

ROLE OF CLINICAL GOVERNANCE TOWARDS RISE IN PUBLIC HEALTH DELIVERY UNDER MEDIATING EFFECT OF MANAGEMENT PRACTICES

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ABSTRACT: *The aim of this study was to check the mediating role of management practices in relationship with clinical governance and performance of health care organizations in Pakistan. This quantitative study based on Baron and Kenny mediation model, contributed to existing stream of knowledge and elaborated that management practices can support the relationship of clinical governance and performance. The analyses of responses of 185 Medical Officers of various districts of Punjab-Pakistan, working in peripheral health centers; Basic health Units (BHUs) and Rural Health Centers (RHCs), have indicated that management practice has a mediating role and it can serve as a source of improving organizational performance in healthcare sector. The study developed a model for healthcare system demonstrating the necessity of management practices for well performing health organization. It elaborated those impediments which are necessarily required for improvement of this sector.*

Keywords: Primary healthcare, Management practices, Performance, Clinical governance, Skill, Autonomy.

INTRODUCTION:

Physical health is the most important constituent of human life. Hospital, Non-governmental relief organizations, Private clinics & Dispensaries at district and local level have helped people in modern times. Public Health care system in Pakistan is not capable to meet millennium development goals (MDGs) in the near future; country is facing frequent epidemics like Dengue fever, Polio, Measles etc. and has one of the highest fertility and mortality rates (IMR & MMR) in the world. The rates of mother and infant mortality are high. There are numerous reasons behind this condition; one of them is the lack of implementation of management practices in relation with clinical governance. Healthcare workers, working in health care units are versatile in their skill, autonomy and other factors still the improvement, which was requisite, is not seen in the field. Management practices are surely related to quality of service and better output of hospital [1]. Proper management can enhance quality of service and performance in this sector as is shown in others and by successful management, health sector can provide a chance to nations towards improvement in both the productivity and quality of their health care facilities.

Better management coupled with good leadership, lead to get assurance from stake holders of healthcare service providers through responsible, creative and effective utilization of staff and additional resources [2].

The important factors like skill, size, ownership and autonomy, have their individual importance in management practices [1, 3]. They are specifically part of the umbrella concept of clinical governance. It is common observation that skilled managers are more productive and efficient in every field of life.

Reason to work on primary healthcare

Primary healthcare is the initial point of interaction in the health structure for public. In this area, doctors, paramedics and associated health staff deliver medical facilities. A diverse healthcare system prevail in Pakistan; with 20 percent public sector share for delivering health services to nation; and a leading private sector, for the remaining population; delivering profit oriented health facilities [4].

Primary healthcare units deliver unified and approachable healthcare facilities with the help of practitioners, who are responsible to provide health services to general public according to their needs, thus evolving a persistent and endless link with patients, and help increase benefits related

to family and community. Thus primary healthcare is a prerequisite and entrance of the health system [5]. Effective primary healthcare is directly related to high health services, increased life expectancy and low hospitality costs [6]. There is a big pressure on primary health care to deliver more effective and efficient health care with available partial resources [5]. Demand for primary health care is increasing day by day due to endemic diseases, long life expectancy, and improved technology [6].

Organization of health care in Punjab, Pakistan:

Punjab is the largest province of Pakistan having more than half of population of country. Even having a wide health system in province yet Punjab is giving un-desirable healthcare results. 77 children die out of 1000 live births, 112 children out of 1000 live births die before reaching 5 years age, maternal deaths are 300 per 100,000 below the national level of 350, and fertility rate is 4.7%. About 92% of the population has access to clean drinking water, while 58% population has sanitation access. 4 million children are malnourished in Punjab; this malnutrition contributes to major maternal and infant mortality, 1/3 of pregnant women are suffering from anemia [7]. Now the issue is to project a strategy to encounter such challenges.

CLINICAL GOVERNANCE:

Clinical governance is a concept covering many aspects. Literature gives a lot of contributions in defining this term [8] believe for having no reasonable definition of clinical governance. [9] (Onion, 2000) elaborates clinical governance as the term intended to ensure good clinical practices and its promotion [10, 11, 12, 13]. Clinical governance is a wide-ranging concept which adds support to identify its factors [14]. It gives a combined approach to quality enhancement and brings its all aspects under one shade; joining clinical and administrative aspects and a base for clinical liability. A major function of clinical governance is to develop professionalism and its monitoring. It extensively includes dissimilar functions like detecting and managing skill development, performance and its appraisals, regulation and others. Organization and clinical staff perceives clinical governance differently [15]. Creation of mixed symbolic image of clinical governance shows its fundamental ambiguity in its precise definition [11]. Clinical governance has lack of common understanding and there exists a dispute in its definition. There is a big difference in documented and

practical clinical governance [16, 17, 18, 19, 20, 21, 22]. Well elaborated framework explaining clinical governance in many dimensions like; organizational structure and system, applicable standards, monitoring, accountability and responsibilities, assurance and professionalism in internal and external aspects [23]. Clinical governance is conceived to support and ensure good management practices [9] and analysis of this study is also demonstrating the same phenomenon. Current study considers clinical governance as the concept covering factors such as; professional skill, administrative authority in terms of autonomy and size of organization etc.

Clinical skill:

Skill of medical officers can be assessed in so many ways, but in this study it is assessed in form of quality of service. It is commonly observed that hospital with more clinically skilled supervisors (as validated by having a Medical degree) were also the ones with better general managerial excellence. Typically the supervisors holding clinical degrees have, generally, better management practices [1].

Autonomy:

Of course, higher-performing health facilities have managers (who are regularly clinicians: Medical officers (MO)) with more prominent level of independent authority than lower-performing health centers. Authority is dominant because it is one of the strongest motivator (money related or non-monetary) for healthcare managers [3].

MANAGEMENT PRACTICES:

Management practices are certainly connected with higher profit & effectiveness [3]. Hospital related management practices are categorically linked with their nature of patient care and profitability. Enhanced management practices in hospitals are connected with essentially lower death rates, better fiscal execution and higher rates of staff satisfaction. Management practices widely differ globally. There is a solid and reliable relationship between various variables and successful management practices, specifically skill and size [1]. Government organizations are more bureaucratically administered and managers in them are less materialistic and authoritative due to which have lower organizational commitment. There is comparatively insignificant research on the application of management practices to government organizations equated to applications in non-government manufacturing and service organizations [24], because government organizations have unclear goals and uncertain performance objectives [25]. While [26,27] argued repeatedly that government organizations have exceptional goals, such as liability and accountability, which are not seen in private organization. Suggestion is that Public organizations like schools and hospitals can enhance their effectiveness through management practices and tools which are also applicable in manufacturing organizations [28, 29, 30].

Nearly two decades ago, some of the governments started testing quality management and their practices in their respective departments having intention to get some way of delivering good services during recession. [31, 32] it is deduced that the use of quality management practices can produce problems like customer identification, unsuitable stress on ideas and procedures and top management involvement which is seldom seen in public sector. Political

restraints end unrepeated variations in procedures and the burden of short time casts limits on public managers.

HEALTHCARE PERFORMANCE:

WHO defines healthcare system as “all the actions which are related to promote, reinstate or preserve health” [33]. Such actions are ranging from service delivery aspect by government hospitals to public based health activities for community health awareness. Performance assessment starts by defining objectives to be attained. So here we follow the WHO and define objective of health system as the provision of actual, curative and preventive health services to public by saving public's costs. In-short it leads to the concept of quality of service. Quality of service includes factors like counseling of doctors to patients, time given to patients, patients' experience and duration of treatment in hospital [34] whether the health staff resolve the problems of patients, value their cultural customs, answer in their language, with friendly and good quality of service.

In other words: the total features and properties of service which stands on its ability to fulfill a need [35]. Research shows that most influencing factors in service quality are: staff behavior, clinic outlook, time of availability and service provided [36, 37].

The SERVQUAL instrument has 5 extents to evaluate the quality of services: reliability, responsiveness, assurance, empathy and tangibility [38]. The purpose of utilizing this concept periodically is to measure the level of patient satisfaction with the health facilities by following these aspects of service quality [39].

Hospital quality of service:

Presently it is increasing trend in health care services to expect more medical care due to changed living standards. Patients need improved healthcare services as their primary concern, and alternatively healthcare industry also taking this issue important to satisfy public needs [40, 41].

Service quality model became important for public after study of [42] gave many aspects of service quality ranging from expectation and perception of customers to performance of service providers. Additionally [42, 38] described a five dimension model named as SERVQUAL. The dimensions of SERVQUAL are tangible, responsiveness, reliability, empathy and assurance. This model gave a complete concept of service quality along with instrument for its measurement, through which service quality became more practical and applicable in healthcare industry [43, 44, 45].

Several researchers including [46, 47, 43, 48, 41, 49, 50, 51, 52, 53] have proposed the concept of service quality. [54] Proposed seven service quality dimensions in healthcare system; Infrastructure, process of clinical care, staff quality, administration, medical care experience safety and social responsibility. [47] it has given a five dimensional model on service quality; overall service, admittance in hospital, social responsibility and discharging process. While [55] proliferated these healthcare services quality dimensions as: admission process, discharging way, surroundings environment, nursing care and sympathy of family & friends [56, 57]. All checked SERVQUAL in Asian perspective. The service quality exists in the relationship of patient and service providing staff like nurse; doctor etc. [58], [59] explained that patients perceive service quality on three features: surrounding environment, Communication quality and result outcome quality. Additionally [59] said that these dimensions

lead to patients' perception. [41] Found six dimensions of service quality; physical surroundings and food, relationship of patients & staff, professionalism, empathy and importance to indoor patients.

The patients' assessment experience is affected by their perception related to hospital services [60,61, 62, 63, 64]. Such results are related with communication and interaction of patient with doctor and other hospital staff [65]. Treatment and medical services are inter-related with each other [66]. This is not easy to differentiate and finalize about any single dimension for service quality, therefore this study can provide a better understanding related to SERVQUAL model in healthcare perspective. Hospitals of various backgrounds are different in their operations and service quality, hence offering service quality as per their domain [67]. Analysis of current study also proved a strong relationship between performance in terms of quality of service with management practices and clinical governance. Because Clinical governance is an integral part of system without which performance may be affected.

MATERIALS AND METHODS

Research methodology:

This study was conducted to check "Role of Clinical Governance towards rise in Public Health Delivery under mediating effect of Management Practices". The researchers used quantitative research methodology for estimation of management practices, clinical governance and healthcare performance. It was an exploratory research done through primary sources. Survey was conducted in BHUs and RHCs of various districts of Punjab, Pakistan where the questionnaires were rated by medical officers who are MBBS. The researchers used SPSS 21 for questions data analysis of the responses taken from the respondents on 5 point Likert's scale, starting from 1=SD Strongly Disagree to 5=SA Strongly Agree. The researchers chosen quantitative method for conducting research because management practices, clinical governance and performance of PHC can be calculated through quantitative research. The clinical governance computed through 2 constructs which are Skill and Autonomy. Management practices computed through 6 dimensions. The Performance of PHC computed through 5 constructs of Service Quality which are Tangible, Reliability, Responsiveness, Assurance and Empathy. The mediating effect of management practices was calculated in relationship of clinical governance and health care performance through Baron and Kenny 1986. In this study convenient data sampling technique was used. The data was taken from health sector employees (i.e. M.Os) through self-administered questionnaires.

The reason to choose convenient sampling is availability of respondents and low cost as the research was unfunded. 300 questionnaires were sent, out of which 185 questionnaires were received with response rate of 61.6%. 151 questionnaires out of them were chosen for data analysis. The missing values were replaced with the central value so that it does not affect the results of analysis.

Measurement and conceptual model: Based on detailed literature review a conceptual framework model was made as shown in fig. 1. There were 3 variables for measurement; Clinical governance, Management practices, Performance

of PHC. The items which were retrieved from literature [38, 44, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 1,78, 79, 5]. 5-point Likert scale is used.

Results and Discussions

Reliability:

The questionnaire was completed by different respondents, so to test questionnaire's internal consistency against each item, reliability analysis was carried out. Overall, Cronbach's alpha value for the sample was 0.885 (as shown in Table. 1), which shows an excellent statistical internal consistency of responses to questionnaire items across participants.

Correlation:

Correlation analysis explains the linear relationship between two variables through correlation coefficients (r) values range between -1 to +1. The positive sign of correlation was for direct relationship between the variables and negative sign was for indirect relationship. It also explained the magnitude of the relationship among the variables. As per (Cohen, 1988) [81], if value of Coefficient of Correlation r is in the range of 0.10 to 0.29 then there is weak correlation. Similarly $r=.30$ to $.49$ is for moderate relationship and $r=.50$ to 1.0 is for Strong relationship. All the results are statistically significant. (as shown in Table. 2)

MEDIATION:

Regression: Step1 Independent on Mediator (clinical governance to management practice)

According to (Baron & Kenny, 1986) [82], the first step of mediation is to check that the independent variable is affecting mediating variable which is quite clear from the table below. R square was showing that independent variable (clinical governance) was explaining 13% variance in mediating variable (management practice), so there is some association in clinical governance and management practice. The variance is square of standard deviation and standard deviation tells about the difference of each item in a data set from a specified value which is taken as a standard to see how much change is experienced between standardized values and rest of the values in the data set.

In ANOVA table showed that at $p<0.001$ the F was 22.287, which indicated that our regression model significantly predicted the management practice.

If there is 1 unit change in clinical governance then there is 0.437 times change is predicted in management practice. The result was significant as shown in table 3.

Regression: Step 2 Independent on Dependent (Clinical Governance on Performance)

The independent variable clinical governance was explaining 15.6% variance in Performance which indicated that rest of the variance was due to unknown factors. ANOVA table showed that at $p<0.001$ the F was 27.450, which indicated that our regression model significantly predicted the management practice on the basis of clinical governance.

If there is 1 unit change in clinical governance then there will be 0.442 unit change in performance with significant results shown in table 4.

Regression: Step 3 Independent and mediator on dependent (clinical governance and management practices on performance)

Both clinical governance and management practice explained 68.1% variance in performance. The remaining variance was due to unknown factors.

ANOVA table showed that at $p < 0.001$ the F was 64.126, which indicated that our regression model significantly predicted the performance on the basis of clinical governance and management practice.

But still there was insignificant relationship between clinical governance and performance because the value of Sig. level is 6%. For mediation, the regression results of independent variable in presence of mediating variable must give insignificant results [81]. So it proved that in the presence of management practice (mediating variable), which was insignificant as shown in table 5.

Regression: Output comparison Step 4

There was strong mediation because the regression results of clinical governance on performance are insignificant and value of clinical governance in regression step 3 is 0.201 which is lesser the value of clinical governance in regression step 4.

Indirect effect is calculated manually by Sobel test. Value of Z-statistic is 4.183 with S.E 0.058, having significance level .000, hence indirect effect of mediation is .111, as shown in table 6.

According to Baron and Kenny 1986, there is strong mediation if all the regression has effect between:

1. Independent variable and mediating variable (Independent variable must effect mediating variable).
2. Independent variable and dependent variable (Independent variable must effect dependent variable).
3. Independent and mediating variable on dependent variable (Independent and mediating variable must effect dependent variable)
4. The effect of the IV on the DV shrinks upon the addition of the mediator.

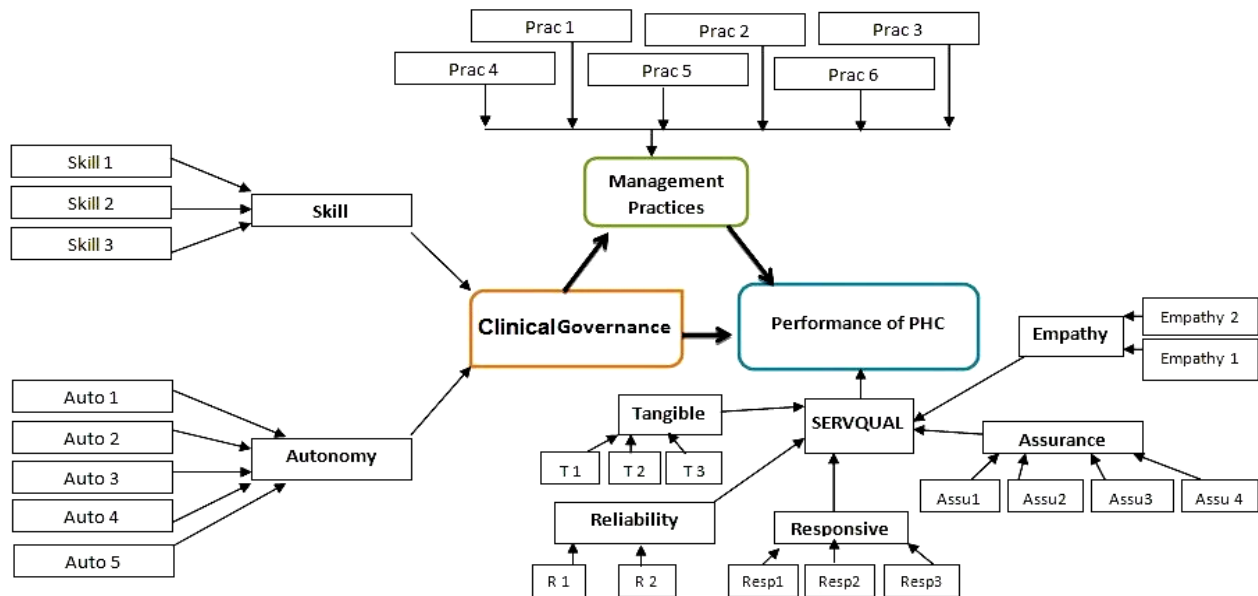
Provided with effect of independent variable on dependent variable in step 3 must be less than effect of independent variable on dependent variable in step 2 and value of independent variable must be insignificant which was also proved in step 3 that the results of Sig. is 6% which are above 5% significant level so these are insignificant [81]. So mediation is proved.

CONCLUSION

The purpose of this study was to evaluate the mediating effect between clinical governance, management practices and healthcare performance in the context of primary health care system in Punjab-Pakistan. Clinical governance comprising of many factors (skill and autonomy) had certain effect on primary healthcare of the province along with mediating role of management practices. By improving management practices and clinical governance, performance effect can be changed up to a certain level. Improved management practices can help to increase performance in terms of better indicators too. Poor management on the other hand can lead towards failure of system of clinical governance. Future work in this capacity should be extended in size involving quantitative studies with more variables like size of hospital, ownership and market competitiveness.

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Conceptual Framework

Figure 1

Cronbach's Alpha	N of Items
.885	29

Z- Statistics	4.183	S.E	.058
Indirect Effect	.111	Sig.	.000
Manually calculated: Z-Statistics = $a*b/\text{SQRT}(b^2*s_a^2 + a^2*s_b^2)$			

	Skill	Autonomy	Managment_ Practice	Reliability	Tangibles	Responsiveness	Assurance	Empathy
Skill								
Autonomy	.254**							
Management_Practice	.205*	.359**						
Reliability	.363**	.247**	.604**					
Tangibles	.228**	.416**	.264**	.446**				
Responsiveness	.109**	.203*	.684**	.677**	.314**			
Assurance	.117**	.315**	.632**	.569**	.294**	.726**		
Empathy	.138**	.198*	.577**	.567**	.463**	.728**	.692**	

** . Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.341	.279		8.401	.000
	Clinical_Governance	.437	.093	.361	4.721	.000

a. Dependent Variable: Management_Practice

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.473	.254		9.735	.000
	Clinical_Governance	.442	.084	.394	5.239	.000

a. Dependent Variable: Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.183	.246		4.799	.000
	Clinical_Governance	.201	.072	.180	2.783	.06
	Management_Practice	.551	.060	.596	9.234	.000

a. Dependent Variable: Performance

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