interpreted as the patient's reaction to their experiences during the hospital stay. In the first scenario, "reduced patient demands" in hospitals would have to be clearly explained by patient- and illness-related factors (Hypothesis 1a). In the second scenario, factors related to the hospital stay and / or hospital services experienced by the patients would have to demonstrate a considerable influence on the "reduced patient demands" in hospitals (Hypothesis 1b). Figure 1 illustrates the study model.

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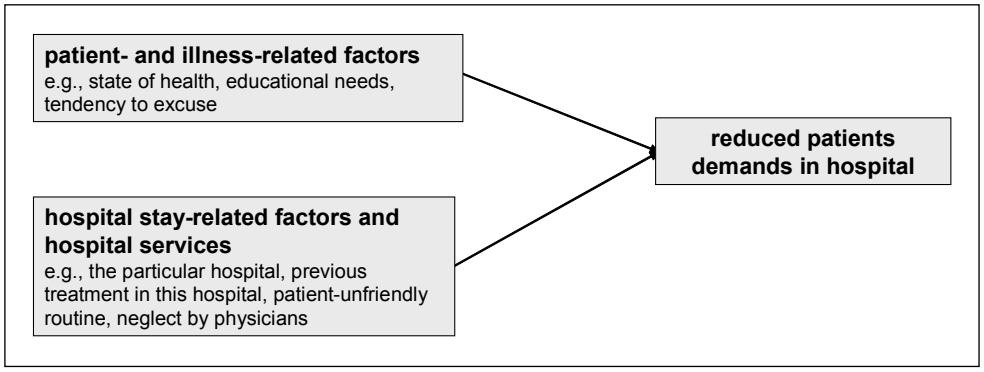

Figure 1. Influential factors on "reduced patient demands" in hospital: study model.

Methods

Study Sampling

In 2003, a comprehensive patient survey was administered[4,21–23] within the scope of the research project entitled "Organizational Governance Using Biopsychosocial Indicators" [*Unternehmensführung mit biopsychosozialen Kennzahlen*; U-BIKE-Studie][22] which was sponsored by the German Federal Ministry of Education and Research (BMBF). The goal of the sub-project, "Patients," was to test valid, action-related codes for ascertaining the subjective assessment of in-hospital physician care.

In the present study, patients from two full-service hospitals and one primary care hospital were surveyed by mail after being discharged. Two of the hospitals are located in West Germany and one is located in East Germany. The hospitals were asked to select patients from the wards (e.g., the surgical and internal medicine wards) from which they had last been discharged as of a given date. Wards were chosen in coordination with the employee and referral surveys conducted as a part of the overall project.

In order to keep the exclusion of certain groups of patients to a minimum, the hospitals were asked to create a list of all patients. A total of 3 096 patients were chosen for the survey. Each patient was at least 18 years of age and had been admitted to the hospital as an inpatient. From among the patients initially selected, every second patient's address was randomly chosen (systematic 50 % random sampling) so that in the end, 1 548 patients remained and were contacted.

Between July and August 2003, we sent our questionnaire to the selected patients once they had been discharged. In order to obtain the highest achievable response rate, we used Dillman's Total Design Method[24] when designing our survey.[25] During the first week, all patients chosen for the study received a letter, the questionnaire, and a self-addressed, stamped envelope. A week later, each patient was also sent a thank you letter. Once three weeks had passed without response, the questionnaire was sent out once again to the patient with a letter and a self-addressed, stamped envelope.

Measuring Instrument

The instrument used in this study was the Cologne Patient Questionnaire (CPQ).[12,26] The CPQ was developed and has been validated in several research projects carried out by the Department of Medical Sociology of the Institute for Occupational and Social Medicine at the University of Cologne. The questionnaire is based on the theoretical concepts of «learning organization» and «supportive care» and consists of different scales that cover all service areas of acute hospital care. Each scale comprises a minimum of three items and was tested for validity and reliability using factor and reliability analyses.[13,21]

The patients surveyed using the CPQ were most often asked to rate statements by choosing between four response categories, ranging from "do not agree at all" (1) to "completely agree" (4). In the case of statements that not all patients could rate, the patients were also given the possibility of choosing between the responses "don't know" or "can't choose." The response values for each of the scale items were summed up and then divided by the number of scale items in order to obtain a mean scale score. Scale names were chosen in such a way that a high score corresponds to agreement with the scale name's contextual meaning, whereas a low score corresponds to disagreement with its contextual meaning. For example, a high score next to the "business of physicians and nurses" scale indicates that the patients found the hospital stay to be hectic and full of commotion.

Our analysis was based on specific modules, scales, and items of the CPQ (Tab. 1). As previously mentioned, the CPQ includes the "reduced patient demands" in hospital scale, which was designed to measure the suppression of a patient's regular needs during their hospital stay. "Reduced patient demands"

Table 1. Description of the study scales.

Scale Name	Number of Items	Cronbach's alpha	Description
Reduced patient demands	4	.83	Patient's suppression of their regular needs
Educational need	4	.92	Patient's desire to receive clarification on their state of health and on medical facts
Participatory need	5	.90	Patient's desire to be included in the treatment process
Tendency to excuse	3	.76	The tendency of patients to overlook errors and inattentiveness
Business of physicians and nurses	5	.88	Commotion on the ward and staff time constraints as perceived by patients
Patient-unfriendly routine	3	.78	The suitability of the hospital's daily routine.
Explicitness of the routines	3	.71	The extent to which patients know and understand the routines in the hospital
Room amenities	3	.84	The quality and number of room amenities
Physician support	3	.90	Physician dependability
Nursing staff support	3	.90	Nursing staff dependability
Neglect by physicians	3	.81	Physician attentiveness
Neglect by nursing staff	3	.79	Nursing staff attentiveness
Physician facilitation	5	.86	Physician facilitation of patient involvement (patient's willingness to take part in their own care)
Patient information scale	4	.85	The initiative taken by patients to openly seek out more information
Information uncertainty	5	.89	The comprehensibility and extent of information provided by the physician
Need for medical information	4	.89	Patient's need for education (treatment and risks)
Trust capital in organizations	4	.91	The trusting atmosphere among hospital co-workers as perceived by the patients
Lack of discretion	3	.83	Privacy protection in the hospital
Subjective medical malpractice	4	.86	Errors made during the treatment process

in hospitals is measured using four individual scale items (Fig. 2).

The CPQ also includes scales for determining patient type. Three of these scales were used in our analysis: the "educational need" scale (patient's preference with regards to the clarification of medical facts), the "participatory need" scale (patient's preference with regards to participation in medical treatment), and the "tendency to excuse" scale. The latter consists of three questions for measuring a patient's willingness to excuse errors and inconveniences during the hospital stay. The premise for these three questions is the fact that patients tend to excuse circumstances in the hospital, such as business of the hospital staff or time constraints and that they tend to judge them to be mildly and socially acceptable. This particular fact, which is closely associated with the patient role, was also observed during the think-aloud interviews that were used to develop the CPQ. The comments made by patients during these interviews served as a basis for formulating the scale items.[27,28] The "tendency to excuse," for example, sheds light on a patient's identification with the patient role.

Information regarding hospital services and the care provided by the hospital staff was derived using several scales, which can be seen in Table 1. Table 1 gives an overview of all of the scales that are the objective of our analyses, along with the Cronbach's alpha associated with each of the scales. The Cronbach's alphas ranged from .71–.91, which corresponds to the normal standard value and is considered a satisfactory-to-a very good result.

To answer the first study question, a descriptive presentation of the results of the "reduced patient demands" in the hospital scale was provided. Next, the results of the factor analysis (principal component analysis with Varimax rotation) of the "reduced patient demands" in hospitals and "tendency to excuse" scales were used to prove that these are two different

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Table 2. Description of the variables.

	%	N
Age groups (missing: 4)		
18–29	8.2	70
30–39	12.6	107
40–49	10.9	93
50–59	17.2	146
60–69	25.3	215
70–79	19.6	167
80+	6.2	53
Gender (missing: 4)		
Male	50.6	431
Female	49.4	420
Employment status (more than one response possible)		
Employed full-time	20.5	175
On ma ternity or parental leave	3.6	31
Student, apprentice	3.3	28
Employed part-time or by the hour	7.5	64
Unemployed	53.5	457
Subjective state of health (missing: 24)		
Excellent	4.5	37
Very good	12.2	101
Good	46.6	404
Fair	29.1	242
Poor	5.7	47
Hospitals (missing: 4)		
Hospital 1	29.5	251
Hospital 2	19.0	162
Hospital 3	51.5	438
Previous treatment in this hospital (missing: 30)		
No	52.2	431
Yes	478	394

factors. In order to study the factors that influence "reduced patient demands" in hospitals (study question 2), a blockwise multiple linear regression analysis was performed. Two models were used to test the extent to which "reduced patient demands" in hospitals are determined by the following: a) patient- and illness-related factors and b) factors related to the hospital stay and services (Tab. 6). In the first model, all factors that had a coherent statistical effect in previous bivariate analyses[29] were included except the "tendency to excuse." These previous bivariate analyses were based on the findings of patient satisfaction research.[1,4] The second model added the "tendency to excuse." Because of the close connection to the patient role, the "tendency to excuse" was introduced separately in the analysis in order to study how much the explanatory power of the different factors and the model changed with the introduction of this scale. Standardized beta coefficients were used in order to verify how well each of these factors provided an explanation for "reduced patient demands" in hospitals. Only the standardized beta coefficients that are significant at the $p < 0.10$ level are listed. The adjusted R-square was used to assess the quality of the model.

Results

Of the 1 548 patients who were sent the questionnaire, 855 completed and returned the questionnaire, thereby demonstrating a 55.2 % net response rate.

The average age of the patients surveyed was 57 years. The youngest patient was 18 years old; the oldest patient was 93 years old. On average, the patients had spent nearly 10 days in the hospital. A summary of the most important patient-, illness-variables and factors related to the hospital stay are shown in Tab. 2 and 3.

	N[1]	MV[2]	Std. Dev.[3]	Min.[4]	Max.[5]
Educational need	809	3.81	.40	1	4
Participatory need	779	3.40	.57	1	4
Tendency to excuse	804	2.22	.77	1	4

[1] Number of Responses, [2] Mean Value: a high score corresponds to agreement with the scale name's contextual meaning, [3] Standard Deviation, [4] Minimum and [5] Maximum

Table 3. Data on patient attitudes.

	Components	
Items	**1**	**2**
I have become accustomed to the inconveniences in the hospital.	.757	.300
Hospital patients are not allowed to make demands.	.767	.144
I suppressed my needs during the hospital stay.	.839	.172
I have accepted the fact that not everything in the hospital always runs smoothly.	.766	.300
While in the hospital, I am more willing to disregard certain things than I normally would .	.236	.767
I am fully prepared to overlook unfavorable conditions in the hospital.	.257	.833
When things in the hospital get hectic, many things should be excused.	.168	.778
Eigenvalues	3.62	1.10
Percent variance	51.71	15.71

Table 4. Results of factor analysis.

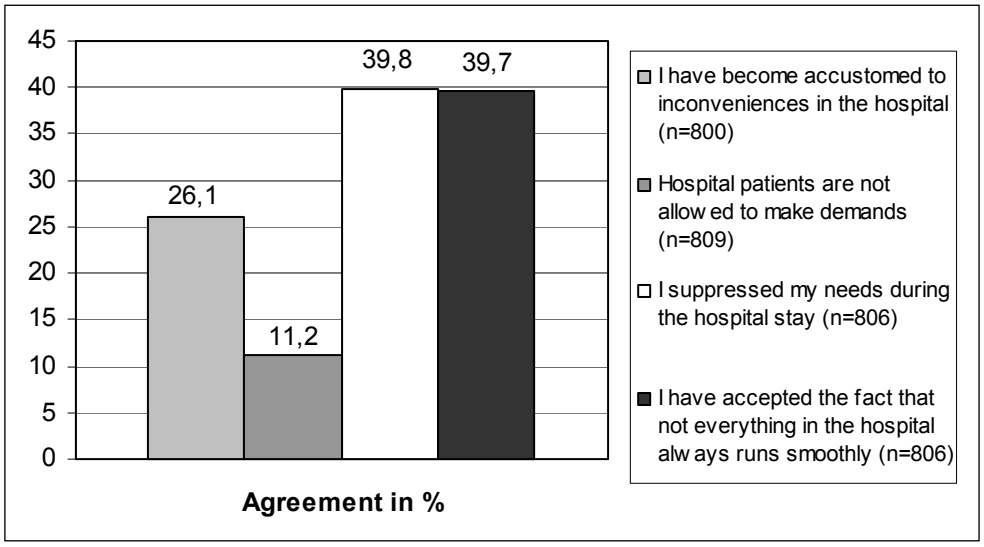

Figure 2. Response distribution of the individual items of the "reduced patient demands" scale (agreement in %).

As seen in Tab. 4, factor analysis with Varimax rotation made it possible to identify the two previously established factors, "reduced patient demands" in hospitals and "tendency to excuse."

Fig. 2 presents the responses to the four items of the "reduced patient demands" in the hospital scale. Here, the responses "agree" and "agree completely" were taken as "agreement" to the given statements.

Fig. 2 reveals that more than one-fourth (26.1 %) of the patients who provided a valid response (6.4 % missing) agreed with the statement that they have become used to the inconveniences in the hospital. Greater than one-tenth of the patients (11.2 %) felt that hospital patients are not allowed to make demands (5.4 % missing). A little over one-third of the patients felt that they had suppressed their needs (39.8 %) and had accepted the fact that not everything always runs smoothly in hospitals (39.8 %; 5.7 % missing in both cases).

After conducting the factor analysis and obtaining the results of the reliability analysis, the items were integrated into the "reduced patient demands" scale. Of the 855 patients who re-

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Scale	N[1]	MV[2]	Std. Dev.[3]	Min[4]	Max[5]
Business of physicians and nurses	742	2.23	.71	1	4
Explicitness of the routines	751	3.34	.68	1	4
Patient-unfriendly routines	806	1.70	.71	1	4
Room amenities	804	3.44	.68	1	4
Physician support	796	3.39	.70	1	4
Neglect by physicians	810	1.97	.80	1	4
Nursing staff support	773	3.30	.69	1	4
Neglect by nursing staff	787	2.03	.78	1	4
Physician facilitation	727	2.90	.82	1	4
Patient information scale	744	3.08	.78	1	4
Information uncertainty	817	1.47	.60	1	4
Need for medical information	637	1.57	.43	1	2
Trust capital in organizations	773	3.30	.56	1	4
Lack of discretion	792	1.48	.60	1	4
Subjective medical malpractice	788	1.46	.64	1	4

[1]Number of Responses, [2]Mean Value: a high score corresponds to agreement with the scale name's contextual meaning, [3]Standard Deviation, [4]Minimum and 5Maximum

Table 5. Data on hospital services included in the analysis.

Scale / Items	Model 1	Model 2
Patient- and illness-related factors		
Subjective state of health	n.s.[1]	n.s.
Participatory need	n.s.	n.s.
Educational need	n.s.	n.s.
Hospital stay-related factors and hospital services		
Hospital 1 (Baseline category: Hospital 3)	.151*	n.s.
Hospital 2 (Baseline category: Hospital 3)	n.s.	
Previous treatment in this hospital? (Baseline category: "no")	.123*	.096*
Business of physicians and nurses	n.s.	n.s.
Explicitness of the routine	n.s.	n.s.
Patient-unfriendly routine	n.s.	n.s.
Room amenities	–.120*	–.122*
Physician support	n.s.	n.s.
Neglect by physicians	n.s.	n.s.
Nursing staff support	n.s.	n.s.
Neglect by nursing staff	.115*	.096*
Physician facilitation	n.s.	n.s.
Patient information scale	–.143*	–.119*
Information uncertainty	n.s.	n.s.
Need for medical information	n.s.	n.s.
Lack of discretion	.167*	.164*
Trust capital in organizations	n.s.	–.112*
Subjective medical malpractice	n.s.	n.s.
Tendency to excuse		.514
Explained variance	17.9 %	42.9 %
Total number	382	382

[1]n.s. = not significant, * $p < 0.10$

Table 6. Blockwise regression of "reduced patient demands" using standardized beta coefficients.

turned the survey, 792 responded to the 4 scale statements by choosing between response categories ranging from 1–4 (7.4 % missing). The resulting mean value was 1.98 (Std. Dev. = .69) and the Cronbach's alpha was .83.

The hospital services used as scales in the model to explain "reduced patient demands" are shown in Table 5.

With the help of a two-step hierarchical linear regression, we attempted to identify the factors significantly associated with "reduced patient demands" (Tab. 6). In the first model, we introduced patient- and illness-related factors, hospital services, and factors related to the hospital stay.

Altogether, 17.9 % of the variance (adjusted R-square) was explained by the factors in Model 1. As seen in Table 6, few significant relationships were found. Specifically, patients treated in "hospital 1" demonstrated higher "reduced patient demands" in the hospital than patients admitted to "hospital 3." Furthermore, patients, who had "previously been treated in this hospital," had a stronger impression that they had reduced their demands than those patients who had not yet been treated as an inpatient. The worse the patients considered the "room amenities," the more they had the impression that they had reduced their demands. The more the patients felt "neglected by nursing staff" and the less they had the impression that their privacy was being protected ("lack of discretion"), the more they reduced their demands during their hospital stay. The more the patients took the initiative to request more information ("patient information scale"), the less they had the feeling that they had reduced their demands. Upon inspection of the standardized beta coefficients, it was apparent that of all the factors, "lack of discretion" played the biggest role in "reduced patient demands" in hospitals (Tab. 6).

In Model 2, in which the "tendency to excuse" was introduced, a total of 42.9 % of the variance of "reduced patient demands" in hospitals was explained by the predictors (adjusted R-square). This increase in the explained variance was significant. In comparison to Model 1, "Hospital 1" does not present a significant factor for explaining "reduced patient demands." And yet, in comparison to Model 1, "trust capital in organizations" revealed a statistically significant relationship to "reduced patient demands" in hospitals. The more the patients had the impression that an atmosphere of trust existed between hospital employees, the less they tended to indicate that they had reduced their demands. All other variables and scales that seem to have had a statistically significant effect on "reduced patient demands" in Model 1 were also significant in Model 2.

The "tendency to excuse," which was added to Model 2, also exhibited a significant effect on "reduced patient demands." The more the patients were willing to overlook errors made in the hospital, the more they had the feeling that they reduced their demands during the hospital stay. The "tendency to excuse" played the greatest role in this model with respect to "reduced patient demands" (Tab. 6).

Discussion

The present study was initiated due to criticism that patient surveys do not adequately account for the objective situation of inpatients. This situation implies that these patients suppress their needs, thereby having a possible effect on their evaluation of the hospital stay. This reduction in patient demands can also shed light on the hospital's level of patient orientation. The present analysis, therefore, studied the extent to which patients suppressed their demands during their hospital stay (study question 1).

The description of the situation of inpatients suggests the assumption that these patients (must) reduce their demands and needs due to an unfavorable situation in the hospital. The results of our study show that a portion of the patients surveyed became used to inconveniences in the hospital. In addition, less than one-half of the patients indicated that they suppressed their needs or that they accepted the fact that not everything always runs smoothly in the hospital. A smaller portion of the patients believed that hospital patients are not allowed to make demands. Overall, the patients indicated that they had reduced their demands to a moderate degree. Nevertheless, these indications cannot unequivocally confirm the assumption that hospital patients reduce their demands.

The results suggest that a large portion of the patients actually do make demands of everyday hospital life and are not willing to suppress their own needs. For this reason, they cannot accept it when not everything runs smoothly in the hospital and cannot become accustomed to the inconveniences, even to the slightest degree. The first consideration of these results suggests that most patients are seemingly "unwilling" to submit themselves to everyday hospital life as implied by Koll's definition of the "good" patient (i.e., the traditional concept of the patient role). How can these results be interpreted?

One possible explanation for the results is that many patients no longer associate with the traditional patient role, as was demonstrated. For this reason, they are not willing to unduly reduce their own demands. It is possible that these patients demand that their needs be met when they have not been fulfilled so that they do not have to suppress their demands.

Another possible interpretation is that the patients have not suppressed their demands because the everyday hospital life is already patient-oriented, making a reduction in their demands unnecessary.

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To further elucidate this, we considered the results from the analysis of the second study question. A hierarchical linear regression analysis was used to study the factors that influence "reduced patient demands," and with it, adaptation to everyday hospital life. The first analysis studied patient- and illness-related factors as well as hospital stay-related aspects and hospital services. In this analysis, the patient- and illness-related factors did not demonstrate having a significant influence on "reduced patient demands." By contrast, the "hospital stay-related factors" and the various "hospital services" did exhibit a significant influence on "reduced patient demands." For example, patients that had previously been treated in "Hospital 1" had a stronger impression that they had reduced the number of their demands in comparison to those patients who had not yet been treated there. The worse patients found the "room amenities," the more they felt neglected by the nursing staff, the more the patients detected a lack of discretion, the more they felt that they had reduced their demands. The explanatory power of the model can be rated as satisfactory, whereas the number of significant predictors is less. Nevertheless, hospital stay-related factors and hospital services accounted for a significant amount of "reduced patient demands," which seems to confirm Hypothesis 1b.

These results support the conclusion that "reduced patient demands" in hospitals can be an indicator of how patient-oriented the service provided by a hospital is. The results also indicate that the everyday hospital life is not yet adequately patient-oriented since some hospital services (those negatively experienced by the patients) have resulted in more "reduced patient demands." Based on these results, we can assume that this effects patient satisfaction. We can also assume that patients who have reduced their demands are less satisfied than patients who have not suppressed their needs. Further analyses assert this assumption.

We can see that neither "physician support" and "neglect by physicians," nor the "physician facilitation" scale seemed to have an influence on "reduced patient demands." In many studies, it is precisely these factors that are of particular relevance to patient satisfaction.[1,30,31] The lack of influence exhibited by these factors may be explained by the significance of a patient's active information-seeking behavior ("patient information scale"). It has been shown that patients who actively request information from their physicians were less likely to indicate having reduced their demands during their hospital stay. It can therefore be assumed that patients who actively request more information from their physicians have a greater feeling that they have physician support or that their physicians have included them in the treatment process. In such cases, it may not be necessary for the patients to reduce their needs because they are actively involved.

Analyzing the effect of "reduced patient-demands in hospital" on physician empathy, Neumann et al.[32] demonstrated similar results; a high degree of "reduced patient-demands in hospital" is associated with a physician's lack of ability to empathize.

The "tendency to excuse" scale measures the willingness of patients to overlook errors and inconveniences during the hospital stay and was added to the model separately because of its strong connection to the patient role. Introducing this scale into the model produced a significant and considerable increase in explained variance. The "tendency to excuse" seems to have a significant influence on the suppression of regular needs and is the strongest causal variable of "reduced patient demands." This indicates that patient attitude and the willingness of the patient to identify with the patient role have more of an influence on the way patients perceive the hospital stay than any of the other factors, which seems to confirm that adaptation to the hospital stay is subject to typical patient role expectations. The more the patients are willing to excuse errors and inconveniences during their hospital stay and thereby embody the traditional patient role, the more they have the impression that they have reduced their demands. The less patients are willing to overlook errors and inconveniences and thereby embody a more modern patient role, the less they experience a reduction of their needs.

This result is somewhat astonishing. One would have expected to see conflict between the needs and desires of patients embodying the modern patient role and everyday hospital life. As a result of this discrepancy, we would have expected to see a higher degree of "reduced patient demands." A possible explanation for these results is the significance of the "patient information scale." Patients exhibiting an active information-seeking behavior and embodying the modern patient role openly express their demands and desires when necessary, thereby actively obviating a reduction of their needs.

The results of our study suggest the conclusion that "reduced patient demands" are primarily influenced by patient- and illness-related factors, as well as the "tendency to excuse," as postulated in Hypothesis 1a. Hence, identification with the patient role plays a key part in the patient's assessment of the hospital stay and should not be neglected in patient surveys. However, due to the considerable influence of hospital services on patient demands, Hypothesis 1b should not be rejected. Apart from hospital stay-related factors and hospital services, a reduction in patient demands depends primarily on the "tendency to excuse" and on how the patient identifies with the patient role. This reveals that both the simple definition of the hospital patient, such as the definition provided by Koll, and the way the hospital patient appears during everyday hospital life conflict with reality. In order to make hospital life more

patient-oriented, it is necessary to at least make oneself aware of the interests of the various patient types.

The findings of the present analysis must be viewed against the backdrop of the different methodologic limitations of the study. These limitations identify several areas in need of further research due to the great lack of empirical studies in this particular area.

First, this study was not designed to assess a causal predictive relationship between "reduced patient demands" and their determinants. To do so, an experimental study design or a longitudinal section would have been more suitable. It would be preferable to survey the expectations and demands of patients separately and, if possible, during the pre-inpatient stage in order to draw safe conclusions about the patient-perceived reduction in their demands.

The fact that we analyzed a random sample, which was defined by inclusion and exclusion criteria, means that the population of analysis was a heterogeneous sub-population of inpatients. Due to the heterogeneity of the sampling, the possibility that the patient group may be too inhomogeneous and that, for this reason, many effects were not identified should not be excluded. For this reason, caution must be taken when applying the results to the situation of all inpatients or even other patient groups.

Furthermore, consideration must be given to the fact that the regression model is based only on the responses of 382 of 855 patients. Because this limited number of patients provided responses to all scale items, several patients are not included in the analysis, which in turn limits the implications of this study. It would be preferable to reconsider the scale formation method used.

In addition, the limited amount of significant factors with respect to the small beta coefficients indicate that additional predictors should be taken into consideration when designing a new study.

Another limitation of the study was that apart from the "tendency to excuse," patient characteristics demonstrated a less satisfactory explanatory power. These indicators may have been insufficient and inadequate in explaining "reduced patient demands." An objective of further analyses should therefore be, for example, to use the 16 PF test – a standardised personality test.[33] Bayer[31] was able to prove the effects of this test on patient satisfaction in his study. Another possible objective would be to use an instrument for measuring "self-efficacy." The inclusion of factors such as an overall "critical disposition" would also be desirable in further analyses.

All in all, this analysis was not able to prove causality, rather a strong statistical relationship between hospital services, the "tendency to excuse" and "reduced patient demands in hospital." In our opinion, this is a promising result for further research regarding patient surveys, whereby the central issue of the inpatient situation can be examined more closely.

In summary, based on "reduced patient demands" in hospitals, a scale was introduced that measures a patient's suppression of regular needs during the hospital stay as a result of negatively experienced hospital services and that is strongly determined by role-related influences. The introduction of the "reduced patient demands" scale in patient surveys is interesting both from a scientific and practical standpoint. On the one hand, assessing "reduced patient demands" in hospitals can aid in constructively applying scientific criticism to patient surveys. Previous criticism suggested that patient surveys should be able to account for the situation in hospitals when interpreting survey results.[8,11] In this capacity, the "reduced patient demands" scale makes it possible to survey the suppression of regular needs during the hospital stay.

On the other hand, "reduced patient demands" in hospitals can be interpreted as a reaction or adaptation to something experienced. Knowing the degree of "reduced patient demands" makes it possible to draw conclusions about the patient-perceived quality of the hospital stay and can also be used as an indicator for patient satisfaction. For hospital management, this means that it is possible to minimize "reduced patient demands" by gearing the relevant hospital services toward the needs of patients. This leads to the conclusion that when everyday hospital life is more patient-oriented (e.g., the privacy of patients is protected, patients are pleased with the size of their rooms, and patients get the impression that the health care staff make constant note of their concerns), it can help keep hospital patients from having to suppress their demands and can ultimately lead to "true" patient satisfaction.

Bearing in mind the limitations discussed above, the introduction of the "reduced patient demands" scale in patient surveys can, as a whole, be conducive to overcoming existing criticism and to obtaining more valid assertions.

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Zusammenfassung

Fragestellung: In der vorliegenden Untersuchung wird untersucht, inwieweit Patienten im Krankenhaus ihre Ansprüche zurückgestellt haben und welche Determinanten diese „Anspruchsniveaureduktion" beeinflussen.
Methoden: Datengrundlage ist eine Patientenbefragung, die im Rahmen des Forschungsprojektes „Unternehmensführung mit bio-psychosozialen Kennzahlen" (U-BIKE-Studie) durchgeführt wurde. Es wurde 1548 Krankenhauspatienten poststationär der Kölner Patientenfragebogens (KPF) zugeschickt.
Ergebnisse: 855 der angeschriebenen Patienten haben einen ausgefüllten Fragebogen zurückgeschickt (Rücklaufquote: 55.2 %). Die deskriptiven Ergebnisse zeigen, dass weniger als die Hälfte der Patienten ihre Bedürfnisse zurückgestellt und eine „Anspruchsniveaureduktion" erlebt hat. Aus den multiplen linearen Regressionen geht hervor, dass die „Anspruchsniveaureduktion" in erster Linie von der eng mit der Übernahme der (traditionellen) Patientenrolle verknüpften „Entschuldigungstendenz" sowie von Krankenhausleistungen und aufenthaltsspezifischen Aspekten determiniert wird.
Schlussfolgerungen: Durch die Analysen wird deutlich, dass ein geringerer Anteil der Patienten als erwartet, eine „Anspruchsniveaureduktion" erlebt hat. Erklärt werden kann dies zum einen durch den Einfluss der „Entschuldigungstendenz, der nahe legt, dass die Identifikation mit der Patientenrolle bei der Beurteilung von Krankenhausleistungen eine zentrale Rolle spielt und manches entschuldigt wird. Zum anderen kann gefolgert werden, dass der Krankenhausaufenthalt in vielen Bereichen bereits patientenorientiert gestaltet ist, da nur wenige Krankenhausleistungen und aufenthaltsspezifische Aspekte die „Anspruchsniveaureduktion" determinieren. Der Krankenhausaufenthalt kann noch patientenorientierter ausgerichtet werden, indem an den Determinanten der „Anspruchsniveaureduktion" angesetzt wird.

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