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Evaluating patient and medical staff satisfaction from doctor–patient communication

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Abstract

Purpose – The purpose of this study is to investigate and compare the views of doctors, nursing staff and hospitalized patients on the level of information they provide and receive respectively in public hospitals, focusing on the factors that affect their communication.

Design/methodology/approach – The study used a cross-sectional survey with a sample of 426 participants from two general hospitals in Greece–Pella and KAT Attica. Data were collected through a questionnaire in March–May 2020 and was analyzed with mean comparisons and correlations.

Findings – The results showed discrepancy in the satisfaction rate, with 67.3% satisfied patients from doctors' communication vs. 83.7% satisfied doctors. Improvements in hospital staff – patient communication are required especially on alternative therapies' discussion and time spent on communication. All respondents agreed that staff shortage is a deterrent factor for effective communication. Seamless for all respondents' groups, the factors that affect the communication satisfaction level are the duration of communication, time allowed for expressing questions and interest in patients' personal situation.

Practical implications – Strengthening the communication skills of medical staff and providing clear guidelines on when and how to inform patients are essential.

Originality/value – This study contributes to the growing body of research on doctor–patient communication. Its originality lies on the fact that communication satisfaction level was examined simultaneously for doctors, nurses and patients. The study provides additional evidence supporting the link among satisfaction and duration of communication and personalized relationship. The study's findings are important in the training of medical staff and the management of patients' expectations.

Keywords Survey, Doctor–patient communication, Information needs, Satisfaction level, Nurses

Paper type Case study

Introduction

In recent decades, there has been an increased interest in doctor–patient communication and the way of informing patients about their health progress (Swallmeh *et al.*, 2018). The increase of the educational level of healthcare users has resulted in a better understanding of the information given to them and a greater involvement in the decision-making process regarding their diagnosis and treatment (Verlinde *et al.*, 2012; Platonova and Shewchuk, 2015). This has changed the doctor–patient relationship from the traditional paternalistic, doctor-centered model of care, where the physician played a dominant role, to the patient-centered model and the "informed consent" model based on an equal relationship of trust (Gabay and Bokek-Cohen, 2020; Van Den Assem and Dulewicz, 2015), taking into account the needs, preferences, lifestyle, feelings and rights of the patient (Von Thiele Schwarz, 2016; Scholl *et al.*, 2014). Thus, there is mutual exchange of information and knowledge that helps in joint decision-making and the development of a relationship where power and responsibility are shared between physician and patient (Scholl *et al.*, 2014). Good communication helps to

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better coordinate all therapeutic actions that will apply, avoiding unnecessary actions, inconsistency and misinformation of the patient (Platonova *et al.*, 2019; Moret *et al.*, 2008).

The literature has shown a change in the attitude of doctor–patient communication the last decades and an increase in the percentage of doctors who adequately inform patients and reveal the truth about their disease, more often than before. However, this change of attitude is also country dependent (Rosenberg *et al.*, 2017; Gabay and Bokek-Cohen, 2020). In the recent past, surveys had shown that more than half of cancer patients did not know the truth (Iconomou *et al.*, 2002; Grassi *et al.*, 2000) and that a large number of their doctors hide it (Mystakidou *et al.*, 2005; Grassi *et al.*, 2000). The tendency for informed patients is also due to the fact that patients themselves seek to have more knowledge about their illness throughout its stages (Ha and Longnecker, 2010; Bongelli *et al.*, 2021). The patient's bill of rights which also includes the right to information and informed consent nowadays derives from international and European conventions and has been enforced by law in many countries of the world mainly in the first decade of 2000 (who.int/genomics/public/patientrights). Medical and nursing staff are usually responsible for informing patients, determined by their professional codes of ethics, however, their practices differ from country to country (https://www.who.int/genomics/public/patientrights/en). In Greece, as in many other countries, the doctor is in charge of informing the patient and the nurses assist. The information must be provided to the patients or to relatives who are legal representatives. The doctors must require written consent for certain procedures unlike the nurses who are not obliged to seek consent before any nursing procedure (Obessi, 2011). Nevertheless, the importance of nurse–patient communication has also been reported in the literature and was found that clear, adequate and up-front communication increases patient satisfaction (Lofti *et al.*, 2019; Fleischer *et al.*, 2009).

The need to inform patients is the subject of research which focuses not only on information about the disease and treatment but also on how it affects the management of the disease and patient's adaptation to the problems created by the disease (Martin and Dimatteo, 2013). Therefore, effective physician–patient communication becomes very important. Research has shown that patients who receive more information: are more satisfied (Adler *et al.*, 2009; Ahmadi Kashkoli *et al.*, 2017; Belasen and Belasen, 2018), participate more in decision-making for diagnosis, treatment and disease progress, seek to obtain as much information as possible (Stiggelbout *et al.*, 2015), adhere more to medical guidelines and on the therapeutic effect (Belasen and Belasen, 2018), minimize stress level, recover faster and are more satisfied from health services (Hogue *et al.*, 2012). The quality of communication between medical staff and patients, which means meeting all patient needs (emotional, pathological and social) is associated with optimal health outcomes (Hesse and Rauscher, 2019). On the contrary, the inability of the medical staff to interpret the non-verbal emotional messages of patients of different cultures leads to their dissatisfaction with negative results in the doctor–patient relationship (Zakaria *et al.*, 2021). When patients are dissatisfied from the communication process, they turn to other sources of information. In recent years more patients resort to using the Internet to find out about their health problem. On one hand, this is positive because they know how to better deal with their illness and it helps them in decision-making (Gulbrandsen, 2020), on the other hand it weakens the doctor–patient relationship by losing the trust that is essential for developing proper communication and adherence to therapy (Tan and Goonawardene, 2017).

Health professionals hold different opinions about whether all patients, indistinctly, should be informed. The prevailing view is that not everyone should be informed about everything, but doctors evaluate the situation and provide the level of information the patients can endure. They should personalize the information, taking into account a number of factors, such as the type of illness, patient's psychological state and special needs, the age, social status, etc. (Martin and Dimatteo, 2013; Iconomou *et al.*, 2002). There is also difference of opinion between doctors' belief of what patients should know and what patients would like to know. Research has shown that the type of information that patients consider important to

know is different from what doctors think they should provide (Martin and Dimatteo, 2013). However, it is noted that the doctors' attitude of not encouraging information provision on patients' health matters and patients' participation to decision-making is due to their effort to cover their own insecurities, such as their emotional involvement, their lack of communication skills and the lack of time to dedicate to patients (Kha and Piasecki, 2008).

Questions arise as to how much truth they must provide, whether a physician is justified to conceal information, and whether too much information is ultimately harmful to patients. However, research in oncology patients showed that only 10% of them admitted that the information did not help them psychologically and that it might have been better not to have been informed (Brokalaki *et al.*, 2005). Research has also shown that mainly women, older people, people who have a low education level and these who suffer from serious illnesses (cancer, chronic diseases, etc.) do not want to be fully informed about their illness (Stiggelbout *et al.*, 2015), although these data are refuted by other research (Matsuyama *et al.*, 2013), showing an increasing patient desire to information.

In addition, research has shown that poor communication is responsible for 80% of serious medical errors (Martin and DiMatteo, 2013). A study examining the reasons leading to lawsuits (patients' accusations to health professionals) showed that the main reason is ineffective communication between medical staff and patients and not treatment errors (Vincent *et al.*, 1994). The concerns were about poor provision of information (nature and clarity of explanations given about the risks and uncertainties of procedures and treatments and lack of understanding by patients) and the poor behavior (lack of sympathy shown by staff) and expression of sincerity (Chiu, 2010). On the other hand, medical professionals' job satisfaction was found to be positively correlated with desirable patient care and improved doctor–patient relationship (Ma *et al.*, 2017).

In the literature, there are a few studies that compare the views of both medical staff and patients on the practitioner–patient communication. Research has found differences in the perceptions of nurses and hospitalized patients about the provision of information, the ability to make decisions, and consensus issues (Mahjoub and Rutledge, 2011). Nurses believed they provided more information and opportunities for care than patients reported receiving. Differences were also identified on how often patients were asked to consent before a procedure or activity (Mahjoub and Rutledge, 2011). A similar study about surgical patients found that nursing staff believed they provided more information to patients about surgery than patients perceived (Lemonidou *et al.*, 2003). This discrepancy is due to the fact that patients judge based on their personal experiences while nurses judge based on the interpretation of the clinical data of each condition (Adler *et al.*, 2009). Other studies found that doctors and their patients had very different perceptions about doctors' communication skills during clinical interaction (Tran *et al.*, 2020; Kenny *et al.*, 2010). Only one study (Moret *et al.*, 2008), to our knowledge, examined the opinions of all three groups, namely, physicians, nurses and patients and found a discrepancy between physicians and nurses regarding their role in providing information to patients. Nursing staff believed that they play an important role in informing patients about treatment, examinations and clarifications, while doctors consider themselves as the ones in charge for providing information. This may be due to the different interpretation given by doctors and nursing staff to the term information. Patients felt that the information they received about the diagnosis was adequate, but they were less satisfied with the information provided about the benefits and risks of each treatment. Their satisfaction seemed to be greater when the professional roles of health personnel were clear. A similar study found that health professionals consider very important the patient consent to surgery while patients were more satisfied with the information and care about pain management (Durieux *et al.*, 2004).

Firstly, as noted above, limited number of studies have examined the differences in the satisfaction level between medical and nursing staff, for their role in providing information to patients, and the patients, for the receiving information about their health. Secondly, these

studies were conducted before 2010 and there is a gap in monitoring the evolvement of the phenomenon. Finally, there is little knowledge about the differences in perceptions between doctors, nurses and patients regarding the desired categories of medical information provision. So, the particular study's contribution is to cover these three research deficiencies. Its purpose is to identify and compare views on the provision of appropriate information to patients, focusing on specific areas.

Overall, the study addresses the following research questions.

RQ1. What is the level of satisfaction for the information given by doctors and nurses and received by the patients in hospital settings?

RQ2. Are there any differences in perceptions among doctors, nurses and patients about the medical information provided?

RQ3. In which specific areas do we observe dissatisfaction, or discrepancies in the perceptions between medical/nursing staff and patients, for the information provided?

RQ4. What are the factors that may hinder the provision – exchange of information between medical/nursing professionals and patients in the hospital environment?

This knowledge can be useful to medical professionals with regards to the level of information they should reveal/provide to patients about their health and in the management of patients' expectations.

Methods

For the survey, a structured questionnaire was used with five-point Likert scale questions to measure the satisfaction level. The questionnaire was based on data from studies related to doctor–patient communication (Adler *et al.*, 2009; Moret *et al.*, 2008; Durieux *et al.*, 2004) The questions were adjusted to correspond to the purpose of the study, namely to hospitalized patients of all clinics (not only oncology) and to the Greek environment. The questions that comprised the final questionnaire covered a wide range of themes that are related to information exchange (when to inform, where, for how long, how much, etc.). The questions that were not relevant were left out. The survey was conducted the first semester of 2020 with the actual distribution/collection of questionnaires to take place in March–May 2020 in two public, general hospitals of Greece (Pella General Hospital-Edessa Unit with 175 beds, in the 3rd health district of Macedonia and KAT Attica General Hospital, with 650 beds, in the 1st health district of Attica). The questionnaire was answered by hospital nurses and doctors and hospitalized patients. The survey was conducted after approval from the health district's and hospitals' scientific council boards and ethics committees. Convenience sampling was used in the selected facilities. Participation in the research was voluntary and adhered to all principles of ethics. Participant consent was requested, and confidentiality and anonymity were secured during data gathering and analysis. Questionnaires were handed to hospitals' nurses and doctors who were available at the specific mornings (400 questionnaires in both hospitals). The survey's inclusion criteria for medical staff participants were: (1) the respondents to be either from the hospital nursing staff or to be a hospital doctor of any rank or specialty, (2) their availability and willingness to participate in the survey. The questionnaires were self-administered and 226 were returned; 98 from doctors and 128 from nursing staff. Moreover, 200 hospitalized patients, across the clinics, agreed to participate in the survey who filled in the questionnaire in the researcher's presence. The survey's inclusion criteria for patients participants were as follows: (1) the survey was addressed only to adults, (2) who could communicate in Greek so as to

understand the content of the questions, (3) have had already been hospitalized for a few days and (4) had the desire and ability to complete the questionnaire. There was more or less a 50–50 split of the respondents' percentage between the hospitals for all respondents' groups. Pilot studies were conducted to test the face validity of the questionnaires and help refine its layout and wording with the participation of five patients, two doctors and three nurses. After slight modifications, the survey was run in multiple clinics of the hospitals and therefore encompassed patients with different diseases. To inform the reader about the environment in which this research was conducted it is worthwhile mentioning that the particular hospitals and in general Greek public hospitals are indicative of nursing staff shortage, large number of patients and heavy workload for medical staff (Aiken *et al.*, 2012). Doctors and nurses do not receive official education on communication techniques or patient psychology.

The internal coherence factor Cronbach a was used to assess the reliability of the questionnaire. The results showed that high reliability was observed in the "satisfaction" section (16 questions) of information provision at different stages of hospitalization ($\alpha = 0.924$), while satisfactory reliability was also observed in the "obstacles" section (seven questions) concerning the factors that prevent the provision of information ($\alpha = 0.767$). The questionnaire also included an overall communication satisfaction question. Non-parametric tests were used to investigate the differentiation of outcomes between patients and medical staff, as all variables under study were not normally distributed (Kolmogorov–Smirnov and Shapiro–Wilk tests' p values $= 0$, skewness z scores > -1.96 for all questions/variables for patients, doctors and nurses). The Kruskal–Wallis test for three independent samples together with the pairwise comparisons were used to compare the answers of the groups of respondents (Tables 2 and 4). Mann–Whitney test was used respectively for the comparison of means between two variables (Table 3). Moreover, Spearman's rho correlations were conducted among the sample's demographics and survey's questions/variables (Table 5).

Results

Table 1 shows the demographic characteristics of hospitalized patients, hospital doctors and nurses respectively. We observe that patients' education level varies and female nurses' respondents prevail due to the large number of female nurses' population in the hospitals.

Tables 2 and 3 compare patients' and health professionals' answers to the questions of satisfaction from doctors/nurses/patient communication, targeting respondents' personal

		Patients % ($N = 200$)	Doctors % ($N = 98$)	Nurses % ($N = 128$)
Gender	Male	35% (70)	61.22% (60)	9.38% (12)
	Female	65% (130)	38.78% (38)	90.63% (116)
Education	Illiterate	6% (12)		
	Primary school	24% (48)		
	High school	29% (58)		
	Polytechnic/ university	37% (74)	77.55% (76)	92.97% (119)
	Postgraduate studies	4% (8)	22.45% (22)	7.03% (9)
Age	<40	19% (38)		
	40–60	41% (82)		
	>60	40% (80)		
Years of working experience	10<		38.78% (38)	19.53% (25)
	10–20		20.41% (20)	32.03% (41)
	>21		40.82% (40)	48.44% (62)

Table 1. Demographics of survey sample

	Patients Mean (SD)	Doctors Mean (SD)	Nurses Mean (SD)	p	Pairwise compar
1. Entry to the ward (operation of the clinic, visiting hours)	3.72 (0.87)	3.76 (0.88)	4.10 (0.71)	0.000**	$N > P, D > P$
2. Medication provided during treatment (type, dose and side effects)	3.84 (0.72)	3.71 (0.96)	4.06 (0.79)	0.006*	$N > D, N > P$
3. Measurement of vital signs (blood pressure, pulse, respiration and temperature)	4.03 (0.78)	3.92 (0.95)	4.27 (0.76)	0.009*	$N > D, N > P$
4. Carrying out medical/laboratory tests (type of examination)	3.97 (0.78)	4.00 (0.71)	4.07 (0.77)	0.500	
5. Results of medical/laboratory tests	3.84 (0.78)	4.02 (0.69)	3.80 (0.79)	0.220	
6. Diet (type and amount of food the patient should take depending on the condition)	3.61 (0.89)	3.49 (0.77)	3.95 (0.80)	0.000**	$N > D, N > P$
7. Body hygiene (when allowed and how to do it) and bladder and bowel function	3.52 (0.87)	3.20 (0.84)	3.88 (0.95)	0.000**	$N > P >$ D, $N > D$
8. Pain relief (medication, treatment)	4.01 (0.73)	4.20 (0.54)	4.31 (0.59)	0.002*	$N > P$
9. Mobility (i.e. whether and how often movement is required)	3.79 (0.75)	4.06 (0.72)	4.04 (0.78)	0.004*	$N > P, D > P$
10. Benefits and risks of treatment	3.39 (0.90)	3.84 (0.92)	3.72 (0.82)	0.001**	$N > P, D > P$
11. Alternative therapies	3.08 (0.93)	3.04 (0.87)	3.26 (0.96)	0.134	
12. The settlement of administrative procedures (e.g. ticket, discharge process)	4.13 (0.75)	3.57 (1.04)	4.16 (0.85)	0.001**	$N > D, P > D$
13.Duration of communication	3.39 (0.95)	3.69 (0.98)	3.66 (0.93)	0.035*	$N > P$
14. Time allowed for expressing questions about the health problem	3.36 (1.01)	3.73 (0.91)	3.70 (1.00)	0.008*	$N > P, D > P$
15. Use of non-medical (simple) terminology	3.29 (0.95)	3.76 (0.95)	3.72 (0.88)	0.000**	$N > P, D > P$
16. Interest in the patient's personal and psychological condition	3.27 (0.97)	3.76 (0.88)	3.92 (0.98)	0.000**	$N > P, D > P$

Note(s): Statistically significant difference (*$p < 0.05$, **$p < 0.001$)

Table 2. Level of satisfaction from the information received by the patients and given by doctors and nurses (1: Very dissatisfied – 5: Very satisfied). Kruskal–Wallis test

Comparison	Mean (SD)	p
Patient Satisf. from doctors – Patient Satisf. from nurses	3.78 (0.73)–3.83 (0.79)	0.787
Doctors' Satisf. – Nurses' Satisf	4.06 (0.69)–3.94 (0.73)	0.306
Doctors' Satisf. – Patient Satisf. from doctors	4.06(0.69)–3.78 (0.83)	0.038*
Nurses' Satisf. – Patient Satisf. from nurses	3.94 (0.73)–3.83 (0.79)	0.139

Note(s): *Statistically significant difference ($p < 0.05$)

Table 3. Level of overall satisfaction from the information received by patients or given by doctors/nurses (1: very dissatisfied – 5: very satisfied). Mann–Whitney test

experiences. The patients' answers regarding communication satisfaction on specific information characteristics showed that for all 16 questions (Table 2) on average 11.2% are dissatisfied and very dissatisfied with the information they received, 27.7% are neither dissatisfied nor satisfied and 61.1% are satisfied and very satisfied. Respectively for the medical and nursing staff the percentages are 7.5, 21.7 and 70.8% for the information they gave. For all groups of respondents, it appears that there is satisfaction (average results of all respondent groups close to 4, "satisfied") with the information provided about vital signs' measurements, laboratory examinations and pain relief. While they are neither dissatisfied nor satisfied (average results close to 3) with the information regarding alternative therapies

Table 4.
Evaluation of patients', doctors' and nurses' views on communication barriers (1: totally disagree – 5: totally agree). Mann–Whitney test

	Patients Mean (SD)	Doctors Mean (SD)	Nurses Mean (SD)	p	Pairwise compar
1. Difficulty of patients to comprehend the clinical information (medical terminology)	3.87 (0.91)	3.92 (0.84)	4.13 (0.76)	0.034*	$N > P$, $N > D$
2. Lack of training in communication and information techniques by health professionals	3.30 (0.87)	3.24 (1.01)	3.29 (0.99)	0.896	
3. Lack of time from health professionals	3.65 (0.98)	3.23 (1.08)	3.42 (1.08)	0.031*	$P > D$
4. Staff shortage	3.97 (0.92)	3.73 (1.20)	4.04 (0.97)	0.351	
5. Practical difficulties (e.g. inappropriate environment)	3.90 (0.89)	3.42 (1.15)	3.87 (0.94)	0.020*	$P > D$, $N > D$
6. Patient characteristics (age, level of education, gender)	3.83 (0.75)	3.67 (0.90)	3.80 (0.89)	0.582	
7. Patient psychological factors (fear, hesitation and reaction)	3.81 (0.76)	3.39 (0.81)	3.84 (0.78)	0.001**	$N > D$, $P > D$

Note(s): Statistically significant difference (*$p < 0.05$, **$p < 0.001$)

Table 5.
Correlations between overall satisfaction from doctor/nurse–patient communication and specific information provision/ communication conditions

Info about/Communication satisfaction of	Patients for doctors	Patients for nurses	Doctors/Nurses
1. Ward entry	0.557**	0.518**	0.368**
2. Medication	0.534**	0.537**	0.375**
3. Vital signs measurement	0.573**	0.462**	0.332**
4. Laboratory tests	0.460**	0.466**	0.465**
5. Tests' results	0.545**	0.514**	0.441**
6. Diet	0.408**	0.341**	0.171*
7. Body hygiene	0.561**	0.435**	0.267**
8. Pain relief	0.515**	0.366**	0.284**
9. Mobility	0.466**	0.354**	0.310**
10. Treatment's benefits–risks	0.532**	0.504**	0.394**
11. Alternative therapies	0.520**	0.436**	0.336**
12. Administrative procedures	0.244**	0.269**	0.135
13. Duration of communication	0.691**	0.685**	0.404**
14. Time allowed for questions	0.657**	0.636**	0.442**
15. Use of non-medical terminology	0.521**	0.493**	0.352**
16. Interest in patient's personal condition	0.667**	0.655**	0.478**

Note(s): Statistically significance at the level $p < 0.05$*, $p < 0.001$**

and duration of communication, the patients also feel so-so with the health professionals' interest in their personal and psychological condition and the use of non-medical terminology. On the other hand, there is satisfaction with the information received about the settlement of administrative procedures which also aligns with nurses' satisfaction on giving such information. Statistically significant difference in the satisfaction level with the information provided between health professionals and patients is observed in all questions except for what laboratory tests will be carried out and what are their results and what are the options of alternative therapies. In these three points there is convergence in respondents' views. In all other questions the nursing staff expressed greater satisfaction than the patients for the provided information and in many cases, they also expressed greater satisfaction even from doctors' satisfaction. Both doctors and nurses reported statistically higher satisfaction level than this of patients ($N > P$, $D > P$) about information provided for entry requirements to the

ward, mobility, risks of treatment, time allowed for questions, use of non-medical terminology and interest in patient's psychological condition. Moreover, further analysis in each question by calculating the difference of each respondents' group score from the mean score of all respondents revealed that the higher differences among opinions exist in the questions that the statistically significant level is $p < 0.001$**. This is evident in seven questions of Table 2 with top differences in the average answers of doctors who reported lower satisfaction than patients/nurses about providing information on body hygiene and administrative procedures settlement. These topics are usually explained to patients by nurses.

Table 3 presents comparisons between patients' and doctors/nurses' satisfaction level from the information received/provided. Patient responses were given separately for doctors and nursing staff, but no statistically significant difference is observed between these two scores, with the overall average satisfaction level to be just below agree ($M = 3.8$). The satisfaction level (sum of satisfied and very satisfied patients) was 67.3% for doctors and 69.3% for nurses. On the other hand, the health professionals seem to be slightly more satisfied with the communication experience. Doctors were satisfied by 83.7% and nurses by 76.6%. The analysis revealed a statistically significant difference between patient and doctor satisfaction ($p = 0.038$). More specifically, it was found that doctors are more satisfied with the information they provided to patients ($M = 4.06$) compared to the satisfaction that patients expressed for the information they received from doctors ($M = 3.78$).

Finally, Table 4 presents respondents' views regarding the communication barriers. In order to avoid social desirability bias these questions were not asked on a personal level. Most of the respondents' responses in this section ranged between "neither disagree nor agree" and "agree". Convergence of views among the respondents, answers near "agree", is observed for the barrier regarding staff shortage and closer to "neither disagree nor agree" for the lack of training in communication techniques. Overall, the doctors' level of agreement with the specific barriers in communication is lower compared to patients and nurses and especially about the lack of time from health professionals ($M = 3.23$, $p = 0.031$) and the patient psychological factors ($M = 3.39$, $p = 0.001$). Nursing staff agree more than the other respondents with the difficulty of patients to comprehend clinical information ($M = 4.13$, $p = 0.034$) and respectively patients agree more with the existence of practical difficulties, such as the environment that the communication takes place ($M = 3.9$, $p = 0.02$).

The correlations analysis (Table 5) identified strong correlations between the overall communication satisfaction level (presented in Table 3) and each of the 16 questions on specific information characteristics (presented in Table 2). These strong correlations are notable between the overall patient satisfaction from doctors and each of the 16 questions and respectively for patient satisfaction from nurses, and doctors/nurses (with the only exception of q.12, info about administrative procedures which is not correlated). Remarkably high correlations were detected between overall communication satisfaction and the duration of communication, the time allowed for expressing questions and the interest in the patient's personal situation. It is worth noticing that the correlations of the last column regarding the doctors/nurses satisfaction from communication and each of the specific communication characteristics present somewhat lower weightings of correlations compared to these of patients. No correlations were noted between communication satisfaction for any of the respondents and the barriers to communications. The same is true for the demographics (gender and education level of respondents).

Discussion

It is realized in the relevant literature that medical staff–patient communication is a key issue which affects patients' behavior in disease management (Gulbrandsen, 2020) and their satisfaction from health services (Platonova *et al.*, 2019).

The results of this study showed that patients, doctors and nurses were satisfied with the provision of information in the areas of vital signs measurement, laboratory examinations and pain relief. However, they were less satisfied with the information on issues related to alternative therapies and the duration of the communication. Specifically patients were less satisfied with the use of non-medical terminology, and the interest of health professionals in their personal and psychological condition and the time allowed for questions. The lack of available time for doctor–patient commination is also acknowledged in the literature (Bongelli *et al.*, 2021; Lemonidou *et al.*, 2003) and in our study only less than half of the patients were satisfied with the time provided for communication and for asking questions.

Comparative analysis

In the questions where a difference was observed at the level of satisfaction among patients, doctors and nurses, nurses had always scored higher satisfaction rates for the information they provided vs. patient satisfaction for the information received. Specifically, hospital staff showed greater satisfaction than patients regarding the information for admission to the department, mobility, the benefits and risks of treatment, the time available for questions, the use of non-medical terminology and interest in the personal and psychological condition of patients. Other studies have also shown opinion discrepancies in the information provision for treatments (Lemonidou *et al.*, 2003) and clarity of explanations for treatment's benefits and risks (Chiu, 2010). Very important is the denoted difference in the overall satisfaction from the communication, with doctors scoring a higher satisfaction rate than patients (78.6% satisfied doctors/nurses vs. 69.4% satisfied patients). Research by Moret *et al.* (2008) found a divergence between doctors' and nurses' satisfaction level regarding their role in providing information to patients, which was not observed in our study.

Factors associated with communication satisfaction level

This study also identified strong correlations between the overall communication satisfaction level and the satisfaction from specific information and communication characteristics. These relationships were identified from the patient side for the information received as well as from the doctors/nurses' side for the information provided. Especially high correlations were identified between overall communication satisfaction and the duration of communication, the time allowed for expressing questions and the interest in the patient's personal situation. These results align with the findings of previous studies about important factors that are associated with patient satisfaction in the communication with doctors (Adler *et al.*, 2009; Belasen and Belasen, 2018; Hesse and Rauscher, 2019). Additionally, our study reveals that doctors and nurses also agree with the importance of these factors in establishing a better communication with patients.

Prohibitors to good commination

The respondents agreed that staff shortage is an important inhibitory factor to good communication. Moreover, the response comparisons showed that health professionals recognized to a greater extent the difficulty of patients to understand the information. On the contrary, patients agreed to a higher level that lack of time from medical staff is a barrier to communication. Other research also suggests that staff shortages and limited time availability from medical staff are factors that negatively affect communication (Pun *et al.*, 2015). It has been recognized that healthcare provision difficulties may arise at a great degree due to communication problems between patient and provider and not due to the technical aspects of medical care (Teutsch, 2003). Communication in clinical practice should not only serve as a way for the professional to obtain information from patients about their pathology,

but also as a means of informing patients about their illness (Kha and Piasecki, 2008). The participants of this study also agree that the use of specialized terminology to convey information that the patient is unfamiliar with is a prohibiting factor to good communication, which may lead to passive behavior from the patient's side (Bongelli *et al.*, 2021; Verlinde *et al.*, 2012). Survey's participants also agree that patients' physical conditions are barriers to communication. Other research has also shown that a large number of patients find it difficult to express their health problem in words. Health professionals' difficulty in perceiving patients' personality and psychological fragility and their stress and anxiety for their health progress result in the development of a problematic communication (Moret *et al.*, 2008).

Patients and nursing staff who participated in this study also agree that practical difficulties associated for example with the inappropriate environment/conditions that the communication takes place are another obstacle in the communication process. The hospital environment has been blamed for reducing the quality of communication. A noisy environment, with a large number of patients and employees from various other services (administrative, cleaning, etc.) as well as the lack of privacy due to the presence of third parties or relatives without strict visiting hours leads to communication problems (Pun *et al.*, 2015). Other prohibiting factors to good communication in the hospital environment that have been identified in this and other studies are the lack of medical staff, the long working hours, the large number of hospitalized patients, the heavy workload and the fatigue and stress. As a result, health professionals provide basic information, dedicate less time to developing interpersonal relationships and empathy with patients. They focus mainly on tackling patients' physical problem without weighting their psychological needs (Pun *et al.*, 2015; Bongelli *et al.*, 2021). Although the respondents of this study did not pinpoint the lack of staff training as a major barrier to communication, it is a fact that health professionals are usually not trained in communication skills during their studies, or at any time during their career, and therefore they are not knowledgeable in tackling patients' biological, psychological, sociological and spiritual views and needs (Ha and Longnecker, 2010). Consequently, patients feel that hospital staff do not show sufficient interest in their personal condition, something that was highlighted in this study. Nonetheless medical staff attention has been identified as a significant factor to patient satisfaction (Bahrampour *et al.*, 2018). Communication skills would also be useful in managing difficult clinical encounters for transmitting bad news, as well as reducing the frustration of both the patient, next of kin, and the doctor in such intense emotional states (Ranjan *et al.*, 2015).

Recommendations

In order to increase the level of satisfaction from all sides in doctors/nurses–patient communication, it is necessary to address the factors that prevent effective communication in order to better manage the information provided to patients during their treatment. As a first, we mention the strengthening of medical/nursing staff communication skills with relevant courses in communication techniques during their University degree but also with training seminars throughout their professional career. Research supports communication methods such as active listening and empathy, use of open-ended questions, frequent summaries, clear explanations, checking patient's understanding and attention to compliance (Levinson *et al.*, 2010). All these techniques can be acquired by videotaping, role playing and reviewing patient consultations (Levinson *et al.*, 2010).

Another contributing factor could be the greater involvement of the nursing staff in informing patients for specific things as nurses are more frequently in contact with patients (Moret *et al.*, 2008) and patients feel that nurses are closer to them. This, of course, requires clear boundaries in the information allowed to give out and requires the development of the appropriate communication skills from the side of nurses together with more privileges in

accessing patients' medical records. Another important factor is the introduction of clear instructions by the Ministry of Health to the health professionals on when, how and how much patients should be informed about their health progress and about their rights. In the hospital environment, important is also the protocol and the required time for effective information exchange between staff that change shifts in order to achieve continuity in patient care (Fottler *et al.*, 2006). More frequent information exchange increases patients and their care givers' participation in decisions about the whole treatment process and encourages the expression of their views. They become "collaborators" (Von Thiele Schwarz, 2016; Stiggelbout *et al.*, 2015; Ha and Longnecker, 2010) and share responsibility for clinical decision-making, a major relief for doctors. Access to and use of the individual electronic health records by the patient and health professionals can facilitate this participatory process (von Thiele Schwarz, 2016) and improve disease management (Hogue *et al.*, 2012), as long as these are well maintained and include full medical history for avoiding misconceptions (Moret *et al.*, 2008).

Implications for research

The satisfaction level in the communication process between medical staff and patients in the hospital environment is a valuable index for measuring healthcare quality. This study contributes to understanding and comparing the satisfaction level of doctors, nursing staff and patients regarding the level of information they provide and receive respectively in public hospitals, focusing on certain aspects that affect their communication. The study is one of the very few so far that examines simultaneously all involved groups in this communication and information exchange process. Regarding the comparison of views, an important finding of this study is that doctors are overall more satisfied with the information they provided to patients than patients with the information received from doctors. Moreover, nursing staff score higher among the three groups in certain aspects of communication satisfaction. These discrepancies in perceptions may suggest that patients have higher expectations from doctor/nurse–patient communication, which aligns with the general trend of high consumers' expectations in all markets and particularly in the health industry (Shafei *et al.*, 2019). This study confirms the findings of similar research that not enough satisfaction is reported for important factors in doctor–patient communication and mainly the requirement for using simple terminology (Bongelli *et al.*, 2021; Kha and Piasecki, 2008), the little time devoted to information (Swallmeh *et al.*, 2018; Pun *et al.*, 2015), the non-sufficient dissemination of medical information to patients (Moret *et al.*, 2008) and the lack of genuine interest in patients' health and life (Platonova and Shewchuk, 2015).

Moreover, the comparison approach followed in this study among doctors', nurses' and patients' satisfaction perceptions from the communication process can be used in healthcare research to distinguish perceived impact and expectations in many aspects of healthcare.

Limitations

Despite the apparent contributions of the paper, the study's focus on Greek hospitals may be seen as a limitation. However, it should be noted that the theoretical and empirical implications are broad in scope and can be applied beyond the healthcare system of a single country. The proposed recommendations, which take this research a step further, are applicable in all health systems regardless of geography or culture. Additionally, due to the lack of validated tools in the Greek language literature, we mixed, modified and translated survey instruments on the subject, but nonetheless face and construct validity checks were performed with satisfactory results. A geographically more dispersed sample of respondents could improve results' reliability. No matter the limitations, we do believe that the results of this study are valid, align with findings of similar research and provide additional evidence useful to many countries.

Conclusions

The purpose of this study was to examine the patients' perceptions on the quality of information received by medical and nursing staff during their hospitalization, as well as the health professionals' perceptions on providing appropriate information to patients and in which areas. In addition, the study identified the communication barriers and the important factors that affect good communication. A direct comparison was conducted between the perceived level of adequate communication by patients and medical/nursing staff.

The findings presented here not only confirm higher patients' expectations regarding their communication with medical staff about their personal situation but also identified the discrepancies on the satisfaction level for information provided/received among doctors, nurses and patients. This comparative analysis revealed the perception disparities on information sufficiency that would otherwise have gone unnoticed in separate studies. The current study works toward empowering medical professionals to identify and act in areas of real concern to patients, such as more time for communication and questions, more empathy and discussion about alternative therapeutic options. Such approaches may lead to enhanced communication satisfaction, reduced uncertainty and stress, improved therapy adherence and medication compliance for better health outcomes.

It is important that further research is carried out in order to explore new strategies for implementing common decisions and aspects in the process of informing patients about their health issues. Also, additional questions to the survey could investigate the impact of improved doctor–patient communication to health professionals' work satisfaction. The health staff–patient communication issue is very topical in the pandemic period as COVID-19 has made hospital care even more complex and communication between patients and healthcare professionals is as crucial as ever.

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Appendix
Research questionnaire

RESEARCH QUESTIONNAIRE

Consent form of a participant in a research project

This questionnaire is an essential tool for conducting research about the "analysis and comparison of the views of doctors, nursing staff and patients on the level of information in public hospitals", conducted by the Hellenic Open University, Department of Social Sciences, MSc in Health Units Management, with supervising professor Dr. Katsaliaki Korina (k.katsaliaki@ihu.edu.gr). For any query information about the study please feel free to make contact.

Your participation is voluntary, anonymous, your answers are strictly confidential, which will be used exclusively for research purposes.

Thanks in advance for taking the time to complete the questionnaire. It's going to take only 3 mιn.

I have read the above and I accept my participation in the research

YES ☐ NO ☐

Hospital Name: ……..

Demographics

1. **Gender:** Male □ Female □
2. **Education Level**: Illiterate □ Primary School □ High School □ University □ Postgraduate Studies □
3. **Age:** 18-40 □ 40-60 □ 61 and over □
4. **Working experience (in years)**: 0-10 □ 11-20 □ 21 and over □
   (Answered only by doctors and nurses)

A. The following statements relate to the information you receive as a patient or provide to patients and your satisfaction.
(Note with ✓ one of the following):

How satisfied are you with the information you receive as a patient or you provide to patients about:	Very dissatisfied	Dissatisfied	Neither dissatisfied Nor satisfied	Satisfied	Very satisfied
1. The entry to the ward (operation of the clinic, visiting hours)					
2. Medications provided during treatment (type, dose, side effects)					
3. Measurement of vital signs (blood pressure, pulse, respiration, temperature)					
4. Carrying out medical / laboratory tests (type of examination)					
5. The results of medical / laboratory tests					
6. Diet (type and amount of food the patient should take depending on the condition)					
7. Body hygiene (when allowed and how to do it) and bladder and bowel function					
8. Pain relief (medication, treatment)					
9. Mobility (ie whether and how often movement is required)					
10. The benefits and risks of treatment					
11. Alternative therapies					
12. The settlement of administrative procedures (e.g. ticket, discharge process)					
13.The duration of communication					
14. The time allowed for expressing questions about the health problem					
15. The use of non-medical (simple) terminology					
16. Interest in the patient's personal and psychological condition					

B .Level of overall satisfaction with the information received/given
(Note with ✓ one of the following):

	Very dissatisfied	Dissatisfied	Neither dissatisfied Nor satisfied	Satisfied	Very satisfied
For doctors/nurses only: During the hospitalization / treatment of the patients, how satisfied are you with the information you manage to give them:					
For patients only: During the hospitalization / treatment of the patients, how satisfied are you with the information given by:					
doctors					
nurses					

C. The following suggestions are about factors that hinder the provision of information.
(Note with ✓ one of the following):

What factors do you think hinder the provision of information?	Totally disagree	Disagree	Neither disagree Nor agree	Agree	Totally agree
1. Difficulty of patients to comprehend the clinical information (medical terminology)					
2. Lack of training in communication and information techniques by health professionals					
3. Lack of time from health professionals					
4. Staff shortage					
5. Practical difficulties (e.g., inappropriate environment)					
6. Special features of some patients (age, level of education, gender)					
7. Patient psychological factors (fear - hesitation - reaction)					

Thank you for completing the questionnaire!

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