

A Comparative Study of Telehealth and Traditional Healthcare Services in Ghangola Village, Greater Noida, U.P.

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Abstract:

➤ Background:

Access to healthcare in rural communities can be affected by geographical distance, transportation, cost, waiting time and limited availability of healthcare professionals. Telehealth provides an additional route to healthcare through digital communication, while traditional face-to-face care remains important when physical examination, diagnostic procedures or direct treatment are required.

➤ Method:

A quantitative approach with a comparative descriptive research design was used among 100 participants from Ghangola Village, Greater Noida, Uttar Pradesh. Participants were selected using non-probability convenience sampling. Data were collected using a structured research tool comprising 14 socio-demographic and healthcare-related items and 15 five-point Likert-scale statements assessing accessibility, patient satisfaction and perceptions of telehealth and traditional healthcare services. Frequency, percentage, mean, standard deviation, paired t-test and chi-square test were used for analysis.

➤ Results:

Most participants owned a smartphone/mobile phone (92%) and had internet access at home (71%), but 74% had never used telehealth services. Traditional healthcare was preferred by 82% of participants, compared with 18% who preferred telehealth. The mean score for telehealth-related statements was 2.96 ± 0.35 , compared with 4.00 ± 0.40 for traditional healthcare. The paired t-test showed a statistically significant difference ($t = -19.127$, $df = 99$, $p < 0.001$). Marital status was significantly associated with preferred healthcare service ($\chi^2 = 5.860$, $df = 1$, $p = 0.015$); other selected variables were not significantly associated.

➤ Conclusion:

Traditional healthcare services received more favourable perceptions and were more frequently preferred in this sample. At the same time, participants recognized the importance of both telehealth and traditional services for rural healthcare delivery, indicating a potential complementary role for telehealth, particularly where travel, distance or follow-up needs create practical barriers.

Keywords: Telehealth, Traditional Healthcare, Rural Healthcare, Accessibility, Patient Satisfaction, Healthcare Preference.

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I. INTRODUCTION

➤ Background

Traditionally, healthcare has been provided through direct, face-to-face interaction between patients and healthcare professionals. This approach allows direct

communication, physical examination, diagnostic procedures and other interventions and therefore remains important when a patient's condition requires direct clinical assessment or immediate treatment.

India has taken steps towards incorporating telemedicine into healthcare. The Government of India issued Telemedicine Practice Guidelines in March 2020, addressing areas such as the doctor–patient relationship, informed consent, medical records, privacy, security and appropriate use of technology. The national eSanjeevani telemedicine service has also been developed to facilitate remote consultations and extend healthcare services to rural and remote communities (MoHFW, 2020, 2023).

Healthcare access in rural communities is influenced by geographical distance, transportation, availability of healthcare professionals and the practical costs of seeking care. Telehealth can provide communication with healthcare professionals through telephone, video consultations, online platforms and other electronic methods and may be useful for selected consultations, follow-up care and health education (WHO, 2021).

However, telehealth is not suitable for every healthcare situation. Physical examination, laboratory investigations, procedures, emergency management and direct clinical care may require face-to-face services. Its usefulness may also depend on internet connectivity, availability of devices, digital literacy, privacy and patients' comfort with technology. Thus, telehealth and traditional healthcare may serve different purposes and may complement one another rather than one completely replacing the other.

The present study was undertaken to compare telehealth and traditional healthcare services among people living in Ghangola Village, Greater Noida, Uttar Pradesh, with particular attention to accessibility, satisfaction, perceptions and healthcare preference.

➤ *Aim and Objectives*

The aim of the study was to compare telehealth and traditional healthcare services among individuals residing in Ghangola Village, Greater Noida, Uttar Pradesh.

- To assess and compare the utilization of telehealth and traditional healthcare services among individuals residing in Ghangola Village.
- To compare telehealth and traditional healthcare services in terms of accessibility, convenience, affordability, waiting time and satisfaction among the participants.
- To determine the association between participants' preferred healthcare service and selected socio-demographic and healthcare-related variables.

II. MATERIAL AND METHOD

➤ *Study Setting*

The study was conducted in Ghangola Village, Greater Noida, Uttar Pradesh.

➤ *Study Population and Sample*

The study included 100 participants residing in the selected rural community who fulfilled the predetermined inclusion criteria.

➤ *Research Approach and Design*

A quantitative research approach with a comparative descriptive research design was used.

➤ *Sampling Technique*

Participants were selected using a non-probability convenience sampling technique.

➤ *Data Collection Tool*

The structured research tool consisted of two sections. Section A contained 14 items related to socio-demographic and healthcare-related characteristics. Section B contained 15 five-point Likert-scale statements related to accessibility, patient satisfaction and comparison of telehealth and traditional healthcare services. Responses ranged from Strongly Agree (5) to Strongly Disagree (1).

➤ *Data Collection Procedure*

After obtaining the required permissions and informed consent, the questionnaire was administered to eligible participants. The researcher clarified instructions when necessary without influencing responses. Completed questionnaires were checked for completeness and the data were coded and organized for analysis.

➤ *Ethical Considerations*

Participation was voluntary. Written informed consent was obtained from participants, confidentiality and anonymity were maintained, and the information collected was used for research purposes. The study involved no invasive procedure or intervention.

➤ *Data Analysis*

Frequency and percentage were used to summarize categorical variables. Mean and standard deviation were used for Likert-scale responses. A paired t-test was used to compare telehealth and traditional healthcare scores, and the chi-square test was used to examine associations between preferred healthcare service and selected variables. A p-value < 0.05 was considered statistically significant.

III. RESULT

Among the 100 participants, 32% were aged 18–30 years, 23% were aged 31–40 years, 30% were aged 41–50 years, 11% were aged 51–60 years and 4% were above 60 years. Females constituted 55% of the sample and 71% were married. Thirty-seven percent had primary education and 31% were illiterate. Housewife was the most common occupation (42%), and 60% reported a monthly family income below Rs. 30,000.

Most participants (92%) owned a smartphone/mobile phone and 71% had internet access at home. Despite this, 74% had never used telehealth services. Traditional healthcare services were preferred by 82% of participants, while 18% preferred telehealth.

Table 1 Selected Socio-Demographic and Healthcare-Related Characteristics of Participants (N = 100)

Characteristic	f	%
Age 18–30 years	32	32.0
Age 31–40 years	23	23.0
Age 41–50 years	30	30.0
Age 51–60 years	11	11.0
Age >60 years	4	4.0
Female	55	55.0
Married	71	71.0
Primary education	37	37.0
Illiterate	31	31.0
Housewife	42	42.0
Income below Rs. 30,000	60	60.0
Joint family	51	51.0
Rural residence	88	88.0
Smartphone/mobile phone: Yes	92	92.0
Internet at home: Yes	71	71.0
Previous telehealth use: No	74	74.0
Preferred traditional healthcare	82	82.0
Nearest facility <2 km	51	51.0

The response pattern showed more favourable perceptions of traditional healthcare. Traditional healthcare was rated as easily available in the community (mean 3.99) and satisfaction with its quality was 3.77. Physical examination in traditional healthcare increased trust in treatment (mean 4.05), while traditional healthcare was

perceived as more effective than telehealth (mean 4.12) and was preferred for serious illnesses (mean 4.09). The statement that both telehealth and traditional healthcare services are important for rural healthcare delivery had the highest mean score (4.26).

Table 2 Comparison of Mean Scores Regarding Telehealth and Traditional Healthcare Services

Healthcare service	No. of items	Mean $\pm$ SD
Telehealth services	9	2.96 $\pm$ 0.35
Traditional healthcare services	5	4.00 $\pm$ 0.40
Mean difference		1.04

Paired t-test: $t = -19.127$, $df = 99$, $p < 0.001$. The difference between telehealth and traditional healthcare scores was statistically significant.

Table 3 Association Between Preferred Healthcare Service and Selected Variables

Variable	χ^2	df	p-value	Sig.
Age	1.144	4	0.887	NS
Gender	0.222	2	0.895	NS
Marital status	5.860	1	0.015	S
Educational status	2.752	3	0.431	NS
Occupation	5.533	4	0.237	NS
Monthly family income	0.439	3	0.932	NS
Type of family	1.648	2	0.439	NS
Area of residence	0.863	1	0.353	NS
Smartphone/mobile ownership	0.178	1	0.673	NS
Internet access at home	0.016	1	0.900	NS
Previous telehealth use	0.036	1	0.849	NS
Distance to nearest facility	0.959	2	0.619	NS
Source of health information	6.655	4	0.155	NS

Marital status was significantly associated with preferred healthcare service ($\chi^2 = 5.860$, $df = 1$, $p = 0.015$). No statistically significant association was found with the other selected variables.

IV. DISCUSSION

The study found that traditional healthcare services were more positively perceived and preferred than telehealth services among the participants. Although smartphone ownership and internet access were relatively high, previous

use of telehealth remained limited. This indicates that availability of digital devices and internet access did not correspond to frequent telehealth utilization in this sample.

The higher mean score for traditional healthcare was consistent with participants' responses regarding physical examination, trust and perceived effectiveness. Physical examination in traditional healthcare received a mean score of 4.05, while the perception that traditional healthcare was more effective than telehealth received a mean score of 4.12. Preference for traditional healthcare for serious illness also received a high mean score of 4.09.

At the same time, participants recognized advantages of telehealth, including its potential to improve access to healthcare in rural areas and its possible usefulness for follow-up consultations. The highest item mean of 4.26 was for the statement that both telehealth and traditional healthcare services are important for rural healthcare delivery. This supports the study's interpretation that the two approaches may have complementary roles.

The findings are consistent with issues described in the reviewed literature. Studies cited in the project identified reduced travel and improved access as potential benefits of telehealth, while connectivity difficulties, limitations in physical examination, communication problems and digital literacy were reported as barriers. Reviews have also described telehealth as a potential complement to conventional healthcare rather than a universal substitute (Harkey et al., 2020; Krishnasamy & Anandhan, 2024; Rajkumar et al., 2023; Vaidya et al., 2024).

Marital status was the only selected variable significantly associated with preferred healthcare service. No significant association was found for age, gender, educational status, occupation, income, family type, residence, smartphone ownership, internet access, previous telehealth use, distance to the nearest facility or source of health information. These findings should be interpreted within the context of the selected sample and the study design.

V. CONCLUSION

Among the 100 participants in Ghangola Village, traditional healthcare services were more positively perceived and preferred than telehealth services. The mean score for traditional healthcare (4.00 ± 0.40) was significantly higher than that for telehealth (2.96 ± 0.35), with a paired t-test result of $t = -19.127$, $df = 99$, $p < 0.001$. Although 92% of participants owned a smartphone/mobile phone and 71% had internet access at home, 74% had never used telehealth services. Participants nevertheless recognized the importance of both approaches for rural healthcare delivery. The findings therefore support consideration of telehealth as a complementary service alongside traditional face-to-face healthcare, particularly for situations in which remote consultation is appropriate.

IMPLICATIONS AND RECOMMENDATIONS

For nursing practice, nurses and community health workers can educate rural residents about appropriate telehealth use, support patients who have difficulty with digital services, and emphasize situations requiring physical assessment. Nursing education can incorporate digital health, remote communication, privacy and referral skills. Nursing administration can support training, protocols and coordination between telehealth and physical facilities. Future research can examine barriers to telehealth utilization, digital health literacy, patient satisfaction after telehealth exposure and the effectiveness of combined telehealth and traditional healthcare models.

The study was limited by the sample of 100 participants, the selected rural communities of Greater Noida, reliance on self-reported responses, limited previous telehealth exposure among participants, and the variables included in the research tool. The findings should therefore be interpreted within the context of the study population.

DECLARATIONS

- Ethics Approval and Consent: The study protocol included ethical and administrative permissions, and written informed consent was obtained from participants. Confidentiality and anonymity were maintained throughout the study.
- Funding: No funding was reported for the study.
- Conflict of Interest: No conflict of interest was reported.

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REFERENCES

- [1]. American Medical Association. (2022). Telehealth implementation playbook.
- [2]. American Medical Association.
- [3]. Bashshur, R., Doarn, C. R., Frenk, J. M., Kvedar, J. C., & Woolliscroft, J. O. (2020). Beyond the COVID-19 pandemic, telemedicine, and health care. *Telemedicine and e- Health*, 26(9), 1117–1120. <https://doi.org/10.1089/tmj.2020.0265>
- [4]. Butzner, M., & Cuffee, Y. (2021). Telehealth interventions and outcomes across rural communities in the United States: Narrative review. *Journal of Medical Internet-Research*, 23(8), e29575. <https://doi.org/10.2196/29575>
- [5]. Centers for Disease Control and Prevention. (2024). Telehealth and telemedicine. U.S. Department of Health and Human Services.
- [6]. Chagas, M. E. V., Jacovas, V. C., Moreira, T. C., Constant, H. M. R. M., Rohden, S. F., Alves, S. S., Santini, F., Dall'Agnol, S., Klever, E. K., Cabral, F. C., & Terres, M. S. (2024). Are we adequately measuring

- patient satisfaction with telemedicine? A systematic review with a meta-analysis. *Telemedicine and e-Health*, 30(6), 1522–1538.
<https://doi.org/10.1089/tmj.2023.0530>
- [7]. Dwivedi, S., et al. (2024). Provider satisfaction with telemedicine services for tribal populations in Western Rajasthan, India. *Journal of Family Medicine and Primary Care*.
 - [8]. Emami, E., Harnagea, H., Shrivastava, R., Ahmadi, M., & Giraudeau, N. (2022). Patient satisfaction with e-oral health care in rural and remote settings: A systematic review. *Systematic Reviews*, 11, 234.
<https://doi.org/10.1186/s13643-022-02103-2>
 - [9]. Ferrara, K., & Chapman, M. (2024). Rural patients' experiences with synchronous video telehealth in the United States: A scoping review. *Telemedicine and e-Health*. <https://doi.org/10.1089/tmj.2023.0410>
 - [10]. Harkey, L. C., Jung, S. M., Newton, E. R., & Patterson, A. (2020). Patient satisfaction with telehealth in rural settings: A systematic review. *International Journal of Telerehabilitation*, 12(2), 53–64.
<https://doi.org/10.5195/ijt.2020.6303>
 - [11]. Hoff, T., & Lee, D. R. (2022). Physician satisfaction with telehealth: A systematic review and agenda for future research. *Quality Management in Health Care*, 31(3), 160–169.
<https://doi.org/10.1097/QMH.0000000000000359>
 - [12]. Krishnasamy, K., & Anandhan, K. (2024). Patients satisfaction level on tele consultation services during COVID-19 in tertiary referral hospital South India. *Journal of Family Medicine and Primary Care*.
 - [13]. Kruse, C. S., Krowski, N., Rodriguez, B., Tran, L., Vela, J., & Brooks, M. (2017). Telehealth and patient satisfaction: A systematic review and narrative analysis. *BMJ Open*, 7(8), e016242.
<https://doi.org/10.1136/bmjopen-2017-016242>
 - [14]. Ministry of Health and Family Welfare, Government of India. (2020). Telemedicine practice guidelines: Enabling registered medical practitioners to provide healthcare using telemedicine. Government of India.
 - [15]. Ministry of Health and Family Welfare, Government of India. (2022). National Health Mission: Rural health statistics. Government of India.
 - [16]. Ministry of Health and Family Welfare, Government of India. (2023). eSanjeevani: National telemedicine service. Government of India.
 - [17]. Moray, A. (2025). An investigation of factors impacting the acceptance of telehealth in rural India. *Journal of Medical Systems*.
 - [18]. Orlando, J. F., Beard, M., & Kumar, S. (2019). Systematic review of patient and caregivers' satisfaction with telehealth videoconferencing as a mode of service delivery in managing patients' health. *PLoS ONE*, 14(8), e0221848.
<https://doi.org/10.1371/journal.pone.0221848>
 - [19]. Perez, M., Wisniewski, M., Ari, A., Lee, E., Lieneck, C., & Ramamonjiarivelo, Z. (2025). Investigation into application of AI and telemedicine in rural communities. *International Journal of Environmental Research and Public Health*.
 - [20]. Rajkumar, E., et al. (2023). Applications, benefits and challenges of telehealth in India during COVID-19 pandemic and beyond: A systematic review. *Journal of Medical Internet Research*.
 - [21]. Sriram, M., Mohandoss, K., Sunder, S., & Amirthalingam, S. (2025). An analysis of switching behavior from traditional hospital visit to e-health consultation. *Healthcare*, 13(15), 1784.
 - [22]. Totten, A. M., Womack, D. M., Griffin, J. C., McDonagh, M. S., Davis-O'Reilly, C., Blazina, I., Grusing, S., Elder, H., et al. (2024). Telehealth-guided provider-to-provider communication to improve rural health. *Telemedicine and e-Health*.
 - [23]. Vaidya, P., Patil, S., Oswal, V., Narula, S., Khare, S., Patil, A., et al. (2024). Healthcare in the modern era: Launching a telemedicine-based OPD consultation in rural Pune. *Cureus*.
 - [24]. Vijay, R., Praveen Kumar, B., Buvnesh Kumar, S., & Sagetha, S. (2024). Perceptions and satisfaction of e-health applications: An analytical cross-sectional study in a rural health center at Tiruvallur District, Tamil Nadu. *Cureus*.
 - [25]. Watanabe, J., Teraura, H., Nakamura, A., & Kotani, K. (2023). Telemental health in rural areas: A systematic review. *Journal of Rural Medicine*, 18(2), 50–54.
<https://doi.org/10.2185/jrm.2022-059>
 - [26]. World Health Organization. (2019). WHO guideline: Recommendations on digital interventions for health system strengthening. World Health Organization.
 - [27]. World Health Organization. (2021). Global strategy on digital health 2020–2025.
 - [28]. World Health Organization.
 - [29]. World Health Organization. (2022). Global report on digital health interventions. World Health Organization.
 - [30]. World Health Organization. (2023). Global strategy on digital health. World Health Organization.
 - [31]. World Health Organization. (2024). Telemedicine: Opportunities and developments in member states. World Health Organization.
 - [32]. World Health Organization. (2024). Digital health and innovation. World Health Organization.
 - [33]. World Health Organization. (2024). Primary health care. World Health Organization.
 - [34]. World Health Organization. (2024). Rural health and access to health services. World Health Organization.
 - [35]. Wang, M., von Huben, A., Sivaprakash, P., Saurman, E., Norris, S., & Wilson, A. (2025). Addressing health service equity through telehealth: A systematic review of reviews. *Digital Health*.
<https://doi.org/10.1177/20552076251326233>
 - [36]. Ahmad, S., Faizi, N., Shah, M. S., Abedi, A. J., et al. (2026). Deconstructing satisfaction in public and private health services in rural India. *Journal of Health, Population and Nutrition*.
 - [37]. Greenup, E. P., & Best, D. (2023). Comparison of patient responses to telehealth satisfaction surveys in rural and urban populations in Queensland. *Journal of Telemedicine and Telecare*.

- [38]. Sharma, A., et al. (2024). Barriers and facilitators for the use of telehealth by healthcare providers in India: A systematic review. *PLOS Digital Health*.
- [39]. Simpson, A., Ahmad, M., Mosharaf, M., Nasir, M., Kondalsamy-Chennakesavan, S., McGrail, M., Wallis, K., & Alam, K. (2025). The economic value of virtual primary healthcare for rural populations: A systematic review. *Journal of Telemedicine and Telecare*.
- [40]. Butzner, M., & Cuffee, Y. (2021). Telehealth interventions and outcomes across rural communities in the United States: Narrative review. *Journal of Medical Internet Research*, 23(8), e29575. <https://doi.org/10.2196/29575>