



Research article

Inter-personal versus content: assessment of communication skills in Iraqi physicians

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ABSTRACT

Objectives: The current study sought to evaluate the communication skills of Iraqi physicians from a patient perspective, differentiating between “interpersonal” and “content” components of communication. In the past century, the doctor–patient relationship has changed considerably, shifting from a paternalistic, physician-dominated approach to a more dynamic and patient-centered. In such a context, effective communication skills have become even more crucial for good medical practice and most accreditation organizations urge medical schools to teach and evaluate communication skills.

Methods: A cross-sectional study was conducted at Baghdad Teaching Hospital's three major departments (Surgery, Medicine, Obs/ Gyne). The final sample included 270 participants. A factor analysis was performed and generated two dimensions (“interpersonal” and “content”). Statistical differences between the groups and between the two dimensions of the questionnaire were analysed through t-tests and ANOVA. In addition, a multiple linear regression model was used to study the effect of some variables on the dependent variable “communication”.

Results: The study showed a significant difference between “interpersonal” and “content” communication, with patients reporting higher satisfaction for the former. Reported satisfaction rates varied amongst the three departments with the Surgery specialty scoring significantly lower than the Medicine and the Obs/Gyne department. The duration of care under the current physician, a higher rank of specialty and the settings (inpatients versus outpatients) were positively and significantly associated with a higher quality of communication skills.

Conclusions: These findings have significant implications for training institutions.

1. Introduction

Recent literature highlights how the doctor-patient relationship has changed in the past century, shifting from a paternalistic, physician-dominated approach that emphasised asymmetrical power dynamics, to a more patient-centred practice with more mutual participation (Perera, 2015; Kaba and Sooriakumaran, 2007). The former framework relied on a communicative style from “bottom down” whereby any information given was selected in order to promote compliance and consent to the professional's expertise. Instead, the patient-centred approach emphasises shared understanding, shared power and patients' autonomy (Kennedy et al., 2014; Abadel and Hattab, 2014).

It can be argued that this shift – elicited by factors such as the widespread use of the internet as an external source of patients' information and tool for health-related decisions – precipitated a necessary change in modern doctors' communication styles. The basic model of health communication as a one-way flow that goes from the speaker to the receiver (Shannon, 1948) is now deemed obsolete and has been criticised for not taking into consideration how the receiver's understanding and the feedback to the speaker impact on the communication (Corcoran, 2007). In addition, some researchers further suggested that the Shannon (1948) model does not represent typical health communication exchanges, whereby communication partners often alternate between the roles of speaker and listener.

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Levenson and colleagues argue that 21st century doctors require more sophisticated communication skills to help patients make informed decisions (Levenson et al., 2010) and the idea of transactional, cyclic, multi-way and multi-layered communication started to emerge (Corcoran, 2007), together with the realisation that effective communication skills are essential for good medical practice (Stern, 2006). Indeed, nowadays, most accrediting organizations urge medical schools to teach and evaluate communication skills as physicians with poor communication skills are judged by patients to be inefficient doctors (Stewart et al., 1999) and are more liable to lawsuits for malpractice than those with good communication skills (Huntington and Kuhn, 2003; Levinson and Roter, 1995; Roter, 2006; Levinson et al., 1997).

Concerningly, several studies reported a discrepancy between physicians and patients' satisfaction of communication exchanges, with the latter significantly less satisfied and the former significantly overestimating the effectiveness of their communication skills (Alnasser et al., 2016; Ha and Longnecker, 2010; Tonge et al., 2005). In addition, when communication was evaluated more in depth with a factor analysis of a questionnaire, Alnasser et al. (2016) discovered that physicians' ratings produced a one-dimensional scale, whilst ratings from service users unearthed four main dimensions and associated themes. This suggests a significantly different conceptualisation of communication in professionals and their patients, with the former adopting a more simplistic view compared to the latter, who instead seem to have a more complex experience of communication exchanges. The data from the patients in the Al Nasser et al.'s study (2016), in fact, suggest that communication comprises of more than simple information sharing and features like listening skills, empathic responses, and greetings were often deemed more important than the actual exchange of information.

Similar findings were reported by Kee et al. (2018) who also identified several features of communication and brought to light a discrepancy between physicians' and service users' understanding of what constitutes effective communication. When patients' complaints were analysed, the authors discovered that the most contentious aspect of poor communication exchanges was a perceived lack of empathy from doctors. Although the complaints also featured grievances around the poor quality and quantity of information shared, as well as others non-verbal skills, the Kee et al. study showed that the majority of patients' complaints indeed rested on the perceived lack of empathy from doctors.

An exploration of the discrepancy between patients' and doctors' experiences in relation to effective communication in medical settings brought to light that whilst the former preferred a psycho-social model of communication, the latter engaged in a biomedical model (Kee et al., 2018), a finding that might explain the tendency for physicians to overestimate the effectiveness of their communication skills (Alnasser et al., 2016; Ha and Longnecker, 2010; Tonge et al., 2005). If physicians focus on a medical model of communication, they might miss important cues about what their patients value and seek in professional interpersonal exchanges.

Whilst only a handful of studies have looked at patients' satisfaction with their clinicians' communication skills, it seems that satisfaction improves with the years of experience and rank of the doctor, with consultants' communication skills being regarded as significantly superior to those of junior doctors (Alnasser et al., 2016; Al Zahrani et al., 2015; Choudhary and Gupta, 2015). At the same time, however, there is evidence to suggest that demographic variables and the working context might have an impact on communications skills (Alnasser et al., 2016; Chandra et al., 2019) and evidence suggest that surgeons are particularly susceptible to a loss of empathic attunement (Han and Pappas, 2018; Portalatin et al., 2018) across cultures (Ibrahim et al., 2011; Horwitz et al., 2007; Yudkowsky et al., 2004).

Whilst the majority of studies point towards a dissatisfaction with physicians' communication skills, evidence from the UK suggest the opposite (Burt et al., 2018), hence contradicting some of the literature mentioned above. Hence, it seems crucial to investigate further whether

physicians struggle to maintain a satisfying standard of communication (Ha and Longnecker, 2010) as this can have serious implications on patients' care, engagement and outcome (Ha and Longnecker, 2010; Kee et al., 2018). As a result, the assessment of communication skills and pertinent targeted interventions needs to become a vital part of medical schools' learning process and service providers alike (Choudhary & Gupta, 2015). This is particularly true in the Middle East where it has been argued that communication skills have not been taught well in medical schools (Al Shehri, 2012).

However, the assessment of physicians' communication skills is complicated by the fact that effective communication requires a combination of technical and social/interpersonal competence (Modi et al., 2016; Ranjan et al., 2015). Whilst the technical element can be associated with the verbal content and the quality of the information shared, the social/interpersonal element is more complex to define. Watzlawick & Beavin (1967) breakdown of communication into 'content' and 'relationship' is a helpful clarification of what each element might represent, although Ranjan et al. (2015) subdivision of the latter into non-verbal and paraverbal provides even more insight. The authors describe the latter two as including features such as body-language, facial expressions, personal space and tone/pitch of voice.

As Berman and Chutkan (2016) highlight, whereas the technical skills associated with good communication tend to be more discernible and easily measured, the interpersonal element – which consists of several interrelated factors – tend to be more elusive to measurement. However, given that effective communication consists of both, and that approximately ninety per cent of communication is non-verbal/paraverbal (Ranjan et al., 2015), it is crucial to use assessment tools that allow researchers to capture and measure both dimensions. In addition, given that patients' perception of good communication might differ between cultures and between people, one possible way to measure this is through the assessment of patients' perceptions.

Answering calls from the Middle East to address a gap in the literature (Alnasser et al., 2016; Al Shehri, 2012; Cegala, Lenzmeier & Broz, 2002; Zolaly, 2012), Al Hemiyari, Cucchi, Al-Nuaimi, Al-Saffar & Al-Ani set out to investigate communication skills in Iraqi doctors in three departments of the main hospital in Baghdad. The current study, developed at a time when Baghdad Training Hospital had started reviewing their curricula and introduced their first module in communications skills, is the first of its kind in Iraq and aims to examine the communication skills of Iraqi physicians by exploring the difference between the "interpersonal" and the "content" dimensions of communication.

In addition, given the preliminary evidence that suggests that the working environment and demographic variables might impact on patients' satisfaction with their physicians' communication skills, the present study set out to explore communication skills across a number of different departments. Evaluating the communication skills of Iraqi physicians would shed light on strengths and weaknesses, paving the way to develop better communication skills training into the Iraqi medical curricula.

2. Methods

2.1. Study design, settings and subjects

A cross-sectional study design was used. A sample size of 257 was deemed to be sufficient to calculate the most conservative estimate for a proportion of 0.5 with a 95% confidence level of 0.4–0.6 and a study power of 80%. The original intent of this research was to estimate the proportion of patients reporting a high level of satisfaction with their doctors' communication skills. This proportion was not reported in a previous publication in the Iraqi context. Therefore, we used the 0.5 (50%) as the most conservative estimate (the one associated with largest sample size required) for an unknown proportion. In addition, to adjust for an expected non-response rate of 15%, a total of 300 primary sampling units were targeted. The primary sampling units for the current

Table 1. Frequency distribution of the study sample by selected variables.

	N	%
Source of interviewed subject		
Medicine	101	37.4
Surgery	75	27.8
Obstetric/Gynecology	94	34.8
Total	270	100.0
Patient's gender		
Female	190	70.4
Male	80	29.6
Total	270	100.0
Hospital inpatient Vs Outpatient		
Outpatient	140	51.9
Hospital Inpatient	130	48.1
Total	270	100.0
Level of speciality for the doctor		
Freshman (Rotator)	9	3.3
Senior resident	65	24.1
Speciality physician	196	72.6
Total	270	100.0
Duration for being under this doctors care		
first visit	186	68.9
<six months	52	19.3
Longer duration	32	11.9
Total	270	100.0
Count of consultations to the same doctor in the last 12 months-categories		
Single visit	186	68.9
Two/Three	50	18.5
Four+	34	12.6
Total	270	100.0

study were patients attending the biggest tertiary center in Baghdad, the capital of Iraq. The sample was equally divided between inpatients and outpatients. A simple systematic sampling method was used to enroll study subjects. The final study sample recruited for the study was 270 with a non-response rate of $30/300 = 10\%$.

The study obtained ethical approval from the Head of the Ethical Committee of Baghdad University (ethical approval number 255).

2.2. Measure

The American Board of Internal Medicine (ABIM) Questionnaire is a 10-item measure that is a part of the [Patient and Physician Peer Assessment Module](#) for maintenance of certification (Symons et al., 2009) and is used to assess the quality of physicians' communication as perceived by patients. Consistent with the requirement to capture both the technical and the interpersonal aspects of communication, the ABIM questionnaire questions can be looked at through two dimensions. The first part (questions 1-5), which taps into "interpersonal" communication skills, deals with the more relational aspect of communication such as empathy, compassion, respect, privacy, and honesty. The second part (questions 6-10) taps onto "content" communication skills and aims to measure the more technical aspect of communication such as the explanation of procedures, side effects, diagnosis of illness, prognosis, etc... These items are measured on a LIKERT scale of 5 points (strongly disagree, disagree, neutral, agree, strongly agree).

The original questionnaire was translated into the Arabic language by forward and backward translation and a test for translation equivalence was used as a quality control and tool validation process. A native Arabic language psychiatrist did the forward translation of the questionnaire from English to Arabic (English language is the official language for teaching in the Medical College and any post graduate program in Iraq). A panel of two psychiatrists then reviewed the translated version and

marked the words or phrases that seemed awkward or unusual in Arabic. The revised forward translation version was amended accordingly. An English translator then performed the back-translation of the tool into English again. Inter-version comparability of language and resemblance of interpretability was tested to compare the original English version of the tool and the back translated version. This process was performed by another psychiatrist who confirmed the adequacy of the translation process.

A pilot study that included 20 patients was done to examine the study logistics and test the study tool. The participants recruited in the pilot sample were not included in the final study sample. A score reflecting the quality or patients' satisfaction with the communication they received from the treating physician was computed by summing the individual's 10 items scores. Each item was given a score of one if the participant agreed or strongly agreed with that item during the personal interview session. The resulting communication score was weighted to 100 to simplify its comprehension. A higher score reflected a higher quality for the communication session. These items are listed below:

1. The doctor told you everything. He was direct, clear and did not hide from you, things that you should know
2. The doctor was friendly and kind. He saluted you properly and addressed you by a preferred name of yours.
3. The doctor treated you with dignity and made you feel like his equal. He didn't belittle you or treated you as a child.
4. The doctor allowed you to tell your problem and listened well. His questions were good and didn't interrupt you.
5. The doctor showed a sincere interest in you as a person and didn't act bored and never neglected what I told him.
6. The doctor informed you about each exam or medical procedure in advance, explained the reason for the procedures and disclosed the findings of his examination.

7. The doctor discussed treatment options with you, asked for your opinion, gave you options and let you decide what to do. He explored your ideas before giving his professional advice about what should be done next
8. The doctor encouraged you to ask questions, answered them clearly, He did not try to avoid any of your questions, and didn't lecture you
9. The doctor explained what you need to know about your illness. How and why you got this problem, and what to expect later.
10. The doctor used understandable words when explaining your problem and treatment. He explained technical terms in simple language.

The questionnaire was administered by a face to face personal interview run by an undergraduate research assistant following the clinical encounter. The interview took place in a private room near the outpatient clinic. Similarly, the inpatient interview was held in a quiet and private room and the participant was informed that participation was entirely voluntary and that non-participation would not affect treatment care. Informed consent was obtained from each participant. Confidentiality was secured with no identifying detail recorded or analyzed. In addition, the completed questionnaire forms were checked for missing values by another research assistant before the study participant left the interview room.

2.3. Statistical analysis

Statistical analyses were done using IBM SPSS version 23 computer software (IBM Statistical Package for Social Sciences) in association with Microsoft Excel. Compliance of the calculated communication score with Gaussian curve (normal distribution) was analyzed using the Kolmogorov-Smirnov test. The Statistical significance of differences in mean score between two groups was assessed using the Student's t-test, while between more than two groups ANOVA test was used. The statistical significance was assumed at $P < 0.05$. All analyzed tests were bilateral. A paired t-test was used to assess the statistical significance of the mean difference between the two dimensions of communication score.

A multiple linear regression model was used to study the net and independent effect of a set of explanatory variables on a quantitative outcome (dependent) variable, namely: communication score.

Factor analysis using the Principal Component Analysis Extraction Method.: Varimax with Kaiser Normalization Rotation Method was used to extract the two factors model for communication.

3. Results

As shown in Table 1, the study sample was divided into 3 specialty departments, namely: medicine, surgery, and Obs/Gyne. Females constituted a higher proportion of the total sample (70.4%). The study sample was almost equally divided between outpatient clients and hospitalised inpatients. Freshmen physicians constituted only 3.3% of the treating physicians, senior residents another fifth (19.3%) and specialist physicians constituted the highest proportion (72.6%). About two thirds (68.9%) of the study sample described the current consultation as the first with the treating physician, another one fifth (19.3%) was under the current physician's care for less than 6 months, with two to three visits to the same physician during the last year (18.5%).

As shown in Table 2, the 10 items measuring the client's satisfaction with the communication skills of his treating physician were evaluated. The first five items showed a high satisfaction rate, reflecting good doctor-patient communication with a rate ranging between 81.9% to 86.7%. These five items corresponded to the first-factor solution of a two-factor analysis model. After careful exploration of the meaning of these five items, this factor was called " Interpersonal communication" since it captured the interpersonal nature of communication. The second five

Table 2. Relative frequency of participants with perceived good communication on each of the 10 items measuring satisfaction with communication and the factor loadings for a two factor model Principal Component Analysis (Rotation Method: Varimax with Kaiser Normalization).

Good communication skills (N = 270)	N	%	Factor analysis	
			Factor 1 "Interpersonal Communication"	Factor 2 "Content Communication"
Factor 1 (Interpersonal Communication)				
The doctor treated you with dignity and made you feel like his equal. He didn't belittled you or treated you as a child	234	86.7	0.887	0.187
The doctor was friendly and kind. He saluted you properly and addressed you by a preferred name of yours.	233	86.3	0.797	0.254
The doctor showed a sincere interest in you as a person and didn't act bored and never neglected what I told him.	227	84.1	0.765	0.381
The doctor allowed you to tell your problem and listened well. His questions were good and didn't interrupt you're talk.	225	83.3	0.834	0.319
The doctor told you everything. He was direct, clear and did not hide from you, things that you should know	221	81.9	0.619	0.394
Factor 2 (Communication Content)				
The doctor used understandable words when explaining your problem and treatment. He explained technical terms in simple language	203	75.2	0.441	0.398
The doctor encouraged you to ask questions, answered them clearly, He did not try to avoid any of your questions, and didn't lecture you	190	70.4	0.283	0.811
The doctor explained what you need to know about your illness. How and why you got this problem, and what to expect later.	188	69.6	0.307	0.748
The doctor informed you about each exam or medical procedure in advance, explained the reason for the procedures and disclosed the findings of his examination.	165	61.1	0.356	0.683
The doctor discussed treatment options with you, asked for your opinion, gave you options and let you decide what to do. He explored your ideas before giving his professional advice about what should be done next	144	53.3	0.193	0.809

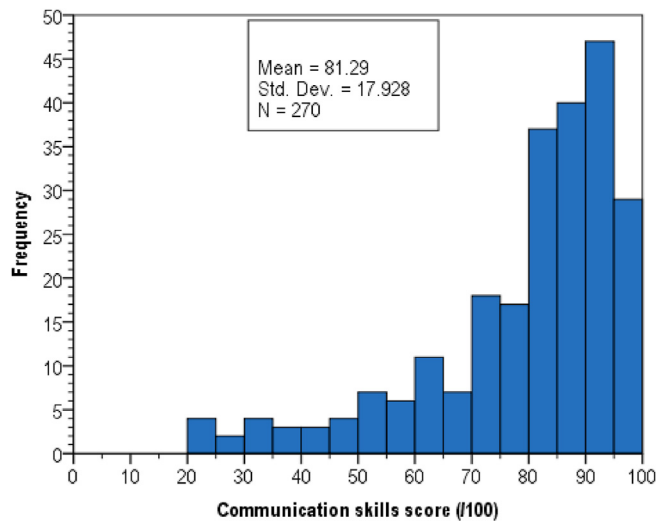


Figure 1. Frequency distribution of total communication skills score in the total sample.

items showed a lower satisfaction rate, with a rate reflecting good doctor's patient communication ranging between 53.3% to 75.2%. These five items corresponded to the second factor solution of the two-factor analysis model. After careful exploration of the meaning of these five items, this factor was called "Content communication" since it emphasized the content of the communication process.

The two-factor solution was used to calculate two specific communication scores (interpersonal and content). The scores had a maximum of 100 to facilitate its interpretation. A higher score reflected a higher satisfaction with communication quality. Each factor's score was calculated by adding the LIKERT score (1–5 points) of each of the five items

and multiplying them by 4. The total communication skills score was calculated by adding the scores of the 10 items and multiplying it by two. The mean score of Communication Context was significantly higher (86.4+/-20.2 with a 95% confidence interval of 84.1–88.6) than that of Communication Content score (76.2+/-18.7 with a 95% confidence interval of 73.8–78.7). The mean total communication skills score was 81.3 +/- 17.9 (SD) with the highest count of study participants achieving a score of 80+ (Figure 1).

As shown in Table 3, the mean total communication skills score was significantly lower for patients in the surgery department (77) compared to both Medicine and Obs/Gyne departments (82 and 84). The mean score was also higher (although not statistically significant) among females (82) compared to males (78). The mean communication score was positively and significantly associated with the duration of being under the current physician's care. The mean score was lowest for those with a first visit (80) and highest for those with a longer duration of care (87). The inpatients had a significantly higher communication score (85) than outpatients (78). A higher rank of specialty for physicians was positively and significantly associated with a higher quality of communication skills. The mean score increased from as low as 67 for clients treated by freshman physicians (67) and highest for those treated by specialist doctors (83). The number of visits (consultations) to the same treating physician was also positively and significantly associated with a higher communication score. The mean score increased from as low as (80) for clients with a single consultation (80) to as high as 88 for those with four or more visits (88).

To measure the net and independent effect of each item of a set of explanatory (independent) variables on the total communication skills score a multiple linear regression model was used. The model was statistically significant and able to explain 13.9% of the variation in the response variable. The specialty department, number of consultations to the same doctor in the last year, specialty level and the source of patient interviewed showed a statistically significant

Table 3. The mean total communication skills score by selected explanatory variables.

	Communication skills score (/100)				SD	SE	N	P
	Range	Mean	95% confidence interval of mean					
Source of interviewed subject								0.04
Medicine	(20–100)	82	(78.3–84.8)		16.4	1.6	101	
Surgery	(20–100)	77	(72.3–82.2)		21.6	2.5	75	
Obstetric/Gynecology	(24–100)	84	(81–87.4)		15.6	1.6	94	
P (Bonferonni t-test) for difference in mean between:								
Medicine x Surgery = 0.11[NS]								
Medicine x Obstetric/Gynecology = 0.3[NS]								
Surgery x Obstetric/Gynecology = 0.011								
Gender								0.09[NS]
Female	(20–100)	82	(80.1–84.9)		17.0	1.2	190	
Male	(20–100)	78	(74–82.9)		19.9	2.2	80	
Duration for being under this doctors care								0.023
first visit	(20–100)	80	(77–82.3)		18.5	1.4	186	
<six months	(26–100)	83	(78.9–87.9)		16.2	2.2	52	
Longer duration	(46–100)	87	(81.6–93.3)		16.2	2.9	32	
Type of patient interviewed								0.001
Outpatient	(20–100)	78	(74.8–81.2)		19.2	1.6	140	
Hospital Inpatient	(20–100)	85	(82.1–87.6)		15.8	1.4	130	
Level of speciality for the doctor								0.006
Freshman (Rotator)	(24–100)	67	(45.7–87.6)		27.2	9.1	9	
Senior resident	(20–96)	77	(72.7–81)		16.8	2.1	65	
Speciality physician	(20–100)	83	(81–85.9)		17.3	1.2	196	
Count of consultations to the same doctor in the last 12 months-categories								0.015
Single visit	(20–100)	80	(77–82.3)		18.5	1.4	186	
Two/Three	(26–100)	83	(78.4–87.6)		16.3	2.3	50	
Four+	(46–100)	88	(82.2–93.3)		15.9	2.7	34	

Table 4. Multiple linear regression model with the total communication skills score as the dependent (outcome) variable and selected explanatory variables.

Communication skills score (/100)	Regression Coefficient		P
	Estimate	95% confidence interval	
(Constant)	71.3	62.7–79.8	<0.001
Age (years)	0.02	-0.12 to 0.16	0.77[NS]
Specialty department			
Ob/Gyn compared to surgery	6.7	1.0 to 12.5	0.021
Medicine compared to surgery	2.2	-3.2 to 7.6	0.42[NS]
Male gender compared to female	-1.8	6.9 to 3.4	0.5[NS]
Count of consultations to the same doctor in the last year			
Two/Three visits compared to Single visit	3.8	0.83 to 6.8	0.012
Four + visits compared to Single visit	7.6	4.6 to 10.6	0.012
Specialty level			
Senior resident compared to Specialist	-7.0	-12.1 to -1.9	0.007
Freshman (Rotator) compared to specialist	-18.1	-29.6 to -6.5	0.002
Hospital inpatient Vs Outpatient	6.9	2.8 to 11.0	<0.001

$R^2 = 0.139$.

P (Model) < 0.001.

association with the total score. Hospital inpatients were more satisfied with the communication skills of the doctor, and a significantly higher mean score was computed compared to outpatients even after adjusting for the remaining confounders included in the model (6.9 score). Being consulted by a senior resident is expected to reduce the communication score by an average of 7 points compared to specialists. Similarly, a freshman (Rotator) is associated with an average reduction in score by 18.1 points compared to specialist, after adjusting for the possible confounding effect of the remaining explanatory variables included in the model. The count of consultations to the same doctor in the last year was positively and significantly associated with the total communication score. Clients with two/three visits to the same physician had an average increase in scores by 3.8 points compared to those with a single visit. In addition, those with four or more visits to the same physician had an average increase in scores by 7.6 points compared to those with a single visit, after adjusting for the possible confounding effect of the remaining explanatory variables included in the model. Being treated in the Obs/Gyne department was associated with a statistically significant increase in communication score by 6.7 points compared to the surgery department. In addition, being treated in the department of medicine was associated with a statistically significant increase in communication score by 2.2 points compared to surgery, after adjusting for the possible confounding effect of the remaining explanatory variables included in the model. Age and gender had no important or statistically significant association with the communication score (Table 4).

4. Discussion

The good physician treats the disease; the great physician treats the patient who has the disease (Sir William Osler, 1849-1919).

In the midst of an increased awareness of the utmost importance of doctors' communication skills for patients' adherence to treatment, health-care satisfaction and outcomes (Berman and Chutkan, 2016; Stern, 2006), to our knowledge, the present study is the first to explore such skills in Iraqi physicians. Interestingly, results showed a significant difference between "content" and "interpersonal"-based communication, with patients reporting more satisfaction rates for communication that has at its heart relational aspects.

Given the recent shift from the former "reductionist", "disease centred model" to "patient-centered care" (Kaba and Sooriakumaran, 2007), this point appears reassuring. Indeed, the latter framework brought about massive changes in conceptual thinking about the delivery of healthcare services (Epstein and Street, 2011) which prompted a more recent focus on building a therapeutic alliance (Kee et al., 2018). A much more focus on the client means that it has become paramount to listen to the patient and to engage the client into the medical consultation as a more active collaborator (Kee et al., 2018).

The positive correlation between communication satisfaction and the duration of care under the current physician is in line with previous findings both in the general population (Chandra et al., 2019; Chang et al., 2013; Lan and Yan, 2017) and in military settings (Hochman et al., 2008), confirming the importance of the relationship. From the current results, it appears that Iraqi physicians are either consciously or unconsciously inclined to pay attention to interpersonal dynamics and factors such as rapport, compassion, genuineness, respect, and privacy. These elements, encapsulated in the first five items of the questionnaire, are indeed at the core of the patient-centered care and have been confirmed to be linked to better satisfaction rates in patients (Biglu et al., 2017; October et al., 2016).

Interestingly, scores also improved with a higher rank of specialty, suggesting perhaps that – as doctors progress in their professional career – they develop better communication skills. Once again, this is in line with previous findings (Alnasser et al., 2016; Al Zahrani et al., 2015; Choudhary and Gupta, 2015). It can be argued that, as exposure to patients, knowledge and years of service accumulate, physicians might become more acutely aware of the various aspects of communication. These results, which confirm previous findings of poorer communication skills in junior doctors (Kee et al., 2018), highlight the utmost importance of continuing to improve communication skills curricula in medical training.

Ranjan et al. (2015) go one step further and argue that not many doctors have a natural predisposition for good communication skills. They call for more formal and didactic training to foster such skills, particularly when bad news have to be shared (Adebayo et al., 2013). Alnasser et al. (2016) and Al Sherhi (2012) extend this plea to medical schools in the Middle East, which they argue have not paid much attention to this issue to-date. The Iraqi Medical Education system has certainly fallen into this category until now, but there is a commitment to change.

It can be hypothesised that the doctors who took part in the study were taught according to the traditional, teacher-centered approach whereby students were not encouraged to take responsibility and to question their learning (Al-Shamsi, 2017). Hence, it can be argued that - for freshmen physicians taught under this curriculum-it might require some time after graduation to develop the confidence to interact with patients outside the rigid structures and roles established by the training. Moreover, it is imperative not to neglect the possibility that dynamics linked to perceived power and status might have played a role in the current results. In a society where doctors are still perceived as “elite” (Foran, 2018), one might speculate whether unconscious processes related to reverential respect from patients might underline a real and/or perceived satisfaction. Similar speculations have been advanced in other parts of the Greater Middle East (Jalil et al., 2017).

Fairly high rates of contentment for communication skills were reported in inpatient settings, where doctor-patient contact is greater compared to outpatients. It can be argued that the more frequent and more intense contact of inpatient settings-coupled with the awareness of being the subject of the research-might have precipitated more feelings of reverence towards doctors, hence biasing the results. On the other hand, in line with reports that deem the patient-clinician relationship to have a significant effect on satisfaction (Kelley et al., 2014; Hochman et al., 2008), one might speculate whether the more intense alliance arguably characteristic of inpatient settings might in itself be a contributing factor for higher satisfaction rates.

Although the literature encourages doctors to nurture the relationship with patients (Kelley et al., 2014; Ross, 2014), several researchers pointed out how working in acute care settings means that professionals are often faced with high-risk situations that require speedy decisions and a more task-oriented attitude (Foster and Hawkins, 2005; McCabe, 2004; O'Connell, 2008). Indeed, the literature report lower patients' satisfaction for communication skills in acute settings, including surgery departments (Han and Pappas, 2018; Portalatin et al., 2018), a finding in line with the one from the present study.

Instead, the Obs/Gyne department scored the highest satisfaction rates. One might wonder whether gender might explain this, as even though there was not an overall statistically significant effect of gender on the results, women doctors were over-represented in the Obs/Gyne department. Given the higher mean score for women compared to men, and the over-representation of women doctors in the Obs/Gyne department, one might hypothesise whether the higher percentage of communication satisfaction in Obs/Gyne department might be due to the gender sample. It has been argued that women physicians engage in more patient-centered communication (Roter et al., 2002) and that this gender difference is more prominent for the interpersonal element of communication rather than for information-sharing (Ishikawa et al., 2018). If women represent the majority of the sample, and if they engage in more patient-centered communication, it is conceivable to conclude that they might engage in more interpersonal-based communication and interpersonal communication is the one that generated the highest satisfaction rates.

Ultimately, however, one's own judgment is intrinsically connected and influenced by perceptions and cultural elements, a point that prompts the authors to question traditional health communication theories. Indeed, frameworks like the ones proposed by Corcoran (2007), Foulger (2004), Giles and Ogay (2007), Shannon (1948), Weiner (1986), provide a valuable framework to understand communication in some health settings. However, those models are Western-born and their relevance outside the context where they were initially developed is seriously questioned (Airhihenbuwa and Obregon, 2000).

The present authors believe that cultural competency is key to understand the current findings and that cultural sensitivity is crucial for patients to be satisfied with doctors' communication skills. The authors argue that the PEN-3 model, developed by Airhihenbuwa (1995, 1999) to emphasise the centrality of culture in health communication and health-changing behaviours, can be particularly relevant in this context.

This model suggests a multi-dimensional model of health communication that incorporates the message, but also the cultural appropriateness of those messages. The target of the communication is not only the individual but also the larger system (Airhihenbuwa, 1995).

It can be argued that the results from the current study reflect the centrality of the role of culture. Given the collectivist nature of the Iraqi society, and its emphasis on interpersonal relationships, it is no surprise that patients report higher satisfaction rates for communication that has at its heart relational elements. The more senior the physician, the better able to capitulate on the role of culture and to engage with the larger environment, hence attending to all of the elements of the PEN-3 model. Addressing and integrating cultural elements and beliefs, as well as providing culturally sensitive health messages will need to become an integral part of medical schools' training (Airhihenbuwa and Obregon, 2000).

4.1. Strengths, limitations and implications of the present study

This project has several strengths and limitations. As mentioned above, to our knowledge, this study is the first to attempt an exploration of communication skills in Iraqi doctors and the first to differentiate between “interpersonal” and “content” communication. Important contributions have been made by this project. First of all, the results have significant implications for medical training and emphasise the utmost importance of developing teachings that foster communication skills from the initial years of the curriculum. Training should focus on developing a sound doctor-patient relationship and moving away from a biomedical model of communication towards a psycho-social one. Baerheim et al. (2007) encourage doing this through extensive supervised patient contact from year one.

The study further indicates that patient-doctor communication appears to be most vulnerable in the surgery department, hence providing helpful cues for targeted interventions.

At the same time, the current study has a number of limitations which need to be built upon. First of all, given the unique socio-political circumstances that Iraqis have faced over the past 40 years, the generalisability of the findings to other socio-political contexts and cultures requires further investigation. In addition, further demographic variables ought to have been included in the analysis as some of the literature suggests that socio-economic status and level of education might have an impact on satisfaction skills. Furthermore, ‘content’ and ‘interpersonal’ communication could have been operationalised in more details. For example, it might have been interesting to breakdown ‘interpersonal’ communication into more specific features such as empathy, trust, body-language, etc... Lastly, participants could have been recruited from a larger number of departments and in particular, from emergency departments. This would have shed light on the possible impact of context on patients' satisfaction rates.

In fact, the shortage of doctors who have fled Iraq as a result of wars and political instability (Sasson, 2010) has placed increasing pressure upon remaining professionals to see an increasingly higher number of patients with complex biopsychosocial presentations. Hence, to place the responsibility for effective/ineffective communication upon individual physicians *alone* fails to take into consideration wider structural and systemic factors that, nevertheless, heavily impact on the delivery of services. As a result, and in line with existing limitations of the study, it would be important to build upon this work to also include professionals' experiences together with an exploration of the factors-such as workload and precarious working conditions-that might affect communication skills.

5. Conclusion

The impact of doctors' communication skills and their relationship to outcomes has been highlighted in the healthcare literature, emphasising the need to assess clinicians' communication skills. Nevertheless,

communication is a complex phenomenon as it consists of both a technical component in relation to the conveyed message, but also of a more social and interpersonal element. The present study set up to investigate patients' satisfaction with physicians' communication skills, differentiating between 'content' and 'interpersonal' based communication. Results suggest a significant difference between these dimensions, with patients reporting higher satisfaction for the latter. In addition, satisfaction rates were affected by doctors' length of service, settings and length of duration of care. These findings have significant implications for training institutions and service providers.

"Our students deserve the best possible training in these skills; our patients deserve no less"(Dyche, 2007).

Declarations

Author contribution statement

N. J. Al-Hemiyari: Conceived and designed the experiments; Performed the experiments; Contributed reagents, materials, analysis tools or data.

A. S. Al-Nuaimi: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

H. Al-Saffar, K. Al-Ani: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data.

A. Cucchi: Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

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Competing interest statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

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