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Assessment of Patient-Centered Care with Reference to Minimum Service Delivery Standards in District Headquarter Hospitals of Azad Jammu Kashmir

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ABSTRACT

Objective: To assess the existing healthcare and delivery services and to evaluate the factors that affect the effectiveness of the care of patients.

Study Design: Cross-sectional study.

Place and Duration of Study: Seven Districts Headquarter Hospitals of Azad Jammu and Kashmir Pakistan from Dec 2020 to May 2021.

Methodology: The data were collected using a questionnaire based on the Material Safety Data Sheet (MSDS) set standards by Punjab Healthcare Commission (PHC) for monitoring and evaluating the services delivery at the hospitals. Data were collected by observing every department of the hospital, interviewing the concerned person of every department, and checking the medical record of the hospital.

Results: All the seven DHQ hospitals including DHQ Neelum, DHQ Hattian Bala, DHQ Pallandari, DHQ Bagh, DHQ Kotli, DHQ Bhimber, and DHQ Mirpur were working throughout the week and service delivery was ensured for 24 hours in all health facilities. It was observed in this study that the management of medication was the area with the highest degree of compliance (76.2%). On the other hand, the area involving patient rights and education showed the lowest level of compliance with an average score of 6 and a percentage compliance of 25%.

Conclusion: The compliance of health delivery services with respect to MSDS was very low in district headquarter hospitals of AJK. Targeted strategies are needed to improve the overall quality of the service delivery.

Keywords: Azad jammu kashmir, DHQ hospital, MSDS, Patient-centered, Service delivery.

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INTRODUCTION

In healthcare, patient-centred care is described as care compatible with patients' beliefs, wants, and desires and is achieved when physicians include patients in discussions and choices about their care.[1] Patient-centeredness has been studied extensively worldwide, with findings indicating a positive association between patient satisfaction, wellbeing, adherence, health behaviour, awareness of the medical condition, and recovery rat.[2-4] The patient is, after all, the most important individual in a medical system, and improving patient care has become a primary priority for all healthcare providers, with the overarching goal of achieving a high level of patient satisfaction.[5] This change is influenced by growing public awareness, rising demand for better care, increased competition, increased healthcare regulation, an increase in medical malpractice litigation, and concerns about poor outcomes. The hospital's infrastructure and service delivery system are largely responsible for the quality of patient care.[5] Through the various levels of care within the health system, an effective healthcare system provides patients with a wide range of health education, prevention, diagnosis, rehabilitation, illness treatment, and referral services.[6] The primary legislative role of the Health Information and Quality Authority of Ireland is to set and monitor compliance with standards for the quality and safety of health and care services for patients. Sri Lanka's health system has been recognized as a highly successful low-cost health model for providing patient-centred care since 1970, and India has also established health care and patient education policies. The health care commission of Pakistan's Punjab province created minimum service delivery standards (MSDS), which are the benchmark for the minimum level of mandatory services that a patient has a right to expect from a hospital. The MSDS is extensive, covering both medical and non-medical components of the patient's services that the hospital expects to provide.[7] It includes patient-centred treatment.

Azad Jammu & Kashmir (AJK) is a Pakistan-administered self-governing territory with a land area

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of 13,297,000 square kilometres and a population of around four million people with an 88:12 urban-rural ratio.[8] Because of the major earthquake in 2005, which killed thousands of people and destroyed practically all of the health department's facilities, health care delivery in AJK is inadequate and in jeopardy. The Pak-India conflict in Kashmir has also impacted people's health.[9] Therefore, there is a need to assess the existing health system and service delivery of hospitals in AJK and evaluate the factors that affect the effectiveness of the care of patients. This would help the hospital administration and Government to action and prioritize the implementation strategies.

METHODOLOGY

This cross-sectional study was conducted at the District Head Quarter hospitals (DHQ) of AJK. Permission was taken from the Ethical Review Committee (Reference No: ERC-57/AST-19) and the Health Ministry of the AJK government before data collection. AJK is the liberated part of Jammu Kashmir, situated North of Pakistan. It has a total area of 13,297 square kilometer.[8] It is divided into ten administrative districts, and only seven have DHQ hospitals, namely DHQ Neelum, DHQ Hattian Bala, DHQ Pallandari, DHQ Bagh, DHQ Kotli, DHQ Bhimber, and DHQ Mirpur. These health facilities provide different medical, therapeutic, and investigative services to its catchment population of over 4.045 million residents and are the referral hospital from THQ, BHU, and RHC.[9] Non-probability consecutive sampling technique was used.

Inclusion Criteria: All the Districts Headquarter Hospitals of AJK were included in this study (Only four areas of MSDS, i.e. ACC, COP, MOM, and PRE).

Exclusion Criteria: All the other health care facilities THQ, RHC, and private hospitals were excluded from the study.

Confidentiality of the hospital data was maintained, and ethical values of research were properly considered and followed at every step of the study. Moreover, verbal informed consent was also taken from the Medical Superintendent (MS) of each hospital before starting the data collection. The data were collec-ted using a questionnaire based on the minimum service delivery standards (MSDS) set by Punjab Healthcare Commission for monitoring and evaluating the services delivery at the hospitals was used.[10] The primary researcher collected the data using three approaches, i.e., observation, interviewing concerned members, and checking the documented records of hospitals. The tool contains ten areas of service delivery, i.e. access, assessment, and continuity, care of patients, management of medication, patient's rights and education, hospital infection control, continuous quality improvement, the responsibility of management, facility management, and safety, human resource management, information management system. These ten areas consist of 30 standards and 168 indicators. Patient-centred care was defined based on the dimensions described by Tzelepis *et al*, such that patient-centred care must be "respectful to patients' values, preferences, and expressed needs; coordinated and integrated; provide information, communication, and education; ensure physical comfort; provide emotional support, and involve family and friends.[9]

Based on this description, only those areas related directly to patient care were included in this study, i.e. access assessment and continuity, care of patients, management of medication, patient's rights, and education. The first area is further divided into two standards regarding laboratory and radiological services, which contain indicators about the policy, procedures, and quality of services provided to the patient. The second area, i.e. care of the patient (COP), has five standards regarding emergency services, blood transfusion and blood bank, high-risk obstetrical patient services, anaesthesia services, and surgical procedures provided to the patients. Medication management includes three standards for prescription, dispensing, and administering medicine to the patient. The last area included in this study was patient rights and education, which has three standards regarding patient and family informed consent, appeals, and patient complaints regarding services provided. The questionnaire has been given a score from 0-2, where 0=not met, 1=partially met, and 2=fully met. This scoring is based on the scope for which the services and procedures were followed by the already set standard criteria of the MSDS tool.

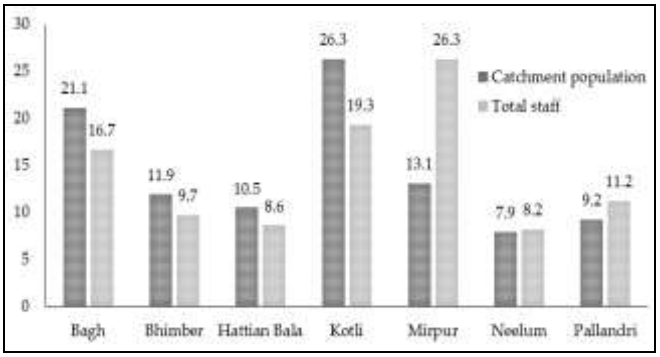

Figure: District-wise comparison of catchment population and total staff (%) access, assessment, and continuity of care (AAC).

The responses recorded were entered, saved, and analyzed using Statistical Package for the social sciences (SPSS) version 23.00. The descriptive analysis was done on the categorical and continuous variables. Percentages and frequencies were reported for categorical variables, and the median, minimum, and maximum values were reported for each area. The compliance of the area was reported in the form of a percentage by dividing the median by the maximum expected score of the particular area.

RESULTS

All of the DHQ hospitals were working throughout the week, and service delivery was ensured for 24 hours in all health facilities. Median for the catchment population was 500,000 ranging from 300,000 to 4,550,000. Moreover, disparities were also present in total staff in different hospitals, with a median of 222 ranging from 162 to 519. A percentage-based comparison of the catchment population and the entire staff for all districts showed that the lowest catchment popula-

Table-I: Access, Assessment, and Continuity of Care

Indicator	Scoring		n (%), (n=7)
Standard No.1: Laboratory services are provided as per the requirements of patients			
Scope of the laboratory services is adequate to the clinical services provided by the organization	Fully Met	2	1 (14.3)
	Partial Met	1	-
	Not Met	0	6 (85.7)
Adequately qualified and trained personnel perform and/or to supervise the investigations.	Fully Met	2	2 (28.6)
	Partial Met	1	4 (57.1)
	Not Met	0	1 (14.3)
Policies and procedures guide the collection, identification, handling, safe transportation, processing and disposal of specimen.	Fully Met	2	2 (28.6)
	Partial Met	1	-
	Not Met	0	5 (71.4)
Laboratory results are available within a defined timeframe	Fully Met	2	-
	Partial Met	1	6 (85.7)
	Not Met	0	1 (14.3)
Critical results are reported immediately to the concerned personnel.	Fully Met	2	6 (85.7)
	Partial Met	1	-
	Not Met	0	1 (14.3)
Laboratory tests not available in the organization are outsourced to organization based on their quality assurance system and independent accreditation.	Fully Met	2	-
	Partial Met	1	-
	Not Met	0	7 (100.0)
Imaging services comply with legal and other requirements.	Fully Met	2	-
	Partial Met	1	4 (57.1)
	Not Met	0	3 (42.9)
Scope of the imaging services is commensurate to the clinical services provided by the organization.	Fully Met	2	-
	Partial Met	1	-
	Not Met	0	7 (100)
Adequately qualified and trained staff personnel perform, supervise and interpret the investigations.	Fully Met	2	1 (14.3)
	Partial Met	1	4 (57.1)
	Not Met	0	2 (28.6)
Policies and procedures guide identification and safe transportation of patients to imaging services.	Fully Met	2	3 (42.9)
	Partial Met	1	-
	Not Met	0	4 (57.1)
Imaging results are available within a defined timeframe.	Fully Met	2	-
	Partial Met	1	7 (100.0)
	Not Met	0	-
Critical results are intimated immediately to the concerned personnel.	Fully Met	2	6 (85.7)
	Partial Met	1	1 (14.3)
	Not Met	0	-
Quality assurance activities are evident in the imaging department.	Fully Met	2	-
	Partial Met	1	-
	Not Met	0	7 (100.0)
Imaging tests not available in the organization are outsourced to organization based on their quality assurance system and compliance with applicable laws and regulations.	Fully Met	2	-
	Partial Met	1	-
	Not Met	0	7 (100.0)

tion to total staff was observed in Mirpur (0.5%) while the highest was in Kotli (1.3%).

With a median score of nine ranging from 5 to 17, the area of AAC showed compliance of 32.1% (9/28). Both standards in this area had a comparable median score of 4 (Range=1-9) and 5 (Range=3-8) for the first and second standards, respectively. A comparable percentage of compliance was noted for standards of laboratory and radiology departments as well (33.3% vs 31.2%). Most health facilities (n=6, 85.7%) had a protocol for reporting critical laboratory and radiological results directly to the concerned personnel. This indicator showed the highest level of compliance in both of the standards (Table-I).

Out of a total of 72, the median score for this area was reported to be 40, ranging from 10 to 63. This translated into a percentage compliance of 55.5%. The standards pertaining to the procedures and policies involved in anaesthetic and surgical care showed the highest compliance rate of 65%, while the minimum compliance (20%) was shown in the standard describing protocols for defining the use of blood and blood products. Further details were shown in the Table-II.

Table-II: Care of patients

Indicator	Scoring		n (%), (n=7)
Standard No. 3: Emergency services are guided by policy, procedures, applicable laws, and regulation			
Policy and procedures for emergency care are documented	Not met	0	-
	Partially met	1	6 (85.7)
	Fully met	2	1 (14.3)
Policies also address the handling of medico-legal cases	Not met	0	-
	Fully met	2	7 (100.0)
The patients receive care in consonance with the policies	Not met	0	3 (42.9)
	Fully met	2	4 (57.1)
Policies and procedures guide the triage of patients for initiation of appropriate care	Not met	0	1 (14.3)
	Partially met	1	5
	Fully met	2	1 (14.3)
Staff members are familiar with the policies and trained on the procedures for care of emergency patients	Not met	0	0
	Partially met	1	6 (85.7)
	Fully met	2	1 (14.3)
Admission or discharge to home or transfer to another organization is documented	Not met	0	0
	Partially met	1	6 (85.7)
	Fully met	2	1 (14.3)
Standard No. 4: Policies and procedures define the rational use of blood and blood products			
Documented policies and procedures are used to guide the rational use of blood and blood products	Not met	0	4 (57.1)
	Fully met	2	3 (42.9)
The transfusion services are governed by the applicable laws and regulations	Not met	0	5 (71.4)
	Fully met	2	2 (28.6)
Informed consent is obtained for donation and transfusion of blood and blood products	Not met	0	6 (85.7)
	Fully met	2	1 (14.3)
Staff members are trained to implement the policies	Not met	0	6 (85.7)
	Fully met	2	1 (14.3)
Transfusion reactions are analysed for preventive and corrective actions	Not met	0	-
	Fully met	2	7 (100.0)
Standard No. 5: Policies and procedures guide the care of high-risk obstetrical patients			
The organization defines and displays whether high-risk obstetric cases can be cared for or not.	Not met	0	2 (28.6)
	Partially met	1	4 (57.1)
	Fully met	2	1 (14.3)
Persons caring for high-risk obstetric cases are competent.	Not met	0	6 (85.7)
	Fully met	2	1 (14.3)
High-risk obstetric patients assessment also includes maternal nutrition	Not met	0	-
	Partially met	1	5 (71.4)
	Fully met	2	2 (28.6)
The organization caring for high-risk obstetric cases has the facilities and technically competent staff to take care of neonates	Not met	0	-
	Partially met	1	7 (100.0)
	Fully met	2	-

No treatment should be administered unless the identity of the patient can be guaranteed	Not met	0	-
	Partially met	1	7 (100.0)
	Fully met	2	-
Standard No. 6: Policies and procedures guide the administration of anaesthesia.			
There is a documented policy and procedures for the administration of anaesthesia	Not met	0	2 (28.6)
	Partially met	1	5 (71.4)
	Fully met	2	-
All patients for anaesthesia have a pre-anaesthetic assessment by a qualified individual	Not met	0	1 (14.3)
	Fully met	2	6 (85.7)
The pre-anaesthesia assessment results in formulation of an anaesthetic plan for each patient, which is documented	Not met	0	1 (14.3)
	Fully met	2	6 (85.7)
An immediate pre-operative re-evaluation is documented	Not met	0	2 (28.6)
	Fully met	2	5 (71.4)
Informed consent for administration of anaesthesia is obtained by a qualified member of the anaesthetic team	Not met	0	1 (14.3)
	Fully met	2	6 (85.7)
During anaesthesia, monitoring includes regular and periodic recording of heart rate, cardiac rhythm, respiratory rate, , blood pressure, oxygen saturation, airway security and patency and level of anesthesia.	Not met	0	6 (85.7)
	Fully met	2	1 (14.3)
No anaesthetic should be administered unless the identity of the patient can be guaranteed	Not met	0	1 (14.3)
	Fully met	2	6 (85.7)
Each patient's post-anaesthetic status is monitored and documented	Not met	0	1 (14.3)
	Partially met	1	6 (85.7)
	Fully met	2	-
A qualified individual applies defined criteria to transfer the patient from the recovery area	Not met	0	3 (42.9)
	Fully met	2	4 (57.1)
All adverse anaesthesia events are recorded and monitored	Not met	0	1 (14.3)
	Partially met	1	6 (85.7)
	Fully met	2	-
Standard No. 7: Policies and procedures guide the care of patients undergoing surgical procedures			
The surgery-related policies and procedures are documented	Not met	0	1 (14.3)
	Partially met	1	6 (85.7)
	Fully met	2	-
Surgical patients have a pre-operative assessment and a provisional diagnosis documented prior to surgery	Not met	0	1 (14.3)
	Partially met	1	5 (71.4)
	Fully met	2	1 (14.3)
An informed consent is obtained by a qualified medical member of the surgical team prior to the procedure	Not met	0	1 (14.3)
	Fully met	2	6 (85.7)
Documented policies and procedures exist to prevent adverse events like wrong site, wrong patient and wrong surgery	Not met	0	1 (14.3)
	Fully met	2	6 (85.7)
Persons qualified by law are permitted to perform the procedures that they are entitled to perform	Not met	0	1 (14.3)
	Fully met	2	6 (85.7)
A brief operative note is documented by the surgeon or a doctor in the surgical team prior to transferring the patient out of the recovery area.	Not met	0	1 (14.3)
	Fully met	2	6 (85.7)
The operating surgeon or their surgical assistant documents the postoperative plan of care	Not met	0	1 (14.3)
	Fully met	2	6 (85.7)
A quality assurance program is followed for the surgical services	Not met	0	2 (28.6)
	Partially met	1	5 (71.4)
	Fully met	2	-
The surgical quality assurance program includes surveillance of the operation theatre environment	Not met	0	6 (85.7)
	Fully met	2	1 (14.3)
The plan also includes monitoring of surgical site infection rates	Not met	0	4 (57.1)
	Partially met	1	3 (42.9)
	Fully met	2	-

Percentage compliance of 76.2% to developed

standards was reported for the area involving medication management. The median score for this area was 32, ranging from 30 to 37. The area for monitoring policies related to safe dispensing of medication showed a percentage compliance of 87.5% (7/8) with a median score of seven ranging from 7 to 8. All health facilities had documented policies for safe storage and dispensing in this area. However, only one (14.3%) facility fully met and standard for this indica-tor and consistently followed these procedures during routine activities (Table-III).

The area of PRE had a median score of 6 out of

Table-III: Management of medication.

Indicators	Scoring		n (%), (n=7)
Standard No. 8: Policies and procedures exist for the prescription of medications.			
Documented policies and procedures exist for the prescription of medications.	Fully met	2	-
	Partially met	1	7 (100)
	Not met	-	-
The organization formally determines who can write orders.	Fully met	2	7 (100)
	Not met	-	-
Orders are written in a uniform location in the medical records.	Fully met	2	5 (71.4)
	Not met	0	2 (28.6)
Medication orders are clear, legible, dated, timely, named and signed.	Fully met	2	1 (14.3)
	Partially met	1	6 (85.7)
	Not met	-	-
Policy on verbal orders is documented and implemented.	Fully met	2	7 (100.0)
	Not met	-	-
The organization defines a list of high-risk medication	Fully met	2	1 (14.3)
	Partially met	1	4 (57.1)
	Not met	-	2 (28.6)
High risk medication orders are verified prior to dispensing.	Fully met	2	7 (100.0)
	Not met	-	-
Standard No. 9: Policies and procedures guide the safe dispensing of medications			
Documented policies and procedures guide the safe storage and dispensing of medications.	Fully met	2	1 (14.3)
	Partially met	1	6 (85.7)
	Not met	-	-
The policies include a procedure for medication recall.	Fully met	2	7 (100.0)
	Not met	-	-
Expiry dates are checked and documented prior to dispensing.	Fully met	2	7 (100.0)
	Not met	-	-
Labelling requirements are documented and implemented by the organization.	Fully met	2	7 (100.0)
	Not met	-	-
Standard No. 10: There are defined procedures for medication administration			
Medications are administered (dispensed) by those who are permitted by law to do so.	Fully met	2	6 (85.7)
	Not met	-	1 (14.3)
Prepared medications are labelled prior to preparation of a second drug.	Fully met	2	7 (100.0)
	Not met	-	-
Patient is identified prior to administration.	Fully met	2	7 (100.0)
	Not met	-	-
Medication is verified from the order prior to administration.	Fully met	2	7 (100.0)
	Not met	-	-
Dosage is verified from the order prior to administration.	Fully met	2	7 (100.0)
	Not met	-	-
Route is verified from the order prior to administration.	Fully met	2	7 (100.0)
	Not met	-	-
Timing is verified from the order prior to administration.	Fully met	2	7 (100.0)
	Not met	-	-
Medication administration is documented.	Fully met	2	1 (14.3)
	Partially met	1	6 (85.7)
	Not met	-	-
Policies and procedures govern patient's self-administration of medication.	Fully met	2	-
	Not met	-	7 (100.0)
Policies and procedures govern patient's medications brought from outside the organization.	Fully met	2	-
	Not met	-	7 (100.0)

the total, 24, ranging from 2 to 14 (Percentage compliance=25%). The standard related to the availability of documents describing the protocols for obtaining informed consent from patients and families had a median score of 0, ranging from 2 to 4. Four of the total facilities (57.1%) were not observing any of the indicators of this standard (Table-IV).

respect to standard-wise compliance, the highest conformity was observed in the standard of safe dispensing of medication (87.5%). Contrarily, the highest level of non-compliance was observed in patients' rights and education, as more than 50% of the health facilities were not observing any of the standards.

The area which showed that highest level of

Table-IV: Patient rights and education.

Indicators	Scoring		n (%), (n=7)
Standard No. 11: A documented process for obtaining patient and/or family consent exists for informed decision making			
General consent for treatment is obtained when the patient enters the organization. (patient and/or their family members)	Fully met	2	-
	Not met	0	7 (100.0)
The organization has listed those situations where specific informed consent is required.	Fully met	2	-
	Not met	0	7 (100.0)
Informed consent includes information on risks, benefit, and alternatives and as to who will perform requisite procedure.	Fully met	2	3 (42.9)
	Not met	0	4 (57.1)
The policy describes who can give consent when patient is incapable of independent decision making.	Fully met	2	2 (28.6)
	Not met	0	5 (71.4)
Standard No. 12: Patient and families have a right to information on expected costs			
There is uniform pricing policy in a given setting (out-patient and ward category).	Fully met	2	2 (28.6)
	Not met	0	5 (71.4)
The tariff list is available to patient.	Fully met	2	2 (28.6)
	Not met	0	5 (71.4)
Patients and families are educated about the estimated cost of treatment.	Fully met	2	-
	Partially met	1	7 (100.0)
	Not met	0	-
Patient and family are informed about the financial implications when there is a change in the patient condition or treatment setting.	Fully met	2	-
	Partially met	1	7 (100.0)
	Not met	0	-
Standard No. 13: Patient rights for appeals and complaints			
The organization informs the patient of his/her right to express his/her concern or complain either verbally or in writing.	Fully met	2	-
	Partially met	1	5 (71.4)
	Not met	0	2 (28.6)
There is documented process for collecting, prioritising, reporting, investigating complains, which is fair and timely.	Fully met	2	-
	Partially met	1	5 (71.4)
	Not met	0	2 (28.6)
The organization informs the patient of the process of the investigation at regular intervals and informs about the outcome.	Fully met	2	-
	Partially met	1	3 (42.9)
	Not met	0	4 (57.1)
The organization uses the results of complaining investigation as part of the quality improvement process.	Fully met	2	-
	Partially met	1	3 (42.9)
	Not met	0	4 (57.1)

DISCUSSION

The objectives of this cross-sectional study were to evaluate the dimensions of health care services that were related to the quality of patient-centred care in DHQ hospitals of AJK. It was observed in this study that the management of medication was the area with the highest degree of compliance (76.2%). On the other hand, the area involving patient rights and education showed the lowest level of compliance with an average score of six and a percentage compliance of 25%. With deficiency in the observance of standards was Patients' rights and education. The area showed a median score of six with a percentage compliance of 25% (6/24). Furthermore, the lowest median score in this area was obtained for the standard related to a documented process for obtaining consent and informed decision-making. It was observed in this study that none of the DHQ hospitals obtained any informed consent from patients upon their presentation, and none of the facilities had an established protocol for situations

where informed consent was compulsory. Informed decision-making is one of the cornerstones in patient-centred care because it allows the patient and clinician to make shared decisions.[11,12] The absence of informed decision-making at tertiary care levels reveals a catastrophic weakness of the health care system of Pakistan; lack of empathy in health care practitioners, which is declining among our medical practitioners and has been reported to be alarmingly low in undergraduate medical students.[13] Based on these arguments, it can be logically concluded that serious considerations are required to develop a medical curriculum focused on patient-centred care and allow the physicians to "put their feet into the shoes of patients" during medical decision-making.

The area with the highest number of indicators was the domain of care of patients, which showed percentage compliance of 55.5% with a median score of 40 (Range 10-63). As this area is concerned with some of the sensitive and serious elements of medical care like the use of blood and blood products, high-risk obstetrical patients, anaesthesia administration, and surgical procedures, the low compliance is tragic for the well-being of patients as this is the situation of the highest level of medical care facilities in AJK. A possible reason for this reduced quality of care can be the overutilization of tertiary care facilities for primary care purposes and the subsequent underutilization of primary health care.[14] However, evidence has proven that quality primary care provided in basic health care facilities is comparable with that of tertiary health care facilities.[15,16] Moreover, World Health Organization has described primary health care as the catalyst for achieving the aim of Universal Health Coverage.[16] In Pakistan, the program of Primary health care was launched in 1994, and significant improvements in health indicators have been achieved since then.[17] However, the system is underutilised for many reasons, including unavailability of doctors, inadequate provision of medicines, and poor infrastructure of basic health units.[18] Therefore, similar to other areas of the country, there is a need to prioritize primary health care facilities in AJK so that the burden of DHQs hospitals can be reduced, ensuring good quality service in tertiary health care facilities.

The area of AAC showed percentage compliance of 32.1%, with its two standards involving the laboratory and radiology departments depicting comparable compliance of 33.3% and 31.2%, respectively. Laboratory and radiological departments are the fundamental components of tertiary health care services, and such low compliance with defined standards paints a very dire picture of the health care system of AJK. It was observed that the laboratory services in more than 80% (n= 6, 85.7%) of the DHQs did not cover the scope of health care being provided in those hospitals. It has been estimated that 80%-90% of all diagnoses are made based on the results of laboratory services. Hence, the utilization of quality indicators in medical laboratory services is being extensively recommended to improve the quality of services and minimize laboratory errors.[18] The need of the hour for the health ministry of AJK is to develop a continuous monitoring system that includes these indicators so that these services can be improved in the future years.

A possible explanation for the general poor compliance with the standards in all areas can be attributed to the disparities between catchment populations, and the distribution of medical staff in different districts, as staff shortage is strongly associated with unsatisfactory quality of care. While it has generally perceived that staff shortage is a common issue in all DHQs in Pakistan, the data in this study provides a different picture. This is evident in the comparison of the two most populated districts of the AJK, namely Mirpur and Kotli, as the two show the greatest disparity in the ratio of catchment population to total staff (0.5 vs 1.3 respectively). Similar differences can also be observed in all other districts. Although there are no quick-fix solutions for the problem of poor compliance, an innovative solution can be allocating staff to different DHQs hospitals based on the catchment population in that area.

CONCLUSION

The compliance of health delivery services with reference to MSDS was very low in district headquarter hospitals of AJK; targeted strategies are needed to improve the overall quality of the service delivery.

Conflict of Interest: None.

Author's Contribution

BK: Data collection, concept, AB: Analysis, critical revision, SA; Proof reading, FA: Drafting, analysis, NB: Drafting and design.

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