Development of a Tunisian Measurement Scale for Patient Satisfaction: Study case in Tunisian Private Clinics

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Abstract—The aim of this research is to propose a Measurement Scale for Patient Satisfaction (MSPS) in the context of Tunisian private clinics. This scale is developed using value management methods and is validated by statistic tools with SPSS.

Methods. The functional analysis and exploratory interviews with experts for whom the instrument is intended are used to develop a measurement scale of 31 items for patient satisfaction.

A comparison between our questionnaire and the existing instruments is done to validate the ccontent.

Construct validity is supported by performing principal component analysis. Reliability is estimated by calculating Cronbach's alpha.

Results. The participation rate (90%) and the completion rate (100%) are good indicators of acceptability. The MSPS includes many similar dimensions and items that appear in the previous published instruments (American and European questionnaires). Dimensions and items in MSPS are appropriate to our setting in Tunisia. Construct representation by principal component analysis consists of seven factors which account 74% of the variance in total satisfaction scores. The Kaiser-Meyer-Olkin is (KMO= 0,896) and Bartlett test of sphericity is significant (p <0,05).

The reliability estimates of internal consistency range from 0,65 to 0,953.

Conclusion. Through the multidimensional MSPS, we provide encouraging preliminary psychometric information.

This instrument is intented to involve patient feedback in a continuous quality health care improvement strategy.

Keywords—Functional analysis, Patient satisfaction, Questionnaire, Reliability, Validity.

I. INTRODUCTION

THE health-care delivery system has been undergoing formidable challenges in the 1990s. A rapid movement toward managed care systems and integrated delivery networks has led health-care providers to recognize real competition [1]. To be successful or even to survive, it is crucial to provide health-care recipients with a service that meets or exceeds their expectations.

With the effectiveness of medical care being increasingly measured according to economic as well as clinical criteria, the inclusion of patients' opinions in assessments of services has gained greater importance over the past 25 years [2].

Today, the terms 'Quality In Health Service' and 'Patient Satisfaction' are often brought on the agenda [3].

It does not matter whether the degree of patient satisfaction reflects the competence of the physician or the quality of care. The most important thing is that if patients are dissatisfied, health care has not achieved its goal [4]. The outcome, as care quality indicator, has become increasingly important in the past decade. The assessment of patient satisfaction, which forms a part of the outcome, reflects the care from the patient's point of view. The development of valid and reliable instruments to measure the patient satisfaction with care is the first step in continuously improving the care of our patients [5].

To get successful health-care organizations, it is important to use accurate measurements of health-care service quality as well as to understand the nature of the service delivery system. Without a valid measure, it would be difficult to establish and implement appropriate tactics or strategies for service quality management.

The objective of this study is first to develop a Measurement Scale for Patient Satisfaction (MSPS) basing on value management tools specially the functional analysis and then, to show its validity basing on statistic tools with SPSS.

The structure of this paper is organized in the following manner: first, we give a general overview regarding the concept of patient satisfaction and its components. Next, we describe our research methods. Then, we present the results of data analysis carried out with SPSS. Finally, we conclude by discussing results and providing further developments.

II. LITERATURE REVIEW

A. The Concept of Patient Satisfaction

In patient satisfaction research, we notice the lack of attention to the meaning of the construct "patient satisfaction" [6] [7] [8] [9]. Logically, the discussion of conceptual and theoretical issues should come before measurement but the

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opposite has been the case with patient satisfaction research [2].

Linder-Pelz's [10] definition rests on social-psychological theory showing that the expression of satisfaction is an expression of an attitude, an affective response, which is related to the belief that the care possesses certain attributes (components/dimensions). Patient satisfaction, thus, becomes defined as the individual's positive evaluations of health care distinct dimensions.

Patient satisfaction appears as a continuous variable resulting from emotional reactions and cognitive evaluations of distinct dimensions of the health care provided compared to an individual frame of reference. Thus, Satisfaction is an abstract concept, which cannot be directly observed or measured [11].

Surveying patient satisfaction is the most common method for obtaining patients' views on their hospital stay.

Many theories include patients' expectations as the basic concept of satisfaction [12] [13]. A traditional definition of satisfaction is, therefore, the degree of congruence between expectation and accomplishment [14] [15]. Logically, we have to know what patients expect before we ask them about their satisfaction with the care they received. Consequently, the involvement of patients in the development of an instrument to measure satisfaction is very important and must be an integral part of development [4].

Despite the growing literature devoted to the concept of patient satisfaction, no unified approach has been devised for its meaning and its measurement [9]. Some authors have criticized the notion that patient satisfaction is directly supported by the discrepancies between expectations and perception [9] [16].

In the following, we give an overview of patient satisfaction components through different studies.

B. Components of Patient Satisfaction

Reviewing patient satisfaction research conducted from 1957 to 1974, Risser [17] reported that four components emerged: the cost; the convenience; the provider's personal qualities and the nature of the interpersonal relationship; and finally the provider's professional competence and the perceived quality of care received.

A classification with eight dimensions was presented in a review by Ware et al. [18]: interpersonal manner-features, technical quality of care-competence, accessibility/convenience-factors involved in arranging to receive medical care, finances-factors involved in paying for medical services, efficacy/outcomes of care (the results of services provided), continuity of care-constancy in provider or location of care, physical environment-features of setting in which care is delivered and availability-presence of medical care resources.

Ware's classification has been the basis for several works later. Statistical techniques such as factor analysis have been promoted as providing "evidence" that satisfaction is a multidimensional construct [7] [19].

However, as many satisfaction studies are conducted in very specific contexts it is understandable that any standard classification never seems entirely appropriate. In a thorough review of studies of patient satisfaction with hospital patient care, Rubin [20] listed the following as important components: nursing care, medical care, communication, ward management, ward environment, and discharge procedure. Abramowitz et al. [7] proposed 10 components for hospital care: medical care, housekeeping, nursing care, nurses' aides, staff explanations of procedures and treatments, noise level, food, cleanliness, portering services, and overall quality. Baker [19] identified five components of satisfaction in the U.K. primary care setting: continuity of care, accessibility of the surgery, quality of medical care, premises, and availability of doctors. In the outpatient context, McIver [21] proposed accessibility, waiting times, waiting environment, attitude of staff, and patient information as critical components. The components of patient satisfaction listed by a group of doctors included: expectations, comprehension, participation, information and informed consent, risk perception and preference [22]. The Table I summarizes the studies of patient satisfaction components.

III. METHODS

A. Functional Analysis

The functional analysis [28] [29] which is at the core of the Value Management process, is the efficient means to identify the customers' needs [30]. It consists in expressing the need that the user asks for from a product or a service in terms of finalities called: "service functions". These latter will be considered as dimensions and for each of them, measurable criteria considered as items are attributed.

It is not simple for a patient to express his needs. The first preoccupation of the service-provider is to identify those needs that are more often implicit, "not expressed" [27].

In our case, to identify patients' needs, we had applied the functional analysis by doing interviews with some patients in order to structure their needs and define the criteria suitable to the country's context.

In the beginning, and after applying the functional analysis, we identify 7 functions and 37 criteria (items) that we insert in the questionnaire. Then, the item pool is submitted to a small sample of patients. Six ambiguous items are discarded (Table II) and minor rewordings are also necessary because of the poor comprehension and the mix-up between some items. For example: there is confusion between these two items: duration of waiting time for the bill preparation and duration of waiting for the payment so, the second one is discarded. No additional items are suggested. Thus, the final questionnaire consisted of 7 dimensions and 31 items.

B. Questionnaire Development

Basing on the functional analysis and exploratory interviews with expert familiarity of the population for whom the instrument is intended, a questionnaire or a *Measurement Scale for Patient Satisfaction (MSPS)* is developed with the help of five doctors, four nurses and 1 administrator,.

Seven service functions (dimensions) are identified, which are respectively: (reception, nursing care, information, hygiene, comfort, food and invoice service) containing 31 criteria (items) (Table II).

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TABLE I
REVIEW OF PATIENT SATISFACTION COMPONENTS

Author (year)	Components	Appellation
Risser (1975) [17]	1- cost 2- convenience 3- provider's personal qualities and the nature of the interpersonal relationship 4- provider's professional competence and the perceived quality of care received	Components
Ware et al. (1983) [18]	1- interpersonal manner-features 2- technical quality of care-competence 3- accessibility/convenience-factors involved in arranging to receive medical care 4- finance-factors involved in paying for medical services 5- efficacy/outcomes of care (the results of services provided) 6- continuity of care-constancy in provider or location of care 7- physical environment-features of setting in which care is delivered 8- availability-presence of medical care resources	Dimensions
Abramowitz et al. (1987) [7]	1- medical care 2- housekeeping 3- nursing care 4- nurses' aides 5- staff explanations of procedures and treatments 6- noise level 7- food 8- cleanliness 9- portering services 10- overall quality	Key areas
Rubin (1990) [20]	1- nursing care 2- medical care 3- communication 4- ward management 5- ward environment 6- discharge procedure	Components
Baker (1991) [19]	1- continuity of care 2- accessibility of the surgery 3- quality of medical care 4- premises 5- availability of doctors	Components
Mclver (1991) [21]	1- accessibility 2- waiting times 3- waiting environment 4- attitude of staff 5- patient information	Components
Group of doctors (Meredith et al., 1993) [22]	1- expectations 2- comprehension 3- participation 4- information and informed consent 5- risk perception 6- preference	Key elements

TABLE II: CLASSIFICATION OF ITEMS

Dimensions (Functions)	Items (criteria)	Discarded items	Final questionnaire
Reception	**5** 1- The reception of the administrative staff 2- The course of the administrative formalities 3- The reception of the nursing staff 4- The duration of waiting time since the patient's arrival until the accompaniment to his room 5- Conditions of waiting	**0**	**5**
Nursing care	**4** 1- The care of the nursing staff 2- The competence of the staff 3- Availability of the nursing staff (during the day and at night) 4- The follow-up by the nursing staff	**0**	**4**
Information	**6** 1- Information in the welcome booklet 2- Information about the room equipments' functionalities 3- Information about health state 4- Information about care 5- Information about the treatment and the precautions to be followed after the exit 6- Information about the exit formalities	**3** 1- Information in the welcome booklet 2- Information about care 3- Information about the exit formalities	**3**
Hygiene	**5** 1- Cleanliness of the private clinic 2- Cleanliness of the room 3- Cleanliness of the bathroom 4- Cleanliness of the linen 5- Security against contamination	**1** 1- Security against contamination	**4**
Comfort	**6** 1- Functionality of room equipments 2- Functionality of health facilities 3- Availability of towels, soap and toilet paper 4- Ergonomics of the room 5- Calm during the day and at night 6-Room lighting during the day	**1** 1-Room lighting during the day	**5**
Food	**7** 1- Taste 2- Quantity 3- Temperature 4- Variety 5- Presentation 6- Shedule 7- Respect of the patient's diet	**0**	**7**
Invoice service	**4** 1- Clearness of the invoice 2- Duration of waiting time for the bill preparation 3- Duration of waiting for the payment 4- The price	**1** 1- Duration of waiting for the payment	**3**
Total	**37**	**6**	**31**

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Patients were asked to respond by indicating their level of satisfaction on a 5- point Likert scale ranging from 'very dissatisfied' to 'very satisfied'.

The questionnaire ensures completion in approximately 15 minutes.

The questionnaire ended with an overall satisfaction item allowing patients to indicate their global level of satisfaction for the whole of their stay.

One item and several questions dealing with behavioural intentions (patient's intent to recommend the clinic and to return to the same clinic for care and to talk about it) and complaints or compliments are also inserted in the questionnaire for further research.

C. Questionnaire Administration

Questionnaires were completed by patients at three different Tunisian private clinics (n =150) over a period of 2 months.

The filling of questionnaires was assured by the researchers themselves.

Respondent patients were identified with the help of the nursing staff by giving the room number of the patients at the day of their releasing.

D. Content Validity

We verified whether the MSPS included items about the dimensions that appeared in different published questionnaires.

We have chosen three American instruments demonstrating validity and reliability [23] [25] [26] which were supplemented by one European questionnaire [31] and three French-language instruments [32] [33] [11] (Table IV).

E. Construct Validity

In order to support construct validity, empirical hypothesis, derived from the literature on patient satisfaction, were tested [34]. So, to identify independent dimensions of patient satisfaction [35], factor analysis of the 31 items is performed.

Principal components that account for the variance of at least one singular variable (eigenvalue greater than one) [36] are rotated using the oblimin direct with Kaiser normalization procedure.

Two criteria have been used to attribute each item to one of the factors. Firstly, an item with substantial loading (0.4 or greater) on one principal component is attributed to this latter. Secondly, an item loading across multiple factors is attributed to the factor for which internal consistency is maximized (measured by Cronbach's alpha coefficient) [37].

The Kaiser-Meyer-Olkin (KMO>0.6) and Bartlett's test of sphericity (p<0.05) statistics were used to test empirically whether the data were likely to factor well [38].

Principal components are compared with service functions or satisfaction dimensions that have been identified in the MSPS.

We evaluate whether the questionnaire is multidimensional by examining the interscale correlation matrix [26].

We consider that subscales can be interpreted separately when interscale correlations are lower than the corresponding Cronbach's Alpha coefficient (component correlation matrix, (Table).

The unidimensiality of the dimensions (factor or subscale) is shown by a factor analysis for each subscale (factor or dimension).

F. Reliability

Cronbach's alpha coefficient has been used to assess the internal consistency of the scale.
We determine the cronbach's alpha reliability for each factor or Subscale.

In General, Values>0.7 Are Considered Satisfactory.

All Data analysis has been carried out with the Statistical Package for the Social Sciences (SPSS).

IV. RESULTS

A. Sample Characteristics

There is a 90% participation rate in the survey, the rate of completion is 100% so, 150 questionnaires are completed (fifty questionnaires from each private clinic are collected). The sample characteristics are represented in Table III.

TABLE III
PATIENTS CHARACTERISTICS (N=150)

Characteristics	
Sex (%)	
Female	46
Male	54
Age (year)	
0-20	8,7
21-40	30
41-60	29,3
>60	32
Nationality	
Tunisian	59,3
Libyan	26
Mauritanian	6
Algerian	2,7
Black Afric	2,7
Europeans	3,3
Length of stay	
1 d	2,7
2-8 d	77,3
9-15 d	12,7
16-30 d	3,3
> 1 month	4
Number of times	
0 time	68,7
1 time	29,3
2 times	0,7
>3 times	1,3

B. Content Validity

The Table IV shows content of different patient satisfaction scales in term of dimensions and items in diverse countries including our country (present survey).

We note that the MSPS includes many items appropriate to our setting in Tunisia and that appears in American and European questionnaires. Some dimensions or items are excluded because they seem to be not appropriate.

For example, items related to physician care and physician competence, which are present in all questionnaires, were not included in our instrument because, in Tunisia, doctors are not

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TABLE IV
CONTENT OF DIFFERENT PATIENT SCALES

Countries(authors)/ Dimensions and items	US[1] [23]	US[2] [25]	US[3] [26]	UK [31]	Canada [32]	France [33]	France [11]	Present survey
Admission efficiency of admitting procedure attention to patient's individual needs	4	3	3	3	2	0	2	5
Nursing care availability and promptness attitude toward patient consideration of patient's needs	6	2	8	3	6	9	4	3
Nurse competence	1	1	1	0	0	0	1	1
Physician care availability and promptness attitude toward patient	4	1	2	4	4	2	3	0
Physician competence	1	1	1	2	0	0	1	0
Communication/information ease of getting information information about medications and tests	5	3	2	23	9	6	4	3
Informing family	1	0	0	1	2	2	1	0
Coordination of care	2	0	0	1	0	1	1	0
Other ward staff and service X-ray/ transportation/laboratory staff	2	1	9	2	0	0	1	0
Condition of room and hospital building	7	2	1	2	0	0	2	1
Noise and restfulness	1	0	0	0	0	0	1	1
Privacy	1	0	0	2	1	1	2	0
Cleanliness	1	1	4	2	0	0	1	4
Amenities (TV, telephone, etc.)	0	1	0	0	0	0	0	3
Food service	1	2	6	1	0	0	1	7
Pain management	0	0	1	5	4	1	1	0
Religious care	0	0	2	0	0	0	0	0
Discharge and continuity	3	4	2	6	11	4	3	0
Medical outcomes	2	2	1	0	0	0	0	0
Financial aspects	2	2	1	0	0	0	0	3
Number of items (number of dimensions	42 (6)	26 (4)	44 (8)	57 (6)	39 (8)	26 (2)	29 (6)	31(6)

[1]PJHQ: Patient Judgment Hospital Questionnaire [23] [24]. [2]PSQ: Patient Satisfaction Questionnaire [25]. [3]LGHS: Lutherman General Health System [26].

belonging to the private clinic staff and they are often chosen by patients.

These two items are replaced by criteria in the care dimension by "the care of the nursing staff, the competence of the staff, the availability of the nursing staff, and the follow-up by the nursing staff.

Conversely, noise and restfulness, amenities, food service and financial aspects were included in our instrument but were not found in other surveys.

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C. Construct Validity

Factor analysis identifies seven factors explaining 73,78% of the variance. These factors are: Reception, nursing care, information, Comfort-hygiene, invoice service and 2 factors related to food , food1 containing 4 items (taste, temperature, variety, schedule) and food2 contains the remaining items (quantity, presentation and respect diet). The Kaiser-Meyer-Olkin is (KMO= 0,896) and Bartlett test of sphericity is significant (p <0,05). (Table V and VI)

TABLE V
KMO AND BARTLETT'S TEST

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,896
Bartlett's Test of Sphericity	Approx. Chi-Square	3826,961
	df	465
	Sig.	,000

TABLE VI
TOTAL VARIANCE EXPLAINED

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	12,895	41,597	41,597	12,895	41,597	41,597	8,261
2	2,590	8,354	49,951	2,590	8,354	49,951	4,312
3	2,135	6,887	56,838	2,135	6,887	56,838	8,498
4	1,582	5,103	61,941	1,582	5,103	61,941	2,643
5	1,480	4,773	66,714	1,480	4,773	66,714	5,859
6	1,133	3,654	70,368	1,133	3,654	70,368	4,543
7	1,061	3,421	73,789	1,061	3,421	73,789	4,477
8	,939	3,027	76,816				
9	,735	2,370	79,186				
10	,650	2,097	81,283				
11	,635	2,047	83,331				
12	,596	1,923	85,254				
13	,507	1,636	86,890				
14	,454	1,463	88,353				
15	,448	1,445	89,798				
16	,409	1,320	91,118				
17	,371	1,197	92,314				
18	,316	1,018	93,333				
19	,305	,983	94,315				
20	,290	,935	95,250				
21	,253	,816	96,066				
22	,222	,715	96,781				
23	,207	,668	97,449				
24	,160	,516	97,965				
25	,136	,438	98,403				
26	,122	,395	98,798				
27	,101	,326	99,124				
28	,086	,276	99,400				
29	,073	,237	99,637				
30	,069	,222	99,859				
31	,044	,141	100,000				

Extraction Method: Principal Component Analysis.
a. When components are correlated, sums of squared loadings cannot be added to obtain a t

TABLE VII
PATTERN MATRIX

	Component						
	1	2	3	4	5	6	7
recep-adm-staff					-,588		
adm-formalities					-,607		
recep-nursing sta					-,409		
duration-wait					-,807		
condition-wait					-,802		
care-nurs-staff	,850						
Competence-staf	,799						
availability-nurs-s	,902						
follow-up-nurs-sta	,881						
Inf-Room-equip						-,579	
inf-health- care						-,606	
inf-treat-exit						-,613	
clean-clinic			-,766				
clean-room			-,773				
Clean-bathroom			-,817				
Clean-linen			-,607				
com-room-equip			-,547				
com-health-facilit			-,703				
availab-tow-soap			-,467				
ergonomics			-,612				
calm			-,680				
taste		,856					
quantity							,672
temperature		,659					
variety		,643					,413
presentation							,684
shedule		,487					
respect diet							,647
clear-bill				,741			
duration bill prep				,777			
price				,679			

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 30 iterations.

This result shows that the data are likely to factor well, and the questionnaire is multidimensional (Table VII).

To verify the unidimensiality of the factors, we have done a factor analysis for each factor; we have found that 5 factors are independent among which there was one factor regrouping two dimensions (Comfort and hygiene) of MSPS. Only the two food factors are dependent; so they form together one factor only (food factor).

Finally, the construct representation consists of six factors that are similar but not identical to dimensions identified in the MSPS.

The six factors are: nursing care (explained variance in a principal components analysis = 41,59%), food (13,45%), comfort (6, 88%), reception (4,77%), information (3,65%) and invoice service (5,10%).

All items correlate higher with their own scale rather than with other dimensions.

D. Reliability

The internal consistency coefficient is higher than 0,7 for five of the six functions: 0,869 for the reception, 0,953 for the nursing care, 0,804 for the information, 0,917 for clean and comfort, 0,837 for the food. The exception is the bill scale (alpha=0,65) but it is an acceptable result because of the three items that maximize the internal consistency of their own scale (table VIII).

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TABLE VIII
INTERSCALE CORRELATIONS AND RELIABILITY ESTIMATES (N=150)

Factors	Reception	Nursing care	Information	Comfort	Food	Bill
Reception	(0,869)[1]					
Nursing care	(-0,393)	(0,953)[1]				
Information	(0,247)	(-0,314)	(0,804)[1]			
Comfort	(0,307)	(-0,441)	(0,271)	(0,917)[1]		
Food	(-0,272)	(0,473)	(-0,362)	(-0,523)	(0,837)[1]	
Bill	(-0,153)	(0,163)	(-0,134)	(-0,132)	(0,254)	(0,65)

[1]

V. DISCUSSION

Clinics need to measure patient satisfaction and to use feedback information from patients when making improvement efforts.

While patient satisfaction surveys are the most common techniques for collecting data on patient perceptions, they often describe respondents' replies to questions asked by the investigators and not necessarily to the patients' own views and priorities [11]. So, for the development and the preliminary validation of the MSPS, we have paid a particular attention.

The process of the questionnaire development should insure content validity. Items were devised and selected in a way that would reflect patients' viewpoints.

The important and satisfactory participation rate (90%) and the missing of the proportion of unusable questionnaire are considered as indicators of acceptability.

The first factor analysis identifies seven factors explaining 73,78% of the variance, but not all those factors are independent, two of them, which contain respectively those criteria (taste, temperature, variety, schedule) and (quantity, presentation and respect diet) of the food service function, are dependent.

In fact, after doing a factor analysis for all the components identified, in order to prove their unidimensionality and especially for criteria of the food service function, we found that they form only one factor.

We also suspect the independence of the component containing the criteria of comfort and hygiene but after doing the factor analysis for all those criteria together we have found that these two functions formed only one factor.

The high correlation between the items regarding cleanliness and comfort explains well this result.

The result showed that patient perceived cleanliness as one sub-function of overall comfort.

Basing on these findings, we can model patient satisfaction in the Tunisian clinics (Fig. 1).

This model summarizes the validated factors and items in our measurement scale for patient satisfaction (MSPS). However, it is not enough to enable managers to take right and suitable decisions for improving their service quality and the performance of their clinics. Therefore, it will be necessary to measure patient satisfaction and to identify the cause of their dissatisfaction. That, will allow managers to reduce the ambiguity and to facilitate the consensus in the decision making.

VI. CONCLUSION AND PERSPECTIVES

One of the more pressing challenges that health-care providers and researchers face is to develop a better understanding of the key components constituting patient satisfaction (health-care quality) and valid approaches to their measurement. In this research, we proposed a Tunisian patient satisfaction questionnaire (Measurement Scale for Patient Satisfaction).
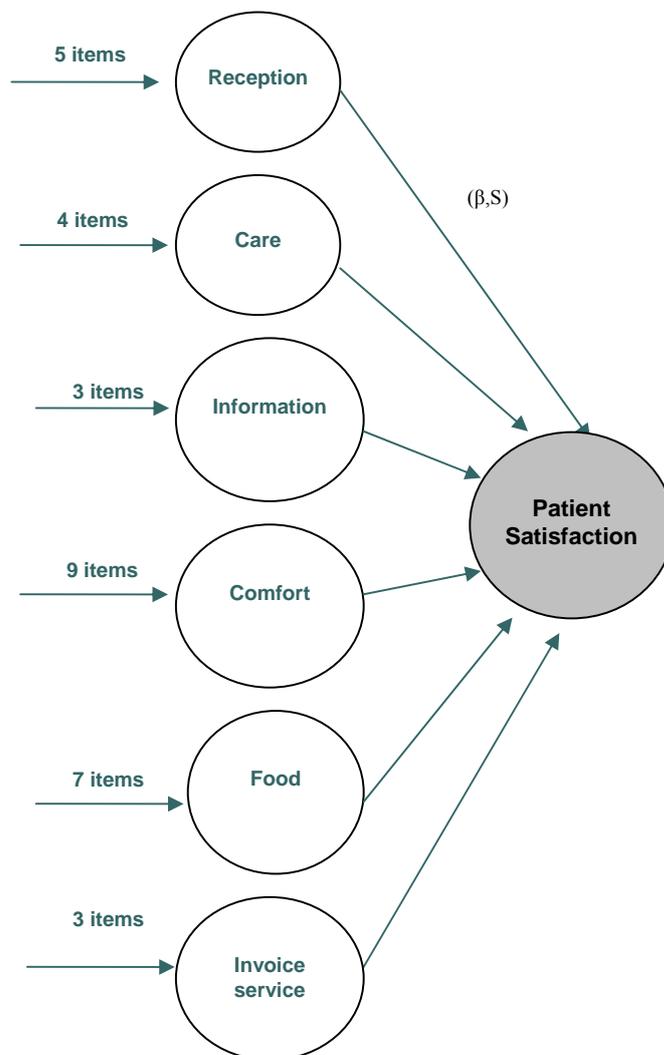

Fig. 1 Patient satisfaction model

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Then, we showed its validity for 150 patients from 3 different private clinics and we obtained 6 key components and 31 items. We notice that some of these items didn't appear in the various questionnaires published in the literature; this reflects the differences in the Tunisian health care system and confirms our choice to develop an instrument specific to the Tunisian context rather than translating an American or Canadian or even French questionnaires.

The results found allowed us to conceive the patient satisfaction model. However, at this stage, our model allows managers to visualize the key components of patient satisfaction, but does not help them to make decisions to improve the quality of their services. So, as a continuity to this study, we should complete it by determining the level of patient satisfaction (represented by (S) in the model) and the importance of each component (represented by (β) in the model) (Fig. 1) through the result of data analysis. Therefore, after extending this model, managers will be able first to evaluate patient satisfaction, second to identify the source of their dissatisfaction and finally take the appropriate decisions and improvement procedures in an efficient manner.

Our intention is to provide application-oriented information and not to conduct a theoretical or hypothesis-testing study. We expect that disseminating the important survey results which highlight priorities for improvement effort will sensitize staff to the patient's outlook on hospital care. This would allow department heads to screen area for further investigation.

We also plan to further the use of the MSPS in other private clinics in order to confirm its validation with similar studies and to increase its usefulness for clinical staff and administrators.

Some questions were not analysed in this study such as questions dealing with behavioural intentions (patient's intent to recommend the clinic, to return to the same clinic for care and to talk about it) and with patients' complaints or compliments. They will be analysed for further research which consists in studying the relation between the over all satisfaction scores and background variables such as behavioural intention during the stay in the clinic, the age, the gender, the nationality, etc.

We recommended that the study be replicated periodically in the target practice to reassess continually the organization and to monitor the impact of various improvement efforts.

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