

Internal Marketing and Its Moderating Effects between Service-Oriented Encounter and Patient Satisfaction

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Abstract

Objective: To investigate how the internal marketing perception of nurses could have a significant positive moderating effect on the relationship between service-oriented encounter and patient satisfaction in nursing negligence.

Methods: The subjects were nurses in the surgery units of hospitals at the regional level or higher in Taiwan. A total of 669 questionnaires were distributed and 609 questionnaires were recovered between December 2014 and January 2015, the number of valid questionnaires was 534 for a valid questionnaire recovery rate of 79.8%. Finally, we adopted the SPSS 18.0 analysis software for analysis and processing.

Results: Results indicate that service-oriented encounter has a significant positive influence on patient satisfaction and internal marketing perception among nurses has a significant positive moderating effect on the relationship between service-oriented encounter and patient satisfaction.

Conclusions: This study suggests that hospital managers need to recognize the importance of internal marketing for the more expressions toward service-oriented encounter, and further improve patient satisfaction. This kind of relationship is rarely discussed in the research literature, and it can be applied for human resources management of nursing staff. Hospitals must integrate the goal of patients first into the individual performance evaluation of nursing personnel by providing nursing personnel with information related to the evaluation standards of the organizations to help them understand and determine the job performance or service-oriented behavior expected by the organizations while acknowledging the objectivity and fairness of the performance evaluation system.

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Introduction

The ICN defines a positive work environment as a workplace that cultivates, attracts, and retains competent and qualified nurses. In such an environment, not only is nurses' customer-oriented behaviors expected to be improved to achieve better healthcare results, but nurses also continue bettering healthcare results by employing innovative knowledge and nursing skills through human resource management activities in the hospital.⁽¹⁾

Nurses are the keys to success when "critical moments" occur in medical service. Thus, one major factor in achieving patient satisfaction and establishing competitive advantage is to increase the customer orientation of first-line nurses in hospitals.⁽²⁾ Internal marketing, also known as functional marketing, stresses that the medical industry must first establish sound psychological communication among internal colleagues before using reasonable systems and effective methods to exert the strength of the team and allow all medical service personnel to serve patients sincerely. It is held that the greatest contribution of marketing in the service industry is that it allows all the employees of an organization to possess the concepts and actions of marketing.⁽³⁾ Once hospital managers have a correct and complete understand of the roles and importance of first-line nurses in medical service, improving their sense of service and customer orientation is a major factor in achieving customer satisfaction, reducing negligence in the care business, and establishing competitive advantage.⁽⁴⁾ The implementation of internal marketing is one method of achieving this goal.

The interaction between service provider and customer is the primary core of the service businesses of different natures. The intimate contact between service provider and service recipient is involved in the scenario of service, and such contact opportunity shall definitely and greatly influence customer's evaluation process and satisfaction. Service-oriented encounter helps to enhance the quality of interactions between employees and customers, while organizations may affect the attitudes and behaviors displayed by employees when serving customers through human resource management ac-

tivities. The reason is that human resource management activities are often interpreted by employees as a means used by an organization to compliment, recognize and reward its employees, as well as the organization's commitment to individual employees.⁽⁵⁾ Such commitment can convey the organization's expectations toward employees' behavior. The human resource management policies perceived by employees will influence employees' attitudes and behaviors in return and even create employee's attitudes and behaviors during the interactions with their colleagues and customers or change the range of their definitions toward their job roles.

The delicate relationship between perceived internal marketing, service-oriented encounter, and patient satisfaction requires investigation and clarification from more studies if application in nursing practice is to be expected. However, the lack of existing literature on the correlation between internal marketing perception of nurses, service-oriented encounter, and patient satisfaction has created a research gap in previous evidence-based practice studies on nursing personnel. The purpose of this study is to investigate whether service-oriented encounter enhances patient satisfaction while exploring whether internal marketing perception among nursing personnel has a moderating effect between service-oriented encounter and patient satisfaction to bridge such a gap in the existing literature on nursing personnel.

Relation between internal marketing, service-oriented encounter, and patient satisfaction

Internal marketing originates from the "marketing concept" and is based on a single premise: an organization must effectively utilize internal exchange between itself and its employees before it can successfully respect external customers. Internal exchange means employees are influenced by human resource management activities implemented by the managing supervisors; this is an example of an internal marketing activity. The scholars further postulated that internal marketing is in fact an application of marketing and human resource management that integrates theory, technique, and rules to inspire, effectively utilize, and manage employ-

ees at all levels of an organization to continuously improve its service for external customers.^(3,6) The concept of internal marketing has developed into a concept focusing more on human resource management than marketing management.

The scholars devised the concept of the service encounter, defining it as the face-to-face interactive relation between service provider and service recipient during the process of service consumption. The service encounter is also considered the core of service marketing, having considerable impact on service quality control, service delivery systems and customer satisfaction, etc..⁽⁷⁾ The scholars argued that “service standard” was a concept similar to “quality,” and that the term, “service standard,” referred to the processes by which a service benefited customers; an organization that looks for long-term survival and development must emphasize service quality and be equipped with sound facilities, excellent service staff, and a good service attitude, etc. to win customers’ trust. These are all issues that citizens consider when choosing a medical service provider, and the concept of these service encounter attributes is highly similar to some perspectives of service quality.⁽⁸⁻¹⁰⁾

It is used experimental design methods to investigate the factors influencing customer evaluations and responses when service encounter occurs. This study held that adding new 3Ps (physical evidence, people [including frontline staff and customers], and process) to the 7Ps of service marketing can concretely present service encounter to customers. In particular, the nature of service encounter lies in the first two Ps. Therefore, It is presented a “service encounter assessment model” for describing the antecedent cause or effect variables in the service encounter process that influence customer satisfaction or perceived service quality.⁽¹¹⁻¹⁴⁾ According to dramaturgical theory and role theory, nurses’ provision of emergency care services can be compared to a theatrical performance. During the performance process, the personal qualities of the actors, such as service attitude, service enthusiasm, apparel and appearance, and positive behavior, influence the audience’s satisfaction with the results of the performance. Accordingly, an organization can increase

the customer satisfaction by effectively enhancing service-oriented encounter.

It is further emphasized the use of marketing techniques in the internal markets of companies, holding that companies should use frameworks similar to those of external marketing to develop marketing plans for their internal markets and stimulate service awareness and customer-oriented behavior in employees. And it is also stated that to achieve the goal of using overall management procedures to manage all of the functional departments within an organization, not only must the understanding of organizational management among employees on all levels be confirmed to realize competitive activities under the demands of customer awareness, but organizations must also truly ensure that their employees are willing to make customer-oriented efforts.⁽¹⁵⁻¹⁷⁾ The above agree that internal marketing perception of its employees positively affects service-oriented encounter. Although it is stated that product characteristics and interpersonal interaction both influence customer satisfaction, however, the latter have a stronger influence. It is indicated that business friendship is a kind of friendship developed in business environments that is associated with ongoing encounters, personal qualities, the correlations among outcomes, and the effectiveness of friendship. Not only does business friendship influence customer perceptions, but it also helps increase customer satisfaction and loyalty.⁽⁶⁾ It is once indicated that schoolteachers are viewed as internal customers, whereas students are seen as external customers, and schools should first care for the needs, attitudes, and values of their teachers to win the students satisfaction.^(18,19) Hence, the internal marketing perception of employees positively affects their customer satisfaction. The above indicate that, as the internal marketing perception of nursing staff increases, the service-oriented encounter and patient satisfaction increase. Therefore, the above evidence-based studies suggest that the internal marketing perception of nurses has a positive moderating effect on the relationship between service-oriented encounter and patient satisfaction.

That is, the above studies suggest that service-oriented encounter positively affects the

patient satisfaction (*Hypothesis 1*) and that the internal marketing perception of nurses has a positive moderating effect on the relationship between service-oriented encounter and patient satisfaction (*Hypothesis 2*). Thence, in this study, service-oriented encounter was the independent variable, patient satisfaction was the dependent variable, and internal marketing perception was the moderating variable.

Methods

Design and Sample

This study was a cross-sectional study. We conducted purposive sampling with structured questionnaires to collect data. The subjects were nurses in the surgery units of hospitals at the regional level or higher in Taiwan. A total of 669 questionnaires were distributed and 609 questionnaires were recovered between December 2014 and January 2015. After removing 75 questionnaires with incomplete answers or structural bias, the number of valid questionnaires was 534 for a valid questionnaire recovery rate of 79.8%.

Instruments

The following was the explanation of the questionnaire. First, constructs of questionnaire forms were obtained from the literature and used to compile questionnaires. Second, the constructs were slightly modified to create initial questionnaires based on the research purposes and industry features. Third, tests were repeatedly administered to three professors, four medical experts, and seven nurses with long-term clinical experience before a pre-test was performed. Fourth, a pilot run of the questionnaire was administered to 36 voluntary nurses in the medical centers. A total of 33 valid questionnaire forms (more than 30, i.e., a large sample size) were gathered, and the results indicated that the reliability was 0.78 to 0.93 and the scale content validity index (CVI) was 0.85 to 0.98 (under seven judges of three professors and four medical experts), meeting the acceptable standard of 0.70.^(20,21) Finally, the questionnaire was officially released.

Internal Marketing Perception: Based on differences between eastern and western cultures, we primarily referenced the scales developed previously to revise and form the variables and questionnaire items in this study.⁽²²⁾ Three factors (hospital support, nursing discipline, and patient communication) formed after factor analysis with a total of 22 items. The Cronbach's α values were 0.905, 0.883, and 0.842 respectively. Explained variance after rotation was 32.196%, 25.832%, and 22.109% respectively. Cumulative explained variance was 80.137%. This also indicates that this scale also had extremely high reliability.

Service-Oriented Encounter. Based on different industry characteristics and the goals of this study, we referenced before to revise and form the variables and questionnaire items in this study.^(8,11) The sample data collected in this study formed the three variables (participation staff, physical environment, and service process) with a total of 10 items (Chart 1). The Cronbach's α s were 0.910, 0.845, and 0.870. The explained variances after rotation were 33.172%, 21.113% and 25.075%. Cumulative explained variance was 79.360%. These data indicate that the Cronbach's α reliability coefficients for each dimension of the scale were higher than the recommended 0.7.⁽²³⁾ Therefore, this scale had extremely high reliability.

Patient Satisfaction: The scholars have proposed that using aggregation data of the positive emotional value for inference of individual behaviors would easily result in biases when individual data cannot be observed, which might raise the possibility of overestimation and underestimation by the patients. Therefore, the study uses negative emotional value for inference, and it is expected to reduce variations in the results, such as the defensiveness, misrepresentation, doubts, and suspicions that participants may have.⁽²⁴⁾ Three factors (communication process, judgment process, and execution process) formed after factor analysis with a total of 14 items. The Cronbach's α values were 0.832, 0.876, and 0.923 respectively. Explained variance after rotation was 21.321%, 26.115%, and 34.578% respectively. Cumulative explained variance was 82.014%. Therefore, this scale also had extremely high reliability.

The questionnaire scale used a 5-point Likert scale from 1 to 5 for strong disagreement and strong agreement, respectively. Table 1 summarizes the constructs and variables, including operational definitions for all variables. Questionnaires were examined for reliability and validity as follows.

Reliability analysis (exploratory factor analysis). Principal components analysis was used to extract major contributing factors, and varimax rotation was performed to maximize the differences in factor loadings carried by every common factor after the rotation to help recognize common factors. As table 1 illustrates, all the Cronbach's α values exceeded 0.7, meeting the acceptable standard of more than 0.7, and no single factor included only one question.^(9,25) The analytical results of all scales had reached this standard.

Convergent validity analysis (confirmatory factor analysis). Parameter (λ) between each latent variable and manifest variable was estimated to determine the statistical significance of the estimated parameter (λ) in order to evaluate convergent validity. As chart 1 shows, all t values exceeded 2, which indicated satisfactory convergent validity. In addition, the composite reliability values for all constructs were greater than 0.6, which showed that manifest variables could derive latent variables.⁽²⁶⁻²⁹⁾

Statistical Analysis

After decoding of the valid questionnaires, we adopted the SPSS 18.0 analysis software for analysis and processing. This comprised basic demographic data analysis, multiple regression analysis (one-tailed testing), and hierarchical regression analysis to investigate the relationships between Internal marketing perception, service-oriented encounter, and patient satisfaction.

Ethical Considerations

Upon approval by the hospital Institutional Review Board. The study was then carried out with participants' written consent; each participant's personal data was kept anonymous and confidential and used only for research purposes to comply with the spirit of the Declaration of Helsinki, 2008. The response period was limited to two months and an introduction letter was attached to the questionnaire to ex-

plain the study purpose and to assure respondents of confidentiality. Anyone who was also interested in learning about the result of this study was able to request a copy through the contact address provided in the questionnaire. The development of this study met national and international standards of ethics in research involving human subjects.

Results

Sample Characteristics

Table 1 shows the demographic data of the sample population in this study. Most participants were female (97.9%). In terms of age, most were 21-30 (54.5%). In terms of educational level, most had a bachelor's degree (82.2%). As for seniority, most were 3-10 years (50.9%), and for the distribution of the levels of the hospitals from which the subjects came, most were working at medical centers (53.2%).

Table 1. Sample characteristics (n= 534)

Description	n(%)
Gender	
Male	11(2.1)
Female	523(97.9)
Age	
21-30	291(54.5)
31-40	183(34.3)
41 or above	60(11.2)
Job training	
Undergoing	79(14.8)
Not undergoing	455(85.2)
Education	
College or under	83(15.5)
Bachelor	439(82.2)
Master or above	12(2.3)
Seniority	
Less than 2 years	183(34.3)
3-10 years	272(50.9)
11 years or above	79(14.8)
Levels of the hospital	
Medical center	284(53.2)
Regional hospital	197(36.9)
District hospital	53(9.9)

Verification Analysis of the Hypotheses

To verify the hypotheses of this study further, regression analysis (one-tailed testing) and hierarchical regression analysis were used to analyze and investigate the relationships between internal mar-

Chart 1. Factor naming, reliability, and convergent validity analysis results of all the constructs

Dimension	Variable / Operational definition	Questionnaire item	Factor loading (> .7)	Composite reliability (>.6)	AVE (>.5)	Cronbach's α (> .7)	References	
Internal Marketing Perception	Hospital support The management, leadership, and support methods of nurses within the hospital, including work planning, information feedback, and formal and informal interactive two-way communication.	1. I don't often feel tired.	0.869 ^{***}	0.95	0.67	0.905	[3, 22]	
		2. I don't often feel a substantial amount of work pressure.	0.868 ^{***}					
		3. I don't often work overtime.	0.859 ^{***}					
		4. I don't often experienced side effects from the medications I take for physical or mental diseases.	0.719 ^{***}					
		5. I feel that my unit does have enough human resources.	0.879 ^{***}					
		6. I don't feel that my unit's scheduling has problems.	0.862 ^{***}					
		7. I feel that the division of labor is appropriate or fair.	0.865 ^{***}					
		8. I don't feel that the environment is noisy, affecting work.	0.732 ^{***}					
		9. I don't feel that the information systems often have problems.	0.723 ^{***}					
		10. I feel that the execution of disease control within the hospital is complete.	0.763 ^{***}					
	Nursing discipline Hospitals combine theory, technology, and rules to train and motivate internal nurses and continue to improve their methods of serving external patients and their reciprocal service.	1. I feel that my professional knowledge is sufficient.	0.861 ^{***}	0.92	0.66	0.883		
		2. I feel that my clinical training is sufficient.	0.875 ^{***}					
		3. I feel that I am familiar with professional technology.	0.847 ^{***}					
		4. I feel that I am familiar with the equipment in the environment.	0.752 ^{***}					
		5. I feel that I often encounter patients with diseases I have treated before.	0.720 ^{***}					
		6. I feel that my awareness of and response attitude toward medical malpractice are sufficient.	0.861 ^{***}					
	Patient communication Hospitals use a variety of support tools to cultivate internal nurses' understanding of the think of patients or their families and to achieve the strategic goal of making nurses patient-oriented and giving them patient or family service awareness.	1. I feel that patients or their families provide complete or erroneous information.	0.874 ^{***}	0.89	0.63	0.842		
		2. I feel that patients or their families do follow the commands of medical staff.	0.867 ^{***}					
3. I don't feel that patients or their family members conceal their conditions.		0.869 ^{***}						
4. I feel that I am familiar with patients' conditions.		0.875 ^{***}						
5. I feel that I am able to provide continuous care for patients.		0.701 ^{***}						
6. I feel that my records of patient conditions are accurate or informative.		0.773 ^{***}						
Goodness of fit: $\chi^2 / d.f.= 3.01$, GFI= .92, AGFI= .87, NFI= .92, RMSR= .05							[29-32]	
Service-Oriented Encounter	Participation staff This refers to the professional skills and communication attitudes of all of the nurses participating in delivering medical services and thereby influencing outpatient perceptions.	1. I feel that my hospital has enough surgical nurse staffing.	0.700 [*]	0.90	0.70	0.910	[8, 11]	
		2. I feel that internal infection controls within the hospital's medical workplace protect the health of surgical nurses.	0.896 ^{***}					
		3. I feel that when the hospital executes clinical work, senior nurses often guide junior staff from the sidelines.	0.850 ^{***}					
	Physical environment This refers to the environment and equipment through which medical services are delivered and other tangible elements that can facilitate service execution or communication.	1. I feel that the hospital's automatic or foot-activated handwashing equipment is good.	0.805 ^{***}	0.87	0.66	0.845		
		2. Overall, I feel that the medical operating environment of the hospital has good cleanliness.	0.853 ^{***}					
		3. I feel that the hospital has established surgical site marking and identification tables to ensure surgical safety.	0.894 ^{***}					
	Service process This refers to the standard processes through which medical services are delivered and other processes that can facilitate the execution of medical services.	1. I feel that the hospital disinfects in accordance with standard procedures when performing aseptic techniques with invasive treatments.	0.810 ^{***}	0.89	0.68	0.870		
		2. I feel that the defoaming of sanitary materials and sterilizing of the hospital are executed in accordance with standard procedures.	0.807 ^{***}					
		3. I feel that the hospital's disposal consumables (sanitary materials) are not reused.	0.892 ^{***}					
		4. I feel that the hospital's care for infectious diseases can adhere to infection control principles.	0.831 ^{***}					
	Goodness of fit: $\chi^2 / d.f.= 2.95$, GFI= .92, AGFI= .89, NFI= .92, RMSR= .03							[25, 26]

continue

continuation

Dimension	Variable / Operational definition	Questionnaire item	Factor loading (> .7)	Composite reliability (>.6)	AVE (>.5)	Cronbach's α (> .7)	References
Patient Satisfaction	Communication process Patients' overall assessments or preferences and attitudes toward the communication of medical information during medical service (according to the nurses' experience).	1. Patients don't feel that the hospital's medical team has failed to clarify shifts.	0.862**	0.92	0.71	0.832	
		2. Patients don't feel that mistakes are made in the communication between members of the same medical team within the hospital.	0.883**				
		3. Patients don't feel that mistakes are made in the communication between members of different medical teams within the hospital.	0.864**				
		4. Patients don't feel that the hospital's verbal or telephone orders are unclear and excessive	0.823**				
		5. Patients feel that the hospital's health education before and after surgery is sufficient.	0.814**				
	Judgment process Patients' overall assessments or preferences and attitudes toward medical diagnostic evaluations before and after surgery during medical service (according to the nurses' experience).	1. Patients don't feel that the hospital fails to notice abnormal test results and to take relevant treatment or care measures.	0.897**	0.93	0.72	0.876	
		2. Patients feel that the hospital's overall nursing assessments upon hospitalization (transfers to wards) are reliable.	0.881**				
		3. Patients don't feel that that the hospital fails to perform reliably relevant physical assessments / disease factor risk assessments prior to surgery.	0.884**				
		4. Patients don't feel that the hospital fails to confirm consultation results before surgery.	0.759**				
		5. Patients don't feel that the hospital fails to confirm whether consent forms have been completed.	0.891**				
	Execution process Patients' overall assessments or preferences and attitudes toward the execution of medical process during medical service (according to the nurses' experience).	2. Patients don't feel that the hospital fails to confirm the completeness of surgical site markings and identification forms.	0.898**	0.94	0.74	0.923	
		3. Patients don't feel that the hospital fails to inform patients of the proper fasting times according to the physicians.	0.817**				
		4. Patients don't feel that the hospital fails to confirm the pre-surgery checklist with its patients.	0.804**				
		5. Patients don't feel that the hospital fails to execute various medical orders before surgery.	0.800**				
Goodness of fit: $\chi^2 / d.f. = 2.63$, GFI= .93, AGFI= .90, NFI= .90, RMSR= .02							[29-32]

*p < .01 (t-value> 2); AVE= Average Variance Extracted; $\chi^2 / df.$ = Ratio of Chi-square; GFI = Goodness of Fit Index, AGFI = Adjusted GFI; NFI = Normal fit index; RMSR = Root Mean Square of standardized Residual

keting perception, service-oriented encounter, and patient satisfaction. Table 2 and table 3 show the analysis results.

1. Regression analysis of service-oriented encounter and patient satisfaction

Table 2 shows the multiple regression analysis of service-oriented encounter and patient satisfaction. Explanatory power was 53.5%. The F-value was 47.598, reached a level of significance ($p < .001$). The results verified H1, “service-oriented encounter positively affects the patient satisfaction.”

2. Moderating effects of internal marketing perception

Model 1 in table 3 indicates that service-oriented encounter achieved a significant positive prediction effect on patient satisfaction ($F = 25.753$, $p < .001$). The amount of explained variance was

Table 2. Regression analysis results

Regression Analysis of Service-Oriented Encounter and Patient Dissatisfaction			
	Patient dissatisfaction (β)		
Participation staff	0.395***		
Physical environment	0.135***		
Service process	0.245***		
	Service-oriented Encounter		
F	47.598		
R ²	0.535		
Regression Analysis of Internal marketing perception and Service-Oriented Encounter			
	Service-oriented encounter (β)		
	Participation staff	Physical environment	Service process
Internal marketing perception	0.222***	0.186***	0.198***
F	18.828	12.907	14.698
R ²	0.549	0.534	0.539
Regression Analysis of Internal marketing perception and Patient Dissatisfaction			
	Patient dissatisfaction (β)		
	Communication Process	Judgment Process	Execution Process
Internal marketing perception	0.191***	0.238***	0.263***
F	13.714***	21.798***	26.956***
R ²	0.537	0.557	0.569

*indicates p < .05; **indicates p < .01; ***indicates p < .001

Table 3. Hierarchical regression analysis

Hierarchical regression analysis	Patient dissatisfaction (β)		
	Model 1	Model 2	Model 3
Participation staff	0.376***	0.366***	0.321***
Physical environment	0.250***	0.235***	0.208***
Service process	0.255***	0.243***	0.219***
Internal marketing perception		0.270***	0.229***
Participation staff x Internal marketing perception			0.195***
Physical environment x Internal marketing perception			0.167***
Service process x Internal marketing perception			0.188***
F	25.753***	33.086***	39.128***
R ²	0.611	0.732	0.867

*indicates $p < .05$; **indicates $p < .01$; ***indicates $p < .001$

61.1%. The variables of service-oriented encounter were all significant. The participation staff β value was 0.250, the physical environment β value was 0.376, and the service process β value was 0.255. Model 2 shows service-oriented encounter and internal marketing perception, whereas Model 3 shows the interaction between service-oriented encounter and internal marketing perception. Both reached significant positive levels toward patient satisfaction. This indicates that the interaction between service-oriented encounter and Internal marketing perception had a significant positive moderating effect on patient satisfaction. Therefore, H₂, “internal marketing perception of nurses has a positive moderating effect on the relationship between service-oriented encounter and patient satisfaction,” was supported.

Discussion

Although we strove to be rigorously objective during the investigation process, some deficiencies remained. Therefore, we present a number of recommendations regarding this study.

1. We were able to gain the number of practicing nurses only from the national nurse registration of the Ministry of Health and Welfare in Taiwan. In addition, the population was distributed widely and throughout the entire country. However, we collected cases only from medical institutions in southern Taiwan (Tainan and Kaohsiung). Therefore, we were unable to understand the conditions in central Taiwan, northern Taiwan, eastern Taiwan, and other areas. In addition, the questionnaire was

highly sensitive. Although it was reviewed by the institutional review boards of the hospitals, the majority of the hospitals were unwilling to participate. Therefore, the number of sample sources was low.

2. In regard to research design, because the questionnaire content touched on relatively sensitive topics, the respondents may have been unable to respond to all of the questions honestly or intentionally avoided questions and declined to answer because of other factors and considerations. Therefore, some of the items were not answered. In addition, nurses are busy in their work and rotate through three shifts. This further lowered the response rate, restricting the number of samples collected. This study used a cross-sectional survey. We recommend that subsequent studies use longitudinal surveys to examine whether their results are consistent with ours.

3. This study was an exploratory study. We sought to understand the causes of the moderating effect of the internal marketing perception of nurses on the relationship between service-oriented encounter and patient satisfaction along with other influencing factors. Therefore, after referencing the literature, the questionnaire we designed considered the completeness of the responses as much as possible. We hoped to allow the respondents to answer the questions more easily. However, because the entire questionnaire was lengthy, a number of the questionnaires had unanswered questions. This was another limitation of this study.

In this study, we investigated the relationships between internal marketing perception, service-oriented encounter, and patient satisfaction. In summary, this study made the following two findings.

1. Service-oriented encounter positively affects the patient satisfaction

The results of this study indicate that when hospitals conduct medical services with relatively high service orientation, they can enhance satisfaction in patients and their families. These results coincide with findings in front.⁽³³⁾ The present study confirms that the performance of service-oriented behaviors, such as higher willingness to understand the needs of patients and their families, expressions of care for patients and their families, the provisions of medical services or facilities that satisfy patients and their families, and assisting patients or their families in solving problems, can increase the service quality perceived by patients and their family members, achieving the goal of higher satisfaction in patients and their families.

Our analysis revealed that the three factors of service-oriented encounter, participation staff, the physical environment, and the service process, had a significant positive influence on patient satisfaction. This indicated that more service orientation was associated with higher feelings of satisfaction in patients. The explanatory power was 53.5%. The impact was particularly high for participation staff ($\beta = 0.395$, $p < 0.001$). Within service-oriented encounter, “the hospital has established surgical site marking and identification tables to ensure surgical safety,” “the hospital does not reuse disposable consumables (sanitary materials),” and “the hospital’s internal infection controls within the medical workplace protect the health of surgical nurses” were best able to improve patient satisfaction.

2. Internal marketing perception of nurses has a positive moderating effect on the relationship between service-oriented encounter and patient satisfaction

This study reveals that internal marketing perception have a significant positive influence on service-oriented encounter and patient satisfaction. This indicates that internal marketing perception can increase feelings toward service-oriented encounter and enhance feelings of patient satisfaction. These results are consistent with the findings formerly.^(30,31) In addition, we found that Internal marketing perception had a significant positive moderating effect on the relationship between service-oriented

encounter and patient satisfaction. These results indicate that the influence of service-oriented encounter on patient satisfaction changes with the influence of Internal marketing perception. In other words, internal marketing perception could not only increase feelings of service-oriented encounter, but they also raise feelings of patient satisfaction.

The results of this study indicate that internal marketing perception had a significant positive influence on service-oriented encounter and patient satisfaction. When service-oriented encounter had a significant positive influence on patient satisfaction, the addition of the interaction between service-oriented encounter and Internal marketing perception had a significant positive moderating effect. Service-oriented encounter had a significant positive influence on patient satisfaction, with explanatory power reaching 53.5%. In addition, Internal marketing perception had significant positive influences on both service-oriented encounter and patient satisfaction. When service-oriented encounter had a significant positive influence on patient satisfaction, the change in the explanatory power when the interaction between service-oriented encounter and Internal marketing perception was added reached a level of significance ($\Delta R^2 = 25.6\%$). Therefore, internal marketing perception had a significant positive moderating effect. The following items within internal marketing perception had relatively large influences on the relationship between service-oriented encounter and patient satisfaction: (1) From “hospital support,” fatigue (including changes in the biological clock caused by shifts); substantial amounts of personal work pressure; frequent overtime; insufficient human resources; unit scheduling problems; and inappropriate or unfair divisions of labor. (2) From “nurse education and training,” insufficient professional knowledge; insufficient clinical training; unfamiliar with professional technology; and insufficient awareness of and response attitude toward medical malpractice. (3) From “patient communication,” patients or their families provide incomplete or erroneous information; the instructions of medical personnel are not followed; patients or their families conceal their conditions; and unfamiliarity with patients’ conditions.

Conclusion

The characteristic of medical services is that such services simultaneously involve production and consumption. As a result, patients evaluate the quality of medical services primarily based on the service behavior of the medical personnel that they have encountered. According to the results of this study, it is expected to enhance nurses' service-oriented behaviors, and improve the interactions between nursing personnel and patients, in order to elevate the quality and patient satisfaction of medical services. Regarding the aforementioned internal marketing human resource management activities, the following suggestions concerning practices are proposed for the reference of hospital operators and the benefit of hospital managers and nursing supervisors, in the hope of not only helping nursing personnel to develop expertise, solve patients' problems and achieve teamwork, as expected by the ICN, but also create service-oriented encounter among nursing personnel and subsequently raise feelings of patient satisfaction.

1. Within the dimension of internal marketing perception, clinical education courses should not be mere formalities. The majority of nurses are exhausted when their work ends. They must still attend a number of education and training courses when they are exhausted. This greatly reduces the meaning of education. Therefore, we recommend that hospitals adjust the hours and content of clinical education appropriately based on the nursing practice environment. Hospitals on all levels can establish cross-training mechanisms and training courses on clinical skills to increase the professional clinical skills of personnel. Education at nursing schools should strengthen professional clinical training. Because nursing students typically care for only one or a small number of patients during clinical practice, after they graduate and enter clinical work, they have a relatively weak grasp of patients' conditions and clinical care alertness. Therefore, we recommend that schools design internship programs that progressively increase the number of patients during clinical practice. In addition, advocacy in education on the concept of negligence in clinical

nursing care must be strengthened to help graduating nursing students effectively meet the standards of clinical work.

2. According to the results among the service-oriented encounter dimension, nursing supervisors (or head nurses) should effectively grasp an appropriate division of labor based on the conditions of their units to reduce frequent changing of care groups. When junior nurses care for patients with unstable conditions, senior staff should be arranged to assist and guide from the sidelines. In particular, intervention and the division of labor should be timely when emergencies or unexpected events occur to exert the care functions of the medical team. In accordance with the results of this study, we also recommend that hospitals establish shift assessment mechanisms to ensure the correctness of shifts. In addition, this study shows that overtime is a major factor influencing patient satisfaction (not enough surgical nurse staffing). Some nurses also indicated that their work was often interrupted by the nursing station telephone, call bells, or other chores (such as changing the medicine bottles of intravenous drips, demands for immediate handling of wound pain, or other matters that should not be priorities). We recommend that nursing stations have reserve staff to handle these matters rather than forcing nurses to work overtime.

3. According to the mention above, we suggest that hospitals should truly establish nurse staffing with reasonable nurse-patient ratios based on evaluation criteria. The work pressure and burdens of surgical nurses should be reduced and compensation should be increased. In addition, systems for retaining senior nurses and incentives for clinical education should be established. In regard to communication links across medical teams and departments, hospitals should establish standard procedures and policies. They should regularly hold cross-team meetings for communication and modify standard operating procedures as appropriate. We also recommend that nursing departments establish specialist nurses in health education for each subspecialty or unit. In addition to designing monthly group health education courses, unit surgical patients can also be helped by providing bed-

side health education consistent with their individual conditions before and after surgery. Appraisals can be conducted after health education to improve the communication negligence caused by health education and enhance patient satisfaction effectively. Additionally, when formulating education and training, standardized procedures, and other related policies, hospitals and nursing departments should consider clinical appropriateness with reducing the costs of medical malpractice caused by nursing negligence as a primary consideration.

4. Additionally, the results of this study indicate that the surgical nurse population is young (the majority of practitioners were younger than 40, see the table 2). Their communication abilities and ability to respond to emergencies are relatively insufficient. Consumer awareness is currently high among patients and families in the medical environment. The nurse-patient relationship has gradually transformed into a pattern of nursing services and medical consumption. In a nursing practice environment with high turnover, the nursing profession can no longer be limited to the field of professional knowledge. The accumulation of clinical experiences is also extremely important to crisis response and nurse-patient communication abilities. Therefore, the top priority is that nursing groups and associations actively urge governments and hospital managers to promote improvements to the nursing practice environment. This could resolve the phenomenon of the young nursing population caused by insufficient human resources, which leads to endless patient safety incidents and patient dissatisfaction and complaints.

5. Finally, the performance evaluation of service-oriented encounter may be performed to emphasize patients' daily behavior and help nursing personnel to come to the realization that the behaviors demonstrated during service delivery is the key factor that determines the result of performance evaluation. Hospitals must integrate the goal of patients first into the individual performance evaluation of nursing personnel by providing nursing personnel with information related to the evaluation standards of the organizations to help them understand and determine the job performance or

service-oriented behavior expected by the organizations while acknowledging the objectivity and fairness of the performance evaluation system. Hence, service-oriented encounter performance evaluation should help nursing personnel place more importance on patient service behaviors and consequently achieve the goal of higher satisfaction in patients.

Collaborations

Weng HC, Chen TM, Lee WJ, Chang CS, Lin CT and Wu ML declare that they contributed to the conception of the project, analysis and interpretation of the data, writing of the article, relevant critical review of intellectual content and final approval of version for publication.

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