

# Understanding Consumer Adoption of e-Pharmacy in India: The Role of Gender, Generation, Profession, and Area of Living

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## ABSTRACT

**Background:** Convenience, accessibility and affordability are the three constructs that is attracting consumers to transform the healthcare landscape digitally into adoption of e-pharmacy. This research study probes into the ascendancy of four major socio-demographic factors namely gender, generation, profession and area of living on the acceptance of e-pharmacy among Indian population framing the objectives in such a way that it determines in case these above-mentioned factors significantly influence the user adoption behaviour or not. **Materials and Methods:** A structured online questionnaire, inspired from SCRIBD was distributed through Google Forms keeping in mind a convenience sampling method. The total set of participants ( $n=431$ ) is chosen from diverse demographic domains such as Gender, Generation, Profession and Area of Living keeping in mind their privacy, anonymity, and voluntariness in case of participation. Cronbach's Alpha, Skewness, Kurtosis test was done to assure reliability and normal distribution, Levene's Test to ensure homogeneity of variance, later Independent Sample  $t$ -test and One-Way ANOVA were conducted using IBM SPSS software. **Results:** The findings reveal that gender and area of living significantly influence e-pharmacy adoption, but in the same way profession and generation do not, implicating the prominent role of socio-geographical factors towards accepting or adopting digital healthcare platforms. **Conclusion:** Our research highlights the importance of targeted awareness campaigns and technological infrastructure advancements, especially in rural areas and also among particular gender groups, to uplift the adoption of e-pharmacy in India.

**Keywords:** Digital Healthcare, E-pharmacy, Gender, Generation, Profession, Area of Living, Technology.

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**Received:** 12-01-2026;

**Revised:** 05-03-2026;

**Accepted:** 26-05-2026.

## INTRODUCTION

Technology is rapidly reshaping various sectors offering mechanisms such as personalised voice assistance in smartphones, customised virtual recommendations, online routine medical assistance and even disease diagnosis.<sup>1</sup> Within the field of healthcare, the influence of technology is remarkably profound, especially in the pharmacy sector, where it is seen to be transforming drug innovations, uplifting diagnostic accuracy and driving online operational efficiencies.<sup>2</sup> Pharmacy being an indispensable part of the whole healthcare ecosystem, is undergoing an epitome shift with the unfolding of e-pharmacy globally as well as in India.<sup>3</sup> However, the success of any new technology depends mostly on its acceptance by consumers and various socio-demographic factors play a condemning role in this

acceptance and research says that age and gender<sup>4</sup> influence the adoption of e-pharmacy and among generations namely generation X (1965-1980), generation Y (1981-1996) and generation Z (1997-2012) show different point of view towards e-healthcare platforms resulting dissimilarities in technological familiarity, risk appetite and healthcare requirements. Like, male and females show differences in their adoption behaviour along with studies indicating gender-specific concerns regarding privacy, access and trust reforming online pharmacy usage patterns. Other than age and gender, profession of a consumer is also considered a factor that plays a crucial role in e-pharmacy acceptance. Working individuals mostly prioritize the accessibility and timely service of medicines through online pharmacy platforms because of their life in a box, whereas non-working people such as homemakers and retirees seem to lean more towards traditional pharmacy due to familiarity, perceived safety and old practices.<sup>5</sup> Furthermore, the area of living evidently influences the accessibility and trust in e-pharmacy portals. Urban populations are probably more exposed to technological infrastructure and digital services which make them inclined towards adopting e-pharmacy services and rural dwellers face several challenges like poor



DOI: 10.5530/ijper.20263391

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internet connection, restricted digital literacy and problems over medication authenticity which disrupts e-pharmacy adoption.<sup>6</sup>

However, several problems limit the extensive adoption such as regulatory complications, pirated drug risks, privacy concerns and illegal use of prescriptions act as significant bottlenecks to the trust and usage of online pharmacy services. Despite of all demographic variations, e-pharmacy platform proposes various benefits, including advanced convenience, automated medication notifications, increased accessibility and possibility for cost cutting in healthcare delivery.<sup>7</sup> To survey these constraints, a structured questionnaire inspired from SCRIBD<sup>8</sup> was used in this study to find out the adoption or acceptance of e-pharmacy among different demographic domains across India.

Covid pandemic has also played a remarkable role in the growth of e-commerce<sup>9</sup> and e-pharmacy is not out of spreading worldwide as well as in India. The opportunities this technology offers are quite profitable because of its features of accessibility, convenience and cost reduction, fitting well into the routine of daily life adoption, especially patients with chronic diseases and with severe mobility issues.<sup>10</sup> Boya *et al.*, 2025 stated in their study that compared to brick-and-mortar pharmacies, the sellers distribute the medicines in a much lower rate due to reduced overhead cost and low facility cost.<sup>11</sup> But on the negative side patients may feel a little hesitant to share their personal issues other than their doctor i.e. with the pharmacist one to one personally during buying medicines from the traditional pharmacy.<sup>12</sup> Research indicates that in spite of numerous advantages, few e-pharmacy platforms are vending counterfeit drugs and distributing medicines without proper prescriptions<sup>13</sup> behind the mask of e-pharmacy, which is considered a criminal offence as it can directly affects the patients' health.<sup>14</sup> With the disadvantages, as the whole system is dependent on technology, comes some other problems including data leaks and data breaches. In case of e-commerce adoption, prior researches have expressed that male population prefers using e-commerce because of perceived trust and value leading to spending time more in shopping online in contrast to the female population. But Szymkowiak *et al.*, 2018 discovered that nowadays the shift of shopping online has shifted from males to females<sup>15</sup> and supporting that it is also seen that females hold 60 percent of the percentile in e-shopping, which is higher than male.<sup>16</sup> And in the field of e-pharmacy, studies from the beginning have noticed that females purchase more medicines from e-pharmacy portals in comparison to males. Digital literacy, social influence<sup>17</sup> and perceived ease of use<sup>18</sup> are the factors that explains the dependency of females towards e-pharmacy. Few studies in contrary have stipulated the direct opposite and found out that males are adopting it more than females and although studies have revealed that e-pharmacy affectation is not categorized by the gender differences but still on the opposite side many studies<sup>19</sup> explained in their study that gender has significant role into it being awakened about it.

The profession of a person, as a factor, helps in understanding the customer needs, behaviour and various perspectives of society.<sup>20</sup> Working people may categorize career enhancement and monetary stability as their preference while the non-working population focuses more on individual growth, public participation or shared activities with family.<sup>21</sup> Keeping in mind the factors mentioned, it can be derived that time, money and lifestyle priorities are the features that distinguish working people from the non-working one.<sup>22</sup> But on the other hand, as e-pharmacies are gaining popularity, some working people may still feel hesitant to accept e-pharmacy because of quality concerns, social isolation and potential risks that a person can face because of self-medication. While speaking about the second sector, i.e., non-working individuals like retirees or those who have flexible schedules find e-pharmacies practical for determinants such as cost reduction or door step medicine delivery. But on the other hand, Dcruz *et al.*, 2022 has stated in their study that non-working people are not accepting the concept of e-pharmacy very gladly because of issues like online payment and digital efforts.<sup>23</sup>

Area of living is indeed considered a demographic factor while analysing technology acceptance and can significantly influence the adoption of new technologies.<sup>24</sup> E-pharmacy provides advantages like easy convenience, access to a varied range of medicines and maximum cost cutting, but it also introduces several challenges regarding infrastructure, technological literacy and the opportunity for start-ups to accept new models,<sup>25</sup> where the higher acceptance rates are observed in urban areas probably because of good quality internet access and advanced framework.<sup>26</sup> In urban areas, consumers are distinctively becoming dependent on e-pharmacies due to the benefits like convenience, accessibility, and competitive pricing. While traditional pharmacies still have a significant grip on market shares, e-pharmacies are also not far behind to hold the market these days.<sup>27</sup> Contradictorily, in rural parts of India, consumers face both advantages and disadvantages while using e-pharmacy. K. P. Singh & Kumar, 2024 stated in their study that in spite of having a lot of advantages, trust and safety issues of medicine are holding back the rural people to adopt e-pharmacy,<sup>28</sup> whose solution was also stated by Apte *et al.*, 2024.<sup>29</sup>

While doing empirical research about the next factor, i.e., generation, it is seen that different age groups affect the influence of e-pharmacy acceptance in different ways. Generation X is seen to be accepting the e-pharmacy portals more affluently than any other generations.<sup>30</sup> A quantitative study conducted in 2023 suggested that one-quarter of the Gen X population probably purchase medicines online, ranking the old generation second after millennials<sup>31</sup> in consuming e-pharmacy. On the other hand, studies also have redefined the opposite, that due to constraints like digital illiteracy Gen X is the generation who are not accepting it gladly.<sup>32</sup> However, a distinctive section of Gen X still uses e-pharmacies, where 57% of the population wants the whole procedure to be hybrid in nature. The other generation,

the millennials, also seem to adopt e-pharmacy in many studies because of their tech-savvy nature and inclination towards online shopping. The factors that have compelled the millennials to change their taste towards the online pharmacy are online transaction and cost reduction,<sup>33</sup> but also challenges like digital security issues and lack of personalised care are also restricting them to adopt the online pharmacy portals.<sup>34</sup> But Generation Z seems to embrace e-pharmacy very fast.<sup>35</sup> Oji, 2025 revealed that Gen Z is compatible with the digital world and also it provides the generation personalised service,<sup>36</sup> which is the preliminary reason which helped them to accept the e-pharmacy more than other two generations. But also, according to Bansal *et al.*, 2022, their study signifies that Generation Z is adopting the e-pharmacy much less than other two and is also not wholly influencing the adoption.<sup>37</sup> Research in this domain mostly pivots on the benefits and threats associated with online pharmacies, the regulatory environment, and the impact of it on healthcare systems, but the demographic and the local culture in case of its adoption is not explored rather compared much, which leads us to the research objectives.

## OBJECTIVES

- To understand whether gender has a significant influence on the acceptance of e-pharmacy.
- To examine whether different generation has a significant influence on the acceptance of e-pharmacy.
- To examine whether the profession has a significant influence on the acceptance of e-pharmacy.
- To interpret if the area of living has a significant influence on the acceptance of e-pharmacy.

## Hypothesis

**1H<sub>0</sub>**: Adoption of E-pharmacy has no significant relationship with gender of the population.

**1H<sub>A</sub>**: Adoption of E-pharmacy is significantly dependent on gender of the population.

**2H<sub>0</sub>**: Adoption of E-pharmacy is significantly non-dependent on the profession of the consumers.

**2H<sub>A</sub>**: Adoption of E-pharmacy is significantly dependent on the profession of the consumers.

**3H<sub>0</sub>**: Adoption of E-pharmacy has no significant relationship with area of living of the individuals.

**3H<sub>A</sub>**: Adoption of E-pharmacy is significantly dependent among area of living of the individuals.

**4H<sub>0</sub>**: Adoption of E-pharmacy is significantly non-dependent among age groups of different generations.

**4H<sub>A</sub>**: Adoption of E-pharmacy is significantly dependent among age groups of different generations.

## MATERIALS AND METHODS

This study has been conducted while doing thorough literature review and few factors were identified as the affecting factor in acceptance of e - pharmacy among different genders, varied generations, different professions and several areas of living. Primary data were collected via google form through a questionnaire incited from SCRIBD. The convenience sampling method was used as the sampling method in this research study. Participants from different Gender (male and female), Generation (Gen X, Gen Y and Gen Z), Profession (working and non-working) and area of living (rural and urban) were considered as the target audience depending on their willingness to participate in the study. Numerically 450 was the target sample population but after excluding incomplete data, 431 was selected for data analysis. Confidentiality and security of the participants were maintained during the whole research process. Infringement of privacy, repeated follow up and demographic information such as age, gender, profession and area of living are considered during the data collection from the respondents. Next, the data was analysed through the IBM SPSS software and to check the reliability and normal distribution of data, Cronbach's Alpha, Skewness and Kurtosis were measured. To test the significance and whether they are statistically significant or not, an independent sample t-test and one way ANOVA was conducted, but before performing the one-way ANOVA, to confirm the homogeneity of the groups, Levene Statistics was administered.

## Data Analysis

Table 1 is revealing the output, whether the two groups of gender are normally distributed or not, for which we have conducted the Mean, Standard Deviation, Skewness and Kurtosis test. It is seen that for the group of males, the mean value of male and female is varying between 2.03 to 2.68 and 1.99 to 2.34 respectively and the standard deviation is varying between 0.745 to 1.055 and 0.767 to 1.026 respectively. To identify if the data is extremely skewed or not, the test of Skewness and Kurtosis was also performed, and as in both the groups (male and female), the value of Skewness and Kurtosis is ranging between +2 to -2, it can be concluded that the data is not partially skewed and is perfect to proceed for the next analysis.<sup>38</sup> But before moving on into the further analysis, to check the reliability of the gathered data for which we have conducted the Cronbach's Alpha test, and it is found to be 0.880 and 0.905 for male and female respective and as the value of Cronbach's Alpha is greater than 0.7 for both the groups, it can be concluded that the data is reliable.<sup>39</sup> After conducting the test of reliability, it is clearly projected in Table 1 that the average mean score and the standard deviation for male is 2.43 and 0.640, and for females it is 2.21 and 0.640 respectively. Both the groups are numerically different from each other and it is also noticed that the male mean score is higher than the female. Now after checking the groups are numerically different or not, it is mandatory to check if they

are statistically different or not, for which we have conducted the independent sample t-test, but with that we have also run the Levene's Test for checking the homogeneity of variance and the value of Levene Statistic is deducted 0.422, which is higher than 0.05 (95% confidence), which means the score has not violated the homogeneity of variance indicating that the groups are homogenous in nature. The deducted p-value for the t-test for equality of means is lower than 0.05 (95% confidence), indicating that the groups (male and female) are significantly and statistically different from each other. And from the deducted p value, we can come to a conclusion that as the  $p < 0.005$ , we can reject our first null Hypothesis ( $H_0$ ) and assure that the respective alternative Hypothesis ( $H_A$ ) is accepted which is "Adoption of E-pharmacy is significantly dependent on gender of the population" and as the mean value of the male is higher than female, it signifies that males in comparison to females are adopting the e-pharmacy more.

The observations from the Table 2 point out that for the group of working people, the mean and standard deviation is lying between 1.97 to 2.46 and 0.853 to 1.057 respectively and for the other one it is between 0.832 to 1.039 and 0.510 to 1.270 respectively and as the value of Skewness and Kurtosis is also lying between +2 to -2 for both the groups, conclusion can be made that data is normally distributed. After knowing data is normally distributed, for checking its reliability, Cronbach's Alpha test was conducted which also showed a positive result as for both the working and non-working people the values are higher than 0.07, which is signifying that data in these cases is also ok to move on to the further analytical step. Next, the average scores of means and the standard deviation for the working profession is 2.31 and 0.634, and for the non-working profession it is 0.702 and 0.634 respectively. Both the groups are numerically different from each other and it is also noticed that for the working people the mean score is higher than the non-working one. Now, if both the groups are numerically different or not, it is required to check if they are

**Table 1: Gender - Descriptive Analysis, Group Statistics, Independent Samples Test. Summary of gender-wise descriptive statistics including reliability, mean, and t-test results.**

Gender	Variables	N	Cronbach's alpha	Mean	Std. Deviation	Skewness	Kurtosis	Levene's Test for Equality of Variances	t-test for Equality of Means
								Sig.	Sig. (2-tailed)
Male	VAR00001	178	0.880	2.43	0.640	0.320	-0.449	0.422	0.000
	VAR00002					1.017	0.702		
	VAR00003					1.331	2.608		
	VAR00004					0.811	0.495		
	VAR00005					1.075	1.162		
	VAR00006					0.924	0.462		
	VAR00007					1.088	1.454		
	VAR00008					0.578	0.352		
	VAR00009					1.199	1.704		
	VAR00010					1.305	3.878		
	VAR00011					0.907	0.413		
Female	VAR00001	258	0.905	2.21	0.640	1.372	1.990		
	VAR00002					0.991	0.801		
	VAR00003					1.294	2.555		
	VAR00004					0.363	0.477		
	VAR00005					0.280	-0.011		
	VAR00006					0.839	1.181		
	VAR00007					0.895	1.393		
	VAR00008					0.713	1.456		
	VAR00009					0.688	0.846		
	VAR00010					0.776	0.845		
	VAR00011					0.797	1.079		

**Table 2: Profession - Descriptive Analysis, Group Statistics, Independent Samples Test. Statistical comparison of working and non-working participants.**

Profession	Variables	N	Cronbach's Alpha	Mean	Std. Deviation	Skewness	Kurtosis	Levene's Test for Equality of Variances	t-test for Equality of Means
								Sig.	Sig. (2-tailed)
Working	VAR00001	93	0.914	2.31	0.702	1.398	1.988	0.121	0.826
	VAR00002								
	VAR00003								
	VAR00004								
	VAR00005								
	VAR00006								
	VAR00007								
	VAR00008								
	VAR00009								
	VAR00010								
	VAR00011								
Non - Working	VAR00001	338	0.883	2.24	0.634	1.057	1.642	0.367	0.856
	VAR00002								
	VAR00003								
	VAR00004								
	VAR00005								
	VAR00006								
	VAR00007								
	VAR00008								
	VAR00009								
	VAR00010								
	VAR00011								

statistically different or not, for that we conducted the independent sample t-test in this case also along with Levene's Test for checking the homogeneity of variance. The value of Levene Statistic is 0.121, which is higher than 0.05 (95% confidence), that means the value has not violated the homogeneity of variance, revealing the groups are homogenous in nature. The p-value for the t-test for equality of means is deducted as 0.826, which is significantly higher than 0.05 (95% confidence) ( $p > 0.05$ ), proving that the groups of working and non-working people are significantly and statistically not different from each other. And from the p value, we can come to a conclusion that as the p value is higher than 0.005, we can accept the second null Hypothesis ( $2H_A$ ) and reject the null ( $2H_0$ ) stating "Adoption of E-pharmacy is significantly non-dependent on the profession of the consumers."

Table 3 passes on with the result of mean and standard deviation score of people living in rural areas is ranging between 2.01 to 2.333 and 0.840 to 1.024 and for the urban population is

2.06 to 2.48 and 0.856 to 1.083 respectively and as the value of Skewness and Kurtosis is also lying between +2 to -2 for both the groups stating that the data is normally distributed. As the data is normally distributed, for checking its reliability, Cronbach's Alpha test was conducted in this case too which also showed a positive result, as for both the working and non-working people the values are higher than 0.07, which is concluding that data in these cases are also ok to move on to the next step. It also shows the average scores of means and the standard deviation for rural population is 2.35 and 0.653, and for urban people it is 2.22 and 0.631 respectively, from where we can say that both the groups are numerically different from each other and it is also noticed that the for the rural people the mean score is higher than the urban's score. After checking if both the groups are numerically different or not, it is now ready to check if they are statistically different or not, for that we conducted the independent sample t-test in this case also along with Levene's Test for checking the homogeneity of variance. The value of Levene Statistic is 0.367,

which is inevitably higher than 0.05 (95% confidence), that means the value has not violated the homogeneity of variance, revealing the groups are homogenous in nature. The p-value for the t-test for equality of means is deducted as 0.043, which is lower than 0.05 (95% confidence), proving that the groups of rural and urban people are significantly and statistically different from each other, though are homogenous. As the  $p < 0.05$ , we can reject the third null Hypothesis ( $3H_0$ ) and accept the alternate ( $3H_A$ ) stating "Adoption of E-pharmacy is significantly dependent among area of living of the individuals" and it is also seen, if necessary, requirements are fulfilled well, rural people are seen to adopt the online pharmacy more than urban people.

Table 4 shows the range of mean and standard deviation score for Generation X is 2.06 to 2.54 and 0.887 to 1.098, for Generation Y it is 2.01 to 2.52 and 0.879 to 1.085 and for Generation Z it is 2.04 to 2.43 and 0.835 to 1.048 respectively and the result of Skewness and Kurtosis for all the three generations are also

revealing that the data are normally distributed as the value for three of them is lying between +2 to -2, indicating along with their normal distribution, the data is also reliable as the value of Cronbach's Alpha for three generations are 0.891, 0.893 and 0.894 which are higher than 0.07. After the mean, standard deviation, skewness, kurtosis and Cronbach's alpha score, showing that for the respondents of Generation X (44 to 60 years old), Generation Y (29 to 44 years old) and Generation Z (13 to 28 years old) the average mean and the standard deviation score is 2.36, 0.680; 2.17, 0.627 and 2.26; 0.610 respectively. It can be said from the scores that the mean values are numerically different from each other but to test if they are both statistically and significantly different from each other or not, we need to run the One-way ANOVA test. But before that, first we have to check that if the groups are homogenous or not in nature, for which we have conducted the Levene Statistics, which is showing the  $p$  value of 0.20 and that is higher than 0.05 (95% confidence), from where we can conclude that the  $p$  value is not violating the score of

**Table 3: Area of Living - Descriptive Analysis, Group Statistics, Independent Samples Test. Compares rural and urban respondents on e-pharmacy adoption using descriptive and inferential statistics.**

Area of Living	Variables	N	Cronbach's Alpha	Mean	Std. Deviation	Skewness	Kurtosis	Levene's Test for Equality of Variances	t-test for Equality of Means
								Sig.	Sig. (2-tailed)
Rural	VAR00001	261	0.911	2.35	0.653	1.169	1.879	0.367	0.043
	VAR00002					0.907	0.756		
	VAR00003					1.241	2.023		
	VAR00004					0.463	0.417		
	VAR00005					0.452	0.490		
	VAR00006					0.775	0.890		
	VAR00007					1.125	1.803		
	VAR00008					0.570	0.677		
	VAR00009					0.880	1.114		
	VAR00010					0.767	1.095		
	VAR00011					0.793	0.614		
Urban	VAR00001	168	0.874	2.22	0.631	1.129	1.609		
	VAR00002					1.056	.620		
	VAR00003					1.390	2.590		
	VAR00004					0.869	0.783		
	VAR00005					0.821	0.799		
	VAR00006					0.966	0.839		
	VAR00007					0.921	1.297		
	VAR00008					0.722	0.902		
	VAR00009					0.932	1.257		
	VAR00010					1.082	1.833		
	VAR00011					0.891	0.938		

**Table 4: Generation - Descriptive Analysis, Group Statistics, ANOVA. Presents generation-wise comparison of e-pharmacy adoption using descriptive statistics and one-way ANOVA.**

Generation	Variables	N	Sum	Mean	Std. Deviation	Skewness	Kurtosis	Levene Statistic	One way-ANOVA Sig.
Gen X	VAR00001	212	0.891	2.36	0.680	1.296	1.886	0.020	0.128
	VAR00002					1.102	0.749		
	VAR00003					1.478	2.398		
	VAR00004					0.779	0.926		
	VAR00005					0.753	0.775		
	VAR00006					0.979	0.916		
	VAR00007					1.085	1.450		
	VAR00008					0.752	0.807		
	VAR00009					0.992	1.212		
	VAR00010					1.097	1.703		
	VAR00011					0.968	1.017		
GenY	VAR00001	45	0.893	2.17	0.627	1.247	1.902		
	VAR00002					1.037	0.674		
	VAR00003					1.477	2.564		
	VAR00004					0.764	0.796		
	VAR00005					0.728	0.728		
	VAR00006					0.955	0.964		
	VAR00007					1.103	1.579		
	VAR00008					0.700	0.820		
	VAR00009					0.974	1.230		
	VAR00010					1.038	1.718		
	VAR00011					0.898	0.798		
Gen Z	VAR00001	179	.894	2.26	.610	1.070	1.587		
	VAR00002					1.002	0.823		
	VAR00003					1.143	1.857		
	VAR00004					0.658	0.670		
	VAR00005					0.606	0.813		
	VAR00006					0.932	1.104		
	VAR00007					0.874	1.521		
	VAR00008					0.579	.804		
	VAR00009					0.757	1.091		
	VAR00010					0.941	1.677		
	VAR00011					0.799	0.861		

homogeneity of variance indicating that the groups of Generation are homogenous in nature. It is also showing, in ANOVA, the  $p$  value is 0.128 which is higher than 0.05 ( $0.128 > 0.05$ ), the groups are not significantly and statistically different, as the value is more than 95% confidence, from where we can conclude that we can accept the fourth null Hypothesis ( $4H_0$ ), "Adoption of E-pharmacy is significantly non-dependent among age groups of different generations." and reject the Alternative ( $4H_A$ ).

## RESULTS

$1H_0$	Adoption of E-pharmacy is significantly non- dependent on gender of the population.	Rejected
$2H_0$	Adoption of E-pharmacy is significantly non-dependent on the profession of the consumers.	Accepted

3H <sub>0</sub>	Adoption of E-pharmacy is significantly non-dependent among age groups of different generations.	Rejected
4H <sub>0</sub>	Adoption of E-pharmacy is significantly non-dependent among age groups of different generations.	Accepted

## DISCUSSION

Our quantitative study aimed to understand if the demographic factors influence the adoption of e-pharmacy services or not among consumers and depending on the hypothesis formed, several criteria have been taken into account. Firstly, the adoption of e-pharmacy was found to be significantly dependent on gender (1H<sub>A</sub> accepted), which implies that males and females assess different forms of acceptance toward e-pharmacy applications and males are accepting the technology more than females.<sup>40</sup> In contrast, profession was not found to significantly influence e-pharmacy adoption (2H<sub>0</sub> accepted), suggesting regardless of whether people are healthcare professionals, service holders, business or homemakers their preference of accepting e-pharmacy applications remains the same. This finding associates with the opinions of Thakkar *et al.* (2022), who supported that with emerging technological penetration and smartphone utilization, the profession of a consumer plays a minimal role in inspiring online healthcare behaviour.<sup>41</sup> Furthermore, the area of living was significantly associated with the adoption of e-pharmacy (3H<sub>A</sub> accepted). Urban residents were mostly seen to adopt e-pharmacy services in comparison to residents in rural areas. But our study suggested that rural people are more adopting the online pharmacy applications more than urban population, if provided necessary opportunities. Rural populations might go through challenges like digital illiteracy or trust issues regarding online medical platforms, which hampers the extensive adoption. Over and above, age group (generation was not found to significantly affect e-pharmacy adoption (4H<sub>0</sub> accepted). Although former literature suggests that Gen Z are effectively more inclined to accept digital services<sup>42</sup> the expanding acceptance of technology among all the age groups, notably in post-COVID situation, has likely constricted this gap.<sup>43</sup> Comprehensively, all the findings suggest that while gender and area of living remain predominant, determinants like profession and age may no longer be considered as key barriers while e-pharmacy adoption, which helps the policy-maker and marketers promote the online health platform tactfully across various socio-demographic segments.

## CONCLUSION

The magnification of e-pharmacy in India, braced by technological innovations and digital integration initiated a new aspect to healthcare delivery. This study discusses the influence

of socio-demographic factors namely, gender, profession, area of living and generation on the adoption of e-pharmacy services, as in India, demographic factors play a large role into its adoption of different culture. The findings suggest that gender significantly affects adoption where males are exhibiting a higher tendency to utilize the e-pharmacy applications because of higher ease with technical tools and higher levels of comfort in using online services. These gender-based distinctions indicate the requirement for selective strategies that leads to particular concerns and puts up trust among the female population. Area of living also plays an important role in the company of rural populations showing significantly higher acceptance of e-pharmacy. Contradictorily, users from urban regions of India are seen to accept it less than the rural population. Connecting this urban-rural division with the help of digital literacy campaigns and quality internet connectivity is mandatory for rapid growth. The interesting part here is, it is seen that a consumer's profession and age do not significantly influence e-pharmacy adoption. Both working and non-working consumers, as well as users from different generations, show a relatively uniform level of acceptance of the technology. This suggests that the utilization of e-pharmacy is popularizing and becoming mainstream, leaving behind the traditional demographic limitations. Summarizing the whole thing, while gender and area of living is quite a creating impact on e-pharmacy adoption, profession and generation of a consumer demonstrates neutral reaction. To promote the equitable manipulation of online pharmacy platforms, the makers should address the trust issues improving its convenience especially in rural areas and creating gender-specific outreach campaign, helping e-pharmacy applications become a trusted and publicly adopted mode of healthcare service delivery in India.

## ACKNOWLEDGEMENT

We, the authors would like to convey heartiest gratitude to the Department of Hospital Management, Brainware University, for providing the necessary academic and infrastructural support to carry out this research work. We are also grateful to all participants who willingly participated in the survey and shared their valuable perceptions, which helped in accumulating the foundation of our study.

## ABBREVIATIONS

AVG: Average; Gen X: Generation X; Gen Y: Generation Y; Gen Z: Generation Z.

## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

## SUMMARY

This quantitative study scrutinizes the impact of four socio-demographic factors namely gender, profession, area of living and generation on the adoption of e-pharmacy in India. With the prosper of digital healthcare platforms, user acceptance perception has become important for both stakeholders and policymakers in the system of healthcare delivery. Across diverse demographic backgrounds, primary data was collected from 431 participants in the form of convenience sampling method through a structured online questionnaire. Next the data was analysed applying IBM SPSS software, using statistical tools such as Cronbach's Alpha for reliability, Levene's Test for homogeneity, independent sample *t*-tests and lastly one-way ANOVA. The findings established the fact that gender and area of living significantly influence the adoption of e-pharmacy, while male population and rural residents implying higher rate of acceptance. However, profession and generation of the population were seen to have no statistically significant influence on adoption behaviour, uncovering that while demographic factors such as profession and generational difference may be impartial in influencing the consumer behaviour, Targeted interventions addressing gender-based concerns and rural digital access could significantly boost e-pharmacy adoption. This study highlights the need of inclusive technological strategies and awareness campaigns to connect healthcare access, creating e-pharmacy a more wide-spread and nationally adopted mode of digital healthcare service in India.

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**Cite this article:** Chowdhury SR, Majumder J, Gangopadhyay S. Understanding Consumer Adoption of e-Pharmacy in India: The Role of Gender, Generation, Profession, and Area of Living. *Indian J of Pharmaceutical Education and Research.* 2026;60(3s):s1341-s1350.