

# Hospital Accreditation Questionnaire: Benefits of the Healthcare Professionals and the Organization

Surekha Rana, PreetiTyagi

**Abstract:** *The aim of this paper is to explore the psychometric properties of the freshly developed questionnaire on Hospital Accreditation. The items were outlined with the support of the previously existing scales and interface with the sampling unit. The questionnaire consisted of sixteen items and this questionnaire was distributed to the participants to take their responses. The sample consisted 110 healthcare professionals of Delhi-NCR hospitals. The results of reliability analysis of scale show that Cronbach's alpha value is 0.956. The reliability statistics match the optimal level of Nunnally's criteria and statistically acceptable for freshly developed scale. The exploratory factor analysis show that these sixteen items are loaded on two factors (benefits of the organization and benefits of healthcare professionals) and these two factors explain 70.813% total variance in hospital accreditation. The items of this questionnaire are outlined in such way that this questionnaire can be also valuable tool for assessment of benefits by organization and healthcare professionals from Hospital accreditation.*

**Keywords:** *Hospital Accreditation, Reliability and exploratory factor analysis.*

## I. INTRODUCTION

Internationally, 1970 to till date, accreditation programs of healthcare and accrediting organizations arisen and developed. The International Society for Quality in Health Care (ISQua), an international body and many national accreditation organizations has enrolled to become member in over 70 countries. Although it is impartial to say that participation in accreditation is inconstant, many parts of the world now recognized accreditation as vital element in quality improvement activities (Greenfield & Braithwaite, 2008). Accreditation is a laborious external assessment process that includes self-evaluation against a given set of standards, as on-site inspection followed by the report with or without recommendations and the award or denial of accreditation grade (Pomey et al., 2010). In India, National Accreditation Board for Hospital and Healthcare Providers (NABH), a constituent board of Quality Council of India (QCI) was established to activate accreditation program for Healthcare organisations. NABH accreditation system in India was founded in 2006 as an integral part of Quality Council of India (QCI). NABH released the first edition of accreditation standards in 2006 and in every 3 years the standards has been revised. The NABH 4th edition of

accreditation standards was issued in December 2015 and still currently in use.

The 'Malabar Institute of Medical Sciences (MIMS), Kerala' was the first accredited hospital by NABH in 2007 and till date 637 hospitals in all over India has accomplished accreditation by NABH. The General hospital, Gandhinagar, Gujrat was the first public hospital that got NABH accreditation in 2009.

The other International standards including Joint Commission International (USA), Standards of Accreditation in Health (Turkey), Haute Autorite de Sante (France), United Kingdom Accreditation Forum (UK), Australian Council on Healthcare Standards International (Australia), Accreditation Canada (Canada) and Saudi Central Board for Accreditation of Healthcare Institutions (Saudi Arabia). The International Society for Quality in Healthcare (ISQua), the apex body accredited the standards and the accreditors.

## II. HOSPITAL ACCREDITATION

Hospital accreditation is one of the factor that can cause changes in the hospital. Though, it has been promoted as a vital catalyst and it is consequently important that the effects of the accreditation be recognised and evaluated. Accreditation increasingly in use as a tool to guarantee quality care by government regulations in developing countries. The overall influence of Healthcare Accreditation is positive in hospitals and also improved the quality of healthcare (Park et al., 2017). Accreditation to a hospital stimulates continuous improvement and opportunity to benchmark with the best (Joshi, 2012). Perhaps hospitals consider the accreditation system as a source of bring changes in healthcare staff organization to influence the behaviour of them, physical facilities and overall safety (Duckett, 1983). Studies reported the impact of accreditation on the satisfaction of hospital employees and organizational commitment (Yeun, 2013), leadership and Managerial performance (Lee, 2014), organizational culture (Woo et al., 2013). Hospital accreditation program significantly benefited to the organization. The benefits accrued comprised of improvement in communication, staff commitment to best practice, availability of the information for assessment activities and quality care, improved structure for quality care, more focus on consumer, supports planned change, and staff management and development (Kreig, 1996). Jardali, 2014 revealed that training and education given to the staff to prepare them for

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**Dr. Surekha Rana**, Professor, Department of Management Studies, Dehradun, Gurukul Kangri University, Haridwar, Uttarakhand, India.  
(Email: surekharana@rediffmail.com)

**PreetiTyagi**, Research Scholar, Department of Management Studies, Dehradun, Gurukul Kangri University, Haridwar, Uttarakhand, India.  
(Email: rs.preetityagi@gkv.ac.in)

## Hospital Accreditation Questionnaire: Benefits of the Healthcare Professionals and the Organization

accreditation, helped employees to grow professionally. So, they perceive accreditation as a prospect for professional development. Accreditation eventually improve communication and collaboration among staff and management. Accreditation program has significant benefit to the organization (Kreig, 1996) and staff (Jardali, 2014).

### *Survey Instrument*

Very limited number of questionnaires are available in the literature to assess quality and outcomes in healthcare organizations, specifically related to the hospital accreditation (Jardali et al., 2008). Since Hospital Accreditation is a broader concept, so in this questionnaire, the framing of the questions was done in such a way that it covers all the aspects of the hospital accreditation. This questionnaire has been developed by researchers during the study on the basis of previous existing questionnaire and relevancy to current study. In this process all necessary and essential procedure regarding development of questionnaire has been followed by researchers. The developed questionnaire consists of items related to benefits of hospital accreditation that organisation and healthcare employees receives through hospital accreditation. Conceptual review regarding scale of hospital accreditation was done with the help of many research journals and online resources. Items were written on the basis of literature review and relevant scale available related to hospital accreditation. Hospital accreditation tool was adapted by Jardali et al. (2008) which was initially developed by Pomey et al. (2004) consisted of two sub-scales: staff involvement in accreditation (five items) and benefits of Accreditation (nine items). Further, Jardali et al. (2014) adapted the accreditation scale from Milner et al. (2007) was divided into three sub-scales- Accreditation Impact (fourteen items), Staff involvement in accreditation (twenty-two items) and Awareness of Accreditation (five items). Shammari et al. (2015) developed instrument on impact of hospital accreditation on patient's safety include nursing documentation, medication information and hospital infection each dimension consist of four items. Mandeep et al. (2014) developed questionnaire to gather the information on medical staff's attitude and knowledge of NABH accreditation. Most of the instrument were developed to measure the quality aspect of the healthcare but the researchers need was related to the benefits of accreditation from the healthcare professional's perspective. So, the researchers decided to develop the hospital accreditation questionnaire to fulfil the research need.

### *Framing of the items*

Initially 23 questions were framed regarding hospital accreditation assessment. Then these 23 items were presented to experts, and only those items were retained that gained expert maximum agreement. In this process 7 items were filtered out and only 16 items were retained. The 16 items were-

1. Accreditation stimulates the continuous quality improvement in the organisation.
2. Accreditation promotes uses of novel strategies to improve managerial processes in the organisation.

3. Accreditation ensures adequate and qualified staff to meet the services of the organisation.
4. Accreditation ensures the proper distribution of responsibilities to the management.
5. Accreditation improves work condition as work flow became more organised and systematic.
6. Accreditation enhanced the role of management and leadership.
7. Accreditation emphasize ethical management in the organisation.
8. Accreditation has given insight to implement safety plan and policies in the organisation.
9. Accreditation makes safe and secure environment in the organisation.
10. Accreditation ensures proper programme for the maintenance of equipment and infrastructure.
11. The hospital's participation in accreditation enables it to be more responsive when changes are to be implemented.
12. Accreditation enables the hospital to better use its internal resources (e.g. finances, people, time, and equipment).
13. Accreditation ensures mechanism of appropriate recognition and rewards for good performances.
14. Accreditation ensures mechanism for addressing the health needs of the employees.
15. Accreditation enable employees to perform their work with considerable freedom.
16. Accreditation improves integration of information among all the employees.

Then, this questionnaire was administered to the participants. A set of instructions were given to each participant that these twenty-three items are valued on five-point scale (strongly disagree, disagree, neutral, agree and strongly agree). When respondents rated their responses on each item, then their responses were entered in SPSS 20. Firstly, the sampling adequacy was checked through KMO statistic. The principal component analysis (Hotelling et al., 1933) with varimax rotation (Kaiser et al., 1958) technique was performed to measure the hospital accreditation psychometric parameters and dimensionality. The eigen value were observed and items having eigen value greater than one was retained (Horn et al., 1965; Patil et al., 2008). Subsequently, EFA was made grounded on correlation matrix (Shapiro et al., 2002). The following results have been obtained and reported.

## III. METHODOLOGY

### *Sample:*

The sample comprises of 110 healthcare professionals in Delhi-NCR Hospitals. The details of the sample characteristics are shown in Table 1.

**IV. RESULTS**

**Table1: Demographic characteristics of respondents (N=110)**

S.N O.	Demographic Variables	Total (N=110)	
		Number	Percentage
1.	Gender		
	- Male	38	34.5
	- Female	72	65.5
2.	Age		
	- Up to 30	60	54.5
	- 30+years	40	45.5
3.	Designation		
	- Doctors		
	- Nurses	15	13.6
	- Paramedical staff	58	52.7
	- Administrative staff	8	7.3
	- Administrative staff	29	26.4
4.	Employment Status		
	- Permanent	77	70
	- Temporary/Contractual	33	30
5.	Accreditation Status		
	- Accredited	73	66.4
	- Non-accredited	37	33.6

The demographic characteristics of the sample depict that majority of the sampling unit were female (65.5%), up to 30years (54.5%) and above 30years (45.5%), majority respondents were nurses (52.7%) followed by administrative staff, doctors and para-medical staff, 70% respondents were permanent employee and 66.4% hospitals were accredited.

*Validity through KMO Barlett’s Test*

The sample adequacy and the appropriateness of the factor analysis were measured through Kaiser-Meyer-Olkin (KMO). KMO is used to determine aptness of Factor Analysis. The table 2 shows the KMO statistics:

**Table- 2: Results of KMO and Bartlett’s Test**

	Kaiser-Meyer-Olkin measure of sampling adequacy	.914
Bartlett’s Test of Sphericity	Approx. Chi-square	1661.793
	Df	120
	Sig.	.000

\*Significance at 0.05

Kaiser (1970) recommends that if KMO value is above 0.5 then the sample is appropriate for factor analysis. For this data the value is above 0.9 so we are confident that the factor analysis is appropriate. Sampling adequacy predicts that the collected data is possible to factor well based on correlation and partial correlation.

**V. RELIABILITY**

The reliability of any scale is computed to ensure that measures are stable when used for repeat measurements. (Cortina, 1993) stated that Cronbach’s alpha is an appropriate test to demonstrate that a scale is reliable for future studies.

**Table- 3: Reliability analysis and corrected item-total correlation of 16 items hospital accreditation questionnaire**

Items of Hospital accreditation	Scale mean if item deleted	Scale variance if item deleted	Corrected item- total correlation	Cronbach’s alpha if item deleted
HA- ITEM1	59.19	117.092	.721	.954
HA- ITEM2	59.20	115.721	.815	.952
HA- ITEM3	59.06	118.592	.767	.953
HA- ITEM4	59.29	115.272	.796	.952
HA- ITEM5	59.35	115.347	.815	.952
HA- ITEM6	59.41	113.638	.830	.952
HA- ITEM7	59.32	117.613	.742	.954
HA- ITEM8	59.07	118.894	.803	.953
HA- ITEM9	59.19	118.871	.736	.954
HA- ITEM10	59.14	118.321	.720	.954
HA- ITEM11	59.16	118.450	.697	.954
HA- ITEM12	59.25	116.302	.814	.952
HA- ITEM13	59.38	115.413	.743	.954
HA- ITEM14	59.47	115.830	.703	.954
HA- ITEM15	59.59	119.950	.536	.958
HA- ITEM16	59.19	118.615	.710	.954
<b>Reliability coefficient (α) for 16 items after deleting seven items from questionnaire</b>			<b>0.956</b>	

HA: Hospital Accreditation

The reliability analysis show that Cronbach’s coefficient (α)= 0.956 for 16 items. The corrected item total correlation results show that range of item total correlation varies from 0.536 to 0.830.

# Hospital Accreditation Questionnaire: Benefits of the Healthcare Professionals and the Organization

**Table- 4: Exploratory factor analysis (factor loadings, Eigen value, Explained Variance) of the 16 items of Hospital Accreditation Questionnaire.**

Hospital Accreditation Items	Factor-1 Benefits of the Organisation	Factor-2 Benefits of healthcare professionals
HA-ITEM 1	0.683	
HA-ITEM 2	0.745	
HA-ITEM 3	0.764	
HA-ITEM 4	0.793	
HA-ITEM 5	0.857	
HA-ITEM 6	0.813	
HA-ITEM 7	0.785	
HA-ITEM 8	0.797	
HA-ITEM 9	0.719	
HA-ITEM 10	0.841	
HA-ITEM 11	0.644	
HA-ITEM 12	0.714	
HA-ITEM 13		0.803
HA-ITEM 14		0.818
HA-ITEM 15		0.905
HA-ITEM 16		0.703
% of Explained Variance	46.871	23.942
Total % of Explained Variance	70.813	
Eigen Value	9.839	1.491
Cronbach's Alpha	0.956	0.894

The exploratory factor analysis for the 16 item of hospital accreditation questionnaire show that these sixteen items account 70.813% of explained variance in hospital accreditation construct. The Eigen values are 9.839 for factor-1 and 1.491 for factor-2. The cut mark criteria for the factor loading are 0.40.

## VI.RESULTS &DISCUSSION

In this paper, the main aim was to measure the psychometric properties of the hospital accreditation questionnaire of healthcare professionals (working in hospitals). To carry out this assessment the exploratory factor analysis has been performed for sixteen items. The results of the exploratory analysis indicate that two factors emerged as latent factors and these factors are factor-1 (benefits of the organization) and factor- 2 (benefits of healthcare professionals). The items loaded on the benefits of the organization are twelve and items loaded on benefits of healthcare professionals are four.

### *Reliability of Hospital Accreditation*

The results of internal consistency were assessed with the help of split half method. The obtained result show Cronbach's  $\alpha = 0.956$ . The reliability of the hospital accreditation questionnaire is acceptable. The further results regarding the dimension wise reliability analysis shows that

Cronbach's coefficient for the benefits of the organization= 0.956 and for benefits of healthcare professionals= 0.894. This shows at baseline level for the dimension wise the reliability of the questionnaire is not only modest but also very good for newly developed scale. The results of reliability also indicate that these sixteen items are consistent parameter for the measurement of benefits received from hospital accreditation. The previous scales that have been used to measure the hospital accreditation focused mainly on staff involvement, benefits of accreditation, patient safety and medical staff attitude towards accreditation. This scale is developed to know the benefits of accreditation of organization and healthcare professionals separately.

### *Construct Validity*

The study provides evidence supporting the construct validity of the hospital accreditation questionnaire by performing Exploratory factor analysis and results show that two factors (benefits of the organization and benefits of healthcare professionals) are extracted from the sixteen items. The results show that these two factors explain 70.813% variance in hospital accreditation constructs. The factor-1 benefits of the organization explain 46.871% and factor- 2 i.e. benefits of healthcare professionals explains 23.942% variance in hospital accreditation construct. This result also indicates that these two emerged factors explain fair amount of variance in accreditation of hospitals. Initially sixteen items were finalised by the expert have been statistically tested by running the EFA through SPSS- 20.0. The results of EFA show that these 16 items were loaded on the hospital accreditation. This result also linked with that accreditation cannot be achieved without the collaboration of hospital staff especially the healthcare professionals. The healthcare professionals have direct participation in accreditation as major standards of accreditation linked to them. The accreditation has benefits to the organization and healthcare professionals (Mandeep et al., 2015). Directors of healthcare centres accentuated the benefits of accreditation to the organization, improved healthcare professionals and satisfaction of patients and strategic to enhance execution of accreditation (Jardali et al., 2014).

### *Limitations And Conclusion*

Several method limitations should be taken into consideration once construing the results of this study. Sample size was the foremost imperative limitation. The sample size was not comparatively big as compared to other studies of the psychometric validation of the scale. Another limitation of the scale is that it is only tested on the hospital population and only suitable for the healthcare professionals working in hospitals. This study used a probabilistic sample that limits the generalization of these conclusions to the overall population. Besides these limitations, the items of this questionnaire are framed in such a way that this questionnaire can be suitable in measuring the hospital accreditation benefits of organization and healthcare professionals.

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