Section: Community Medicine

Original Research Article

SITUATIONAL ANALYSIS OF AVAILABILITY OF HEALTHCARE AND DIAGNOSTIC FACILITIES IN RURAL AND URBAN UNDERPRIVILEGED POPULATION OF KASHMIR VALLEY: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Situation analysis of existing health care infrastructure and diagnostic facilities in any geographical area forms an important determinant of the quality of overall health status of that particular area. It helps in identifying the gaps in the health system which need redressal. At the same time it forms an important input for the policy makers for planning and designing healthcare services. **Objective**: To conduct the situation analysis of the health care and diagnostic facilities within selected rural and urban underprivileged populations of Kashmir valley.

Materials and Methods: It was a cross-sectional study conducted in rural and urban underprivileged population. A situational analysis of the existing health care infrastructure and diagnostic facilities available in the study areas was done by a team of researchers gathering information using a predesigned questionnaire as well as making on-site observations.

Results: Out of total 24 health care facilities (HCF) within a radius of 3kms of the study sites, 21 were available in the urban sites and only 3 were available in the rural study sites. 17 Health care facilities belonged to govt. sector, 5 to private and 2 to NGO's. In rural sites all the facilities were of primary level whereas in urban sites 21.4% were of secondary level and 78.0% of primary level. Out of the total 190 doctors at the study sites 183 were available at the urban health care facilities and only 7 in rural health care facilities. A total of 38 lab facilities were available with 36 in urban and only 2 in rural sites. Almost all the tests like Hb and blood sugar, lipid profile, LFT, KFT, routine urine examination, HBSAg, Widal test, ESR and HIV testing was being done in all the labs. Except for a few, majority of tests in government facilities were paid. There was cent percent acceptance of the proposed home health guide (HHG) intervention in government and NGO's and 60.0 % in private facilities. There was 82.0% and 35 .0% acceptance respectively for proposed interventions of Mobile lab and health dairies in government HCFs while as the same was cent percent for NGO's. Health ID creation was supported by 60.0% of the private facilities and 23.5 % of government facilities.

Conclusion: There is a gross disparity in availability of health and diagnostic facilities in the study area with a wide rural urban gap in availability of services. One way of addressing this financial and physical inaccessibility is the introduction of Labikes, which aims to revolutionize health care access in the underprivileged areas.

Keywords: Healthcare, underprivileged, diagnostic facility, Health care facility.

INTRODUCTION

Universal health coverage (UHC) means that all people have access to the full range of quality health services they need, when and where they need them, without financial hardship. It covers the full continuum of essential health services, from health promotion to prevention, treatment, rehabilitation and palliative care across the life course. The delivery of these services requires health and care workers with an optimal skills mix at all levels of the health system, who are equitably distributed, adequately supported with access to quality assured products, and enjoying decent work. Inequalities continue to be a fundamental challenge for UHC. Even where there is national progress on health service coverage, the aggregate data mask inequalities within-countries. Monitoring health inequalities is essential to identify and track disadvantaged populations to provide decision-makers with an evidence base to formulate more equity-oriented policies, programmes and practices towards the progressive realization of UHC.[1]The large Indian population faces a lot of health problems and health related issues. India spends almost 2.1% of its GDP on healthcare. Out of multiple health care related issues in this country, one of the important issues is the lack of proper healthcare infrastructure, deficient manpower and quality of available services. These problems are all the more prominent and a big concern in the rural as compared to urban areas the reasons being geographical remoteness or inaccessibility, lack of infrastructure and lack of trained manpower in the rural areas. These healthcare disparities between rural and urban areas have been a long standing concern and efforts to bridge this rural urban gap have been a priority for the planners and policy makers in the recent years, since access to healthcare and diagnostic services is pivotal for improving health outcome and ensuring equitable healthcare delivery. This is in view of the renewed focus and attention on universal health coverage (UHC) in India which has been reiterated at multiple policy and programmatic initiatives such as National health policy,[2]Ayushman Bharat Programme 2018,[3]and commitments made at the global fora such as United nations high level meeting on UHC in New york in September 2019.[4] Good public health is essential to the proper functioning of society. Common health indicators such as nutrition, infant mortality, life expectancy, and so on provide important insights into the overall well-being of a given population. Having adequate access to proper healthcare is a multi-faceted dilemma that can contribute largely to disparities in healthcare received. In India, a significant dividing line in healthcare access can be drawn between rural and urban communities. Approximately 75% of health infrastructure and resources are concentrated in urban areas, where only 27% of the population resides.[5]

Rural communities in India suffer from a significant lack of access to healthcare which includes a severe shortage of qualified medical personnel, physical limitations such as distance, lack of established healthcare infrastructure, and inability to pay for necessary medical treatment resulting in high rates of maternal mortality, infant mortality, and malnutrition, as well as low life expectancy and low vaccination rates. Current practices seeking to address this problem include the expansion of small hospitals into less populated areas, introduction of mobile health clinics and diagnostics, the use of technology to expand reach, and training of community members as local healthcare service providers.[6]The present study was an attempt to assess the situation of the availability of the medical care and diagnostic services across selected rural and urban underprivileged populations of Kashmir valley. The overarching goal of this situation analysis is in line with the broader study's objective which aims to assess the feasibility of implementing Labike technology in rural and urban underprivileged population for a better access to diagnostic care. Besides the labike intervention other interventions proposed in this study include the concept of home health guides for community involvement which would act as a link between the beneficiaries and health system and would help in monthly health updation using the health diaries system (another intervention in the study).

Objective: To conduct the situation analysis of the health care and diagnostic facilities within selected rural and urban underprivileged populations of Kashmir valley.

MATERIALS AND METHODS

The study is a part of a multi-centric ICMR Taskforce study on assessing the accessibility and acceptability of ICMR prevalidated Labike technology in underprivileged rural and urban populations. The Labike intervention is a proposed solution to address the health care and diagnostic gaps in resource constrained settings. This initiative takes the diagnostic services to the door steps of remote underserved population where access to conventional labs is a challenge.

Study design: A cross-sectional Community based study.

Study setting: The situation analysis was conducted in selected urban and rural underprivileged areas ofthe Srinagar and Ganderbal districts representing the urban and rural population respectively. Bachidarwaza,Tujgarimohalla, Parimpora and Palpora from district Srinagar represented the urban underprivileged study population while as Dardwudur, Hariganwan and Poshkar, Barenbugh from district Ganderbal represented the rural underprivileged population. These areas were

selected because they represented geographically/economically under privileged populations. The demographic and cultural profile made them eligible as underprivileged populations relevant to the objectives of the study. The rural and the urban control sites were situated at a distance of approximately10 km from the respective intervention sites. This separation helped in preventing contamination and ensuring that intervention effects do not spill over to the control sites.

Study period: The study was carried out over a period of 2 months from September 2022 to November 2022.

Data Collection: Data regarding availability of health care and diagnostic facilities was collected from the selected sites using onsite observations and structured formats provided by the ICMR CCU. Details about the type and level of health care facility and the available manpower and diagnostic facilities were gathered from the facilities.(within radius of 3 kms) in the selected study areas. The study staff included a scientist C, medical social worker and 4 laboratory technicians. Informed consent was taken from heads of the facilities before gathering the necessary information from them.

Data Analysis: Data thus collected was entered in the MS excel spread sheet and subsequently analyzed with SPSS version 21.

Ethical approval was obtained from Institutional ethical committee SKIMS.

RESULTS

Table 1: Availability of Health care facility by type, N= 24

Type of Facility	Rural	Urban	Total
Government	3	14	17
Private	0	5	5
NGO	0	2	2
Total	3	21	24

Table 1 depicts the availability of healthcare facilities (HCFs) in the study areas. Out of the total of 24 health care facilities only 3(12.5%) HCFs were available in the rural area (all in govt. set up) and 21 (87.5%) HCFs were available in the urban study site. Out of the 21 health facilities in the urban area 14(66.6%) were in the Govt. sector, 5(23.9%) in the private sector and 2 (9.5%) from NGOs.

Table 2:Availability of Govt. Health care facilities by level of care N=17

Level of Facility	Rural	Urban	Total
Tertiary care	0	0	0
Secondary care (SDH/CHC)	0	3	3
Primarycare (PHC, HWC, SC ,Urban Health Kiosks	3	11	14
Total	3	14	17

Table 2 depicts availability of Govt. Health care facilities in the study areas by level of care. Out of the total (17) govt health facilities, 14 (82.4%) were in the urban area of which 3 (21.4%) were secondary level facilities and 11(78.6%) were primary level facilities The rural health care facilities 3(100 %) contributed to only 17.6% of the total facilities all of them being of primary level.

Table 3: Manpower availability in the health care facilities

Type of Manpower	Rural			Urban				
	Govt.	Private	Total	Govt.	Private	NGO	Total	Grand total
Doctors	7	0	7 (3.7)%	170	10	3	183(96.3%)	190(100 %)
Nurses	0	0	0 (0)	74	0	0	74(100 %)	74(100 %)
Paramedics(Pharmacists Technicians)	5	0	5(7.0%)	45	21	0	66(92.9%)	71(100 %)
Others (MPHWs, NOs, LHVs, BHWs)	12	0	12(9.8%)	55	55	0	110(90.2%)	122(100 %)
Total Staff	24	0	24 (5.3%)	344	86	3	433(94.7%)	457(100 %)

Table 3 depicts the availability of the manpower in HCFs of the study areas. Out of the total 457 health care workers 190 were doctors, 74 were nurses, 71 were paramedics and 122 were other classes like MPHWs, NOs, LHVs, BHWs. 433 (94.7%) of total manpower were concentrated in the urban health facilities (96.3% of doctors, 100 % of nurses, 92.9% of paramedics and 90. 2% of other health care workers) while as only 24(5.3%) were available in rural health care facilities (7(3.7%) of doctors, 5(7.0%) of paramedicsand12(9.8%) of other staff).

Table 4: Availability of Beds in studied health care facilities

Beds available in Health facility				
Area	**Govt**	**Pvt**	**NGO**	**Total**
Rural	40(12.3%)	0	0	40(12.3%)
Urban	284(87.7%)	0	0	284 (87.7%)
Total	324(100 %)	0	0	324 (100 %)

Table 4 depicts the beds available in the health care facilities of the study sites. All the beds were available only in government health facilities. Out of the total 324 beds available 284 (87.7%) beds were available in the urban sites, and 40 (12.3%) beds were available in the rural sites.

Table 5: Availability of Lab. Facilities at study sites

Lab. Facility	Rural	Urban	Total
Government	1	14	15
Private	1	21	22
NGO	0	1	1
Total	2	36	38

Table 5 shows the availability of lab. facilities in the study areas. Out of thetotal of 38 labs 36 (94.7%) were in urban areaswhich included 14 (38.9%)govt. labs, 21 (58.3%) private and 1(2.8%) lab run by NGO. Only 2 (5.3%) labs one each in govt and private sector were found in rural study areas.

Table 6: Availability of Diagnostic Tests in health care facilities of Study sites

	Rural				Urban				Rural + Urban(n=38)	
Diagnostic Test	**Govt**	**Pvt**	**NGO**	**Total**	**Govt**	**Pvt**	**NGO**	**Total**	**Grand Total (N=38)**	
									N	%
Hb	1	1	0	2(100 %)	13	21	1	35(97.2%)	37	97.3
Bl Sugar	1	1	0	2(100 %)	13	21	1	35(97.2%)	37	97.3
Lipid profile	1	1	0	2(100 %)	4	21	1	26(72.2%)	28	73.6
ESR	1	1	0	2(100 %)	4	21	1	26(72.2%)	28	73.6
LFT	1	1	0	2(100 %)	4	21	1	26(72.2%(	28	73.6
KFT	1	1	0	2(100 %)	4	21	1	26(72.2%)	28	73.6
Urine routine	1	1	0	2(100 %)	4	21	1	26(72.2%)	28	73.6
Sr.Electrolytes	0	0	0	0	2	19	1	22(61.1%)	22	57.9
Hormonal profile	0	0	0	0	2	19	1	22(61.1%)	22	57.9
HIV test	1	1	0	2(100 %)	4	21	1	26(72.2%)	28	73.6
HBs Ag test	1	1	0	2(100 %)	4	21	1	26(72.2%)	28	73.6
Widal test	1	1	0	2(100 %)	2	21	1	24(66.7%)	26	68.4
HbA1C test	0	0	0	(0 %)	2	21	1	24(66.7%)	24	63.1

Table 6 shows the availability of various tests in the labs of the study areas. Barring one healthfacility, Hb and blood sugar tests were done in all (97.3%) of the labs while lipid profile, LFT, KFT, routine urine examination, HBSAg, ESR and HIV testingwas being done in 28 (73.6%) of the labs. However hormonal assays andserum electrolytes were being done in 22 (57.9 %),HbA1c in 24 (63.1%)and Widal test in 26(68.4 %) of the labs.

Table 7: Average cost of the Lab tests in various healthcare facilities of the study sites

	Average cost in Urban area			Average cost in Rural area	
Diagnostic Test	Govt	Pvt	NGO	Govt	Pvt
CBC	50	200	120	50	200
Blood Sugar	15	40	30	25	50
Lipid profile	130	480	200	150	350
ESR	10	50	50	20	50
LFT	140	380	200	100	300
KFT	20	370	150	50	200
Sr. Uric acid	15	100	100	30	100
Urine routine	20	50	30	10	40
Hormonal profile	300	600	400	NA	NA
HIV test	Free	220	150	100	150
HBs Ag test	153	196	100	50	100
Widal test	40	88	80	30	80
HbA1C test	280	500	300	NA	NA
Sr.Electrolytes	50	200	200	NA	NA

Table 7 shows the average cost of the lab tests available across the different lab facilities in the study areas. Except for a few, majority of tests in government facilities were paid. There was a variation in cost of tests in government and private sector both in rural and urban areas. A huge difference in costs of Lab. tests was present in government and private facilities at both rural and urban sites. Moreover government facilities of rural sites were charging more than government facilities in urban areas. Testing for hormonal profile, HbA1C and Sr. Electrolytes was not available in the rural sites in both government and private facilities.

Table 8: Distribution of Health care facilities by acceptance of proposed interventions

Proposed Intervention	Health care facilities accepting the proposed Intervention		
	Govt (N=17).	Private (N=5)	NGO (N=2)
	n (%)	n (%)	n (%)
Mobile Lab.	14 (82)	0 (0)	2(100)
Health Diary	6 (35)	0 (0)	2(100)
Home health guide	17(100)	3 (60)	2 (100)
Health ID creation	4 (23.5)	3 (60)	0 (0)

Table 8 depicts the acceptance of proposed interventions of the main studyacross different health care facilities. All government health care facilities (17) and NGO'S (2) supported the concept of HHG intervention while as only 3(60%) private facilities supported this concept. All NGO's (2) and 14(82%) govt health care facilities accepted the concept of mobile labs. Only 6 (35 %) of govt health care facilities and none of the private Health care facilities supported the concept of health dairies. Notably the NGOs showed 100 % acceptance to the concept of health dairies. Only 4 (23.5%) of government, 3 (60%) of private and none of the NGO's supported the intervention of health ID creation.

DISCUSSION

Huge investments have been made in our country in the development of health related infrastructure and a large force of healthcare workers has been produced. Despite this, there are population groups who have a limited or no access to health services at all or the care if any they receive is inadequate. These underserved groups are largely rural but also include urban poor who are neglected because of social class, poverty, poor positions in the society or geographical locations.Any efforts to improve their health have had modest impact due to several reasons. One reason can be over emphasis on hospital based care while down playing primary health care provided at conveniently located primary health facilities. Secondly, the geographical and economic constraints, deficient logistics, poorly staffed facilities and lack ofsocial responsibilityhave quite often compromised the quality of care offered andthuslimited their usefulness. In our study a thorough situational analysis of the studied health facilities gives a highly significant insight in functioning of the health care and diagnostic facilities, their man -power composition, cost of diagnostic tests with the particular emphasis on comparing these in rural and urban under -privileged areas. At the same time study displays a comparison between Government and private healthcare facilities, revealing a notable disparity in man power composition, costs of tests etc. thus pointing towards the gaps that need to be filled to ensure uniform comprehensive health care services. The study is a part of a larger research project, "Task force study for evaluation of community level acceptability, scalability and linkage within the health system of ICMR Pre-validated LA bike technologies for screening and diagnosis in rural and urban population - an implementation research". The parameters used for situational analysis in this study were mainly taken from the questionnaire provided by ICMR with modifications made as per the need. In this study, huge disparity was seen between urban and rural areas in terms of number & levels of health facilities and the staff available. This is similar to current status of health care system in rest of country as highlighted in the reports by the United Nations,[5] and by the NRHM.[6]Likewise, a large number of studies have established disparities in health care in India due to the inadequate band width of existing infrastructure to serve the length and breadth of India and our findings are in line with the same.[7,8,9,10,11,12] Also if we compare the manpower composition the distribution of work force in government health facilities is far better than in private sector again emphasizing the need of reducing these gaps. A huge difference was also seen in availability of diagnostic facilities, both in government and private sector in the rural and urban study sites. It is worth noting that out of total 38 labs only two (one govt. and one private) were available in the rural study sites. Previous studies also indicate similar findings suggesting that rural health care in India faces an unmatched crisis.[13,14,15,16,17]At the same time, despite the density and array of service options in urban study sites, equitable access to these services for urban underprivileged remains a concern. One obvious reason for this is the failure of the formal services to take into account the needs of working poor (mainly sanitary workers in our urban site) who are unable to avail services during day time hours.

While assessing the bed capacity in available health care facilities apart from rural urban differences it was surprising to see that not a single bed was available in the private sector, both in rural and urban sites depicting the handicap of private sector to handle emergencies or Covid like crisis in future and thus emphasizing the need to improve the capacity of private health care establishments to address emergency like situations.

Overall our findings are consistent with other studies from the rest of Indian subcontinent which show that the bed population ratio, percentage of trained medical practitioners, and healthcare care infrastructure are substantially lesser in rural areas compared to urban areas.[15]

In our study we found that almost all diagnostic tests in both rural and urban areas, not only in private sector but also in government health facilities were done against payments and were not free which goes against the principals of universal health coverage. This could be an important determinant of health care utilization. Not only costs of the lab tests but also different types of other costs can be barriers to use of health care. These include direct cost of drugs and tests and indirect costs of transport, loss of work day, waiting time. Use of Labikes can act as a constructive step towards this direction by providing easy access and lesser out of pocket expenditure on health care.

The rejection of proposed interventions of mobile lab and health diary (outlined in the main study) by the private sector shows their negative response to these innovations which at times leads to negative propaganda against such door step services hence reflecting a need to sensitize and counsel the private providers regarding the same. A much better response for different proposed interventions, by the government sector and NGOs is encouraging. Proposed intervention of home health guides showed hundred percent acceptances in government health facilities and NGOs thus supporting the concept of community participation in delivery of health care. It further depicts that there is an ample scope for implementing these interventions in near future which will in turn pave the ways for achieving Universal health coverage.

CONCLUSION

Concluding, despite achieving significant progress in improving healthcare over last few years through a combination of facility and community level strategies, there are several challenges that need to be addressed. The biggest challenge being urban v/srural, general v/s underprivileged population, govt.v/s private healthcare inequalities and in-equities. There is still a huge proportion of underserved population from urban and rural areas who, apart from financial constraints do not have physical access to health services. One way of addressing this financial and physical inaccessibility is the introduction of Labikes, which aim to revolutionize health care access in these underprivileged areas.

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