Growth of E-Medical services during the Pandemic in India: An empirical investigation in selected areas of Coimbatore district

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Abstract - E-medicinal service is an emerging field in the intersection of medical informatics, public health and business. This study is focused on growth of electronic medical services during the pandemic. Coimbatore district houses huge number of multispecialty hospitals with state of art facilities. The study tries to identify the growth and scope in the selected area and evolution of e-medical services due to the pandemic.

Index Terms – E-Medical Services, Pandemic, Healthcare, Perception, Growth, Digitalization, Society

INTRODUCTION

"A healthy body is a healthy mind!" e medical service stands as a drum up for this quote the importance of e medical service hyped up in the pandemic. E- Medical service stand as an escape loop in the black hole for those who were in need of medicines during the pandemic. In the current situation going to medical shop itself is of high risk and e-medical stands as a helping hand.

E-medicinal service is an emerging field in the intersection of medical informatics, public health and business. It is referring the health services and information heightened through the Internet and related technologies. In a broader sense, it characterizes not only a technical development, also a state-of-mind, a way of thinking, an attitude, and a commitment for networked, global thinking, for improving the health care locally, regionally, and worldwide by using the information and communication technology.

It'll make a world of difference, where mobile technologies have been piercing at blistering rate. As India has a strong presence in IT, the blended health information system serves the requirements of people. The range of health care is extended beyond its conventional boundaries. It means both in geographical and ideal sense,e-medicinal service enables consumers to freely acquire health services online from global providers. By making the knowledge bases of medicinal and individual electronic records accessible to consumers over the internet, e-Health opens new avenues for patient centered medicinal and enables proof grounded patient choice. E-medicinal service adding efficacy involves not only reducing costs, but at the same time enhancing quality. e-medicinal service may enhance the quality of health care by allowing comparisons between different providers, involving consumers as further power for quality assurance, and directing patient to the stylish quality providers.

STATEMENT OF THE PROBLEM

From ancient to modern, be it Ayurvedic or allopathic medicine the need of medicines has been with us for centuries. Over centuries new technologies and new food habits have been developed, this diversity has also ignited the spread of disease. Need for medicines have also rapidly increased.

This pandemics mercy less rage has also made medicals flee for survival. This is where electronic medicine option played an inevitable role. The study is conducted to find people opinion about the growth of e-medical service. The main purpose is to find e-medicals survival in long run.

OBJECTIVES

- To know the awareness level of respondents towards e-medical services.
- To know the ideas, opinion and preference of the respondents towards e-medical services.
- To know how e-health services support people to manage their own health and well-being.
- To identify the satisfaction level of respondents towards e-medical services.
- To identify the problems faced by the respondents in using e-medical services.

RESEARCH METHODOLOGY

- **Type of Research & Sample Design**: The study is in descriptive nature and convenient sampling design is used to identify the sample from the population.
- **Sample Size**: 200 respondents were chosen for the study in the Coimbatore district of Tamil Nadu.
- **Data Type**: Primary Data is collected through a well-structured questionnaire and secondary data used for the study were collected from various published articles, books, magazines and government records.
- **Tools:** Descriptive Analysis, Rank Analysis

REVIEW OF LITERATURE

- Bhatia JS (2014) in his study "knocking e-medicine Technology Users for healthcare professionals using different survey methods". To evaluate the usage impact of various discrete networks on e-medicine capabilities in India. The ICT infrastructure in India slightly shifted from conventional technical components to high speed optic fibre based broadband connectivity networks. The study also states it not only marked improvement, but leads to advancement and sustainability in existing e-medicine capabilities as well.

- Ahmed SS (2016) in his study " the remote patient monitoring system using smart phones". The aim of the study is basically designed for rural Indian population who suffers from hypertension and hypotension. The system also designed to capture pre-cardiac arrest situation for people and take precautions from medical/healthcare. They used biomedical sensors and Microprocessor for performing analysis.

OVERVIEW OF E-MEDICAL SERVICES

E-medicine is one of the most important for enabling access to health services in the rural and semi urban areas in which it is hard to reach the medical facility by patients. It's the use electronic means to transfer medical data from one place to another. At advanced degrees, e-medicine may involve conducting clinical practices using telecommunication establishments similar as teleconferencing. Simple operations of e-medicine may be implemented in medical record keeping, data processing, and information sharing. At a lower degreee-medicine may also involve tele- discussion, whereby medical staff can offer consultancy services to patients. Various applications are providing e medical services in India is taken into consideration for the study.

I. AAROGYA SETU

Aarogya Setu Indian COVID-19 "contact tracing, syndromic mapping and selfassessment" digital service, primarily a mobile app, developed by the national informatics centre under the Ministry of Electronics and information Technology. The app reached more than 100 million installs in 40 days. On 26 May, amid growing privacy and security concerns, the source code of the app was made public.

The World Health Organization lauded the Aarogya Setu mobile application for helping health departments to identify COVID-19 clusters. The stated purpose of this app is to spread awareness of COVID–19 and to connect essential COVID–19-related health services to the people of India. This app augments the initiatives of the Department of Health to contain COVID–19 and shares best practices and advisories. It is a tracking app which uses the smartphone's GPS and Bluetooth features to track the corona virus infection. The app is available for Android and iOS mobile operating systems. With Bluetooth, it tries to determine the risk if one has been near (within six feet of) a COVID–19-infected person, by scanning through a database of known cases across India. Using location information, it determines whether the location one is in belongs to one of the infected areas based on the data available.

II. MEDLIFE

Medlife International, is an India online platform, which provides pharmacy, diagnostic ante-consultation in India. It was founded in 2014 by Prashanth Singh and Tushar Kumar. The company has a central laboratory based in Bengaluru and delivers daily to 29 states. Medlife has brought together doctors, pharmacist, path labs and consumers on a single platform. Medlife has a lot more to offer than just buying medicines online.

III. CURE.FIT

Cure. Fit is a mobile app that takes a holistic approach towards health and fitness by bringing together all aspects of a healthy lifestyle on a single platform. cure. Fit offers both online and offline experiences across fitness, nutrition and mental wellbeing through its 4 products, i.e, cult.fit, eat.fit, mind.fit & care.fit. With the aim to make fitness fun and easy, cult.fit gives workouts a whole new meaning with a range of trainer-led, group workout classes. eat.fit makes healthy eating, easy & affordable.

Every eat.fit meal is cooked fresh with the best ingredients and is calorie counted and delivered to your doorstep. Addressing the core aspect of mental wellbeing, mind.fit aims to bring about a lifestyle change and focuses on relieving day to day stress and improving overall mental wellbeing through yoga, guided meditation & 1:1 Therapy. care.fit is a state-of-the-art medical and diagnostic centre that offers doctor consultations and clinical expertise to help in providing care for common illnesses and complex.

IV. PHARMEASY

An online pharmacy, internet pharmacy, or mail-order pharmacy is a pharmacy that operates over the internet and sends orders to customers through mail, shipping companies, or online pharmacy web portal.

FIGURES, TABLES AND EQUATIONS

H0 : There is no significant difference between Occupation status and level of awareness of medical apps.

H1 : There is significant difference between Occupation status and level of awareness of medical apps.

ANOVA

Source of Variance		Sum of Squares	df	Mean Square	F	Sig.	Result
Arogya setu	Between Groups	37.477	3	12.492	20.680	.000*	S
	Within Groups	118.398	196	.604			
	Total	155.875	199				
Cure.fit	Between Groups	48.368	3	16.123	15.219	.000*	S
	Within Groups	207.632	196	1.059			
	Total	256.000	199				
Medlife	Between Groups	27.815	3	9.272	5.823	.001*	S
	Within Groups	312.060	196	1.592			
	Total	339.875	199				
Pharmeasy	Between Groups	35.140	3	11.713	7.509	.000*	S
	Within Groups	305.740	196	1.560			
	Total	340.880	199				
Mfine	Between Groups	33.040	3	11.013	7.105	.000*	S
	Within Groups	303.835	196	1.550			
	Total	336.875	199				
Others	Between Groups	37.557	3	12.519	6.886	.000*	S
	Within Groups	356.318	196	1.818			
	Total	393.875	199				

*S - Significant

From the table, it can be inferred that there is significant difference between Occupational status and level of awareness of the medical apps as the significant value is less than 0.05. It is evident that based on the occupational status of the respondents, the level of awareness towards medical apps differs.

FINDINGS

- Majority 72% of respondents are female.
- Majority 74% of the respondents belongs to the age group between 21-40 years.
- Majority 57 % of the respondents are from urban area.
- Majority 80 % of the respondents education qualification is UG degree.
- Majority 72 % of the respondents are Private employees.
- Most 49% of the respondents monthly income is less than Rs.25,000.
- Most 49% of the respondents have 4 family members.
- Most 35 % of the respondents have very high awareness on Arogya setu app.
- Most 35% of the respondents came to know about e-medical service by advertisement.
- Majority 72.6 % of the respondents are using Arogya setu app.
- Most 33% of the respondents are moderately satisfied with oximeter.
- Majority 62% of the Respondents feel that online consultation helped in avoiding hospitals during the pandemic.
- Majority 55.8% of the respondents stated that they can't explain the health issues in a proper manner as the problem.
- Majority 51% of the respondents are moderately satisfied with the approach of their online consultant.
- Majority 54% of the respondents stated they feel difference in cost of diagnosis between online and offline.
- Majority 81% of the respondents stated they have registered for covid vaccine in co-win app.
- Majority 50.6% of the respondents stated that no fear of side effects of the vaccine.
- Majority 56 % of the respondents suggest Arogya setu app to their friends and family.
- Majority 58% of the respondents took self-assessment test in Arogya setu app.
- Most 49% of the respondents are satisfied with Arogya setu app.
- Majority 59% of the respondents have no problem while using online consultation.
- Most 42% of the respondents have the problem of network issues.
- Majority 64% of the respondents stated that they suggest e-medical apps to friends and family.

SUGGESTIONS

- More awareness about different e-medical services may be created.
- More facilities may be created by the service providers for availing e-medical service from smartphones.
- Health care centers & hospitals may offer e-medical services and encourage people to use it for minor problems and can provide quick and satisfying service.

CONCLUSION

That day is not far away when much of the health-related encounters will be conducted "virtually" using e-medicinal services, ultimately culminating in a situation where this mode is the one of choice rather than of exception. This study demonstrates that community hospitals form an integral component of local health-care delivery systems, providing care closer to people's homes and addressing challenges arising from service fragmentation and states that most of the users are using e-medical service after pandemic.

This clearly shows that this pandemic has boosted the use of e-medical service. Especially older people who are more vulnerable towards disease have found e-medical service more use-full. This states the use of e-medical service will continue to increase even after pandemic. Thus, this study helps in bringing knowledge about e-medicinal services.

REFERENCES

[1] Mathur P, Srivastava S, Lalchandani A, Mehta JL. Evolving Role of Telemedicine in Health Care Delivery in India. Prim Health Care. 2017;7(260):2167-1079.

[2] Ahmed SS, Thanuja K, Guptha NS, Narasimha S. e-medicine approach for remote patient monitoring system using smart phones with an economical hardware kit. In Computing Technologies and Intelligent Data Engineering (ICCTIDE), International Conference on 2016 Jan 7 (pp. 1-4).

[3] Kumar Arun, and Sartaj Ahmad. "A Review study on utilisation of emedicine and e-Health services in Public Health." Asian Pacific Journal of Health Sciences, 2(1).pp. 60-68 2015.

[4] Bhatia JS, Singh C. Impact of usage of discrete networks on e-medicine capabilities especially in India. In Medical Imaging, m-Health and Emerging Communication Systems (MedCom), 2014 International Conference on 2014 Nov 7 (pp. 311-318). IEEE.

[5] Bedeley, R. a. (2014). A Study of the Issues of E-Health Care in Developing Countries: The Case of Ghana. Twentieth Americas Conference on Information Systems. Savannah : Healthcare Information Systems and Technology (SIGHealth) .

[6] Brinda G. Emerging trends of telemedicine in India. Indian Journal of Science and Technology. 2013 May 1;6(5S):4572-8.

[7] Devaraj SJ, Ezra K. Current trends and future challenges in wireless telemedicine system. In Electronics Computer Technology (ICECT), 2011 3rd International Conference on 2011 Apr 8 ,Vol. 4, pp. 417-421.

[8] Sass M, F. A. (2011). The emergence of telemedicine and e- health in Hungary. Telemed J E Health , 17 (5), 388-95.

[9] Mishra SK, Singh IP, Chand RD. Current status of e-medicine network in India and future perspective. Proceedings of the Asia-Pacific Advanced Network. 2011 Dec 13;32:151-63.

[10] DE., D. (2010). Capacity building in e-health and health informatics: a review of the global vision and informat- ics educational initiatives of the American Medical In- formatics Association. Yearb Med Inform , 101-5.

[11] Patterson V, Swinfen P, Swinfen R et al. Supporting Hospital Doctors in the Middle East by Email Telemedicine: Something the Industrialized World Can Do to Help. J Med Internet Res 2007; 9(4):e30

[12] Gordon AN, H. R. (2007). Towards a sustainable framework for computer based health information systems (CHIS) for least developed countries (LDCs). . Int J Health Care Qual Assur, 20 (6), 532-44.

[13] Zhou, YY, Garrido, T, Chin, H al. Patient Access to an Electronic health Record With Secure Messaging: Impact on Primary Care Utilization. Am J Manag Care. 2007; 13:418-424.

[14] Adler, KG. Web Portals in Primary Care: An evaluation of Patient Readiness and Willingness to Pay for Online Services. JMIR. 2006; (8)4.

[15] Ngai, E. W. (2002). A literature review and classification of electronic commerce research. Information & Management, 39 (5), 415–429.

[16] Loane MA, Oakley A, Rademaker Met al. A costminimization analysis of the societal costs of realtime teledermatology compared with conventional care: results from a randomized controlled trial in New Zealand. Journal of Telemedicine and Telecare. 2001; 7(4): 226-332

[17] Spielberg AR. On call and online: sociohistorical, legal, and ethical implications of email for the patientphysician relationship. JAMA. 1998; 280(15): 1353