

A STUDY ON STUDENTS' MEDICAL SERVICE SATISFACTION IN SCHOOL HOSPITAL AT SHANDONG UNION COLLEGE IN JINAN, SHANDONG PROVINCE

Yan Liu ^{1*}, Yan Ye ²

¹ Master candidate in Educational Administration, Stamford International University of Thailand

² Assistant Professor, Lecturer, Stamford International University of Thailand

* Corresponding author, E-mail: 326690791@qq.com

Abstract: This study aimed to investigate the current level of students' medical service satisfaction in school hospitals at Shandong Union College in Jinan City, Shandong Province, and to understand the differences in demographic backgrounds. Using a questionnaire survey, 379 students from Shandong Union College in Jinan, Shandong Province, were selected through convenient sampling. The collected data was imported into SPSS for statistical analysis. The research showed that the students' medical service satisfaction in school hospital at Shandong Union College in Jinan, Shandong Province, was moderate. The students' medical service satisfaction in school hospital was significantly different in demographic backgrounds. Regarding gender, female students were more than male students in medical service satisfaction in school hospital. In terms of grade, seniors have the lowest medical service satisfaction in school hospital. Regarding registered residence, college students from rural areas were less than those from urban areas. In terms of monthly living expense levels, students with lower monthly living expense levels had higher medical service satisfaction in school hospital. Therefore, by improving the medical assistance system, promoting medical insurance policies, strengthening the responsibilities of the medical insurance handling department, improving the level of medical services in school hospital, implementing school hospital medical service plans, and other measures, it played a vital role in enhancing the satisfaction of college students with school hospital medical services.

Keywords: Shandong Union College, School Hospital, Medical Service Satisfaction

Introduction

The school hospital is a unique medical institution whose primary function is to provide medical and health services for faculty and students, including disease diagnosis and treatment, preventive healthcare, health education, and public health support. As an internal institution of universities, the school hospital has a unique role and value, playing a crucial role in the construction and development of universities. At the same time, the school hospital has long upheld a non-profit nature. The school

hospital's medical service model and structure have become an important issue that schools and hospitals cannot ignore (Yuan & Shen, 2016). However, with the deepening of the reform of colleges and universities and the increasing improvement of the social medical insurance system, the development in school hospital had been hindered to a certain extent, and the problem of survival and development had gradually attracted people's attention and thinking under the condition of many restrictions.

With the expansion of higher education in our country, the medical workload in school and hospital has also shown a significant growth trend. At the same time, with the health problems brought about by the aging of teaching staff, the high intensity of work for middle-aged and young teachers, and the increasing number of health problems caused by the decline in the physical and mental quality of students, higher requirements have been put forward for the medical and health services in school hospital. The reform in school hospitals is urgent (Zhang, 2014).

Due to the unclear positioning of school hospitals in national policies, the development of medical and health services in school hospitals continues to face problems. At the same time, colleges and universities have insufficient financial support and equipment investment in school hospitals, resulting in problems such as outdated medical equipment. To break through this dilemma, we must actively explore the development model that meets the school hospital's actual situation and needs, promote sustainable development in school hospital, and provide high-quality medical services for teachers and students.

Research Objectives

Based on the research questions, the research objectives of this study mainly included:

- (1) To understand the demographic backgrounds of the Shandong Union College students in Jinan, Shandong Province, including gender, grade, registered residence, monthly living expense levels.
- (2) To understand the current status of students' medical service satisfaction in school hospital at Shandong Union College in Jinan, Shandong Province.
- (3) To analyze the differences in students' medical service satisfaction in school hospital at Shandong Union College with different demographic backgrounds.

Literature Review

Research on Medical Services

The understanding of medical services was a constantly evolving process. With the progress of the times and the rapid development of technology, the general public's expectations were also subtly changing (Duan & Zhang, 2017). Generally speaking, after receiving treatment, patients need time to accumulate for physical recovery, which was a gradual process. Therefore, the evaluation of medical

services was unclear, and there was an undeniable time difference between medical services and outcome perception. At the same time, patients often lack professional medical knowledge for certain special medical service activities, making it even more difficult to make reasonable and comprehensive judgments on the technical level and ultimate effectiveness of medical services. Wang (2016) pointed out that in today's society, the once profoundly rooted biomedical model cannot comprehensively solve all the problems of patients.

Therefore, the biomedical model gradually evolved and sublimated, followed by a new concept - the integrated medical model. The integrated medical model has been endowed with more comprehensive and in-depth connotations. Li (2014) proposed that modern people's focus had far exceeded the disease itself, and they have begun to pay attention to the social and psychological factors hidden behind the disease, which profoundly impacts patients' physical and mental health. With the rise of integrated medical models, patients have become the mainstay and core of medical services. With the progress of the times and the change in people's health concept, the service scope of medical institutions had been quietly broadened, not only limited to the treatment of patients and the diagnosis and treatment of diseases but also pay more attention to the prevention and health care of diseases, rehabilitation physiotherapy and other diversified projects, which makes the connotation of medical services richer and more three-dimensional. Yang & Dou (2015) proposed that the standard for measuring the quality of medical services was no longer just the effectiveness of disease treatment but also included the communication skills and service attitude of medical staff, as well as the hospital's environmental facilities and medical expenses.

Research on Medical Satisfaction

Since the 1950s, the service industry has spurred a revolution around customers. This revolution has overturned traditional business concepts, making enterprises realize that they should focus on product quality and quantity and deeply explore and meet customer needs and expectations. Customer satisfaction has gradually become an essential benchmark for measuring the quality of enterprise services. In the field of healthcare, this change also had profound impacts. Hospitals began to view patients as necessary "customers", and patient satisfaction had gradually become a core indicator for evaluating the quality of medical services. Medical service satisfaction included evaluations of patients' professionalism in medical technology, friendliness of service attitude, comfort of medical environment, and rationality of medical expenses.

With the rapid development of the medical industry and the improvement of the hospital rating system, patient medical service satisfaction has been officially included in the evaluation standards of tertiary hospitals for the first time, becoming one of the critical evaluation indicators for hospital ratings. At the same time, with the gradual opening of the national medical market, medical institutions have begun to pay more attention to patient medical service satisfaction to meet increasingly diverse market

demands and compete for market share. Hospital managers were exploring how to scientifically and effectively evaluate the quality of medical services to improve patient satisfaction (Li & Cao, 2013).

Research on the Medical Service Model in School Hospital

The school hospital carried multiple health service functions, such as primary medical care, public health, health education, and preventive healthcare, and played a crucial role in campus life. There was a significant difference between university and purely profit-oriented social hospitals. Social hospitals focused on disease diagnosis and treatment and were only responsible for the diseases within scope. In comparison, the service scope in school hospital was more comprehensive, and the operating model and management philosophy needed to be closely aligned with the school's actual needs and campus culture. Therefore, the management and reform in school hospital should deeply consider unique functional positioning. They could not simply classify them as school logistics departments to ensure they could effectively fulfil core responsibilities in school health services.

Qian et al. (2011) deeply analyzed the differences between university and social comprehensive hospitals in research. As a non-profit and distinctive public welfare institution within universities, research the school hospital carried a unique mission and responsibility, focused on providing necessary medical and health services for teachers, students and staff, ensured the smooth progress of teaching and research work in universities. As a for-profit medical institution, the core business of social hospitals revolves around clinical medical services. Therefore, when performing essential functions, the school hospital needed to improve its ability to respond to public health emergencies continuously, ensure that it can respond quickly and effectively in emergencies, assume the health management responsibilities of teachers, students, and employees, and safeguard health.

Introduce the Background of Students' Medical Service in School Hospital at Shandong Union College in Jinan, Shandong Province

The School Hospital was located on the campus of Shandong Union College in Jinan, Shandong Province. It was a designated medical institution under medical insurance, carrying the medical and health needs of the college's teachers and students. As a comprehensive hospital, it provided clinical medical services and integrated multiple functions such as prevention, health care, and health education.

The outpatient department in the school hospital in Jinan City, Shandong Province, was a solid backing for the health of teachers and students, ensuring a rapid response in emergencies. It could diagnose and treat various common and frequently occurring clinical diseases and provide emergency first aid to provide teachers and students with timely and adequate medical assistance. The hospital implements a 24-hour duty system, providing medical support for all teachers, students, and families around the clock. In addition, according to the school's activity arrangements, the school hospital would arrange for medical staff to provide on-site services at freshman military training, sports meet, large-scale job fairs and other occasions, ready to respond to emergencies at any time.

Summary of Reviewed Literature

By integrating all the information, finding few research results on the satisfaction of medical services in universities and hospitals at home and abroad was not difficult. Based on the above research results, relevant studies on medical services, medical service satisfaction, and medical service models in universities and hospitals provide a theoretical basis for this study.

Methodology

After sorting out the problematic questionnaires, 379 valid questionnaires were collected and sorted out, and the effective return rate reached 99.74%. The questionnaire design was divided into the demographic background categories and the questionnaire on students' medical service satisfaction in school hospital at Shandong Union College, Jinan City, Shandong Province. Through the analysis of predictive questionnaire data, the Cronbach's α coefficient of the Medical Service Satisfaction Scale was 0.913, and the Cronbach's α coefficients of all dimensions were more significant than 0.8. The predictive questionnaire had a high level of reliability. Through formal questionnaire data analysis, the Cronbach's α of the Medical Service Satisfaction Scale was 0.917, and the Cronbach's α s for all dimensions were more significant than 0.7. The formal questionnaire had a high level of reliability. The validity of the predictive questionnaire was tested through factor analysis using SPSS. The results showed that the KMO was 0.837, and Bartlett's sphericity test was $p=0.000$, indicating that the factor analysis data had high validity.

Results

Demographic Analysis of the Respondents

Table 1: Demographic Backgrounds Analysis for Samples (N=379)

Demographic backgrounds	Group	Number	Percentage
Gender	Male	199	52.5
	Female	180	47.5
Grade	Freshman	96	25.3
	Sophomore	119	31.4
	Junior	97	25.6
	Senior	67	17.7
Registered residence	Rural	147	38.8
	Urban	232	61.2
Monthly living expense level	Below 600 yuan	54	14.2
	600 yuan -900 yuan	116	30.6
	900 yuan-1200 yuan	103	27.2
	Over 1200 yuan	106	28.0

Among the 379 questionnaires collected in this survey, there were 199 male students and 180

female students. Among the surveyed student grades were 96 freshmen, 119 sophomores, 97 juniors, and 67 seniors.

There were 147 students with registered residences in rural areas and 232 in urban areas. There were 54 people with monthly living expense levels below 600 yuan, 116 people with monthly living expense levels between 600 yuan and 900 yuan, 103 people with monthly living expense levels between 900 yuan and 1200 yuan, and 104 people with monthly living expense levels above 1200 yuan.

Statistical Analysis Results

The overall students' medical service satisfaction from Shandong Union College was moderate ($M=3.47$).

Table 2: Summary of Descriptive Statistics on Medical Service Satisfaction in School Hospital (N=379)

Dimension	M	SD	Interpretation
Satisfaction with medical insurance policies	3.48	0.59	Moderate
Students' medical service satisfaction in school hospital	3.66	0.76	Moderate
Satisfaction with medical experience	3.28	0.59	Moderate
Overall medical service satisfaction	3.47	0.51	Moderate

There were significant differences in the overall students' medical service satisfaction in school hospital of different genders ($T=-3.242$, $P=0.001$), indicating a significant difference in medical service satisfaction between male and female students. Female students had more medical service satisfaction in school hospital than male students.

Table 3: Difference Analysis of Students' Medical Service Satisfaction in School Hospital of Different Genders

Dimension	Gender	N	M	SD	T	P
Satisfaction with medical insurance policies	Male	199	3.44	0.53	-1.374	.170
	Female	180	3.52	0.64		
Satisfaction with medical insurance handling departments	Male	199	3.52	0.69	-3.658***	.000
	Female	180	3.80	0.79		
Satisfaction with medical experience	Male	199	3.21	0.56	-2.385*	.018
	Female	180	3.36	0.62		
Overall medical service satisfaction	Male	199	3.39	0.45	-3.242**	.001
	Female	180	3.56	0.56		

Note: * $P<0.05$, ** $P<0.01$, *** $P<0.001$

There were significant differences in the overall students' medical service satisfaction in school hospital of different grades ($F=8.526$, $P=0.000$). After LSD testing, the results showed that freshmen scored higher than seniors, sophomores scored higher than seniors, and juniors scored higher than seniors.

Table 4: Differences of Students' Medical Service Satisfaction in School Hospital of Different Grades

Dimension	Grade	<i>N</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>P</i>	<i>LSD</i>
Satisfaction with medical insurance policies	① Freshman	96	3.52	0.55	5.628**	.001	①>④ ②>④ ③>④
	② Sophomore	119	3.57	0.56			
	③ Junior	97	3.51	0.63			
	④ Senior	67	3.22	0.54			
Satisfaction with medical insurance handling departments	① Freshman	96	3.67	0.79	2.637*	.049	②>④
	② Sophomore	119	3.77	0.70			
	③ Junior	97	3.64	0.78			
	④ Senior	67	3.45	0.73			
Satisfaction with medical experience	① Freshman	96	3.34	0.56	9.763***	.000	①>④ ②>④ ③>④
	② Sophomore	119	3.42	0.58			
	③ Junior	97	3.28	0.59			
	④ Senior	67	2.95	0.57			
Overall medical service satisfaction	① Freshman	96	3.51	0.52	8.526***	.000	①>④ ②>④ ③>④
	② Sophomore	119	3.59	0.49			
	③ Junior	97	3.48	0.51			
	④ Senior	67	3.21	0.46			

 Note: * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$
Table 5: Differences Students' Medical Service Satisfaction in School Hospital in Different Registered Residences

Dimension	Registered residence	<i>N</i>	<i>M</i>	<i>SD</i>	<i>T</i>	<i>P</i>
Satisfaction with medical insurance policies	Rural	147	3.39	0.61	-2.425*	.016
	Urban	232	3.54	0.56		
Satisfaction with medical insurance handling departments	Rural	147	3.52	0.81	-2.691**	.008
	Urban	232	3.74	0.71		
Satisfaction with medical experience	Rural	147	3.17	0.63	-2.834**	.005
	Urban	232	3.35	0.56		
Overall medical service satisfaction	Rural	147	3.36	0.55	-3.343**	.001
	Urban	232	3.54	0.47		

 Note: * $P < 0.05$, ** $P < 0.01$

There were significant differences in students' medical service satisfaction in school hospital in different registered residences ($T = -3.343$, $P = 0.001$), indicating that students from rural and urban with medical services in school hospital. Students from rural were less satisfied with medical services in school hospital than urban students. There were significant differences in the satisfaction with medical insurance policies ($T = -2.425$, $P = 0.016$), the satisfaction with medical insurance handling departments ($T = -2.691$, $P = 0.008$), and the satisfaction with medical experience ($T = -2.834$, $P = 0.005$).

There were significant differences in students' medical service satisfaction in school hospital with different monthly living expense levels ($F = 8.715$, $P = 0.000$). After LSD testing, the results showed that students with monthly living expense levels below 600 yuan were more satisfied than those with

monthly living expense levels between 900 yuan and 1200 yuan. Students with monthly living expense levels below 600 yuan were more than those with monthly living expense levels above 1200 yuan. Students with monthly living expense levels between 600 yuan and 900 yuan were more than those with monthly living expense levels above 1200 yuan.

Table 6: Difference Analysis of Students' Medical Service Satisfaction in School Hospital with Different Monthly Living Expense Levels

Dimension	Monthly living expense levels	<i>N</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>P</i>	<i>LSD</i>
Satisfaction with medical insurance policies	① Below 600 yuan	54	3.70	0.49	5.942**	.001	①>③
	② 600-900 yuan	116	3.57	0.63			①>④
	③ 900 yuan-1200 yuan	103	3.39	0.61			②>③
	④ Over 1200 yuan	106	3.36	0.51			②>④
Satisfaction with medical insurance handling departments	① Below 600 yuan	54	3.90	0.60	5.221**	.002	①>④
	② 600-900 yuan	116	3.71	0.76			②>④
	③ 900 yuan-1200 yuan	103	3.68	0.78			③>④
	④ Over 1200 yuan	106	3.44	0.76			
Satisfaction with medical experience	① Below 600 yuan	54	3.49	0.55	5.867**	.001	①>③
	② 600-900 yuan	116	3.36	0.60			①>④
	③ 900 yuan-1200 yuan	103	3.25	0.61			②>④
	④ Over 1200 yuan	106	3.12	0.55			
Overall medical service satisfaction	① Below 600 yuan	54	3.70	0.43	8.715***	.000	①>③
	② 600-900 yuan	116	3.55	0.53			①>④
	③ 900 yuan-1200 yuan	103	3.44	0.52			②>④
	④ Over 1200 yuan	106	3.30	0.46			

Note: ** $P < 0.01$, $P < 0.001$

Hypotheses Test Results

Table 7: Research Hypothesis Test Results

	Research Hypothesis	Results
H1	There were significant differences in students' medical service satisfaction in school hospital at Shandong Union College in Jinan, Shandong Province in Jinan, Shandong Province, under different demographic backgrounds.	Valid
H1-1	There was a significant difference in students' medical service satisfaction in school hospital at Shandong Union College of different genders.	Valid
H1-2	There was a significant difference in students' medical service satisfaction in school hospital at Shandong Union College of different grades.	Valid
H1-3	There was a significant difference in students' medical service satisfaction in school hospital at Shandong Union College of different registered residences.	Valid
H1-4	There was a significant difference in students' medical service satisfaction in school hospital at Shandong Union College of different monthly living expense levels.	Valid

After a differential analysis of different demographic backgrounds among students at Shandong Union College in Jinan, Shandong Province, the research hypotheses were summarized based on the analysis results. The differential analysis results indicate that students' medical service satisfaction in school hospital from Shandong Union College in Jinan City, Shandong Province were moderate. There were statistically significant differences in students' overall satisfaction at Shandong Union College in Jinan City with different demographic backgrounds in school hospital.

Discussion

According to statistical analysis, the overall students' medical service satisfaction in school hospital at Shandong Union College in this survey was moderate compared to other dimensions. At the same time, the survey also reflects specific issues and has room for further improvement. Overall, the students' medical service satisfaction in the school hospital at Shandong Union College in Jinan, Shandong Province, was moderate. This conclusion was consistent with the research findings of Gao (2008).

The research showed that there were specific differences in the overall and various dimensions of students' medical service satisfaction in school hospital at Shandong Union College under different demographic backgrounds, as follows: Regarding gender, the survey showed a significant difference in male and female students' medical service satisfaction in school hospital. In terms of grades, the survey showed significant differences in the overall students' medical service satisfaction in school hospital of different grades. Freshman students scored higher than seniors, sophomores scored higher than seniors, and juniors scored higher than seniors.

Meanwhile, there might be differences in students' medical service satisfaction of different grades. Freshmen and sophomores might have relatively low expectations for the school hospital. Regarding place of household registration, the survey showed that there were generally very significant differences in students' medical service satisfaction in school hospital from different places of household registration. College students from rural areas were less satisfied with the medical services in school hospital than those from urban areas. In terms of monthly living expense levels, the survey showed that students with different monthly living expense levels have significant differences in overall students' medical service satisfaction in school hospital. The lower the monthly living expense levels, the higher the medical service satisfaction at the school hospital.

Conclusions

Conclusion 1: The students' medical service satisfaction in the school hospital at Shandong Union College in Jinan, Shandong Province, was moderate.

Conclusion 2: There were significant differences in gender, grade, registered residence, and monthly living expense levels among students at Shandong Union College in Jinan, Shandong Province. Regarding gender, there were more female students than male students. In terms of grade, seniors have the lowest medical service satisfaction in school hospital. Regarding registered residence, college students from rural areas were less satisfied with the medical service satisfaction in school hospital than those from urban areas. In terms of monthly living expense levels, the lower the monthly living expense levels, the higher the medical service satisfaction in school hospital.

References

- Andrew, N. G. (2004). Patient Satisfaction as a Predictor of Return to Provider Behavior: Analysis and Assessment of Financial Implications. *Quality Management in Health Care*, 1(31), 75-81.
- Bao, J. (2016). The application research of SERVQUAL evaluation method in the quality management of nursing services in outpatient departments of hospitals. *Jilin University*, 66-70.
- Cardozo. (1965). An Experimental Study of Customer Effort. Expectation and Satisfaction. *Journal of Marketing Search*, 244-249.
- Churchill, A. G. (1982). An Investigation into the Determinants of Customer Satisfaction. *Journal of Marketing Research*, 19(4), 491-504.
- Cleary, P. D. (1988). Patient Satisfaction as An Indicator of Quality Care. *Inquiry*, (25), 25-36.
- Duan, J.L., & Zhang, Q. (2017). A game model for quality competition in the medical service market. *Systems Science and Data*, 37 (12), 2389-2399.
- Gao, Q. (2008). The Diversity of Reform and Development in Higher Education Hospitals. *School Health in China*, (7), 669-670.
- Gui, X. Z., & Zhao, S. (2013). The application of service quality gap model in public hospital medical services. *Modern Hospital Management*, 11 (03), 35-37.
- Guo, G. Q., Jia, M.L., & Meng, J. (2013). Service marketing management China Renmin. *University Press*, (19), 283-300.
- Han, Y. (2005). *Customer satisfaction evaluation and empirical research*. Northeastern University of Finance and Economics, 47-50.
- He, Q.Y. (2017). *Research on Inspection Service Strategy of Health Management Center in a Large Third-Class Hospital Based on Perceived Service Quality Theory*. Southern Medical University, 76-78.
- Hu, W.L., & Wang, S. Y. (2007). Survey and analysis of satisfaction with outpatient medical services in tertiary hospitals in Xuzhou City. *Chinese Hospital Statistics*, 11 (14), 251-253.
- Huang, J.J. (2016). An Empirical Study on the Satisfaction Index Model in School Hospital - Taking XX University as an Example. *Anhui Normal University*, 22-23.

- Hunt, H. K. (1977). Overview and future research directions. *Conceptualization and Measurement of Consumer Satisfaction and Dissatisfaction*, 455-488.
- Junya, T. K. (2000). Effects of Patient Demands Satisfaction with Japanese Hospital Care. *Inter J for Qual in Health Care*, (5), 395-401.
- Kang, J. (2004). Research on medical service customer satisfaction evaluation system. *Zhejiang University*, 61-64.
- Li, H.X., & Li, J.R. (2015). A study on the satisfaction of college students in Wuhan with the service quality of campus hospitals. *China's Collective Economy*, (15), 165-167.
- Li, J., Yang, Z., & Meng, F. (2010). A review of research on patient satisfaction and its evaluation tools. *Modern Hospital Management*, (6), 4-7.
- Li, R.B., & Cao, Z.Y. (2013). Give full play to the functions in school hospitals and effectively ensure the health of teachers and students. *Management of Rural Health in China*, 22 (12), 1359-1361.
- Li, X.L., Ma, L.Y., & Min, C.L. (2012). Exploration of the current status and development direction in school hospital. *Chinese School Health*, (7), 862.
- Li, Z.Y. (2014). *Research on the evaluation of medical service quality and its influencing factors*. Jiangxi University of Finance and Economics, 49-51.
- Lin, B., Liang, Z., & Wu, W.F. (2008). A survey on the current status of 10 school hospitals in Guangzhou University City. *Chinese School Physicians*, (2), 44-45.
- Oliver, R. A. (1993). Cognitive, Affective, and Attribute Bases of the Satisfaction Response. *Journal of Consumer Research*, 20(3), 113-115.
- Philip, K. (2010). *Gary Armstrong*. Principles of Marketing, Sage publishing house.
- Tse, D. K. (1988). Wilton P C. Models of consumer satisfaction: An extension. *Journal of Marketing Research*, 25(2), 204-212.
- Turan, S. (2002). An exploratory of customer satisfaction. *Journal of American Academy of Business*, 2(1), 177-185.
- Westbrook, R. A. (1987). Product Consumption-based Affective Response and Post-purchase Process. *Journal of Marketing Search*, 24(3), 258-270.
- Wolf, M. H. (1978). The Medical Interview Satisfaction Scale: Development of a Scale to Measure Patient Perceptions of Physician Behavior. *Journal of Behavioral Medicine*, 4(1), 391-401.
- Yellen, E. (2002). The Measurement of Patient Satisfaction. *Nursing Care Quality*, 16(4), 23-29.
- Zeng, Y., & Li, S.M. (2014). The application of third-party evaluation in hospital patient satisfaction surveys. *Hospital Management Forum*, (7), 24-29.