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Original Research Article

Knowledge and Attitude regarding e-health services among elderly at selected urban community areas, Kolar, with a view to develop information pamphlet

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ABSTRACT

Background & Aim: E-health technologies potential to expand access to healthcare on a local, regional, and international level, reduce costs, and enhance public and individual health through individualized care and compiled health data. The widespread use of smartphones and tablets has made it possible for older adults, to access health information online which has led to a steady rise in their use of e-health services like getting reminders for appointments instructions for taking medications, telemedicine consultation and taking part in health programmes.
Aim: To assess the knowledge and attitude of older adults on e-health services.
Materials and Methods: A descriptive survey design was conducted in urban areas of the community in Kolar Karnataka. A total of 100 older adults were included using a purposive sampling technique & data collected through structured knowledge questionnaire a five point Likert scale among elderly. Data were analyzed using descriptive and inferential statistics in SPSS version 20.
Results: The findings showed that older adults, 5% of participants showed adequate knowledge and 75% showed moderate knowledge with only 20% of respondents having inadequate knowledge. Concerning attitudes towards e-health services it indicated that, the majority 80% of geriatric clients showed favourable attitudes, moderately favorable 19%, and unfavorable 1%. It's found to be statistically significant for variables like age, usage of e-health services & source of information.
Conclusion: e-health utilization was proven to be favorable attitude among older adults. Hence it's necessary to take measures in the hospital setup, to initiate e-health services to access the health services without undue stress and time wastage to wait for appointments.

1. Background

The application of information and communication technology (ICT) to the delivery of health care services often known as electronic health (e-Health), has become a hot topic among medical professionals and senior services.[1] E-health can be characterized as a novel approach to utilize information communication technology, particularly the Internet, to access health resources and enhance population health.

E-health includes a variety of systems, patients, healthcare providers, and service components.[2] Numerous apps can be used to continually track vital signs, support behaviors that encourage a healthy lifestyle, and support the self-management of chronic illnesses. Healthcare organizations typically have information about their doctors

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and services, downloadable forms, and patient education materials on non-secure patient-facing websites. Patients can check lab test results, order medicines, schedule appointments, and search for medical history through patient portals, which are available in the majority of health plans and medical practices. These portals also allow for safe communication between patients and clinicians.[3,4]

Due to the aging population in these communities and their increasing demand for patient-centered care, there is an increased demand for innovative information technology. Older people can now access internet health information due to the widespread availability of smartphones and tablets[5,6]Modern patients are increasingly willing and capable of taking a more active role in health-seeking behaviour thanks to the pervasive Internet and mobile technological devices.[7,8]

To address current and future barriers to health care access and lessen health inequities, information and communication technologies (ICTs) for digital health or eHealth initiatives, such as computers, smart phones, the Internet, and other communication devices, may be used.

A broader range of goals are outlined in Healthy People 2020's eHealth strategy, including "health communication strategies and health information technology to improve population health outcomes and health care quality and to promote health equity.[9,10]

Hence the present study was undertaken to the assess the knowledge & attitude of elderly on eHealth services is considered to be an essential element to consider and needs emphasis for awareness.

2. Research Methodology

Based on the objective of the study, A Descriptive Survey design was adopted, and administered structured knowledge questionnaire using purposive sampling technique and Likert scale to assess the attitude which was translated in local language of region among 100 elderly. Ethical clearance was obtained from an institutional ethical committee and a written permission was obtained from the medical superintendent RLJH&RC, Tamaka, Kolar. *Validity of tool and intervention*.

The following methods were used to test the content validity of the tool. The standardized Constipation assessment scale along with the statement of the problem, Objectives, Observational checklist, description about the instrument and Intervention were given to 10experts. These modifications were incorporated and final draft of standardized tool and Intervention was used.

3. Reliability

Pilot study conducted at Tekal areas of Kolar and the tool's reliability and stability was examined using the test-retest method and for the total sample, the internal consistency of the domains was good yielding Cronbach's alpha of 0.77 for constipation assessment tool. As a result, the tools were determined to be feasible at an acceptable level.

4. Results

4.1. Section A: Description of Demographic variables of the elderly

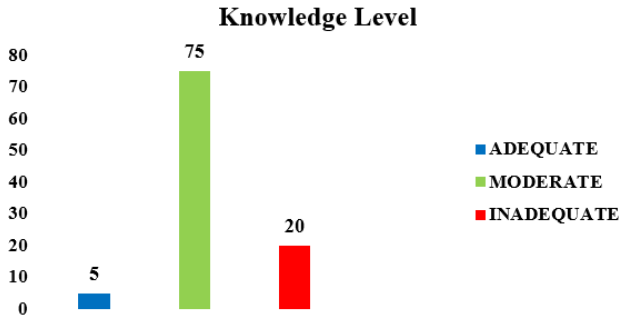

Figure 1: Bar diagram showing knowledge distribution about e-health among Geriatrics

Table 2 & Figure 1: The data analysis and interpretation of the research findings are covered in this chapter. According to the study's stated goals, the knowledge of e-health services among geriatric individuals was evaluated. The findings showed that out of 100 participants, 75% (75) participants had moderate knowledge, 20% (20) participants had inadequate knowledge, and 5% (5) participants had adequate knowledge. The results of the assessment of the relationship between sociodemographic factors and knowledge of e-health services showed that there is no significant relationship between any of the demographic factors.

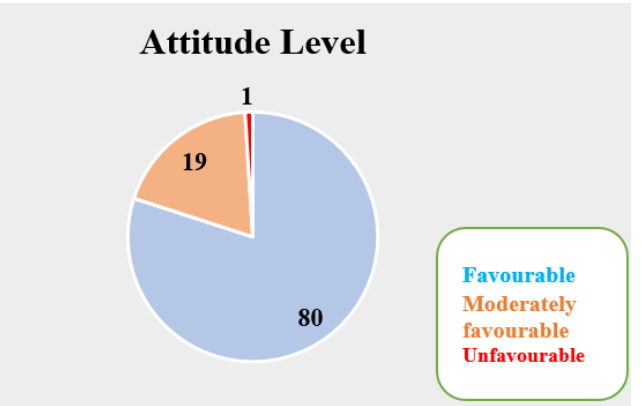

Figure 2: Bar diagram showing attitude distribution about e-health among Geriatrics

Table 3 & Figure 2 : According to the study's goal, which was to determine how geriatric individuals

Table 1: Frequency and percentage distribution of sample according to sociodemographic variables n=100

Sl.no	Sample characteristic	Frequency (f)	Percentage (%)
	Age (in Years)		
1	60-70	65	65
	71-80	35	35
	Gender		
2	Male	49	49
	Female	51	51
	Educational qualification		
3	No formal education	29	29
	Primary education	58	58
	Secondary education	13	13
	Type of family		
4	Nuclear	68	68
	Joint	32	32
	Family income		
5	BPL	80	80
	APL	20	20
	Current occupation		
6	Employed	38	38
	Unemployed	62	62
	Level of computer usage experience		
7	Skilled	39	39
	Nonskilled	61	61
	Hours spent on the Internet using		
8	Not using	56	56
	1-9 hour	44	44
	Using e-health services		
9	Yes	28	28
	No	72	72
	Source of information		
10	Mass media	19	19
	Family members	81	81

Table 2: istribution of sample according to overall level of knowledge ofelderly n-100

Knowledge	Frequency	Percent (%)
Adequate (>75%%)	5	5%
Moderate (51 – 75%)	75	75%
Inadequate (50%)	20	20%
Total	100	100%

Table 3: Distribution of sample according to overall level of attitude of elderly N-100

Attitude	Frequency	Percent (%)
Favourable	80	80%
Moderately	19	19%
Unfavourable	1	1%
Total	100	100%

Table 4: Association of knowledge score with socio-demographic variables N-100

	Demographic variables	Knowledge level		df	$\chi 2$	P value
		Below or equal to the Median (<8)	Above Median (>8)			
1.	Age	33	32		0.1127	73708
		19	16	1		NS p < .05
2.	Gender	25	24	1	0.0369	847592
		27	24			NSp < .05
3.	Educational qualification	13	16	2	1.3328	513542
		33	25			NS p < .05
		6	7			
4.	Type of family	32	36	1	2.0786	149375
		20	12			NS p < .05.
5.	Family income	45	35	1	2.8946	088875
		7	13			NS p < .05.
6.	Current occupation	20	18	1	0.0098.	921162
		32	30			NS p < .05
7.	Computer experience	22	17	1	0.4982	480285
		30	31			NS p < .05
8.	Hours spend	33	23		2.12	145387
		19	25	1		NS p < .05.
9.	Using of e-health	13	15	1	0.4836	486782
		39	33			NS p < .05.
10.	Source of information	9	10		0.2016	653436
		43	38	1		NS p < .05.

Note:- P<0.05, NS- Not Significant, SS- Statistically Significant**,** df- degree of freedom.

Table 5: Association of attitude score with socio-demographic variables N-100

SI No	Demographic variables	Attitude level		df	$\chi 2$	P value
		Below or equal to the Median(<40)	Above Median (>40)			
1.	Age	29 23	36 12	1	4.0575	.043976 SS * p < .05.
2.	Gender	21 31	28 20	1	3.2177	.072846 NSp < .05.
3.	Educational qualification	17 25 9	12 33 4	2	3.8501	.145866 NSp < .05
4.	Type of family	39 13	29 19	1	2.4395	.118315 NS < .05.
5.	Family income	38 14	42 6	1	3.2452	.071633NS
6.	Current occupation	19 33	19 29	1	0.0982	.753974NS
7.	Computer experience	18 34	21 27	1	0.8754	.349451NS
8.	Hours spend	33 19	23 25	1	2.4478	.117689, NS
9.	Using of e-health	20 33	8 39	1	5.3019	.021302 SS*
10.	Source of information	16 35	3 46	1	10.3527	.001293 SS*

attitude towards e-health services, the findings showed that 80% (80) of study participants had Favourable attitudes, 19%[19] had moderately favouarble attitudes, and 1%[1] had unfavourable attitudes. Age, e-health service use, and information source were found to have a significant relationship when sociodemographic factors and attitudes towards e-health services were assessed.[10] However, there was no statistically significant relationship between gender, education, family structure, family income, current employment, computer experience, or hours spent.

There is no significant association between knowledge and all the selected socio demographic variables.

There was a significant association between attitude with selected demographic variables such as Age, using of e-health and source of information. And found no significant association with remaining other selected socio demographic variables.

5. Discussion

The Knowledge and attitude regarding e-health services among elderly is a very essential in a health care services with the changing technology. In this study, the elderly knowledge was found to be,

1. *Knowledge level:* Out of 100 geriatric study participants, 5% of respondents are having adequate knowledge, 75% of the geriatric clients are found to have moderate knowledge, and 20% have inadequate knowledge.
2. *Attitude level:* Out of 100 study participants 80% participants having a favorable attitude, 19% participants having a moderate attitude, and 1% participants having a unfavorable attitude. [11]

A similar a scoping review was conducted on 4877 older adults regarding e-health literacy skills in people with chronic disease. The result showed that seventeen studies involving 4,877 participants were included. Five of the included studies were experimental, involving 758 participants. [12] All of them reported positive effects of educational interventions on the improvements in self-reported e-Health literacy skills. [13] The study concluded, the findings indicate the positive relationship between e-Health literacy and chronic diseases highlights a need for prospective controlled studies.

6. Conclusion

Knowledge and attitude regarding e-health services among elderly found to be significant, Hence its evident that, awareness and supportive interventions need to be emphasized regarding implementation of e-health services among elderly to access the telehealth consultations, online medicines ordering, reports. [14]

7. Implications of the Study

1. *Nursing practice:* Nurses working in both hospital and community settings should inform senior citizens about the advantages of e-health services.
2. *Nursing education:* Encourage the nursing student nurse from the college of nursing to give a demonstration of how to utilize the e-health service app. [15]
3. *Nursing administration:* The nursing administrator can take part in developing protocols, standing orders regarding the dissemination of knowledge about the challenges of aging and the need for e-health services.
4. *Nursing research:* The study helps nursing researcher to enhance nurses' wellbeing. It not only aids nurses in expanding their knowledge but also enhances the standard of care given to society.

8. Source of Funding

None.

9. Conflict of Interest

None.

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