



Satisfaction Affecting Factors of Mohalla Clinic Services in the Times of COVID -19 Pandemic: A Cross-Sectional Study

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The Delhi government has launched the Mohalla clinic concept in the year 2015 to make health universal and strengthen the primary care system of Delhi. The basic aim was to provide primary care to people located in remote and poor areas of Delhi. This study was conducted from April 2020 to July 2020 to determine the community dwellers' perception and satisfaction level towards Mohalla clinics and their role in the situation of the COVID-19 pandemic. An online survey was conducted with pretested and validated questionnaire. The questionnaire consisted of 28 items, which were identified with the help of a literature review. The responses were collected from 100 respondents selectively from the ones who have availed the Mohalla clinic's service. The analysis of the results revealed that the perception of the community toward the Mohalla clinic is positive. Moreover, out of all the identified factors impacting satisfaction, the availability factor, which includes the availability of doctors and medicines, had the highest influence on the perception of satisfaction from Mohalla Clinics. Additionally, 58 % of the current users have shown willingness to

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utilize the Mohalla clinic services, even in the times of COVID-19. This is an important finding. It postulates that the Delhi government should focus on the availability of medicines and medical staff to improve satisfaction and render healthcare services in COVID-19.

Keywords: Mohalla clinic; COVID-19; affordability; accessibility; availability of medical professionals.

1. INTRODUCTION

World Health Organization (WHO) specifies that health is one of the most important public goods and has been given the fundamental right for all human beings. The National Health Policy draft indicated that access to health services had been a major issue for villages, remote areas, and urban slums [1]. The salient policy features stated in the National Health Policy were equity, affordability, universality, and accountability and prioritizing the basic health care needs of the urban population [2]. India's expenditure on health is not that big as compared to a developed nation, and according to the National Health Accounts, it was estimated as 3.84 percent of Gross Domestic Product (GDP), which is strikingly lesser than the health expenditure of other underdeveloped countries with approximately 6.3 percent of GDP [3].

A significant challenge standing upfront in India is the delivery of healthcare services [4]. India's healthcare services don't meet the demand due to the mediocre performance of the primary healthcare system [5]. India is undergoing a dynamic transition in health, and because of this, the burden of non-communicable diseases (NCDs) has surpassed the burden of infectious diseases [6]. All this is due to the smaller number of healthcare providers, lack of adequate services, non – availability of medicines and diagnostic services, and inappropriate referral services [7].

Delhi is the capital of India, with a huge population of 1.68 crores (or 16.8 million) in 2011, out of which 97.5% of the population living in the urban area, 1483 km² geographical area, and population density of 11,320 (range 3800–37,346/km²) ("Delhi City Census 2011 data," n.d.) [8]. Delhi has around 16 lakh (1.6 million) or 14.66% population living in slums migrants from various parts of the country [9]. Delhi has the populous urban aggregate in India and holds the 3rd position of having the world's largest urban area [10]. 12 different agencies provide health services in the capital (if three municipal corporations are counted separately, then the number would be 14). Healthcare services

provided by Different Agencies in Delhi, India, can be summarized as below mentioned:

- i) Government of India
- ii) Central Government of Health Services
- iii) State Government of Delhi
- iv) Directorate General of Health Services
- v) Autonomous institutions (i.e., All India Institute of Medical Sciences)
- vi) Employee's State Insurance Corporation
- vii) Ministry of Defense
- viii) Ministry of Railways
- ix) New Delhi Municipal Council
- x) Private Organizations and providers
- xi) Voluntary organizations and non-government organizations

The number of health facilities active in Delhi varies, depending upon the sources [11]. Till March 31, 2014, the count of various health facilities was 95 hospitals, 1389 dispensaries, 267 maternity homes and sub centers, 19 polyclinics, 973 nursing homes, and 27 special clinics capital [12]. Additionally, 15 government-run medical colleges were there belonging to the allopathic system of medicine [13].

The Mohalla clinic concept is derived from the traditional approach of the Mobile Medical Unit (MMU) or Mobile Vans [14]. The MMU approach was conceptualized to provide service in underserved areas, unauthorized colonies, and colonies gathering migrant populations [15]. The MMU worked on the principle of carrying doctors and other medical staff along with medicines and supplies to the desired area in a modified Tempo or other types of vehicles [16]. In the year 2014, the political party in power in Delhi decided to support this approach and expanded the approach of MMU with the help of some additional MMUs [17]. However, by the end of 2014, the party who conceptualized this approach demitted the power [18]. After a year in 2015, another party in power decided to strengthen this approach, but sooner they realized it is not only unpredictable but not feasible because of conditions such as vehicles, doctors, road conditions, and hence it won't be sustainable in the long run [19]. Besides, the administrative and procedural complexities in

buying vans and maintaining the staff's contractual agreements were also limiting factors [20]. The Minister of Health in Delhi, along with the opinion of some independent experts, concluded there should be some more sustainable solutions for MMUs. After several close room discussions, the concept of the origin of the Mohalla clinic was born and was well supported by the top leadership in the state [21].

The first Mohalla clinic facility of Delhi was initiated on July 19, 2015, at Peeragarhi of West Delhi, an extra 100 facilities. As of December 2016, there was a sum of 106 Mohalla clinic centers that were built up over every one of the 11 districts, and in 55 of absolute 70 get together electorates of the state. The Government of Delhi had wanted to dispatch 1000 such facilities [22]. An official discharge from the Government of Delhi revealed that by July 2016, about 800,000 individuals had profited from health services & 43,000 pathological tests were directed in 5 months. Each center on normal was taking into account 70–100 patients for every working day. In September–October 2016, when Delhi saw a flare-up of dengue and Chikungunya maladies and the Mohalla clinics were overwhelmed with the patient, the Mohalla clinic facilities turned into a key passage point for patients to get inspected and lab test for dengue done. This was viewed as a significant alleviation for Mohalla clinics and relieved the emergency in the city. Before the years over 2016, around 1.5 million patients were analyzed at these clinics, a large portion of which was working for not exactly a year till at that point.

Mohalla clinic model was started to provide accessible healthcare services. However, there are very limited studies that have attempted to measure the users' satisfaction derived from the utilization of the Mohalla clinic services and to build a model to predict the same. Moreover, it is also important to assess the user's perception of Mohalla clinic services in times of COVID-19 situation. Develop a model to predict the satisfaction of the users from the Mohalla clinic services. The secondary objective was to assess the perception of Mohalla clinic users in the times of COVID-19 situation. Lastly, this study intends to test the following two hypotheses.

1.1 Hypothesis

H1: There is no difference in the affordability mean score dimension of Mohalla clinics based on the marital status of the users, i.e., married and single.

H2: There is no difference in the affordability mean score dimension of Mohalla clinics based on the age group of the users.

2. LITERATURE REVIEW

The term patient satisfaction started receiving its initial research attention in the 1950s. Patients' satisfaction became one of the most important components shaving an impact on health outcomes. It is also considered as one of the significant indicators of health care quality. The patients are the ultimate judge because they are the ones who evaluate the services provided, and hence the suggestions provided by patients can help in the overall improvement of health care provision [23]. Sometimes and up gradation or rectification of the system's weaknesses becomes an immediate requirement. The research also shows that information on the perception of the community regarding healthcare services is also important, which affects the level of participation and utilization for associated healthcare services. The community with positive perception has a good attitude towards such facilities, and hence they participate actively. Therefore, the analysis of patients' perceptions offers an improved understanding of the user's mindset rather than the opinion of health professionals. The poor perception or utilization of a healthcare service can directly constitute poor management and poor adherence to general principles [24].

The measurement of both perception and level of satisfaction of community is quite a difficult task as both have different meanings for different individuals according to their values, beliefs, health conditions, and past experiences. Various studies have been done concerning perception and satisfaction. Accessibility of services, Adequacy of services, Distance from home, the competence of health workers was the variable used to study the perception and utilization of PHC services in the suburban community of a developing country. Similarly, quality of healthcare services, OPD hours, the facility of immunization, antenatal care, various tests availability of doctors, nurses, the behavior of Doctor and other staffs, waiting for time, cleanliness and hygiene, availability of medicines, quality of medicines, proper diagnosis by a doctor, allowing adequate time for patients, details of information given, Adequacy of costs, technology, structure, courtesy, and emotional support, the efficiency of care are the variables

which are used in various studies of perception and patient satisfaction in association to healthcare services and facilities.

cross-sectional research. In this, a predesigned, pretested, structured questionnaire was developed. Respondents were the people who have utilized the Mohalla clinic services. The study was carried out for two months, i.e., from May to July 2018.

3. MATERIALS AND METHOD

This study is survey-based. It was carried out for a period of three months; thus, it is

Table 1. Details of the questionnaire

S. No.	Domain	Q. No	Statement	Cronbach Alpha
1	Accessibility [AC]	1	The Govt. of Delhi has decided to open the Mohalla Clinic every 5 km. This makes Mohalla Clinic Conveniently located and easily reachable.	.71
		2	The Commuting time to reach Mohalla Clinic is less.	
		3	The procedure in Mohalla clinic is easy to access.	
2	Availability [AV]	4	Working Hours of Mohalla Clinic is suitable for most people. (Mon-sat/ 9am – 5pm).	0.73
		5	All essential Medicines are generally provided by Mohalla Clinic.	
		6	General guidance concerning medication is provided to the patients.	
		7	Staff (Doctor, nurse) is available in Mohalla Clinic.	
3	Affordability [AF]	8	All the medical services in Mohalla Clinic are free of cost.	.85
		9	The medicines are given free of cost to all patients in Mohalla Clinic.	
		10	Various Diagnostic tests suggested are carried out free of cost at the referred center.	
4	Satisfaction [SF]	11	Doctors in Mohalla Clinic are adequately skilled.	.82
		12	There is proper maintenance of hygiene and safety in Mohalla Clinic.	
		13	The Doctor listens and examines the patients carefully & thoroughly.	
		14	The Medical Services of Mohalla Clinic is Better than another Dispensary.	
5	General Interest [GI]	15	Is the Mohalla clinic playing a key role in easing the burden over other medical facilities in the COVID -19 pandemic situations?	0.62
		16	Concerning COVID 19, Mohalla clinic services are safe to use.	
		17	Mohalla clinic is, be a great platform to spread awareness regarding the COVID - 19 within the community?	
6	Self-Perceived Health Status	18	How will you rate your overall health status today?	.856
			Overall Cronbach Alpha	

3.1 Questionnaire Designing

Based on the analysis of the literature within the healthcare sector and the objective of the study A 23item questionnaire was developed covering the four domains as availability, affordability, accessibility, overall satisfaction, perception towards COVID-19, and Self perceived health status. Each dimension of care (affordability, accessibility, availability, and overall satisfaction) has several statements that measure patient satisfaction, which is an outcome in evaluating the quality of medical care shown in Table 1.

To measure this Domain accessibility, indicators used were (AC1) whether Mohalla Clinic is conveniently located and easily reachable, (AC2) traveling time, and (AC3) Procedures in Mohalla clinic are easy to access.

To measure the affordability of the healthcare services delivered by Mohalla clinic, three different indicators were used. The indicators employed were (AF1) All the medical services in Mohalla Clinic are free of cost, (AF2) The medicines are given free of cost to all patients in Mohalla Clinic, (AF3) Various Diagnostic tests suggested are carried out free of cost at the referred center.

We employed four sets of indicators to measure the availability Domain. (AV1) The working hours of Mohalla clinic, (AV2) availability of essential medicines, (AV3) General guidance concerning medication is provided to the patients, and (AV4) availability of staff (Nurse, Doctor) in Mohalla clinic.

A set of four indicators were used to measure the cumulative satisfaction of the healthcare services

delivered by Mohalla clinic in the healthcare system. These are (SA1) satisfaction with doctors, (SA2) satisfaction of maintenance of hygiene and safety, (SA3) satisfaction in the time allocated to patients from doctors, and (SA4) comparison to other dispensaries.

The respondents were required to choose the scores for each statement. The response categories were on a Likert scale which ranged from 1 (very dissatisfied) to 5 (very satisfied). It was reviewed by nine subject experts. The suggested modifications were incorporated. The Cronbach alpha came to be 0.856 higher than the threshold of 0.7 (Taber, 2018),

Response from 100 respondents was collected. The surveyed questionnaire was analyzed with the help of Microsoft's Excel and SPSS 20.0.

4. RESULTS

A total sample of 100 respondents was collected from the survey. The male respondents were 24 percent, while females were 76 percent. In the age groups, the majority were 15 -30 years and 30 – 45 years, comprising 57 percent and 37 percent. Those 45 years and above constituted the remaining 6 percent of the total sample. While most respondents were Single patients, 56 percent, married, constituted 41 percent, and the remaining 3 percent belonged to widowed.

In terms of education, the distribution was among master and above, bachelor and secondary constituted 39 percent, 32 percent, and 29 percent respectively. Regarding occupation, around 56% of respondents were unemployed, followed by 13% in others and 7% in the education sector, shown in Table 2.

Table 2. Demographic details

Sex	Male	Female		
	24%	76%		
Age Groups	15-30 years	31-45 years	46 years and above	
	57%	37%	6%	
Marital Status	Married	Single		
	44%	56%		
Education level	Secondary	Bachelors	Masters & Above	
	29%	32%	39%	
Occupation Category	Unemployed	Government Employee	Education	Others
	56%	2%	7%	13%

The self-perceived health status item revealed that 68 percent of the respondents had rated their health status in a good and very good state. Moreover, an independent-samples t-test was run to compare the mean scores for the perception towards affordability dimension in the categories for Married and single respondents. A statistically significant difference in scores for Married (M = 4.47, SD = 0.44) and single (M = 3.54, SD = 0.73); $t(100) = 7.2, p = 0.000$, two-tailed) was found. Hence the H1 hypothesis is rejected, and the alternative hypothesis is accepted. Moreover, the married people's perception of the affordability dimension of the Mohalla clinic is higher than unmarried people.

Furthermore, to test hypothesis H2, A one-way analysis of variables (ANOVA) was performed to explore the impact of different age group son the perception of affordability [AF] of Mohalla Clinic services. Respondents were categorized into three groups (Group 1: 15-30 years, Group 2: 30-45 years, and Group 3: 45+ years). There was a statistically significant difference at the $p < 0.05$ level in the affordability [AF] score $F(2,97) = 18.92, p = 0.00$. In addition to reaching statistical significance, the actual difference in mean scores between the groups was large. Post-Hoc comparison using LSD indicated that the Mean score for Group 1, 15- 30 years of age (M = 3.6, SD =0.75) was significantly different from Group 2, 31-45 years of age (M =4.4, SD =0.52) and Group 3, 45 years and above (M = 4.2, SD = 0.25). Thus, the null hypothesis H2 was also rejected, implying a statistically significant difference in perception towards the affordability dimension of Mohalla clinics, based on the age groups. Moreover, the people in the age group 31-45 years have the highest scores for affordability dimensions, whereas younger people in the age group 15-30 years of the age group have the lowest scores for affordability dimensions.

Lastly, with the help of multiple linear regressions, a model is developed to predict the

satisfaction derived from the Mohalla clinic services, with identified factors Affordability, Availability, and Accessibility. The multiple linear regressions were calculated to predict participants' satisfaction level with Mohalla clinic services based on affordability, accessibility, and availability. Initial analyses ensured there was no violation of the assumptions of normality, linearity, and multicollinearity. Moreover, a significant regression equation was found $F(3, 96) = 29.54, p = 0.00$, with a multiple R-value of 0.63, implying a substantial correlation between the three predictor variables(Affordability, Accessibility, Availability) and the dependent variable (Satisfaction). Moreover, the adjusted R2 value of 0.46 denotes that the three variables explain 46% of the variance in the variable satisfaction from Mohalla clinics. Additionally, the beta values show that among the three predicting variables, AV has the highest influence on satisfaction with beta value 0.35, followed by AF and AC with beta values 0.26. The direction of influence is positive for all the three predicting variables shown in Table 3.

The participants predicted satisfaction level can be determined from the regression equation which is Satisfaction predicted = $-.439 + 0.34(AC) + 0.48(AV) + 0.19(AF)$. This equation can be interpreted as for every one unit increase in AC, and there will be a 0.34 unit increase in the satisfaction holding all other variables constant.

However, the questions concerning Mohalla clinics' role in the COVID -19 situation revealed that around 58per cent of the respondents would prefer to choose the Mohalla clinic for primary care even in the times of the COVID -19 pandemic. Additionally, 99 percent of the respondents had opened that Mohalla clinics could spread awareness regarding COVID-19 within the community. Lastly, around 86per cent of people feels that other state governments should also replicate Mohalla Clinic Model to deliver healthcare services.

Table 3. Regression model co-efficient

Model		Coefficients			T	Sig.
		Unstandardized Coefficients	Standardized Coefficients			
		B	Std. Error	Beta		
1	(Constant)	-.439	.480		-.914	.363
	AC Mean	.346	.103	.266	3.365	.001
	AV Mean	.482	.123	.354	3.934	.000
	AF Mean	.197	.066	.268	2.969	.004

5. DISCUSSION

The study revealed that the community's perception towards the overall satisfaction from the Mohalla clinic depends primarily on the Availability [AV] domain, which comprises indicators such as working hours, availability of medicines, Doctors, and proper guidelines for medicines. Although there is a disagreement with an earlier study carried out for Mohalla clinics, the overall satisfaction depended on the affordability of services. The role of availability is also substantiated in the earlier studies, especially those rendering primary healthcare services, as there are studies in which availability is the key factor for the satisfaction which corresponds to PHC services. Moreover, prior studies have also highlighted the role of availability related to parking availability, availability of seats, availability of drinking water, and availability of clean toilets. Moreover, this study is concurrent to an earlier study in Delhi only for primary healthcare services where non-availability of medicines and investigations was related to community users' dissatisfaction with the services. These results can be justified as there is less availability of primary care centers in Delhi. With this new Mohalla clinic concept, primary healthcare services' availability is increasing in Delhi, even in remote areas ("AAP GOVERNMENT HEALTHCARE FACILITIES GUIDE," 2017). Apart from that, the accessibility and affordability domains are also important in predicting satisfaction derived from the services.

Furthermore, 68 percent of Mohalla clinic service users have rated their perceived health status as good and above, which signifies that the users perceive that Mohalla clinic services are effective. However, there is a scope for further improvement. This study also confirms that married people's perception of the affordability dimension of Mohalla clinic services is better than the unmarried people. The people in the higher age groups have rated the Mohalla clinic services as more affordable in comparison to the people in the lesser age groups. This is possible because of the higher expectation level in the people who are unmarried and are in younger age brackets.

In the perception of community and satisfaction level towards the Mohalla clinic The Mohalla clinic's success is associated with the availability of free medicine and test, which has reduced the primary care expenditure, which has decreased the OOPe cost for patients. The other

government should also focus on such initiatives for their state and move forward to universalize health.

6. CONCLUSION

This study concludes that the concerned authorities should conduct patient satisfaction studies more often. The benefit of such practice is it helps identify areas of dissatisfaction that can be remedied, and hence satisfaction can be enhanced more within the community. As in this study, the government should focus more on accessibility and affordability factors of the Mohalla clinic and should take the best solutions to increase the community's satisfaction. Concerned authorities should take active measures to improve healthcare workers' availability, medicines, and investigations as it the most important variable affecting satisfaction. Moreover, unmarried and younger people should be counseled properly about the investigation to improve their perception of Mohalla clinic services' affordability dimension. The Mohalla clinics can play a vital role in disseminating COVID 19 as the users have trust in the services and are willing to utilize them in times of COVID 19.

7. LIMITATIONS

The study was conducted in a limited period of three months. Hence in the future, another longitudinal study with a longer duration should be carried out.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

Ethical Clearance Taken from Symbiosis Institute of Health Sciences, Pune.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. AAP government healthcare facilities guide; 2017.

2. Abd-alsaid EM. International journal of research in pharmaceutical sciences.
3. Al-Eisa IS, Al-Mutar MS, Radwan MM, Al-Terkit AM, Al-Eisa I. Patients' satisfaction with primary health care services at capital health region, Kuwait. Middle East Journal of Family Medicine. 2005;3(3):10-6.
4. Astha Saxena DP. (n.d.). For mohalla clinics in Delhi, healthcare more than just about medicines. The indianexpress.
5. Banerjee B, Banerjee B. National programme for prevention and control of cancer, diabetes, cardiovascular diseases and stroke (NPCDCS). DK Taneja's Health Policies and Programmes in India. 2017;429-429. Available:https://doi.org/10.5005/jp/books/13071_31
6. Chaudhuri BR, Roy BN. National health policy.
7. Delhi City Census 2011 data. (n.d.).
8. Egbewale BE, Odu OO. Perception and utilization of primary health Care Services in a Semi-Urban Community in south-western Nigeria. Journal of Community Medicine and Primary Health Care. 2012;24(1-2):11-20.
9. Emhj. Pdf. (n.d.). 2003;9(3):422-430.
10. Haddad S, Fournier P, Potvin L. Measuring lay people's perceptions of the quality of primary health care services in developing countries. Validation of a 20-item scale. International Journal for Quality in Health Care. 1998;10(2):93-104.
11. Health N, Technical A, Health N, Resource S, Welfare F. National health accounts estimates of India 2015-16. National Health Accounts Technical Secretariat National Health Systems Resource Centre Ministry of Health & Family Welfare, Government of India; 2018.
12. Journal SA. South African Journal of Business Management. 2014;30(1):7535,
13. Kelley L. The world health organization (WHO). The World Health Organization (WHO). 2008;1-157. Available:https://doi.org/10.4324/9780203029732
14. Lahariya C. Delhi's Mohalla Clinics. 2016;15-17.
15. Lahariya C. Mohalla Clinics of Delhi, India: Could these become platform to strengthen primary healthcare?. Journal of family medicine and primary care. 2017;6(1):1.
16. Rasheed N, Arya S, Acharya A. Client satisfaction and perceptions about quality of health care at a primary health centre of Delhi, India. Indian Journal of Community Health. 2012;24(3):237-42.
17. Chandran S, Roy P. Primary Health centres and patients satisfaction level in haripad community development block of Kerala, India. International Journal of Current Research. 2014;6(12):11118-22.
18. Sah T, Kaushik R, Bailwal N, Tep N. Mohalla clinics in Delhi: A preliminary assessment of their functioning and coverage. Indian Journal of Human Development. 2019;13(2):195-210.
19. Satisfaction P. Doctor-patient interaction: Psychosocial aspects outcome measurements for minimally invasive percutaneous spine techniques; 2011.
20. Sofaer S, and Firminger K. Patient perceptions of the quality of health services. 2005;1(35). Available:https://doi.org/10.1146/annurev.publhealth.25.050503.153958
21. Available:https://doi.org/10.1146/annurev.publhealth.25.050503.153958
22. Taber KS. The use of Cronbach's alpha when developing and reporting research instruments in science education. Research in Science Education. 2018;48(6):1273-96.
23. Mahidhar BV, Sankeerthana DL, Reddy KB, Nikhath GA, Poovaraghan RJ. Medical transcription using speech recognizer.
24. World Health Organization. The world health report: Life in the 21st century. A Vision for All. Geneva: World Health Organization; 1998.

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