Teamwork in Patient Care: Exploring the Case of Government Hospitals in Kerala

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ABSTRACT: *An organization is generally defined as a group of people working together for a common purpose. So the definition of organization itself underlines the existence of teamwork. Health care is an area where teamwork is especially important. Patient care delivery is an area where doctors, nurses and support staff have to complement each other's efforts. As such effective teamwork is inevitable to ensure proper care to the patients. Though different stake holders involved in care delivery process compliments each other's efforts, to what extent team work in its real sense exist at hospitals remains a question. This paper tries to assess the extent of joint effort existing at government hospitals in Kerala as perceived by the doctors working at these hospitals. Though factor analysis indicated that co-operation among doctors and nurses, sense of oneness among staff members etc. were considered important by doctors, regression results showed that effective team work hardly existed at government hospitals in Kerala.*

KEYWORDS: *Organizational effectiveness, patient care, self managed team, teamwork*

I. INTRODUCTION

An organization is defined as a group of people working together for achieving a common objective. So any organization will consist of group of people working together for a common purpose and such a group is usually referred to as a team. So the concept of teamwork is inevitable for any organization. It has also been argued that teamwork enhances performance through the increased scope it gives employees to use their knowledge, skills and abilities. This raises motivation, thereby reducing avoidance and enhancing employee retention [1]. While few researchers argue team based structures provides greater autonomy and empowerment to employees thereby increasing their productivity few others argue that though team based structures are highly prevalent in recent times teams may negatively affect employee productivity. A major argument in support of teamwork is that self managed teams usually give employees a sense of empowerment by increasing the extent of control that they can exercise in their immediate work environment [2]. Increased empowerment may lead to greater commitment on part of employees thereby increasing their output. It is also believed that teamwork facilitates employee learning and development by encouraging knowledge and skill sharing which is particularly important for individual and organizational performance in today's competitive world. In sharp contrast to this, researchers opposing the team concept argue that teamwork accelerates work pressure in employees [3]. It is also said that empowered teams result in reduced supervisory control which forces employees to internalize their control thus aggravating their work pressure ultimately leading reduced employee performance [4], [5], [6]. So like any other concept, teamwork also has its own merits and demerits. But the merits heavily outweigh its demerits. Moreover, there may be instances where teamwork becomes essential for accomplishment of organizational goals. As patient care is an activity to be jointly performed by doctors, patients and support staff, teamwork or team effort is a core element that must exist at every hospital. The case of government hospitals is no different from this. But to what extent teamwork exists at government hospitals in its real sense is a key area of concern. Hence, this paper tries to examine the extent of teamwork existing at government hospitals in Kerala.

II. STATEMENT OF THE PROBLEM

Health care is one area where team work cannot be overlooked under any circumstance. As such, the importance of teamwork in patient care by all the key stakeholders involved in patient care has been rightly emphasized in the existing literature on patient care. When it is the doctor who examines the patient and prescribes the medicines, it is the nurses with the help of support staff who ensures that proper medication is provided to the patients on time so that the patients are cured. All this will be fruitful only if the patients co-operate with the medication which is their role in the care process. So all the stake holders have to work in tandem with each other to ensure effective patient care. A slight mistake on anyone's part may lead to disastrous consequences. Hence, effective teamwork is a prerequisite for proper care delivery process. So this paper tries to

examine the key attributes determining the effectiveness of teamwork as well as the degree of existence of teamwork at government hospitals in Kerala as perceived by doctors.

III.   REVIEW OF LITERATURE

A review of earlier research work over the last decade indicated that teamwork generally has a positive impact on operational measures of organisational performance [7].Self-managed teams were always linked with significantly higher levels of perceived maturity, employment security and satisfaction for workers and were successful in improving objective performance measures [8].In an economy in which employee proficiency and specialist knowledge are increasingly important to corporate performance, teamwork can facilitate employees' culmination of task-specific human capital by encouraging mutual and collaborative learning processes. This is predominantly likely to be the case for diagnostic skills in complex systems where on-the-job learning is a precondition for obtaining the necessary knowledge and for the acquisition of implied skills, where learning from others is likely to be the most vital source of skill development. For instance, research on the software development industry has shown team-based learning is crucial for engineers' knowledge acquisition [9].

The adoption of teams at the plant level enhanced worker productivity even after taking into account the selection of high-ability workers into teams [10].A fundamental argument for linking teamwork to higher productivity is that it gives employees a sense of empowerment by increasing the control they can have over their immediate work environment [11].Workers with greater control over their jobs are likely to feel more dedicated to their organisations and more content with their jobs. As a result, they will be more willing to use more discretionary attempt, thereby enhancing organisational performance [12].

The above clearly shows the importance of teamwork in ensuring organizational effectiveness.

IV.   OBJECTIVES OF THE STUDY

1)   To identify the key factors impacting the effectiveness of teamwork at government hospitals in Kerala.
2)   To find out whether there existed significant difference in the perception of male and female doctors regarding the existence of teamwork at government hospitals in Kerala.

V.   METHODOLOGY

The researcher followed a descriptive approach in conducting the study. Data were collected from doctors at various districts and general hospitals across Kerala. A structured questionnaire was administered among a sample of 240 doctors identified at the convenience of the researcher from various government district hospitals across Kerala .The questionnaire was framed in such a way as to elicit the opinion of respondents on various aspects relating to teamwork at hospitals like the extent of co-operation between doctors, nurses and support staff, extent of co-operation among nurses, sense of unity among staff members etc. The collected data was then analyzed using factor analysis. Factor analysis tries to bring inter-correlated variables together under more general, underlying variables. More specifically, the goal of factor analysis is to reduce "the dimensionality of the original space and to give an interpretation to the new space, spanned by a lower number of new dimensions which are supposed to underlie the old ones" [13], or to explain the variance in the observed variables in terms of underlying latent factors". In the present paper, factor analysis was done to identify the key variables impacting the effectiveness of teamwork at government hospitals and to group them into certain factors based on common properties. The factor scores thus obtained were then subjected to multiple regression analysis. Multiple regression is a statistical technique that allows us to predict the value of one variable on the basis of values of several other variables. There will be two set of variables – predictor variables which are helpful in predicting the values of other variables and the criterion variables for which the values are predicted based on the values of predictor variables. This statistical technique can be used while exploring linear relationships between the predictor and criterion variables. Multiple regression analysis helps us to understand the significance level of different dependent variables in relation to one or more independent variables and also to identify the most significant factor(s) [14].In this paper regression analysis was performed to find out whether there existed significant difference in the perception of male and female doctors regarding the existence of effective teamwork at government hospitals in Kerala. SPSS version 16 was used to analyze the data.

VI.   DATA ANALYSIS
Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.878
Bartlett's Test of Sphericity	Approx. Chi-Square	1.012E3
	Df	21
	Sig.	.000

Source: Survey Data

The KMO value varies between 0 and 1. A value of 0 indicates that factor analysis is inappropriate for the data and a value of 1 indicates that factor analysis will yield distinct and reliable results. A value of 0.5 or above means that the sample is adequate and we can proceed with factor analysis whereas if it is bellow 0.5 we have to collect more data [15]. As seen from Table.1 the KMO value for our data is 0.878 which means data is adequate and we can go ahead with factor analysis.   For factor analysis to work there has to be some kind of relationship between the variables and this is tested using the Bartlett's Test of Sphericity. This test indicates whether factor analysis is appropriate for a given set of data. Factor analysis can be considered appropriate for a data only if the significance value is less than 0.05 [15]. As the significance value for the present data as shown in Table.1 is 0.000, factor analysis is appropriate for this data.
As the present data set satisfies both KMO test and Bartlett's test, factor analysis is appropriate.

Table 2: Communalities

	Initial	Extraction
Existence of good co-ordination among doctors, nurses and support staff	1.000	.701
Extent of help and support received from nurses in patient care	1.000	.692
Existence of good co-operation among nurses	1.000	.644
Extent of help and support received from support staff in patient care	1.000	.612
Existence of co-operation between nurses and support staff	1.000	.701
Extent to which doctors, nurses and support staff jointly take up the responsibility of patient care	1.000	.606
Existence of sense of oneness among all staff members	1.000	.506

Extraction Method: Principal Component Analysis
Source: Survey Data

Table 2 explains the communalities before and after extraction. Principal Component Analysis works on the assumption that all variance is common. So before extraction all commonalities are 1. Column two, i.e., the extraction column indicates the percentage of common variance associated with each question. Hence from Table.2, we can find that 70.1 percentage of variance associated with the variable 'Existence of good co-ordination among doctors, nurses and support staff ' is common, 69.2 percentage of variance associated with the variable 'Extent of help and support received from nurses in patient care' is common and so on. The table clearly shows the percentage of common variance associated with each variable. The highest percentage of common variance is in the case of 'Existence of good co-ordination among doctors, nurses and support staff' as well as 'Existence of co-operation between nurses and support staff' and lowest is in the case of 'Existence of sense of oneness among all staff member'

Table 3: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.461	63.727	63.727	4.461	63.727	63.727
2	.853	12.187	75.914			
3	.459	6.563	82.477			
4	.395	5.638	88.114			
5	.358	5.113	93.227			
6	.263	3.751	96.978			
7	.212	3.022	100.000			

Extraction Method: Principal Component Analysis
Source: Survey Data

Table 3 explains the eigenvalues before and after extraction. Before extraction there are 7 eigenvalues as there were 7 variables included in the analysis. The eigenvalues associated with each factor shows the variance associated with each factor; it also shows eigenvalues in terms of percentage of variance. For e.g. the first factor, i.e., '*Existence of good co-ordination among doctors, nurses and support staff*' explains 63.72 percentage of variance; second factor explains 12.18 percentage of variance and so on. It is clear from Table 3 that the first few factors explains relatively larger amount of variance when compared to the later ones. The second part of the table labelled as 'Extraction Sum of Squared Loadings' shows those factors with eigenvalues greater than 1. From Table 3 it is clear that only one factor was extracted. So all the variables included in the analysis namely '*Existence of good co-ordination among doctors, nurses and support staff*', '*Extent of help and support received from nurses in patient care*', '*Existence of good co-operation among nurses*', '*Extent of help and support received from support staff in patient care*', '*Existence of co-operation between nurses and support staff*', '*Extent to which doctors, nurses and support staff jointly take up the responsibility of patient care*', and '*Existence of sense of oneness among all staff members*' loaded across a single factor '***Joint Effort in Patient Care***'.

Hence the seven variables included in the analysis converged to a single factor named ***Joint Effort in Patient Care.***

To further refine the results, factor score obtained through factor analysis was subjected to regression analysis by taking gender of respondents as the dependent factor at 5 percent significance level.

H0: There is no significant difference in the opinion of male and female doctors regarding the existence of joint effort in providing timely patient care timely at their hospitals.

Table 4: Regression Coefficients

	Model	Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	1.446	.032		44.884	.000
	Joint Effort in Patient Care	-.010	.032	-.021	-.322	.748

Dependent Variable: Gender of Respondents
Source: Survey Data

From regression results (Table 4) it was concluded that the factor that emerged after principal component analysis was found to be insignificant as far as gender of respondents was considered. Hence it was concluded that joint effort in patient care hardly existed at govt hospitals and there was no significant difference in the opinion of male and female doctors regarding this factor. H0 was thus accepted.

VII.   CONCLUSION AND LIMITATIONS OF THE STUDY
From the above discussions we can conclude that various factors like 'Existence of good co-ordination among doctors, nurses and support staff', 'Extent of help and support received from nurses in patient care', 'Existence of good co-operation among nurses', 'Extent of help and support received from support staff in patient care', 'Existence of co-operation between nurses and support staff', 'Extent to which doctors, nurses and support staff jointly take up the responsibility of patient care', and 'Existence of sense of oneness among all staff members' were important in ensuring teamwork or joint effort it patient care, both male and female doctors felt that it hardly existed at government hospitals in Kerala. Hence, the authorities concerned must consider this seriously and make all possible efforts to induce team spirit among employees which is very essential for effective patient care delivery.However as the conclusions are solely based on analysis of inputs provided by the surveyed doctors, there is always a chance of bias in the response provided which may get reflected in the findings as well. Moreover, the findings of the study should be generalized cautiously. However, there is always a scope to extent the study to Private sector, co-operative sector etc. as well as to other states.

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