

# Promoting safety culture through health-care professional-patient relationship's improvement

## Promotion de la culture de sécurité par l'amélioration de la relation patient-professionnel de santé

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### R É S U M É

**Introduction :** la promotion de la culture de la sécurité du patient (CSP) est une priorité stratégique et converge vers l'amélioration de la qualité des soins. La relation patient-professionnel de santé est un concept essentiel de la CSP. Cependant, la sensibilisation pour une meilleure sécurité est encore en retard en Tunisie.

**Objectif :** analyser la relation patient-professionnel de santé auprès des professionnels de santé dans le centre hospitalier universitaire Farhat Hached au gouvernorat de Sousse en Tunisie, afin de mieux orienter nos stratégies de prévention.

**Méthodes :** étude transversale descriptive en utilisant la version française du questionnaire " Etude de la CSP à l'Hôpital " qui a été auto-administré à 319 personnels, y compris 116 médecins et 203 paramédicaux.

**Résultats :** Le taux de réponse était 90,5% (289/319). Le score moyen de perception positive du domaine exploré était 58,4%. Cependant, les médecins avaient un pourcentage plus élevé de réponses positives que le personnel paramédical (69,7% contre 53,4% ;  $p=0,01$ ). En outre, près de 83,5% des répondants pensaient que "des événements indésirables peuvent avoir une incidence sur la relation de confiance entre le médecin-patient", il a été significativement plus élevée chez les médecins par rapport aux paramédicaux (97,7% versus 77,4% ;  $p<0,001$ ).

**Conclusion :** La relation patient-professionnel de la santé était peu développée chez les professionnels de santé dans notre hôpital. Ainsi, il est essentiel d'améliorer cette situation et de créer une relation patient-professionnel de santé fondée sur le partenariat et la prise en compte des facteurs individuels.

### M o t s - c l é s

Culture de la sécurité - amélioration - relation - patient - professionnel de santé.

### S U M M A R Y

**Background:** promoting patient safety culture is a strategic priority and converges towards improving quality of health care. The healthcare professionals-patient relationship is an essential concept of patient safety culture. However, the increase of patient safety awareness is still delayed in Tunisia.

**Objective:** to assess and analyze the healthcare professional-patient relationship level among all healthcare professionals' categories in university hospital centre (UHC) Farhat Hached, Sousse-Tunisia in order to further direct our strategies.

**Methods:** We carried out a descriptive cross-sectional study among healthcare professionals at our UHC. The French version of the "Hospital Survey On Patient Safety Culture" was adopted, and self-administered to 319 care providers, including 116 physicians and 203 paramedical personals.

**Results:** Response rate was 90.5% (289/319). The overall mean score for positive perception of the explored domain was 58.4%. However, physicians reported significant higher percentage of positive responses than paramedical staff (69.7% versus 53.4%;  $p=0.01$ ). Positive perception was notified by 83.5% of all healthcare professional regarding to item relative to "adverse events may affect the relationship of trust between physician-patient", it was significantly higher among physicians compared to paramedics (97.7% versus 77.4% ;  $p<0.001$ ).

**Conclusion:** Dimension concerning healthcare professional-patient relationship was poorly developed among health care professionals in our hospital. Thus, it is crucial to improve this situation and to create a well-balanced healthcare professional-patient relationship based on partnership and taking into account individual factors.

### Key - words

Safety culture - improvement - relationship - patient - healthcare professional

According to the World Health Organization (WHO), millions of people are exposed, every year, to adverse events (AEs) resulting from medical devices. In developed countries, AEs contributed to death in more than 10% of hospital admission while the situation is still unknown in developing countries [1]. Last decades, care quality and AEs impact have emerged as the primary targets for health care improvement. In 2000, Institute Of Medicine (IOM) pointed out through its report « to err is human; Building a safer Health System » that preventable AEs occur frequently and are the leading cause of death. Retrospective studies of case records in the US have revealed a substantial rate of AEs in hospital practice resulting in 44000 to 98000 deaths each year [2] exceeding those attributable to road accident (43 458), breast cancer (42 297) and Acquired Immune Deficiency Syndrome (16 516) [3]. On the other hand, it was widely reported in literature that certain clinical outcomes occurrence are correlated with the healthcare professional (HCP) attitude towards safety, and indicated patient safety culture (PSC)'s role in reducing the care process's errors [4]. Thus, patient safety, care quality and risk management became a major concern to health systems. Safety culture (SC) can be defined as a combination of values, attitudes, and competencies' perceptions, as well as individual and group behaviours that determine commitment, methods, and ability of a healthcare institution to manage safety [5]. According to "Quality Interagency Coordination Task Force", patient safety implies three complementary activities: medical errors' prevention, medical errors' detection, and reduction of their effect [6]. Therefore, promotion of PSC is a strategic priority and it converges towards improving healthcare quality. Moreover, safety culture is a performance shaping factor that guides HCP behaviours towards viewing patient safety as one of their highest priorities. Despite the worldwide growing attention to patient safety, awareness of that important value is unfortunately still underdeveloped in Tunisia. Several studies indicated that nearly one out of ten patients suffers from AEs in Tunisian facilities [7,8]. At our hospital, struggle against AEs and several preventive actions have been initiated with promoting a PSC as a core element to improve patient safety. The present study was conducted among all HCP working in our hospital, aiming to assess and analyze HCP-patient relationship level, in order to further guide strategies for a better SC improvement.

## METHODS

### Study site:

UHC Farhat Hached of Sousse is a Tunisian tertiary-level major academic teaching hospital with 700 beds, 26 medical departments, 4 surgical departments, and 9 laboratories. It brings together 1354 HCP, among them are 1134 paramedical staff and 220 physicians, dentists

and pharmacists.

### Design and simple:

This cross sectional study targeted all healthcare workers. The size of representative sample was provided by the following formula:  $N = [(Z_{\alpha/2})^2 \times P \times (1-P)] / i^2$  [9], with a 5% precision,  $Z_{\alpha/2}$  (constant equal to 1.96 for 5% of risk), and prevalence of positive SC reported in literature at 23% [10]. Three hundred and nineteen HCP were enrolled including all physicians (n = 116) and a representative sample of 203 paramedical staff (nurses and superior technicians)

### Measures:

SC evaluation was based on the gathered data analysis out of a self-administered questionnaire. We have chosen the questionnaire «Hospital Survey Of Patient Safety Culture» (HSOPSC) in its French version. It was developed, in 2004, under the auspices of the United States Agency for Healthcare Research and Quality (AHRQ) [10] and validated by Aquitaine Committee for Coordination of Clinical Assessment and Quality (ACCCAQ). SC was measured quantitatively from data collected anonymously. Each health care provider responded to the questionnaire; likewise they could return it two weeks later. The HSOPSC questionnaire contains 42 items which mostly use the 4-point Likert response scale of agreement («Strongly disagree» to «Strongly agree») or frequency («Never» to «Always»).

### Data analysis:

This study used SPSS 20 for Windows to perform the statistical analysis. Descriptive data were presented as means, standard deviations (SDs), and percentages. Average percentage of positive responses, defined as the average of the percentage level of positive item responses within a HSOPSC dimension, was represented by positive reaction toward patient safety culture. Positive responses in positively worded survey items were "agree/strongly agree," and those in negatively worded items were "disagree/strongly disagree." For the negatively worded items, we reversed the *Lickert scale's* coding in order to gather coherent dimensions scores of the SC. Furthermore, the score of the concept HCP-patient relationship and patient SC was calculated. It was the mean of the percentages of positive answers to the dimension's respective items. A score equal or higher than 75 was considered to reflect a positive perception of the respondent towards the scored dimension. The values are considered negative when the total score is lower than 50. *Chi square* test was used to compare the subscale scores between professional groups (physicians versus paramedical staff) and independent samples *t-test* was used to compare the mean age. All analyses used a significance level of  $p < 0.05$ .

## RESULTS

Number of returned surveys was 289 with a 90.5% response rate (289/319). Respondents' average age was  $38.3 \pm 9.9$  years and majority were female (65.1%). Hospital work experience of ten years or more was noticed in 42.2%. When comparing sub-categories, physicians had a lower response rate than paramedics (74.1% and 100% respectively); paramedics were significantly younger than physicians ( $36.51 \pm 10$  and  $42.22 \pm 8.5$  respectively;  $p < 10^{-4}$ ) with a clearer female predominance (71.9 % and 48.8% respectively;  $p < 10^{-4}$ ). Participants' characteristics are provided in Table 1.

Majority of respondents (89.3%) claimed that the main source of information on SC was their experience followed by medical school (75.5%), general culture (64%) and finally media (60.5%). Regarding categories, physicians declared significantly more than paramedics that personal experience was their primary source of SC information (100% versus 84.7% ;  $p < 10^{-4}$ ). Whereas, the media was significantly the main source for most of paramedics compared to physicians (66.7% versus 45.5% ;  $p = 0.001$ ).

In relation to the workers' perception of values and practices that characterize HCP relationship and patient SC, average percentage of positive and negative responses for each composite sub-scale was calculated and detailed in table 2.

Regarding items, adverse events may affect the physician-patient trust relationship according to 83.5% of all respondents, these finding was significantly reported by physicians compared to paramedics (97.7% versus 77.4% ;  $p < 10^{-4}$ ). Nearly half of participants (51.6%) affirmed that patient shall be informed of medical fault as soon as it is committed, this item was notified significantly more by physicians (69,8% versus 43,7% ;  $p < 10^{-4}$  ). Only 48.9% (64% of physicians versus 42.3% of paramedic;  $p < 10^{-4}$ ) saw that patient must be informed of fault consequences even when these are improbable or minimal. In 77.7% of answers HCP agreed that patient have an important role in SC improvement (94.2% for physicians versus 70.4% for paramedical staff ;  $p < 10^{-4}$ ). In addition, 43,6% of the participants notified that improving safety necessarily means increasing the cost of care. The physicians reported significant higher percentage of

**Table 1:** Demographic data, information source, and perception of patient safety level among health-care professionals.

Characteristics n1: physician n2: paramedical personnel	All health care professionals (N=n1+n2) N (%)	Physicians n1(%)	Health-care professional considering categories Paramedical personnel n2(%)	p
Demographic characteristics (n1=86, n2=203)				
age (years $\pm$ SD)	38+/-9.9	42.22+8.5	36.51 + 10	< 10-4
male gender	101(34.9)	44(51.2)	57(28.1)	< 10-4
work experience > 10 years	122(42.2)	40(46.5)	82(40.4)	0.33
Perception of the information level (n1=86, n2=186)				
very well informed	28(10.29)	8(9.3)	20(10.75)	0.147
well informed	101(37.13)	40(46.51)	61(32.79)	
lowly informed	98(36.03)	28(32.55)	70(37.63)	
not at all informed	45(16.54)	10(11.62)	35(18.81)	
Perception of patient safety level (n1=86, n2=203)				
acceptable	165(57.1)	47(54.7)	118(58.1)	0.5
unacceptable	124(42.9)	39(45.3)	85(41.9)	
Information Source				
Medical studies(n1=86 ; n2=201)				
agree	216(75.3)	65(75.6)	151(75.1)	0.934
disagree	71(24.7)	21(24.4)	50(24.9)	
Professional experience (n1=86 ; n2=203)				
agree	258(89.3)	86(100)	172(84.7)	< 10-4
disagree	31(10.7)	0(0)	31(15.3)	
General Culture (n1=85 ; n2=198)				
agree	180(63.9)	54(63.5)	127(64.2)	0.98
disagree	103(36.1)	31(36.5)	71(35.8)	
Media (n1=85 ; n2=201)				
agree	173(60.5)	39(45.8)	134(66.7)	0.001
disagree	113(39.5)	46(54.2)	67(33.3)	

positive responses relative to this item than paramedical staff (53,5% versus 39,3%;  $p=0.02$ ).

The overall mean score for positive perception of the explored domain which is "HCP-patient relationship" and its impact on care SC was positive for 58.4%. However, this mean score was significantly higher among physicians (69.7% versus 53.4%;  $p=0.01$ ) (Table 2).

## DISCUSSION

This study is one of several others assessing the level of PSC dimension among HCP of UHC Farhat Hached of Sousse, in Tunisia [11–13]. It provides a basic evaluation of the PCS in order to better identify the weak areas, whereby our research got its originality. Our study

described, quantified and analyzed an important SC domain, HCP-patient relationship, and its impact on PSC. The global response rate of 90.5%, including majority of physicians (74.1%) and all paramedical staff (100%), is considered as a good response rate for studies on SC. This percentage is higher than acceptable rate in the literature which is beyond 60% [14], and superior to other studies that adopted the same instrument [15–17]. High response rate may decrease bias response risk and thus strengthen study validity. Main limitations of this study are the restriction to the quantitative aspect of the SC. In fact, the entire SC areas (perceptions, attitudes and behaviour) should be taken into account among HCP. Thus, measurement of SC should constitute qualitative as well as quantitative methods, for more in-depth analyzing of

**Table 2:** Comparison of average response rate, relatively to items related to healthcare professional-patient relationship dimension and according to professional categories

Items	Health-care professionals categories(HCPC) (n1: physician, n2: paramedical personnel) (N = n1 + n2)		Positive reponses %	Negative reponses %	p
	Total	N=285	83.5	16.5	-
Adverse events may affect relationship of trust between physician and patient.	HCPC	Physicians	97.7	2.3	<10-4
	n1 = 86, n2 =199	Paramedical personnel	77.4	22.6	
		Total N=283	51.6	48.4	
Patient should be informed of error as soon as it is committed.	HCPC	Physicians	69.8	30.2	<10-4
	n1 = 86, n2 = 197	Paramedical personnel	43.7	56.3	
		Total N=282	48.9	51.1	
Patient should be informed of error consequences even if it was minimal or improbable	HCPC	Physicians	64	36	<10-4
	n1 =86, n2 = 196	Paramedical personnel	42.3	57.7	
		Total N=282	77.7	22.3	
Patient has a role to play in safety improvement.	HCPC	Physicians	94.2	5.8	<10-4
	n1 =86, n2 = 196	Paramedical personnel	70.4	29.6	
		Total N=283	36.7	63.3	
There is always uncertainty degree in diagnosis approach, and that increases error risk	HCPC	Physicians	40.7	59.3	0.3
	n1=86, n2=197	Paramedical personnel	35	65	
		Total N=282	43.6	56.4	
Improving safety necessarily means increasing cost of care	HCPC	Physicians	53.5	46.5	0.02
	n1 = 86, n2 = 196	Paramedical personnel	39.3	60.7	
		Total N=284	66.9	33.1	
Traditional medicine practices may be barrier to care safety improvement	HCPC	Physicians	68.6	31.4	0.6
	n1 = 86, n2 = 198	Paramedical personnel	66.2	33.8	
		Global	58.4	41.6	
Dimension score	HCPC	Physicians	69.7	30.3	0.01
		Paramedical personnel	53.4	46.6	

the behavioural approach [5,18]. In addition, statement bias is common in such type of study. Despite anonymity, respondents may tend to overestimate their personnel's culture score by fear of stigmatization or social desirability. Another limitation is the absence of a contextualized and validated tool that adapts to the socio-cultural characteristics of our population such as way of thinking, acting, and communicating [19]. Nevertheless, majority of health professionals reported that patient has a key role in SC improvement. However, dimension level was poorly developed (58.4%) in general and was significantly better among physicians (69.7%) than paramedical personnel (53.4%). Never less, paramedical staffs were somewhat not convinced by its importance in patient safety improvement. Thus, this could pose a hurdle for forthcoming program implementation of PSC improvement. Enhancement process to increase safety began by a significant involvement of hospital staff particularly nurses who are the closest to patients. Conversely, a five-year surveillance program by Baldo et al revealed that nurses are responsible for 78% of AEs [20]. HCP-patient relationship is complex and it is built around the patient. Indeed, this relationship is not only based on a rational act and technical manner but it is distinguished by human verbal and non-verbal caring [21] and possessing anticipating skills for dealing with crises, risks, and particular patients' vulnerabilities. Therefore, providing safe healthcare of quality requires a trusting environment and a positive atmosphere in care setting. HCP should assume empathy and authenticity believe in patient capacity and not make judgments. Moreover, this relationship could enable patients to participate in their care management according to their needs in their personal, family, social and professional life. Furthermore, several studies support patients and their families' active participation in determining their health outcomes [22]. In this context, Dean B demonstrated in his study that patients noticing unexplained changes in their healthcare process and expressing their concerns to their HCP can participate in avoiding errors occurrence. For example, when patient was given full information about his treatment, he could warn his nurse when treatment dose or process are inappropriate [23]. Therefore, engaging patients as safety partners would have a relevant impact on the enhancement of patient safety [24] and their statements can be recorded in the passive reporting system. Thus, involvement of patient in PSC strategies is a corner stone to ensure a safe health care system. Vega specified that HCP-patient relationship is the basis of any vocational training in healthcare. It allows HCP to provide personalized treatment taking into account the individual unique patient history with his particular own values, needs, resources and limits [25]. Consequently, two key areas ought to be identified: patients' values, preferences, expectations and perceptions on one hand, and their implication in the care

process on the other hand, whether preventive, diagnostic, curative or palliative. All strategies should take into consideration improved communication with patients with a clear information on their care progress and implemented treatments, in order to create a solid HCP-patient relationship based on confidence and to push them forward to participate actively as surrogate decision makers [25]. Therefore, patients would develop a better perception of this relationship and be more encouraged to speak up about their problems and concerns [24,26]. Besides, we found that 56.4% of respondents thought that security improvement may create an increase in healthcare cost. This perspective constitutes a barrier to improve health safety. Moreover, the expenses incurred by AE were clearly higher than the budget allocated to improve healthcare safety. Thus, if our hospitals achieved PSC goals, even by using more financial resources, it would have a positive impact on subsequent expenditure to face AE with the best care quality and safety [27].

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## CONCLUSION

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We highlighted a low development level of the concept HCP-patient relationship among HCP at our hospital. In order to promote patients' role for improving safety care in the Tunisian health system, we need to overcome our shortcomings by implementing a specific action plan adapted to our context, structures and resources. Thus, it is crucial to create a well-balanced HCP-patient relationship based on partnership and to take into account individual and personalized factors -including socio-economic ones- by insurance of a full given information to patient. Required perspectives consist on benchmarking this type of study to other healthcare facilities, in order to standardize our policies and strategies.

## No conflicts of interest

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