Assessment of respiratory patients' needs and satisfaction in Greece as ranked by intensive care unit patients and staff: A prospective descriptive study.

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ABSTRACT

Background: Respiratory patients in Greek Intensive Care Units and their caregivers are a valuable source of information about the sort of problems that patients in this state face and the specific needs they have.

Objectives: The aim of this study was to approach respiratory patients' needs and assess their satisfaction with care provided in Greek Intensive Care Units according to the views of Intensive Care Unit staff and patients.

Methods: A specifically developed questionnaire was given to both respiratory patients and Intensive Care Unit caregivers. The questionnaire consisted of 72 questions describing the following ten dimensions of needs: basic care, communication with staff, technical care, continuity of care, communication with relatives, interpersonal care, ethics, discomforts' relief, participation in decision-making, and effectiveness of care.

Results: Mann-Whitney tests used showed that responses of patients and staff differed significantly in 86% of the questionnaire items. Statistically significant differences were also noted between the patients and staff on 8 from the 10 categories of needs where patients expressed more satisfaction with the intensive care compared with the staff.

Conclusions: Health professionals and respiratory patients have different opinions about the level of care provided in Greek Intensive Care Units. The findings support that patient satisfaction increases when patient needs are identified and met. Finally, this study hopes to provide impetus and direction for a better understanding of respiratory patients' needs as a step to quality care in Intensive Care Units.

Keywords: Intensive Care Unit, patient satisfaction, patient needs, quality care, respiratory nursing.

Introduction

An increasing interest has been evoked during the last years in evaluating and assessing the quality of provided care (Greeneich et al., 1992). Although health professionals have used outcome measures for quality of care, patient satisfaction is coming to find its own place in the formulation of health care, being regarded as a prevailing method of obtaining patients' views about the quality of their care (Mahon, 1996). As Sixma et al. (1998) pointed out the most critical indicator of the quality of provided care is achieving and producing both health and satisfaction.

Traditionally, health professionals have judged the quality of care constructing their thoughts and actions with what patients "should" have and how they "could" be satisfied (Sitzia, 1997).

Things are now changing. Megivern et al. (1992) claimed that today's patients are offered the opportunity to select what they actually need and want for their care and to be an active part of the decision-making team. Patients' expectations about health care have become the actual standards to evaluate their care (Mooney, 2000).

The view of health care as a service industry and the rise in consumerism could be seen as a serious reason for the current interest in assessing patient satisfaction. This consumerist model of health care is an approach where the patient adopts the role of a consumer in receiving care (Avis, 1992a). Patients are the users while health professionals are the providers of care. Therefore, in the context of incessant competition between health organizations, patients should be allowed to choose care providers on the basis of their satisfaction with both professionals' attitudes and the product of their work (Batchelor et al., 1994).

On the other hand, the terms "consumer" and "patient" could also be faced as different entities. The patient usually adopts a rather passive role in receiving care and professionals treat patients in a rather paternalistic way (Hildman et al.,1990, Falkum et al., 2001).

Though, whatever one thinks of consumerism, we could actually admit that the health service should be aware of the opinions and behaviours of its consumers. Furthermore, democratization of health services as well as improvement of professional ethics by respecting patients' human rights is a continuous challenge for health care professionals and managers (Williamson, 1992, Eddie, 1994, Enehaug, 2000).

Patient satisfaction could be seen as a variable which could not only influence illness behavior but also change patients' physical and psychological health (Carr-Hill, 1992, Kane et al., 1997).

Several dimensions of patient satisfaction have been described in research literature as key characteristics that patients experience during their stay in a hospital. The content of these characteristics consisted of the following items: art of care (positively perceived attributes, like friendliness and concern), technical quality of care (for example accuracy, attention to details), interpersonal quality of care, accessibility, physical environment, availability, continuity, efficacy, security, information giving, noise, cleanliness, and food services (Meterko et al., 1990, Williams, 1991, Carey et al., 1993, Avis et al., 1997). However, despite the widespread concern of health care literature with patients' satisfaction there has been neither agreed definition on what constitutes patient satisfaction nor specific identification of its dimensions (Linder-Pelz, 1982a, Like et al., 1987, Straniszewska, 1999). It should be probably agreed that assessing patient perceptions of the kind of care they receive must precede any attempt of defining and measuring either patient satisfaction or its dimensions. An interesting opinion was advanced by Thompson & Sunol (1995) who outlined that patient judgements on the care they receive are nothing else but their perceptions of that care, and that, in order to comprehend their influence on patient satisfaction, these perceptions must be first understood and quantified.

Studies concerning Intensive Care Units (ICU) have been undertaken, primarily aiming to the identification of the major problems associated with the kind of care patients receive in these settings than to evaluate the level of their needs' satisfaction while being hospitalized. The present study is focused on respiratory patients' needs. They constitute a specific and massive category of patients hospitalized in an ICU, and mechanical ventilation -invasive or not- is not merely supportive for applying different therapeutic schedules but undoubtedly comprises the main reason for their intensive care hospitalization which eventually provokes a number of problems. Does this group of patients have specific needs which are deviating in some degree from those of the other population of a general ICU? According to our knowledge, no previous attempt has been made internationally to develop an instrument to measure respiratory patients' satisfaction with intensive care. In that way, this assessment would be an issue of international interest and even more in Greece where the vast majority of ICUs are general ICUs and where respiratory patients represent a high proportion of ICU hospitalization. Furthermore, no other study has been conducted to explore the needs of such patients in Greece.

Therefore, this study describes the process used to develop and implement a patient satisfaction tool in ICU setting in an attempt to assess respiratory patients' needs (physiological, psychological, social) in Greece as expressed by ICU patients and staff, and to highlight the differences that might exist in their point of views. Additionally, implications for ICU staff and managers are identified, and recommendations for future research are offered. It is hoped that the findings from this study could serve as a means for continuous improvement in intensive care practice in the benefit of all patients hospitalized in Greek ICUs and not only of respiratory patients.

Method

Study design

The purpose of this study was to measure respiratory patients' level of satisfaction with the care provided during their stay in an ICU according not only to their own opinions but also to the opinions of their caregivers. This investigation was a prospective, descriptive study conducted in ten hospitals with twelve ICUs varying in size from 4 to 12 beds, with an average bed occupancy being over 90% and an average nurse to patient ratio ranging from 1:2 to 1:3, depending on patient activity. The answers given by the ICU patients were not compared with those given by the specific ICU staff that cared for them. That means that patient and staff options were compared in the aggregate in order to avoid resource constraints.

Subjects

During February to November 2003, we studied the ICU patients and staff's perceptions about the respiratory patients' needs.

Patients were included in the study only once. There were 6 inclusion criteria for the sample of patients according to which: 1) the participants should be older than 18 years of age, that is, consenting adults, 2) they should have been in the ICU for at least 4 days, 3) they should be patients facing respiratory problems, 4) they should not be mechanically ventilated at the time of research in order to be able to communicate verbally, 5) they should be in a good mental condition and oriented to person, place and time to participate, as judged by the chief physician and 6) they should not be under sedative or tranquilizing medication, in order to avoid mental or emotional confusion.

The sample included healthcare providers (physicians and nurses) working regular hours on the ICUs. The only inclusion criterion for them was that they should have been working in these ICUs for at least 1 year.

Data collection

Many questionnaires are developed to measure patient satisfaction or patient needs. Little is known, however, about the needs of patients with respiratory problems who receive care in the ICU. That was the reason why we developed a questionnaire that focused on respiratory patient needs to measure their satisfaction with the care provided in Greek ICUs. Items for the questionnaire were generated from existing conceptual frameworks of patient satisfaction, patient need and quality care, from existing research on critically ill patients, from consultation with respiratory nurse specialists and physicians, and from unstructured interviews with respiratory patients. The final questionnaire contained 72 items which were categorized as: basic care, communication with staff, technical care, continuity, communication with relatives, interpersonal care, ethics, discomforts' relief, participation in decision-making and effectiveness of care. These categories were designed to group selected items to ten dimensions of patient needs that are important to satisfaction with intensive care not only in Greece but elsewhere. Rating of each item was made on a four point scale-very, mostly, slightly, and not at all satisfied.

When patients were ready for transfer from the ICU to an area of less intensive care or from such an area to the ward, questionnaires were given to patients to assess their needs' satisfaction in an attempt to identify the most significant factors that influenced their satisfaction with the care provided in Greek ICUs. The same questionnaires were also given to ICU caregivers who were asked to answer not according to their own point of view but according to how they believed patients would have answered. The exploration of the perceptions of both patients and staff was performed for the purpose of a comparison between them to highlight the differences that might exist in their point of views.

In addition to questionnaire's items, the patients and healthcare providers were asked about demographic data.

Validity and reliability

Reliability of the questionnaire was addressed by examining theoretical frameworks and definitions of patient satisfaction, patient needs, quality care in general and quality of ICU care more specifically and by studying the results of the existing research on patient needs (Smith, 1992, Stein et al., 1993, Gotherstrom et al., 1995, VanderVeen et al., 1996, Niles et al., 1996, Egbert, 1996, Eriksson, 1997, Kristensson-Hallstrom et al., 2000). Cronbach-alpha was used to measure reliability (internal consistency) of both the questionnaire and each of its subscales. Thus, the overall Cronbach-alpha ranged from 0.92 for the patients' group to 0.95 for the providers' group. Cronbach-alpha coefficients of subscales for patients were: basic care, 0.95; communication with staff, 0.87; technical care, 0.84; continuity, 0.54; communication with relatives, 0.63; interpersonal care, 0.71; ethics, 0.56; discomforts' relief, 0.74; participation in decision-making, 0.54; effectiveness of care, 0.73, while for the providers they were 0.53, 0.81, 0.79, 0.67, 0.70, 0.82, 0.73, 0.66, 0.54 and 0.87 respectively.

Face validity of the questionnaire was established by pre-testing it on both ICU patients and staff. Twenty respiratory patients and twenty healthcare providers were asked to criticize the content and the format of the questionnaire. For example, they were asked if the questions were understandable or well-written and if they had some other issues to mention.

To assess content validity of the questionnaire, the questions used were generated from literature review of related studies and were based on concepts and dimensions of patient satisfaction and needs, quality care and quality ICU care.

Data analysis

Data were analyzed with the statistical software program Statistical Package for the Social Sciences (SPSS) 11.0 for Windows. Setting a significance level (p) of 0.05, Mann-Whitney tests were used to examine the differences between the scores of patients' and staff's responses on the questionnaire in general, as well as the differences between the scores of patients' and staff's means on these questions which composed each of the ten categories of needs. All tests were two-tailed.

Ethical considerations

Informed consent had to be obtained from all subjects. When the subject agreed to participate, the investigator posed the questions and the subject exploring his/her experiences answered them choosing one option from very satisfied, mostly satisfied, slightly satisfied, and not at all satisfied. Demographic data including age, gender, race, marital and occupational status, and education level were completed for all patients. In addition, patients were asked about their residence, admission diagnosis, knowledge of disease, number of hospitalizations in the present or another hospital, procedure of ICU admission, follow-up measures.

All healthcare providers were invited to participate in the study after verbal information. Those who accepted to participate gave written informed consent and were asked to interpret their patients' experiences and to complete the questionnaire on their own. ICU staffs were also questioned about their age, gender, marital and occupational status, education level, and years of employment.

Approval to conduct this study was obtained from the University Ethics Committee of The Medical University of Ioannina and the National Committee of Medical Ethics and Deontology. Permission for the study was also granted by the directors of the hospitals' ICUs. Respondents were all informed that participation in the study was completely voluntary and that the findings would be submitted for publication and presented at conferences. Participation by the patients was requested by a staff member who was not involved in the study, while participation by the healthcare providers, who were encouraged but not instructed to participate by the ICUs' directors, was requested by the investigator himself. Patients were carefully informed and assured for the confidential treatment of the results. Therefore, answers would not be influenced by parameters such as the patients' hesitation for fear of mistreatment by their caregivers or the patients' sense of dependence on staff members.

Use of validated and reliable measurement tools to

Results

Sixty-two patients fulfilling the inclusion criteria accepted to participate. Forty-nine staff members employed in the ICU for at least 1 year, returned the questionnaire.

Characteristics of Respondents

The mean age of the 62 patients was 56.37 years with a standard deviation (SD) of 17.26 years. Other demographic data and basic characteristics of them are shown in Table 1.

The ICU staff had a mean age of 32.94 years with a SD of 7.10 years. The average length of employment ranged from 1 to 23 years with a mean of 6.41 years. Other demographic characteristics - gender, marital and occupational status, education level - are shown in Table 2.

Demographic data did not differ significantly between patients and staff.

Results of statistical analysis

The analysis showed statistically significant differences between the patients and healthcare providers on 62 to 72 questions. Table 3 displays the mean value for patients and staff for the questions where a statistically significant difference was found. In all instances, except for facing light disturbances and providing advanced life support, patients showed higher levels of satisfaction with the care provided in the ICU than staff did.

Statistically significant differences were noted between the patients and staff on 8 from 10 categories of needs, that is, on effective care, communication with staff, technical care, symptoms' relief, communication with relatives, interpersonal care, continuity, and ethics. Only in the categories of decision-making and basic needs, responses of patients and healthcare providers seem to be similar. Figure 1, shows how the groups of needs were valued by ICU respiratory patients and staff respectively, illustrating the mean value for the two teams of respondents.

Limitations

There are several limitations to this study which have to be taken into consideration during the results' interpretation. The respiratory patients' sample size could be considered small for reliability testing since it was only composed of an accessible sample from the population of respiratory patients hospitalized in the ICUs where the study was conducted. Such a sampling may suggest selection bias. On the other hand, doing research on intensive care settings where patients are very ill and treatment is intense, is a problem on its own as patients are not always available to the researcher. In the present study, a number of patients could not be approached at all due to their busy treatment plans, whereas others were not able to communicate verbally. The small sample size in this study is of course a serious drawback but may not have affected results and conclusions to such a great extent. Also, respiratory patients who chose to participate even though

they were facing a number of different problems do not seem to have perceptions of intensive care that differ from respiratory patients being in a better state of health.

An additional limitation is the fact that the study findings reflect the views of respiratory patients being from only ten hospitals and twelve ICUs of them and may not necessarily represent the perceptions of respiratory patients hospitalized in ICUs all over Greece. Perhaps, some specific organizational factors of intensive care settings studied may have a degree of influence on the present data.

Given the variety of health professionals under the umbrella of intensive care, the fact that the ICU staff participated in the study consisted solely of nurses and doctors creates another inherent limitation to the study. Also, the population of ICU staff was represented by a convenience sample, drawn from only twelve Greek ICUs. Comparing respiratory patients' perceptions of intensive care with the perceptions of various specialty groups of health professionals, constituting the staff of ICUs in Greece, may be significant.

Based on the limitations mentioned above, a future study with a larger sample of both respiratory patients and ICU staff, drawn from a cross-sectional range of Greek institutions, would have greater generalizibility and validity.

Discussion

The present study showed large discrepancies between respiratory patients and staff concerning the quality evaluation of intensive care hospitalization in Greece. This conclusion is not as pessimistic as it appears at a first glance. As it was expected, patients were more satisfied than staff according to the 86% of the questionnaire items. Furthermore, it is noteworthy that in the forced-choice questionnaire, patients rated most of the questions (60 from 72) with a higher score of satisfaction than staff. All these questions refer to issues that patients may have a more accurate opinion of. On the contrary, staff gave a higher ranking in two questions referring to staff's competence in facing difficulties in sleep and in providing advanced life support (advanced techniques for airway management, medication delivery). Patients are more satisfied with eight out of ten needs studied, concerning effective care, communication with staff, technical care, and relief of symptoms, communication with relatives, interpersonal care, continuity, and ethics.

Effectiveness of care was found to be the most important indicator of respiratory patient satisfaction in the ICU. Positive association between effectiveness and patient satisfaction was also reported by other researchers who suggested that effectiveness is related to therapeutic outcomes and improvements in health status (Carmel, 1985, Fitzpatrick et al., 1987, Nelson et al., 1989, Carr-Hill, 1992). Aspects related to this determinant of patient satisfaction have often been labelled efficacy, acceptability, efficiency, accessibility, and continuity ((Donabedian, 1980, Marek, 1997). Holland (1983) found effectiveness to be the most basic indicator of the quality of care since it can be expressed as the reduction in morbidity and mortality or in terms of recovery, restoration and survival. Perhaps the patients of our study could agree with this suggestion if we thought that the high ranking of effectiveness is coming from patients who face myriads of problems while hospitalized, and whose main goal is to get better as soon as possible. In that way, effectiveness for them means medical efficacy, economic efficiency and social acceptability which all together contribute to the satisfaction of their expectations and the improvement of their health status.

The need for a good patient-healthcare provider communication was also ranked higher by patients and lower by healthcare providers indicating the importance of this issue for patients. This result of the present study further validates previous work examining the significance of communication to quality care (Stuart, 1995). Respiratory patients described satisfactory communication as occurring when staff communicated with them in both verbal and non-verbal ways, when they were treated in a caring way, and when hope, silence, humor, information and understanding were offered to them. The fact that the ICU staff thought that their patients were less satisfied with communication offered by them than they actually were, could be explained by the staff's feeling that they could and should offer more to these patients. Another explanation could be that staff based their opinions on their professional experience while patients expressed their personal non-professional views. A similar disagreement between patients' and staff's opinions has also been found in other studies (Von Essen et al., 1993, Lovgren, 1998).

The categories of technical care and interpersonal care were also ranked higher by the patients and lower by the staff members. It is possible that ICU professionals take for granted the high quality of technical support and interpersonal communication provided in Greek ICU settings. The higher ranking given by respiratory patients demonstrates their confidence on staff's ability to successfully manage both aspects of care.

It is worth noting that patients in this study ranked technical care to be more important as an indicator of their satisfaction than interpersonal one. Several studies have underlined the fact that patients tend to be more satisfied with the technical aspects of their care than with accessibility, availability and interpersonal relationships with their carers (Fitzpatrick et al., 1983, Hall et al., 1988). This has been attributed to various factors. For example, French (1981) stated that patients are unaware of the inadequacies of care and may be more comfortable in reporting their positive response whenever an issue of technical competence of health professionals is examined. Strasen (1988) also explained that patients are not experts in evaluating the technical dimensions of nursing or medical actions, which precludes them from attending to the more instru-

mental aspects of the care provided. Another explanation was given by Hall & Dornan (1988), who said that patients express higher levels of satisfaction with technical aspects of their care because they are not appropriately informed so as to be able to judge it otherwise.

Symptoms relief is the fifth need emerged from the data of our study that was accepted with higher degree of satisfaction from respiratory patients than from health-caregivers. Indeed, the management of various problems related to the respirator treatment (pain, agitation, breathlessness, isolation and nightmares) as a predictor of intensive care quality supports many findings that effective symptoms relief is associated with better patient satisfaction with care provided in ICUs (Dragsted et al., 1990, Johnson et al., 1990, Daffurn et al., 1994).

Furthermore, patients seem to be more satisfied than staff with the communication with relatives, continuity of treatment and ethics. Communication with relatives was considered vital by the patients of our study. The explanation probably lies in the fact that the contact with family and friends assists them to cope with unpleasant feelings in a strange environment. Also, given that the majority of critically ill patients - including respiratory ones - are unable to communicate verbally with their caregivers or to participate in decision-making about treatments, their contact with their relatives is important to them as a means to convey their feelings. For all these reasons, the family's perspective has been pivotal to understanding and measuring satisfaction with care in intensive care settings and several studies have been concentrated on family satisfaction lately (Johnson et al., 1998, Malacrida et al., 1998, Abott et al., 2001).

Continuity of care is suggested to be another major determinant of care quality for respiratory patients of our study. As regarded by Starfield et al. (1976), continuity is the relatedness between past methods of care and their use in present care so that a successive and table sequence of care is proved. In this context and given that the majority of patients interviewed have experienced repeated ICU hospitalizations, we could conclude that continuity of care helps them develop a feeling of security. On the other hand, it also helps caregivers to stay close to the patients' problems, feelings and behaviors and consequently provide a kind of care similar to their expectations (Donabedian, 1980).

Finally, patients have highly ranked the staff in following certain ethical principles, like avoidance of harm, confidentiality, safety, unconditional positive regard, making clear contracts with patients, as well as values like integrity, impartiality and respect. This recognition should not be taken only as a positive evaluation for the staff but also as a real and profound necessity for the patients. Most studies referring to patient satisfaction have revealed the importance that patients lay on ethics (Greenfield et al., 1989, Williams et al., 1991, Scardina, 1994, Firn, 1995).

Given the fact that the questionnaire did not include some open questions which could give the sample of research the opportunity to express some other issues of concern, no additional issues came up.

The evaluation discrepancies between staff and patients resulted from our study suggest that ICU staff is not fully aware of the level of satisfaction of respiratory patients' needs. Actually, this is the major issue that the present study reveals. The problem, according to our results, is not the technical or interpersonal competence of the ICU staff. A better 'matching' of respiratory patients' needs and staff effectiveness seems to be necessary in Greek ICUs. If health professionals are genuinely concerned about the effectiveness and quality of the care they offer in ICUs, they must be prepared to accept their patients' opinions as standards of their practice. Moreover, they should not face patient feedback as another technical tool but as a means to both improve quality of their care and assure patients that their views are seriously taken into consideration. Therefore, a continuous and constructive patient feedback should be established during the complex process of ICU health care in order for the patient to be finally helped.

Although the present study refers to a specific group of ICU patients -those with respiratory insufficiency- it should be underlined that the majority of their problems in the ICU are more or less common with the problems of patients of different categories (accidents, post heavy surgery, neuromuscular diseases). Answers given to the present questionnaire clearly confirm it. Therefore, the current conclusions under suitable considerations would be useful for the vast majority of ICU patients at least in Greece but also elsewhere.

Conclusions

assess respiratory patients' satisfaction with intensive care is imperative if ICUs caregivers intend to evaluate these patients' perceptions as a direct outcome of their care. This study tried to design and test such a questionnaire aiming to measure respiratory patients' perceptions of the quality of intensive care received as well as their needs that influence those perceptions. It is not claimed that the present study has succeeded in capturing either all the different components of respiratory patients' views or the most important indicators of their satisfaction with intensive care in Greece, since the questionnaire used was based only to quantitative data. Its results though, suggest that respiratory patients hospitalized in an ICU suffering from a severe illness face a diversity of physical, psychological, social, economic and functional needs that require rather a holistic than a fragmented approach to management. Present intensive care in Greece is limited to disease-centred care and neglects the myriad needs being encountered during ICU hospitalization. It is probable for many of these needs to impede respiratory patients' recovery from illness and consequently, their satisfaction not only with intensive care, but also with the total hospital care experience. The following implications and recommendations are offered to health care educators, managers, administrators and researchers.

Implications / Recommendations

This study has several implications. First of all, the findings demonstrate the need to develop an ICU respiratory patient satisfaction database in Greece, so as to identify the most significant factors that influence satisfaction in the intensive care settings. Secondly, the findings could also be used as a first step of an attempt to assess any trends in patient satisfaction across time, serving thus as a means for continuous improvement in intensive care practice. Third, health care educators must be both knowledgeable and updated about patients' perceptions of quality intensive care which seems to be easy to illustrate in educational settings. Fourth, data from this study could be presented to hospital managers and administrators who in turn could share them with ICU staff. Thus, both positive and negative comments of the study's respondents should be analyzed and communicated with the staff as a useful means not only to reinforce their positive behaviors but also to handle negative comments so as to avoid similar problems in the future. Finally, staff could identify areas of practice that need further investigation, justify changes in intensive care delivery system and, likely enhance the effectiveness of resources used in respiratory patient population.

Although the rate of satisfied patients in this study is quite high, the quality demands continue to exist and room for improvement remains. The study results are only a sample of the general situation in Greece, and it would be more than useful to repeat it in order to see how stable the results are in a care setting which is in a state of rapid structural and economic development. Given the limitations of the study, further investigation in a larger sample of respiratory patients and ICU staff are needed to evaluate and develop the present attempt and why not, to reformulate and make it more specific. Furthermore, studies should be conducted with other kinds of patients hospitalized in ICUs to determine if the findings of this study concerning respiratory patients' views remain valid. Similar studies also should be undertaken with people other than patients (e.g. relatives or friends of hospitalized respiratory patients) who may be asked to evaluate and express their satisfaction with care provided to them and their loved ones in ICUs.

The findings also suggest several areas for further study. The relationship - similarities and differences - between indicators of patient satisfaction identified in this study and existing dimensions of overall patient satisfaction should be examined. Another study could examine the results of the present study from the perspective of the ICU staff. That is, the interdisciplinary group of health professionals working in ICUs should be asked to determine if they actually provide quality care, in what mean and to what extent. Finally, the findings of this study are potentially useful for investigating quality intensive care in diverse cultures since the operationalization and the appropriate modification of the dimensions of respiratory patients' needs and satisfaction presented in the study could reflect local, regional, national, or even and international perceptions of care provided in ICUs.

Moreover, researchers should continue to search for answers, examine the factors that determine the outcome of care, and use studies of patient satisfaction to increase health professionals' understanding of patients' perceptions and feelings about care and so help make their work more patient-centred, human and effective.

Table 1. Demographic and Basic Characteristics of Study Patients (n=62)

Characteristics	Frequency	Percent (%)
Educational level		
Illiterate	6	9.7
Primary school	30	48.4
High school	23	37.1
Technological & University	3	4.8
Gender		
Male	37	59.7
Female	25	40.3
Nationality		
Greek	61	98.4
Other	1	1.6
Residence		
Athens	44	71
Provinces	18	29
None pre-existing illness	34	54.8
Admission in the hospital more than once	20	32.3
Hospitalization somewhere else	19	30.6
Admission in the hospital by ambulance	31	50
Admission diagnosis		
Chronic Obstructive Pulmonary Disease (COPD)	21	33.9
Multiinjured	11	17.7
Infections of Respiratory System	8	12.9
Bronchial Asthma	4	6.5
Pulmonary Embolus	3	4.8
Pleurisy-Pneumonia	3	4.8
Pneumothorax	2	3.2
Pneumonia-COPD	2	3.2
Other	8	12.8

Table 2. Staff demographic characteristics (n=49)

Characteristics	Frequency	Percent (%)
Gender		
Male	11	22.4
Female	38	77.6
Marital status		
Single	25	51
Married	24	49
Educational level		
Primary & High school	9	16.5
Technological & University	35	71.4
MSc & PhD	5	10.1
Occupational status		
Nurses	40	81.6
Physicians	9	18.4

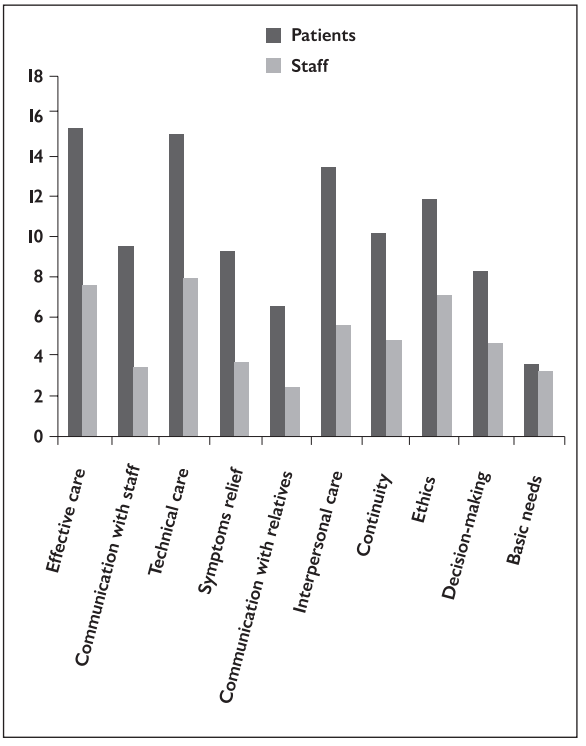
Table 3. Mean values of ICU patients and staff's responses

Questions	Mean value	Mean value	2-Tailed
Protection from annoying noises	68.79	39.82	0.000
Protection from light disturbances	45.03	69.88	0.000
Verbal communication with the staff	67.31	41.68	0.000
Continuous attention to patient needs	67.60	41.32	0.000
Information about the drugs patients need	67.77	44.90	0.000
Encouragement to say how patients feel	67.69	41.20	0.000
Staff's capability in facing complications	68.53	40.14	0.000
Staff takes seriously all patient problems	66.04	43.30	0.000
ICU's care gives enough relief	64.96	44.66	0.000
Cooperation between members of staff	69.26	39.22	0.000
Staff's capability in providing advanced life support	36.09	81.19	0.000
Staff's capability in providing the best care	68.65	39.99	0.000
Provision of care by different people	69.39	39.06	0.000

Questions	Mean value (Patients)	Mean value (Staff)	2-Tailed Significance
Provision of care by specific staff	71.20	36.77	0.000
Staff's way of showing patience during care	64.90	44.74	0.000
Frequency of the visiting hours	74.58	32.49	0.000
Relatives participation in patients' care	74.45	32.65	0.000
Treatment of relatives by staff	67.29	41.71	0.000
Kind of information given to relatives	70.24	37.98	0.000
Staff's way of showing warmth	66.02	43.33	0.000
Staff's way of showing genuine concern	65.33	44.19	0.000
Staff's way of showing sympathy	71.08	36.92	0.000
Staff's listening to patient problems	67.26	41.76	0.000
Use of alternative methods of treatment	65.11	44.47	0.000
Staff's way of showing friendliness	70.23	37.99	0.000
Staff's altruistic behavior	71.61	36.24	0.000
Staff's respect for patients	67.15	41.89	0.000
Sincerity of answers given to patients	69.59	38.81	0.000
Staff's faithfulness	66.64	42.54	0.000
Staff's polite behavior	66.04	43.30	0.000
Staff's try not to talk "above patients' head"	66.45	42.78	0.000
Staff's try to respond to patients in a loving way	67.51	41.44	0.000
Staff's understanding of patients' feelings	65.53	43.94	0.000
Staff's capability in inspiring confidence	67.05	42.02	0.000
Amount of information given to patients	65.43	44.07	0.000
Staff tells the whole truth to patients	72.51	35.11	0.000
Frequency of information	69.19	39.32	0.000
The way that staff fulfills its duties	70.30	37.91	0.000
Staff's interest about parts of care that cause patients' dissatisfaction with care	69.66	38.71	0.000
Staff's interest about parts of care that cause patients' disappointment with care	70.15	38.10	0.000
Staff's try not to face patient as a customer	67.57	41.36	0.000
Staff's try to do their best to help patients	66.72	42.44	0.000

How satisfied are you so as to wish to be admitted to the same ICU in the future?	65.59	43.87	0.000
How satisfied are you so as to have a good memory of your staying in the ICU?	64.33	45.46	0.001
The way that basic needs are met	63.60	46.38	0.001
Continuity of care by all shifts	64.03	45.84	0.001
Staff's way of showing empathy	63.94	45.96	0.002
Treatment of patient as equal human being	63.62	46.36	0.002
How satisfied are you so as to visit the ICU after discharge?	63.77	46.17	0.002
Non-judgment of patients by staff	63.08	47.04	0.003
How satisfied are you so as to recommend the ICU to relatives?	63.35	46.70	0.003
Expertness of staff	62.65	47.59	0.004
The way that supervisors react	63.08	47.04	0.004
Existence of quality care	62.27	48.06	0.015
Immediate medication	60.92	49.78	0.018
The presence of staff nearby the patients	61.92	48.51	0.018
Staff's capability in pain, agitation, breathlessness management	61.58	48.94	0.022
Equal treatment of all the patients	61.53	49.00	0.023
Adequate help to patients when in pain	61.26	49.35	0.025
Convey of staff's interest by smile or touch	61.51	49.03	0.028
Relatedness between past methods of care and their use in present care	61.02	49.64	0.037
Assurance of security	60.48	50.33	0.058
Management of patients' health problem	60.31	50.55	0.058
Existence of a patient-staff friendship	60.45	50.37	0.076
Help to patients to keep up their courage	60.24	50.63	0.087
Individual attention to each patient	59.15	52.02	0.228
Assurance of confidentiality	58.43	52.93	0.321
In-time medical examinations and tests	53.81	58.78	0.401
Convey of trust to patients by staff	54.14	58.36	0.455
Patients' participation in decision making	57.62	53.95	0.517
Staff's know-how	54.73	57.61	0.580
Close observation of patients' problems	57.13	54.57	0.646

Figure 1. Scoring of categorized needs (mean value) by the ICU patients and the ICU staff



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