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Information and attitudes of Women Doctors towards ICT and Digital Resources

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Abstract

Using information and communication technology (ICT) means communicating, creating, distributing and managing data. There is no sector of society that does not benefit from the use of information and communication technology. Covid-19 epidemic necessitates the repurposing of ICT systems intended for other distributed purposes to retain social connections, deliver distributed services, and fulfil corporate needs. Next to the IT field, the paradigm shift takes place in the medical field. During the pandemic situation, the usage of ICT tremendously increased in all departments of the medical field. In this situation, the research analyses women doctors' attitudes towards ICT and digital resources for understanding their acceptance. The study's objective is to identify how women Doctors use ICT products and applications. To decide the familiarity of ICT products and applications among women Doctors. To find the frequency of using ICT based health knowledge by the women doctors. Research design and sites used a cross-sectional investigation strategy. Few medical women doctors in government hospitals and private hospitals in Tirunelveli city contributed. The sample size of the study was restricted to 62 in numbers. Secondary data was also used for further information. Descriptive analysis methods, partial correlation and ANOVA tests are used as analytical tools for this study.

Keywords: ICT, Digital Resources, Women Doctors, Online Healthcare Information, Pandemic

Introduction

ICTs (Information and Communication Technologies) in support of medicine are described as the use of information and communications technology (ICTs) to improve the competence and success of healthcare management through digital resource-based information (Coleman, A. 2014). Women Doctors increase health monitoring, health system management, health decision making, standardised sharing of health information, and promote fairness in healthcare delivery complete the use of ICTs and digital resources (Perera, C. Et al; Piette, J. D Et al; Lewis, T Et al 2012). ICT and digital resources can increase access to healthcare and successfully decrease professional isolation and promote specialised medical retention in resource-constrained contexts (Richards, H., Et al 2005). Additional benefits of ICT and digital resources also include digital health education, the expansion of the scope of healthcare delivery, health compliance, follow-up, and appointments (Wickramasinghe, N., & Schaffer, J., 2005). (2010). e-health is a critical component of success in healthcare management around the world (Eley, R., et al. 2009; Ahmed, T., et al. 2014), and it improves healthcare workers' access to information to improve the results of health treatments (Eley 2009; Ahmed 2014). SY Kwankam et al. (2004)

In current history, we have experienced an explosion of digital projects in India, many of which have recognised electronic media's social purpose and revolutionary potential. Several countries, including India, have started developing digital initiative programmes to promote social and digital inclusion in their own cultures and communities. At the end of 2015, the Indian Government launched its "Digital India" initiative (http://digitalindia.gov.in/), which has since grown in scope and importance. The policy can be seen on the company's website. In global integrating technology, these are only a handful among the latest developments to emerge.

For example, even as national and local governments work tirelessly to ensure that everyone has adequate and equitable access to digital resources, digital literacy education, and social inclusion so that people in their communities can take advantage of digital technologies to meet information and other needs, certain sectors of the population tend to be less receptive to using the right technology than others. This requires ensuring that technological advancements, training, and socialisation reach the most vulnerable elements of the community. Historically underserved populations in a lot of different countries and cultures have included the elderly (Friemel, 2016; Wu, et al., 2015), minorities (Prieger, 2015), individuals with disabilities (Duplaga, 2017), the poor (Lee, et al., 2016), children

(Wong, et al., 2015), rural individuals (Townsend, et al., 2013), women (Townsend, et al., 2013 (Antonio and Tuffley, 2014). While there are disparities between countries in terms of age, minority status, handicap, poverty, and socioeconomic balances, one constant is that women account for approximately half the population in each country. Women account for around half of the people in each country (World Bank, 2017).

Women used to lag significantly behind men in terms of technology adoption and usage, and they still do in many countries (World Health Organization 2012), but by far smaller percentages than they did decades ago (World Health Organization 2012). (WHO 2012). The United Nations Educational, Scientific, and Cultural Organization (UNESCO), for particular, publishes studies including such "Call to action to overcome the digital gender gap," even though women are underrepresented in the digital world. This is according to a report released by UNESCO in 2017. Although it is feasible for women doctors to make efficient use of ICT and digital resources capabilities if they have positive attitudes toward ICT and digital resources and have the necessary abilities to use information and communication technology tools, this is not always the case. Even though ICT and digital resources can improve the performance and effectiveness of healthcare management, it has been reported that acceptance of ICT and digital resources among Indian women doctors have been higher, even though women doctors play essential roles in their practises.

Design of the Study

Keeping the study's primary aims in account, a structured questionnaire was used to collect the female doctors who participated. The information was gathered by the author first-hand from the Tirunelveli city hospitals. The questionnaire covers numerous questions about people's awareness of information and communications technology (ICT) and digital resources. An overall total of 80 questionnaires was given around the city hospitals in Tirunelveli for this purpose. Only 77.4 per cent of the respondents answered the questionnaire out of the 80 questionnaires that were issued due to the concise time frame allotted to responders. Based on a subset of survey participants who indicated they used ICT and digital resources frequently and other vital informants (one female doctor and one senior physician opinion leader at each site), we conducted semi-structured interviews to understand better the factors influencing the Internet-based use of digital media resources. It was analysed using SPSS 23 version after the data was integrated. Valid data were collected,

analysed, tabulated, interpreted, and presented in this paper, and the results were reported in this study.

Result and Discussion

Table 1 Educational Qualification wise Type of Hospital Crosstabulation

Educational Qualification	Government	Private	Total
MBB S.,	6	2	8
MS	9.70%	3.20%	12.90%
MBBS, M. D	38	0	38
	61.30%	0.00%	61.30%
MBBS,	0	16	16
DM	0.00%	25.80%	25.80%
Total	44	18	62
	71.00%	29.00%	100.00%

Table 1 describes that the overall educational qualification of respondents in Government and private hospitals. From this table, 61.3% of respondents from government hospitals with the educational qualification of MBBS, MD got the highest score. The respondents obtained second place with the qualification of MBBS, DM from private hospitals with 25.8%, 9.7% respondents with qualification of MBBS, MS from government hospitals got the third place. At the same time, no resonance was received from respondents with qualification MBBS, DM in government hospitals and MBBS, MD in private hospitals.

Table 2 Type of Hospital wise Age Groups Crosstabulation

Type of Hospital	26–30 years	31–35 years	Above 35 years	Total
Government	0	22	22	44
	0.00%	35.50%	35.50%	71.00%
Private	16	0	2	18
	25.80%	0.00%	3.20%	29.00%
Total	16	22	24	62
	25.80%	35.50%	38.70%	100.00%

Table 2 analysed the age group of respondents and their hospital types. 35.5% of respondents belonging to the age group of 31 to 35 years in the government hospital secured the highest score. 25.8% of respondents in private hospitals aged 26-30 years got second place.

Table 3 Paired Samples Test- General Information

		Paired Differences					t	DF	Sig. (2-tailed)	S/NS
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Pair 1	**Type of Hospital - Age Groups Crosstabulation**	-1.8387	1.17618	0.14937	-2.1374	-1.54	-12.309	61	.000	**S**
Pair 2	**Educational Qualification – Designation**	-1.0968	1.76217	0.2238	-1.5443	-0.6493	-4.901	61	.000	**S**

DF- Degree of Freedom, S-Significant, NS- Non-significant

The third table indicates that the standard deviation of the types of hospital and age group = 1.17618, degree of freedom =61, so there is a significant average difference ($p<0.001$) between types of hospital and age group and the standard deviation of Educational qualification and designation=1.76217, it shows that there is a significant difference between qualification and designation ($p<0.001$).

Table 4 ANOVA **Tests of Between – Educational qualification**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	S/NS
Corrected Model	11.604[a]	3	3.868	19.742	.000	**S**
Intercept	178.190	1	178.190	909.481	.000	**S**
Age Group	.929	2	.465	2.372	.102	**NS**
Types hospital	2.970	1	2.970	15.157	.000	**S**
Total	304.000	62				
Corrected Total	22.968	61				

a. R Squared = .505 (Adjusted R Squared = .480) S-significant NS-Non Significant

The fourth table shows that the mean score of the types of hospital = 2.970 in a significant relationship ($p< 0.05$) with educational qualification. The mean score of the age group is

.465, p-value = .102 . So there is the non-significant relationship between age group and educational qualification (p> 0.05)

Table 5 Descriptive statistics

Variables	N	Mean	Standard Deviation
Computer PCs	62	4.309	0.010
E-journals	62	4.10	0.013
E-books	62	4.08	0.050
Internet	62	5.100	0.023
Printer	62	3.032	0.18692
Fax machine	62	1.2581	.44114
Mobile phone	62	5.2000	0.04300
Tablet computer touch screen	62	3.2903	.45762
Digital camera	62	3.4194	.91523
Computerise sensor	62	2.5806	.91523
Body scanner	62	2.2903	.45762
Computerise databases	62	3.0000	0.01200
Flask disk memory sticks	62	3.7097	.45762
CD ROMs DVDs	62	3.4194	.91523
Email	62	4.2903	.45762
Microsoft access	62	2.5806	.91523
Microsoft excel	62	3.2903	.45762
Microsoft PowerPoint	62	3.2903	.45762

Table five indicates the mean score of computer PC, E-journals, E-books, Internet, mobile phone and computerised database 4.30, 4.10,4.08,5.10,3.03,5.20 and 3.00 respectively. The standard deviation is less than 1/3rd of the mean. It is concluded that most of the respondents using ICT and Digital resources.

Table 6 Partial Correlations wise ICT and Digital resources skill

Control Variables		**Age Groups**	**Education Qualification**	**Type Hospitals**	**Designation**
Age Groups	Corr	1.000	0.569	0.732	0.440
	Sig		0.048	0.024	0.052
Education	Corr		1.000	0.682	0.602
Qualification	Sig			0.128	0.195
Type	Corr			1.000	0.992
Hospitals	Sig				0.086
Designation	Corr				1.000
	Sig				

Table six shows that R values are significant at a level less than the 0.05 set as the criteria for statistical significance, the following hypothesis. There is a high positive correlation between age and type of hospital (r = 0.732, p=0.024). There is a high positive correlation between age and educationeducation (r=0.569, p=0.548). The value of R is not significant at a level less than 0.05 set as the criterion for statistical significance, the following hypothesis. There is no effect on the ICT usage on the designation and over the age (r = 0.440, p=0.052). There is no effect on the ICT usage on the type of hospital over the educationeducation (r=0.682, p=0.128). There is no effect on the ICT usage on the designation over the type of hospital (r=0.392, p=0.086).

Table 7 Utilisation of Digital resources access – ANOVA test

		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Utilising ICT enables me to do medical tasks more swiftly	Between Groups	11.274	2	5.637	4.605	0.004
	Within Groups	1.500	60	.025		
	Total	12.774	62			
improved the efficiency of the medical job I do	Between Groups	11.274	2	5.637	4.782	0.003
	Within Groups	1.500	60	.025		
	Total	12.774	62			
Consuming ICT enables me to do my medical duties more simply	Between Groups	11.274	2	5.637	9.916	0.000
	Within Groups	1.500	60	.025		
	Total	12.774	62			
enables me to enhance my work performance	Between Groups	11.274	2	5.637	5.128	0.002
	Within Groups	1.500	60	.025		
	Total	12.774	62			
Consuming ICT enables me to exert more control over my job	Between Groups	11.274	2	5.637	2.149	.0.094
	Within Groups	1.500	60	.025		
	Total	12.774	62			

Consuming ICT enhances my productivity at work	Between Groups	11.274	2	5.637	5.830	0.001
	Within Groups	1.500	60	.025		
	Total	12.774	62			
entirely consistent with my existing circumstances	Between Groups	11.274	2	5.637	4.084	0.007
	Within Groups	1.500	60	.025		
	Total	12.774	62			
I used to be compatible with the method I like to operate	Between Groups	11.274	2	5.637	0.614	0.606
	Within Groups	1.500	60	.025		
	Total	12.774	62			
it is simple to compel ICT to do the functions	Between Groups	45.097	2	22.548	3.147	0.025
	Within Groups	6.000	60	.102		
	Total	51.097	62			
I see ICT being utilised for a variety of jobs at the hospital	Between Groups	11.274	2	5.637	0.316	0.814
	Within Groups	1.500	60	.025		
	Total	12.774	62			
ICT is a prominent feature at the hospital where I work	Between Groups	11.274	2	5.637	1.261	0.288
	Within Groups	1.500	60	.025		
	Total	12.774	62			
It is simple to monitor individuals use ICT in a medical setting	Between Groups	45.097	2	22.548	2.031	0.109
	Within Groups	6.000	60	.102		
	Total	51.097	62			

Table seven defines that the P-value of variables, namely utilising ICT, enables me to do the medical task more swiftly and improves the efficiency of the medical job I do; consuming ICT helps me do my medical duties more simply. Enable me to do enhance my work performance; Consuming ICT enhances my productivity at work, entirely consistent with my

existing circumstances are less than 0.01, at the 1+ level of significance. Hence null hypothesis is rejected for these variables. It concludes that there is a significant difference between these variables and the age of the respondents.

The P-value of the variables I used to be compatible with the method I like to operate. I feel that using ICF is inconvenient; I see ICT being utilised for a variety of jobs at the hospital, and it is a prominent feature at the hospital where I work; and It is simple to monitor individuals who use ICT in a medical setting are more than 0.05 at the 5% level of significance. Hence null hypotheses for these variables are accepted; it concludes that there is no significant difference between these variables and the age of the respondents.

Findings

- Most of the respondents often use the ICT tools such as a computer (PC), printer, mobile phone, Digital camera, computerised database.
- The majority of the respondents often use body scanners, flask disc, Email, E-book, Internet, Microsoft Access, Microsoft Excel, and Microsoft PowerPoint.
- Many of them rarely use the fax and computerised sensor.
- Most of the respondents good in level of using the tools such as computer, printer, mobile phone, tablet, digital camera, body scanner, Flask disc/memory sticks, Email, E-journal, E-books, internet, Microsoft excel and Microsoft PowerPoint.
- Of the 62 respondents, 90% of respondents accepted that ICT enables them to do the medical task more swiftly improved the efficiency of the medical job, enhancing the work, compatible to operate.

Suggestions

Under the study, the researchers suggested that the women doctors can use the ICT and digital resources to reduce their workload and reduce their stress. And also, women doctor can balance their work and life by using ICT and digital resources.

Conclusion:

In this study, the researchers concluded that the women doctors' attitude towards the ICT and digital resources is positive. The rapid expansion of information and communication technologies, especially the world wide web digital resources, has changed the traditional method of accomplishing study, accessing the necessary material, and archiving it for future use, which was previously used. Awareness of ICT and Digital resources 61.3% of

respondents from government hospitals with the qualification of MBBS, MD got the highest score. The study's findings revealed that increased understanding of information and communications technology (ICT) and the use of digital resources had a significant impact on users of women doctors in Tirunelveli municipal hospitals. A future study will be conducted to provide a thorough orientation to the services offered at the ICT and digital resource centres in other districts, the entire state of Tamilnadu, or the country of India, and private hospitals medical colleges.

References

1. Ahmed, T., Bloom, G., Iqbal, M., Lucas, H., Rasheed, S., Waldman, L., & Bhuiya, A. (2014). E-health and M-Health in Bangladesh: Opportunities and Challenges.
2. Coleman, A. (2014). Migration from resource based to knowledge-based strategy for e-health implementation in developing countries. *Journal of Communication*, *5*(1), 1-7.
3. Eley, R., Fallon, T., Soar, J., Buikstra, E., & Hegney, D. (2009). Barriers to use of information and computer technology by Australia's nurses: a national survey. *Journal of Clinical Nursing*, *18*(8), 1151-1158.
4. Haluza, D., & Jungwirth, D. (2014). ICT and the future of health care: aspects of doctor-patient communication. *International journal of technology assessment in health care*, *30*(3), 298-305.
5. Kwankam SY. (2004) What e-Health can offer. Bull World Health Organ. 82(10):800–2.
6. Lewis, T., Synowiec, C., Lagomarsino, G., & Schweitzer, J. (2012). E-health in low- and middle-income countries: findings from the Center for Health Market Innovations. *Bulletin of the World Health Organization*, *90*, 332-340.
7. Olok, G. T., Yagos, W. O., & Ovuga, E. (2015). Knowledge and attitudes of doctors towards e-health use in healthcare delivery in Government and private hospitals in Northern Uganda: a cross-sectional study. *BMC medical informatics and decision making*, *15*(1), 1-10.
8. Perera, C. (2012). The evolution of E-Health–mobile technology and mHealth. *Journal of Mobile Technology in Medicine*, *1*(1), 1-2.
9. Piette, J. D., Lun, K. C., Moura Jr, L. A., Fraser, H. S., Mechael, P. N., Powell, J., & Khoja, S. R. (2012). Impacts of e-health on the outcomes of care in low-and middle-

income countries: where do we go from here?. *Bulletin of the World Health Organization*, *90*, 365-372.

10. Richards, H., King, G., Reid, M., Selvaraj, S., McNicol, I., Brebner, E., & Godden, D. (2005). Remote working: survey of attitudes to eHealth of doctors and nurses in rural general practices in the United Kingdom. *Family practice*, *22*(1), 2-7.
11. Sivankalai, S. (2014). Use of Electronic Resources among the Faculty Members at Paavai College of Engineering (PCE), Namakkal Distric-A Study. *Asia Pacific Journal of Library and Information Science*, *3*(1).
12. Sivankalai, S. (2017). Engineering College Students' utilisation of Open Source Learning Management Systems: A Survey. *Shanlax International Journal of Arts, Science and Humanities*, *5*(2), 54-61.
13. Sivankalai, S. (2018). A study on information literacy services on the use of college digital resources among under graduate students in EIT library. *International journal of scientific research*, *6*(9).
14. Sivankalai, S. (2020). Awareness of Library Automation among the Professionals in Academic Libraries at State of Eritrea. *International Journal of Academic Library and Information Science*, *8*(1), 17-21.
15. Sivankalai, S. (2021). Academic Libraries' Content Management Trends. *Library Philosophy and Practice (e-journal) 8* (19), 1-13
16. Sivankalai, S. (2021). Academic Libraries support E-Learning and Lifelong Learning: a case study. *Library Philosophy and Practice (e-journal)* 8 (18), 1-18
17. Sivankalai, S. (2021). The Impact of Cloud Computing on Academic Libraries. *Library Philosophy and Practice (e-journal)* 9 (3), 1-17
18. Sivankalai, S. A study on teaching and learning support systems using digital libraries with special reference to biological sciences.
19. Sivankalai, S., & Sivasekaran, K. (2021). ICT based learning for readers of higher educationeducation through library system. *Impact of Information and Communication Technology on Library Environment*, 135-148.
20. Sivankalai, S., & Thulasi Kavitha Yadav, S. (2012). Total quality management in academic libraries: A study. *International journal of educational research and technology*, (1), 66-72.
21. Sivankalai, S., & Virumandi, A. (2021). Web Services in Cloud Computing research: Insights from Scientometric. *Library Philosophy and Practice (e-journal)* 6 (27), 1-23

22. Sivankalai, S., Virumandi, A., & Chellapandi, P. (2014). A Study of Engineering Student's Approach on Digitization with Special Reference in Academic Library. *E-library science Research Journal*, *2*.
23. Smith, H., Bukirwa, H., Mukasa, O., Snell, P., Adeh-Nsoh, S., Mbuyita, S., ... & Garner, P. (2007). Access to electronic health knowledge in five countries in Africa: a descriptive study. *BMC health services Research*, *7*(1), 1-7.
24. Wickramasinghe, N., & Schaffer, J. (2010). Realising Value Driven e-Health Solutions. *Washington, DC: IBM Center for the Business of Government*.
25. World Health Organization (WHO). International Telecommunication Union (ITU). 2012. *National eHealth Strategy Toolkit*.
26. Vanan, J. T., Manalan, J., Soundrarajan, D. J., & Raja, T. (2019). Awareness and Utilisation of Electronic Resources among Junior Research Fellows with Special Reference to Christian Medical College & Hospital, Vellore, Tamil Nadu. *Indian Journal of Information Sources and Services*, *9*(S1), 32-36.
27. Zakar, R., Zakar, M. Z., Qureshi, S., & Fischer, F. (2014). Harnessing information technology to improve women's health information: evidence from Pakistan. *BMC women's health*, *14*(1), 1-13.
28. Paul, A., & Thompson, K. M. (2018). Negotiating digital spaces in everyday life: A case study of Indian women and their digital use. *First Monday*.
29. http://digitalindia.gov.in/