

Convenience, Courtesy and Care: The impact of MTI Reforms in Public Sector Teaching Hospitals on Patients' Satisfaction

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Abstract

Patient satisfaction has become a guiding tool for designing public policy in the field of health care services. Patient satisfaction is an important indicator for evaluating quality of care provided by healthcare providers. This study explores and assesses user perceptions about implementation of Medical Teaching Institution reforms and its effects upon patient satisfaction. The findings are based on a quantitative survey conducted on patients through a convenience sampling. The structural equation modeling (SEM) technique has been used; the findings prove reduction in waiting time for patients in the outpatient department. Patients are observed as satisfied with treatment process in the hospitals, method of consultation, awareness of health conditions, availability of drugs and improvements after getting treatment. This can be safely concluded that overall quality of care has become improved after the implementation of reforms. The study also mentions useful practical and theoretical contributions, limitations, and future study suggestions.

Keywords: Patient Satisfaction, Quality of Care, Access, Institutional Theory, New Public Management Theory, Factor Analysis.

1. Introduction

Health sector reforms were carried out in many countries with the objectives of improving overall health and client satisfaction, enhancing technical and allocative efficiency, and occasionally for providing more equitable access (Berman, 1995; Mills et al., 2001; Roberts, 2003). Health sector reform is usually meant for bringing positive changes in efficiency, equity and effectiveness of health systems (Berman & Bossert, 2000). Health system reform is a process involving fundamental change in policies and institutional arrangements of the health sector usually driven by the government (WHO, 2000). The objective of health reforms is to bring positive

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impact upon health status outcomes, improve performance, improve patient care, enhancing efficiency and effectiveness and increasing people's satisfaction (Berman et al., 2003). During the last few decades, healthcare decision makers and managers, political leaders and other relevant stakeholders have stressed upon the importance of patient perspectives as an indicator of quality of healthcare.

Inabilities and insufficient responses of agencies working in public sector to modern economic, technological, social challenges and emerging issues have compelled governments across the globe to launch institutional reforms. Healthcare institutions under reforms adopted several corporate models including Total Quality Management (TQM), quality enhancement and performance-based processes (Yasin, et al., 2011). Performance measures of health facility include Patient satisfaction for measuring health care quality. Patient satisfaction is considered as an overall evaluation of healthcare services offered by medical institutions highlighting the quality of care (Farzianpour, Byravan & Amirian, 2015). Surveys on Patient satisfaction and their experience with healthcare facilities are regularly carried out in many countries and results of such surveys are made public along other indicators of healthcare quality (Crow et al, 2002). Medical Teaching Institution reforms were introduced in Khyber Pakhtunkhwa as a step towards efficiency and responsiveness for the provision of quality of healthcare services which needs to be investigated through the perspectives of patients.

Performance measures of health facility include Patient satisfaction for measuring health care quality. Patient satisfaction is an important indicator for evaluating the implementation of policy reform in medical institutions (Hibbard, Stockard & Tulsler, 2005). There are three important dimensions of patient satisfaction i.e., service delivery of medical care, treatment of patients, and service provider activities and their attitudes. Patient satisfaction surveys attempt to translate subjective results into measurable, quantifiable and actionable data. Patient satisfaction survey is a useful tool providing information on different dimensions of patient care. Patient responses are generally gathered through random sampling and by holding face to face interviews at a specific time and location.

The government took a departure from the implementation of a narrowly directed bureaucratic management of tertiary care hospitals to a broader approach of health system development and reforms. The aim of the present study was to assess the utility of Medical Teaching Institution reforms on the overall satisfaction of the patients with the services provided by Tertiary Care hospitals working in public sector. This research augments and contributes to the existing literature by investigating public service delivery through the lens of end users which is an important tool for establishing accountability of public sector initiatives; by engaging an in-depth analysis of

several dimensions of patient satisfaction which include Physician Services, Nurses' Services, Registration & Waiting Time, Access, Punctuality of Staff, Affordability and Social Support; and lastly, by offering useful insights for the institutions to identify the loopholes and bottlenecks involved in the successful implementation of reforms.

2. Research Problem

To our knowledge, there are no available studies which have studied hospital reforms and measured quality of care and efficiency through the perspectives of end users or patient experiences. This research is aimed at investigating patient satisfaction at Medical Teaching Institution hospitals in Peshawar after implementation of reforms launched by Government of Khyber Pakhtunkhwa. The study engages an in-depth analysis of several dimensions of patient satisfaction which include Physician Services, Nurses' Services, Registration & Waiting Time, Access, Punctuality of Staff, Affordability and Social Support.

2.1 Research Objectives

Major research objective is to evaluate the MTI reforms through the perceptions and feedback of patients in post reforms scenario in Khyber Pakhtunkhwa.

2.2 Key Contributions

The paper has both research and policy implications regarding functioning of public hospitals based on useful feedback of patients and their attendants during the survey. Findings of the study will also be useful for hospital administration and management to bring further improvements in the provision of healthcare services for creating a competitive environment among public sector hospitals based on performance. This paper also provides methodological contribution based on multiple dimensions of Patient satisfaction tool.

2.3 Literature Review and Hypothesis Development

Medical Teaching Institution (MTI) reforms were launched in Khyber Pakhtunkhwa province, Pakistan through a constitutional act "The Khyber Pakhtunkhwa Medical Teaching Institutions Reforms Act, 2015". Poor service delivery, inefficiencies, low performance and inequities of Public Sector Tertiary Care Hospital were the main triggers for initiating MTI reforms. The MTI reforms are focused on bringing positive impact upon health status outcomes, improve performance, improve patient care, enhancing efficiency and effectiveness and increasing people's satisfaction. The main components of MTI reforms included i) granting autonomy to tertiary care teaching hospitals, ii) to shift control from government to autonomous independent board

of governors (BoG), iii) decentralization, iv) changes in organizational structure and hierarchies v) managerial autonomy and vi) accountability.

There is a lack of consensus between the available literature how to define the concept of patient satisfaction in healthcare. According to Donabedian's model about quality measurement, patient satisfaction is a patient reported outcome measure while the structure and processes of healthcare can be explored through the experiences of patients about healthcare services (Avedis, 1966; Bjertnaes et al, 2012). Patient satisfaction mainly constitute attitudes and perceptions of end users or patients towards multiple aspects of healthcare services (Jenkinson et al, 2002). It is essential to evaluate the effects of initiatives and programmes launched for improving quality of care and establishing the pursuit of bringing excellence in hospital services (Freeman, 2002). During the last 20 years, user satisfaction surveys regarding health care services have received a greater attention globally (Chang & Chang, 2013).

Strengthening and sustainability of health care systems cannot be achieved without attaining adequate level of satisfaction of community and end users. Governments have included satisfaction of patients and community with the healthcare services as an important indicator for measuring quality and efficiency of healthcare systems (Ali et al, 2015). Patient satisfaction is a health outcome and an important indicator for gauging the performance of healthcare systems. Measuring patient satisfaction is an important tool for monitoring and continuous improvement towards health care service delivery. Measurement and evaluation of individual perceptions about healthcare services can help service providers, health care managers, policy makers to pay attention towards needs, perceptions and deficiencies for improving health care services (Crow et al., 2002).

Several international studies have mainly focused on individuals' satisfaction with the services obtained from an institutional perspective (Renzi et al., 2001). The need for Patient Satisfaction in modern times has largely been driven and guided by New Public Management theory and one of the well-defined goals of health care service delivery (Hood, 1995). New public management theory is based on enhancing equity, sought reforms focused on improving equity, efficiency, competition, promoting entrepreneurial management and performance evaluation in organizations (Osborne & Gaebler, 1992). The core component of NPM is performance evaluation which was introduced across public sector institutions for enhancing productivity and efficiency in financial and quality aspects by establishing their performance more transparent and more measurable (Pettersen, 2004; Linneberg et al, 2009; Lee, 2008). Conflicting arguments exist between improving quality of care and financial objectives of NPM however outcomes depend upon the context and settings in which the healthcare system is functioning.

With the arrival of patient rights movement, the discourse over the linkages between patient satisfaction about process of health care services and standardized technical care was well established (Williams, 1994). Patient satisfaction is a subjective phenomenon related with emotional sentiments of patients about health care services provided (Crow et al., 2002 & Urden, 2002). Patient satisfaction is generally considered as a health outcome which is an inclusive phenomenon covering clinical results, economic measures and health related quality of life (Heidegger et al., 2006). Research studies in health sector regarding perceptions of patients are limited to assess different components of the quality of care mainly focused upon measurement of patient satisfaction (Clemes et al., 2001; Chin et al., 2006).

Patients' perceptions of their health care experience have been considered an important indicator for evaluating quality of care (Orlando & Meredith, 2002). User expectation is considered to influence their satisfaction with services provided in (McKinley et al., 2002). Patients' perceptions have become the cornerstone of policy making in health care. Understanding about patients' satisfaction can play a catalyzing role in enhancing quality of care and improving the utility of tertiary health care. User perceptions have been integrated in the assessment of quality of care with the passage of time (Haddad et al., 2000). User perception has now been taken as an important source of information in screening of issues and developing effective plans and strategies for bringing in improvements in quality of healthcare organizations. Integration of user perception in improving healthcare quality has been based upon a variety of reasons such as desire to engage users in decisions and meeting their expectation (Calnan, 1998). There has been an increased interest in patient satisfaction as an independent outcome of health care and it can be an effective method of measuring clinical effectiveness (Avis et al., 1995). Patient satisfaction is directly related to the increased use of hospital services and market share (Andaleeb, 1998).

Patient satisfaction is based upon different health care dimensions including nursing care, cleanliness of health facility, waiting time, physicians' response, staff attitude, use of latest medical and clinical equipments and availability of drugs and medicines (Al-Omar, 2000). Factors having a positive effect on patient satisfaction include quality of access to adequate information, civility and friendly behavior of hospital staff, waiting space, user fees and overall quality of services provided by the hospital (Boshoff & Gray, 2004; Pakdil & Harwood, 2005). According to several past studies, key determinants of patient satisfaction are infrastructure, clinical and diagnostic equipment, user fee, quality of services, nursing and staff behavior, better patient care and improved availability of medicines and drugs (Anand & Sinha, 2010; Hariharan & Dey, 2010; Otani, Waterman, Faulkner, Boslaugh & Claiborne, 2010). Several past studies focused upon that patient satisfaction is related with working

hours of OPD, access to health care services, waiting time and hospital facilities (Shrestha et al., 2012).

Patient satisfaction is a multidimensional phenomenon and can be influenced by multiple factors which are categorized mainly into three categories: patient-related, provider-related and institution-related factors. Patient satisfaction is affected both by the quality of clinical care received and the care delivery process (Ferrand et al, 2022). The quality of care and equity in health care services can be improved through the use and application of information technology at service delivery level (Thach Phuong et al, 2021).

H1: Implementation of Medical Teaching Institution reforms in public sector hospitals has positive effects upon patient satisfaction.

2.4 Conceptual Frameworks

MTI Reforms (Institutional Autonomy of Tertiary Care Teaching Hospitals)		
Patient Satisfaction	Convenience	Waiting Time, Availability of Care
	Courtesy	Patient Provider Interaction, Friendly Attitude of Providers
	Quality of Care	Patient Perception of the Service Performance

3. Methodology

The study is conducted by using quantitative methodology for the reason that the impact of the reforms needs to be measured on the patient satisfaction. The two variables being latent in nature required factors (proxies) to measure them and thus the Structural Equation Modeling (SEM) technique is employed to measure the effect.

3.1 Population

The survey on patient satisfaction was conducted in three Tertiary Care Teaching Hospitals in Peshawar, Khyber Pakhtunkhwa from the patients and their attendants while using an adopted questionnaire (Vadhana, 2012).

3.2. Sample

The sample size of 150 constituted of patients/attendants based on convenience sampling was selected. Convenience sampling technique was utilized in the study due to convenient and easy accessibility of the respondents and being a more economical (Gravetter & Forzano, 2009). The responses were recorded on a structured instrument containing 46 observed items. Maximum likelihood estimation (MLE) is a common

estimation procedure used by SEM software and the recommended sample size for MLE is between 100 and 150 (Ding et al., 1995).

The patients were accessed in outpatient departments and inpatient wards of the hospitals for getting their responses through a close ended structured questionnaire (Vadhana, 2012). For outpatients who had obtained treatment were investigated by convenient sampling method while inpatients were approached in some specific sections of the hospital with the assistance of medical personnel. The patients investigated should be conscious and be able to answer questions independently or with the help of their attendants. All patients were informed and only patients willing to participate in the survey gave a verbal consent.

3.3. Measures

Healthcare experiences included components on physical facilities (4 items), physician services (6 items), nurses' services (4 items), registration services (4 items), waiting time (2 items), working schedule (2 items), convenience (3 items), quality of care (7 items) & Equity (5 items). The definitions on multiple dimensions of performance and patient satisfaction were based on recurring themes in the empirical and theoretical literature. The survey items were evaluated while using the conceptual definitions of various components which needs to identify that which item could be grouped under a particular component. The definitions on multiple dimensions of performance and patient satisfaction were based on recurring themes in the empirical and theoretical literature.

Quantitative data analysis was done through conducting several statistical procedures on IBM SPSS version 25, 2017. Different observable items were grouped into several latent constructs. In order to determine the best factor structure to represent performance of hospitals, an exploratory factor analysis (EFA) was performed. SPSS version 25 was used to analyze descriptive statistics, EFA and the reliability within each of the dimensions on quality of care, efficiency, equity, access, implementation of reforms and patient satisfaction. Data were analyzed for an overall descriptive statistic and according to individual items and collaboration factors. Summary statistics of close-ended and quantitative questions of staff survey and patients' survey were calculated.

4. Results

Exploratory factor analysis was conducted upon questionnaire items for patients and their attendants in order to ascertain their perceptions about Institutional reforms in public hospitals. Exploratory factor analysis (EFA) is a statistical technique used

for extracting potential factors from a group of variables. It mainly highlights some basic but not directly measurable hidden or latent variables. The observed variables were classified by exploring the correlation between variables and thus a small number of factors were calculated which are used to describe the relationship between multiple variables. For evaluating number of factors, the Scree plot, the criterion of Eigenvalue higher than 1, Total Variance Explained and Rotated Factor Matrix all suggests 7 factors. Seven (7) factors were got in Total Variance Experienced which and the Total Variance Experienced by the model was 61.465 which is a reasonable percentage of the variance.

According to some researchers, the cut-off point of factor loading is 0.30; factors with factor loading values of 0.50 and above were retained. Seven factors were extracted to represent the various dimensions of institutional reforms, explaining 65.4 % of the total variance. EFA was used to determine the instrument validity (maximum likelihood method and varimax rotation method) of the questionnaire. Seven factors extracted represented physician services, services rendered by nurses, waiting time, access, availability of staff, affordability and social support provided to the patients.

The Eigenvalues and scree plot were evaluated for determining factor retention. A total of (4) items that did not load on any factor or did not have significant relationship with the total scale of patient satisfaction questionnaire were eliminated.

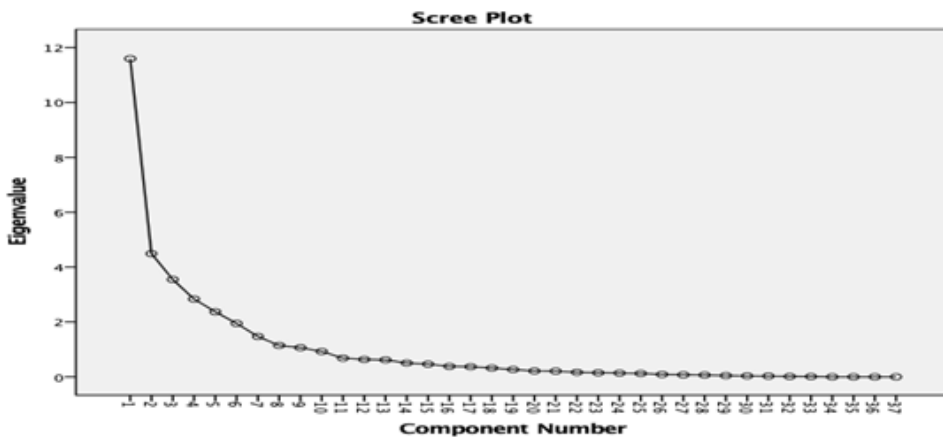


Figure 5 3: Scree Plot diagram on Patient Satisfaction Survey

In respect to the number of factors, the Scree plot (Figure 5.2), the criterion of Eigen value higher than 1, Total Variance Explained and Rotated Factor Matrix method all suggests 7 factors. The results of factor analysis specified seven areas of improvement highlighted by patients and their attendants which are discussed as follows;

Component 1: This component was labeled as “physician services” (9 items) which accounted for 31.341 % of the total variance; and is considered as the most significant among seven factors. It emphasized treatment time and process, health history, consultation process, health improvement after treatment, punctuality of physicians and confidentiality. The findings revealed that most of the patients and their attendants agreed with the improvements in physician services as a result of MTI reforms.

Component 2: This component was labeled as “nurses’ care” (5 items) which explains 12.136 % of the total variance; and is considered as a significant among the factors. Items highlighted care provided by nurses, their punctuality and respect towards patients. Results revealed that majority of the participants seemed satisfied and agreed that significant changes have been observed in the working and professional behavior of nurses after the implementation of MTI reforms in hospitals. The respondent highlighted that nurses provided proper care and shown punctuality in their duties.

Component 3: This component was highlighted as “registration of patients and waiting time” (6 items) explaining 9.592 % of the total variance. This highlighted convenience of registration process, sufficiency of registration staff, waiting time in registration and consultation received. Survey results indicated that registration services as convenient keeping in view insufficient staff although registration staff are punctual and provide all necessary information to the patients. Majority of the respondents highlighted that registration staff provide all necessary information to the patients and held that staff members of registration duty are punctual. They also held that waiting time in consultation is appropriate.

Component 4: This factor was labeled as “access” (4 items) explaining 7.665 % of the total variance. The items highlighted physical access to outpatient department, cleanliness of OPD, and availability of sufficient space for patients. Hospital facilities such as availability of space and seats were declared sufficient by the patients in OPD.

Component 5: This component was labeled as “punctuality of staff” (5 items) which explains 6.409 % of the total variance. Items included staff availability and punctuality of clinical and non-clinical staff involved in patient care.

Component 6: This component was highlighted as “affordability of services” (3 items) explaining 5.263 % of the total variance. This highlighted financial burden on patients with respect to payment of various hospital services.

Component 7: This factor was labeled as “social support” (Acc) (2 items) explaining 3.980 % of the total variance. The items explained social support provided to the needy patients.

S.No	Item	F1	F2	F3	F4	F5	F6	F7
	Physician Services							
1	Physicians informed you the treatment process.	0.871						
2	Physicians took your health history in detail.	0.874						
3	Physicians understood your health complaint.	0.859						
4	Physicians spent enough time in consultation.	0.821						
5	Physicians were punctual and reachable.	0.789						
6	Physicians keep confidentiality patient record	0.713						
7	Chances in describing your health conditions	0.623						
8	Method of consultation and treatment.	0.678						
9	Health improvement after treatment	0.558						
	Nurses Services							
10	Nurses welcomed you with respect.	0.919						
11	Nurses answer to your questions gently.	0.836						
12	Nurses provided proper care	0.871						
13	Nurses were punctual and reachable.	0.942						
14	Quality of care by nurses.	0.907						
	Registration & Waiting Time							
15	Registration process in the hospital is convenient.	0.842						
16	Registration staff is sufficient	0.854						
17	Waiting time in registration process is appropriate.	0.918						

4.1 Confirmatory Factor Analysis (CFA)

The CFA further confirmed the construct validity and structure of the final version of the various dimensions of Patient Satisfaction after implementation of Medical Teaching Institution reforms. As a result, all of the maximum likelihood parameters estimates and the significance of the t-values of the 37 items on seven factors showed significance at 0.0000 level (n=150), specifying the relationship of the observed variables (i.e., items) to their posited underlying constructs (i.e., factors). The fitness of items for each factor of the patient satisfaction (chi-square per degree of freedom = 6.50, RMSEA = 0.192, df = 573) indicated a reasonably fit and confirmed structure of the questionnaire.

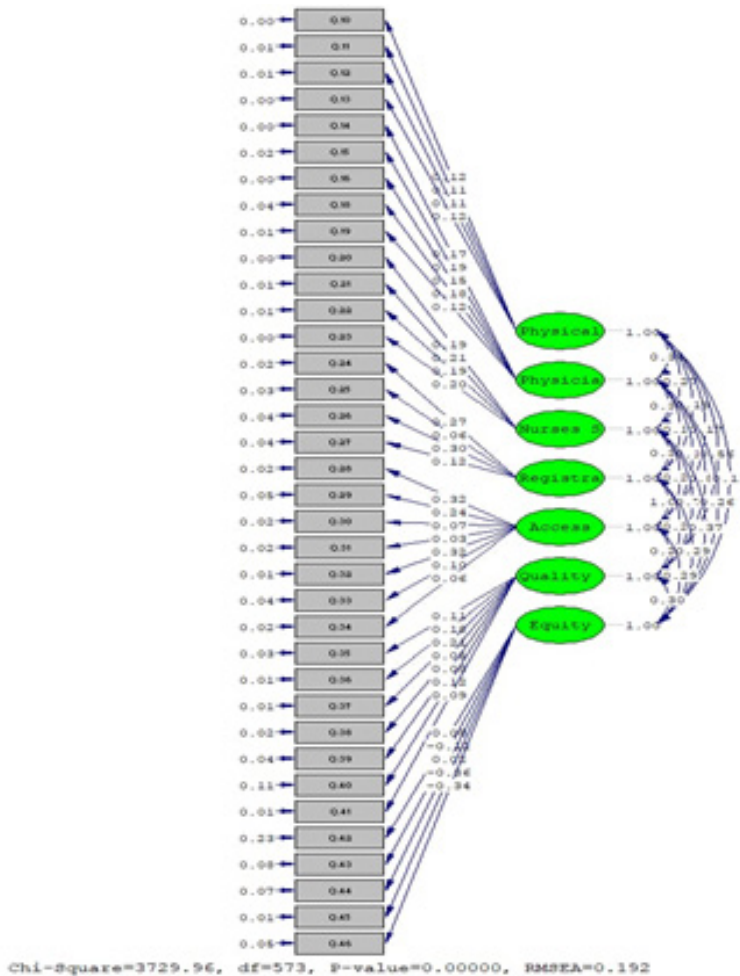


Figure 5.4: Factor Diagram on Patient Satisfaction Survey

5. Discussion

Medical Teaching Institution reforms were aimed at bringing relief and satisfaction for patients. MTI reforms focused on patient rights and delivery of free health care services as a major objective. Quantitative survey on patient satisfaction investigated the phenomenon from three different aspects i.e., convenience, courtesy and quality of care. The survey received responses on 37 substantive items that encompassed major aspects of the hospital experience regarding physician service, nurses' services, waiting time, access, punctuality of staff, affordability and social support. All health-care provision indicators seem to be statistically significant and seven (7) factors were obtained regarding various dimensions of patient satisfaction through factor analysis. The factorial analysis revealed a total of 61.465% which is a reasonable percentage of variance. There was found a strong link between patient satisfaction and sufficient availability of physicians and nurses in the hospitals. Survey results also proved reduced waiting time for patients in receiving physician services in outpatient department. Results of the study proved that hospital system performance is transformed into patient satisfaction and hypothesis on increased patient satisfaction due to MTI reforms has been proved.

Survey results on patient satisfaction have proved that patients have reposed confidence and trust upon the government initiative on launching MTI reforms in public teaching hospitals. The patients were observed satisfied with the functioning of OPDs and treatment facilities provided indoor. They have shown satisfaction and trust upon nurses' services, explanation and accuracy of diagnosis, sufficient availability of reagents and drugs. Reform study conducted in the past showed high level of patients' satisfaction in reformed healthcare units and centers as compared to non-reformed units and health centers in all spheres including cleanliness, doctors, nurses, waiting area and waiting time (Gadallah et al.,2010). Finding of the current study are aligned with past studies on patient satisfaction as a result of hospital reforms.

The findings show that patient satisfaction with health services has increased significantly in hospitals after the implementation of MTI reforms. The implementation process began in 2016, with the scaling up of Health Insurance Cards and introduction of Institutional Based Private Practice in the hospitals. The patient satisfaction levels increased significantly in statistical terms due to increased flow of patients in public teaching hospitals and in the wake of establishment of new departments and specialties after the implementation of MTI reforms. The citizens have now more choice in terms of scale and scope of services which ensured expansion of services and especially the needy and marginalized citizens through Health Insurance Cards (*Sehat Insaf Cards*) would likely have influenced patient satisfaction levels.

5.1 Conclusion

Khyber Pakhtunkhwa, Medical Teaching Institution (MTI) reforms as a step has been taken in the right direction towards improving efficiency and responsiveness of healthcare services. The reform objectives included patient satisfaction as a core area with a renewed attention towards provision of better quality of care services. This study measured patient satisfaction through various dimensions including physician service, nurses' services, waiting time, access, punctuality of staff, affordability and social support. Patients and their attendants responded positively to pleasing surroundings like waiting areas, sufficient consultation space and their experience with physicians and nurses. Establishment of renovated Outpatient departments having all the diagnostic facilities in the same building has enhanced satisfaction level of the patients.

Establishing new specialties in the hospitals and increased ratio of physicians and nurses after MTI reforms has affected patient satisfaction level in a positive manner. Functioning of OPDs on modern lines, strengthening of diagnostic facilities and treatment capabilities, and improving medical environment has helped in regaining patients' trust. Launching of Institution Based Private Practice (IBPP) and lengthy hours of OPDs have helped in increasing patient satisfaction and motivate the people to choose the public sector tertiary care hospitals for treatment process. These findings are encouraging and a promising start but there is a long road ahead. Possible factors for improved patient satisfaction were found as improvement in quality of care, clinical audit, increase in staff competence and less incidence of favouritism and corruption suspects.

The study demonstrated a promising way to measure patient satisfaction and improved patients' experiences were observed through gaining a better understanding between patients and healthcare providers. Reduced waiting time and proper consultation time given to the patients were observed during the study. Speaking from demand side point of view, the MTI reforms have made progress and patient satisfaction improved since the government launched the MTI reforms. Differences of satisfaction level vary from one dimension to another of patient satisfaction as given in the conceptual framework however a broad consensus was found that patient satisfaction has considerably been improved after implementation of MTI reforms.

Satisfactory results of patients' satisfaction survey revealed improved quality of care as a major achievement. Sufficient human resources were made available in the wake of institutional reforms introduced and staff strength of specialized consultants became increased. Factor analysis of quality of care included components on physician services, nurses' services, waiting time, punctuality of staff, affordability and social

support. Findings suggested drastic and marked changes in Outpatient and Emergency departments. Emergency departments and OPDs have been reorganized on modern lines while offering all clinical and diagnostic facilities under the same roof. The duty hours spent in OPDs have become extended due to better governance mechanism and strict duty regime established after MTI reforms.

Theoretical concept of the study based on New Public Management on improving quality of care through hospital reforms were found in congruence with findings of the study on quality of care. Theoretical and conceptual frameworks set the direction of the study which enabled this study to contribute to the existing body of knowledge and discourse on institutional reforms through the perspectives of end users under the garb of public policy frameworks. The study has been able to explain the potential implications of MTI reforms for the performance of hospitals in terms of enhanced patient satisfaction and access to health care services on equitable basis.

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