



Effect of Outsourced Pharmacies of Rural Healthcare Centers on Service Quality in Abharand Soltanieh Counties

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ABSTRACT

Recently, a part of healthcare services has been assigned to the private sector to increase the quality of medical services, increase patient satisfaction and reduce costs. In this regard, the outsourcing approach has been significantly considered for pharmaceutical services provided by healthcare centers. The purpose of this study is to evaluate the effect of outsourced pharmacies of rural healthcare centers on service quality using structural equations modelling. The methodology used was descriptive using correlation by structural equations modelling. The studied population included those patients who provided their medicines from pharmacies of rural healthcare centers in Abhar and Soltanieh counties. The samples included 384 of these patients. Data was collected by outsourcing and service quality questionnaires. A structural equation modelling was used to analyze data by LISREAL software. Results indicated a positive significant effect of outsourced pharmacies of rural healthcare centers on quality of tangibles, reliability, responsiveness, assurance and empathy. findings emphasize the role of outsourcing on quality of services. Outsourced pharmacies of rural healthcare centers of Abhar and Soltanieh counties lead to improved service quality.

Keywords: outsourcing, service quality, healthcare centers

INTRODUCTION

Pharmaceutical services are a critical component of primary healthcare services [1]. As predicted, pharmaceutical services are provided in the first level of Iranian healthcare systems by considering structures such as pharmacy and pharmacist in healthcare centers [2]. Among subdivisions of healthcare providers, healthcare centers are significantly important, because they interact with a large part of the society and, more importantly, they are responsible for providing healthcare services for the society [3]. In practice, continuation of pharmaceutical services at healthcare centers has been diminished by challenges such as lack of trained pharmacist and increased cost of drugs supply. Many pharmacies of healthcare centers were closed since 1992 until 2007 (coinciding with the implementation of family physicians program) [2]. Despite the great importance of health sector, unfortunately, services provided by this sector lead to dissatisfaction in many cases; as these services are vital, very small errors are followed by large losses and irreparable consequences [3]. Currently, the topic of quality has challenged management of health organizations. Service quality is an important factor for growth, success and sustainability of the organization; it has been added to the management agenda as a strategic, effective and comprehensive subject [4]. As one of the most important determinants of success of organizations, service quality has been seriously considered in modern

competitive environment [5]. As part of health sector reform in Iran, one of the strategies is delegation of some public services to private sector (outsourcing), such as outsourcing of pharmaceutical services of healthcare centers [2]. Outsourcing refers to the transfer of services or functions - traditionally performed by the organization - to an outsider supplier, which controls them through a contract or cooperative [6]. Outsourcing has been presented as one of the approaches to maintain and develop competitive advantages in recent years. Some companies have recently started to outsource some of their activities in order to improve quality of services and products, reduce costs and production time, focus on main competitive advantages and, generally, increase effectiveness of the organization. By outsourcing their activities to other specialized agencies, organizations are better able to focus on activities which provide more added-value and maximize effectiveness of their activities [7]. Outsourcing has been common in many market-based reforms of healthcare systems. Increasingly, this approach continues in public sector of developing countries to purchase certain services of private sector [8]. In recent years, a part of healthcare services has been privatized in Iran to improve quality of health services, increase patient satisfaction and reduce costs. In this regard, outsourcing approach has been significantly considered for providing pharmaceutical services in healthcare centers [9]. Ineffectiveness of drug supply management systems which are controlled by public sector has been noted worldwide; it has been proposed and experienced to provide these services through or by collaboration of private sector as a solution [10]. It is critical for health care organizations to measure and manage service quality. Customer perceptions of service quality have a key role in shaping the health sector market. Reliable information on customer perceptions and expectations undeniably influence the improved quality of services provided by this sector. Providing sufficient information on content of customer perception of service quality can help organizations to identify dimensions which influence competitive advantage and prevent waste of resources [11]. The present study evaluates the effect of outsourced pharmacies of rural healthcare centers on service quality from perspectives of users and providers in Ardabil University of Medical Sciences.

MATERIALS AND METHODS

The present survey is an applied research using a descriptive-analytic methodology. The studied population included users of medical services provided by rural healthcare centers in Abhar and Soltanieh counties under supervision of Zanjan University of Medical Sciences. Data was collected from 384 users of medical services, selected by Cochran formula for infinite population using convenient sampling method. Moreover, data was collected by archival studies including textbooks, theses, and papers, scientific documentations of Iran and internet search for abroad papers. Valid questionnaires and face-to-face interviews were used to collect data from people referred to healthcare centers of Abhar and Soltanieh counties. In cases where the respondent was not able to respond, companions were asked to complete the questionnaire. The respondents were asked to provide their phone numbers to call them in case of ambiguity. Questionnaires were randomly distributed. Outsourcing was measured by a standard questionnaire developed by Handley [12]. A modified version of the questionnaire developed by Parasuraman [13] was used to measure dimensions of service quality; this modified version included several additional questions. Validity of this questionnaire was measured by experts and its reliability was calculated by Cronbach's alpha (>0.846). Outsourcing questionnaire was consisted of 10 questions measured on a 5-point Likert scale from strongly disagree (1) to strongly agree (5). Service quality questionnaire contained two groups of questions, general and specific. General questions measured data on age, gender and education. Specific questions (32 questions) measured dimensions of service quality including intangibles, reliability, responsiveness, assurance and empathy. Service quality questionnaire was measured on a 5-point Likert scale from strongly disagree (1) to strongly agree (5). Statistical software SPSS, Kolmogorov-Smirnov test, Pearson correlation test and Friedman test were used to analyze raw data collected by questionnaires.

RESULTS

As descriptive analysis of variables shows, the highest number of subjects were female (62.76%) and the rest were male (37.24%). Majority of subjects aged 20-30 years (40.62%) and minority aged 51 years and older (13.54%). Level of education of subjects ranged from high school diploma and lower (69.79%), associate degree (17.54%), bachelor's degree (10.16%) and master's degree (2.6%). Pearson correlation coefficient was used to examine the relationship between variables. Accordingly, a positive significant relationship ($p<0.01$) was found between outsourcing and tangibles ($r=0.46$), reliability ($r=0.37$), responsiveness ($r=0.43$), assurance ($r=0.50$) and empathy ($r=0.46$).

Table 1: correlation matrix of constructs (sample size = 384)

Variables	Outsourcing	Tangibles	Reliability	Responsiveness	Assurance	Empathy
Outsourcing	1					
Tangibles	0.46**	1				
Reliability	0.37**	0.67**	1			
Responsiveness	0.73**	0.46**	0.62**	1		
Assurance	0.50**	0.47**	0.55**	0.67**	1	
Empathy	0.46**	0.46**	0.43**	0.45**	0.56**	1

Confirmatory factor analysis was used to determine validity, discover internal structure of dimensions of the model and explore constituents of variables. As shown in Table 2, fit indexes obtained from confirmatory factor analysis showed good fitness of confirmatory factor analyses for all variables.

Table 2: fit indexes of variables

Index	Outsourcing	Tangibles	Reliability	Responsiveness	Assurance	Empathy
χ^2/df	1.92	1.37	2.55	1.56	2.37	0.45
RMSEA	0.048	0.031	0.064	0.038	0.06	0.000
GFI	0.97	0.98	0.97	0.99	0.96	1
AGFI	0.93	0.97	0.94	0.98	0.94	0.99
CFI	0.98	1	0.98	1	0.99	1
NFI	0.97	0.99	0.97	1	0.98	1

Table 3 shows results of confirmatory factor analysis for variables. As shown in the table, all factor loadings are out of the range (-2,+2) for all variables. Therefore, all factor loadings are significant at 99% level. Thus, all indexes defined for variables are significant. The table below lists the indexes contributing in explaining and measuring variables.

Table 3: results of factor analysis for variables

Variable	Component with the highest influence on dimension	Factor loading	Sig.
Outsourcing	Outsourcing of pharmaceutical services contributed to the improved customer satisfaction.	0.78	14.83
Tangibles	There are good amenities in the pharmacy.	0.77	6.7
Reliability	Documents and prescriptions are carefully checked. Services are provided quickly.	0.75	9.54 9.68
Responsiveness	Patient expectations are understood by staff. The pharmacy provides notifications which are helpful for patients.	0.85	17.25
Assurance	Employees are highly competent.	0.84	18.25
Empathy	Employees show that they understand patient requirements.	0.92	21.55

To analyze the structural part of the conceptual model, the relationships between internal and external hidden variables were considered to realize that whether the theoretical relationship between variables considered by the author when developing the conceptual framework was supported by the data. Figures 1 and 2 show fitness of the structural part of the conceptual model.

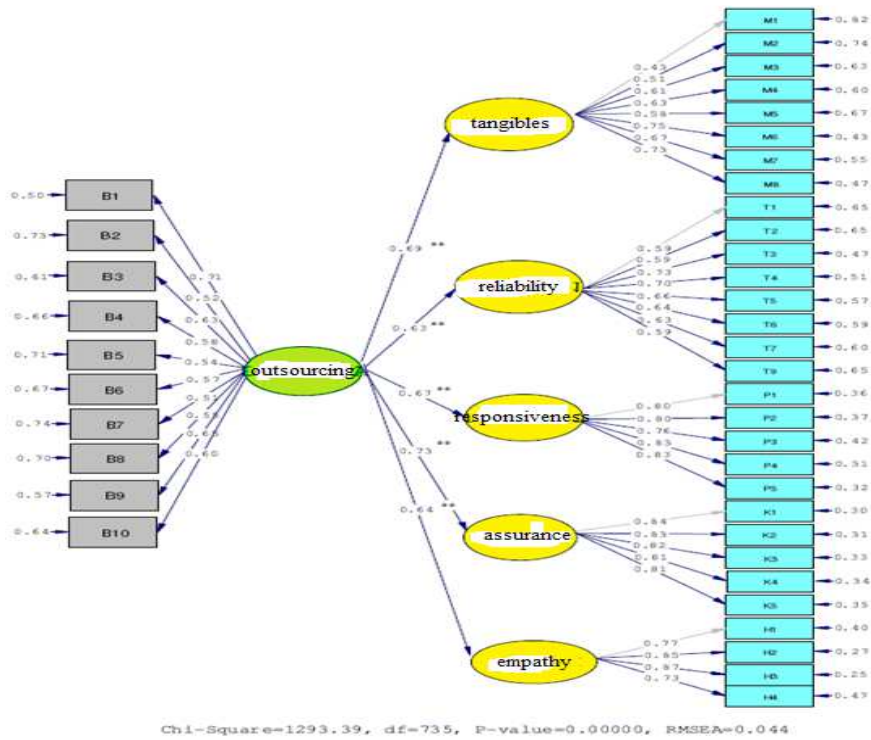


Figure 1: standardized coefficients of the tested model (*p<0.05, **p<0.01)

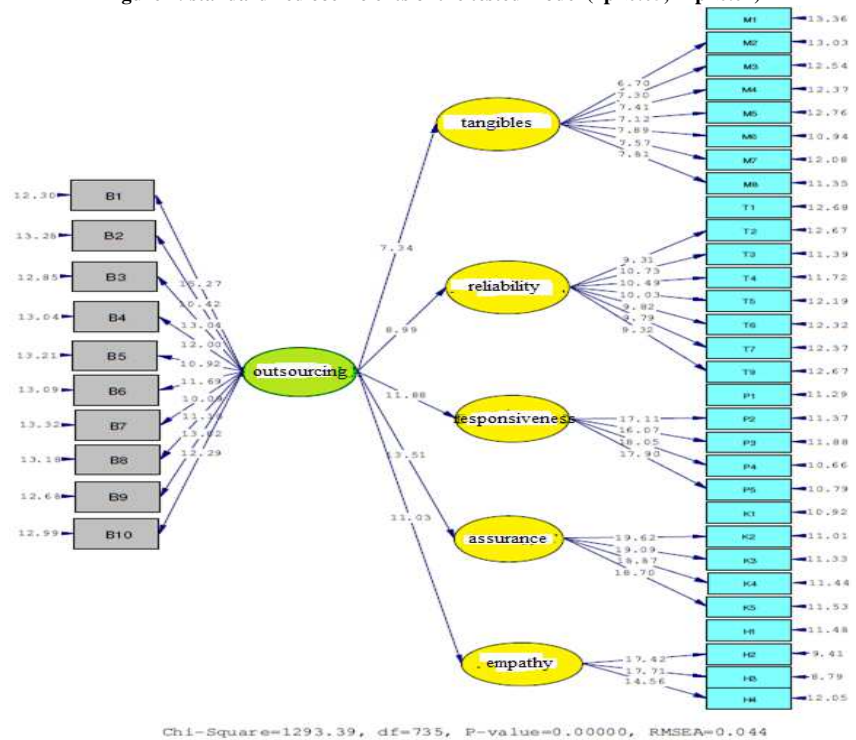


Figure 2: t-values of the tested model (*p<0.05, **p<0.01)

The fit indexes obtained for the tested model showed that the value of RMSEA was reasonable (0.044) and other fit indexes including CFI, GFI, NFI and AGFI were good (1, 99.96, 0.0 and 0.93, respectively). The goodness of fit

indexes suggested that the data was well fitted to the factor structure of the model; thus, the collected data could well explain and show the relationships in the conceptual model. Table 4 summarizes the results of structural equations modelling. Accordingly, all factor loadings (path coefficients) were significant at 99% confidence level.

Table 4: results of hypothesis

Hypothesis	Coefficient	t-value	Confirm	Reject
Outsourcing of pharmacies influences tangibles.	0.69	7.34	Confirmed	-
Outsourcing of pharmacies influences reliability.	0.73	8.99	Confirmed	-
Outsourcing of pharmacies influences responsiveness.	0.67	11.88	Confirmed	-
Outsourcing of pharmacies influences assurance.	0.63	13.51	Confirmed	-
Outsourcing of pharmacies influences empathy.	0.64	11.03	Confirmed	-

Based on the results summarized above, the present study showed that outsourcing positively and significantly influenced quality of services provided. Outsourcing had the highest effect on reliability ($\beta=0.73$, $p<0.01$) and the lowest effect on assurance ($\beta=0.63$, $p<0.01$).

DISCUSSION

Results of present study show that outsourced pharmacies of rural healthcare centers positively and significantly influence tangibles, reliability, responsiveness, assurance and empathy. Therefore, all hypotheses are confirmed. This finding is consistent with Tourani et al. [14], Omrani et al. [15], Salmani et al. [16], but inconsistent with Mohaghegh et al. [17]. Mohaghegh et al. [17] showed that outsourcing approach might fail in pharmacies of rural healthcare centers despite its promises for improving quality of cares and increasing patient satisfaction. Therefore, it is essential to consider the required measures such as clear and comprehensive contracts and effective mechanisms such as supervision and evaluation [17]. Omrani et al. [15] showed that outsourcing of laboratories as a managerial strategy has achieved its major goals in public sector such as attraction of private sector capital and management, elimination of cost and acquirement of profits, improvement of productivity and performance [15]. Tourani et al. [14] showed that outsourcing leads to efficiency and effectiveness of pharmacy [14]. Tan [18] showed that outsourcing of health services influences infrastructures, accessibility to essential drugs, basic medical supplies, laboratory equipment and vehicles.

CONCLUSION

Results of the current study show that proper outsourcing has a positive effect on perception of people of high quality of design and physical environment; people feel that quality of tangibles is better than before, reliability, responsiveness, assurance and empathy are better and this is due to the proper outsourcing. Therefore, it can be concluded that outsourcing of pharmacies is effective on environment, facilities and equipment of the pharmacy, provides additional welfare facilities, reduces the time spent to deliver services, provides security and tranquility for patients dealing with employees, provides high quality drugs, leads to direct immediate handling of complaints, commitment to regulations, increases competence of employees, increases the professional knowledge of employees to meet requirements, and increases trust of patients to capabilities of employees in satisfying their needs. Generally, current conditions of outsourced pharmacies suggest that accurate evaluation of material and spiritual needs of customers leads to proper empathy with expectations and conditions of customers.

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