www.ThePharmaJournal.com

The Pharma Innovation



ISSN (E): 2277- 7695 ISSN (P): 2349-8242 NAAS Rating: 5.23 TPI 2021; SP-10(8): 739-745 © 2021 TPI www.thepharmajournal.com Received: 11-07-2021 Accepted: 14-08-2021

Shalu Gautam

Ph.D. Scholar at Department of Ext. Edu. ANDUAT, Kumarganj Ayodhya, Uttar Pradesh, India

RK Doharey

Professor at Department of Ext. Edu. ANDUAT, Kumarganj Ayodhya, Uttar Pradesh, India

NR Meena

Asstt. Prof. at Department of Ext. Edu. ANDUAT, Kumarganj Ayodhya, Uttar Pradesh, India

Atul Kumar

Ph.D. Scholar at Department of Ext. Edu. ANDUAT, Kumarganj Ayodhya, Uttar Pradesh, India

Corresponding Author Shalu Gautam Ph.D. Scholar at Department of Ext. Edu. ANDUAT, Kumarganj Ayodhya, Uttar Pradesh, India

To assess the knowledge extent of farmers which use of cell phone in Kanpur Dehat district of U.P.

Shalu Gautam, RK Doharey, NR Meena and Atul Kumar

Abstract

This study was conducted in Akbarpur, Maitha, Sarwankhera and Jhinjhak block of Kanpur Dehat district of Uttar Pradesh to know the study and importance of cell phone usages for empowerment of rural farmer's during the year 2020-21. A total number of 400 farmers were selected randomly from a list of 20 randomly selected villages. The structured schedule was developed keeping in view the objectives and variables under study. The respondents were contacted personally for data collection. The analysis of data was done by using the percentage, mean, standard deviation, and correlation coefficient for drawing the inferences. That the majority of the respondents (46.00) belonged to the categories of medium (25-56) for their overall knowledge about using cell phone, followed by 27.50 per cent respondents belonged from the category of low (up to 24) and only 26.50 per cent respondents belonged from the category of high (57 and above), respectively. Hence, it can be concluded that the overall knowledge level of the cell phone users about using cell phone was maximum medium category (25-56).

Keywords: knowledge, mean, standard deviation, correlation, cell phone, respondents

Introduction

A cellular phone is a telecommunication device that uses radio waves over a networked area (cells) and is served through a cell site or base station at a fixed location, enabling calls to transmit wirelessly over a wide range, to a fixed landline or via the Internet. In this networked system, the cellular phone is identified as a mobile system consisting of the equipment and SIM card that actually assigns the mobile telephone number.

A cellular phone is also known as a cell phone or mobile phone. It enables a user to communicate almost anywhere in the world. The cell phone was invented by Dr. Martin Cooper, along with his team of developers at Motorola.

The first cell phone weighed 2.4-pounds and was 9-inches long. Dr. Cooper also made the first cell phone call at Motorola on April 3, 1973.

India has 1,026.37 million active mobile users on 2G, 3G and 4G networks – in 2018, TRAI statistics report. Total mobile subscriber base including active and inactive users has reached 1,176 million in2018. The proportion of active subscribers was approximately 87.28 percent of the total wireless subscriber base.

Bharti Airtel has the maximum proportion (98.68 per cent) of its active wireless subscribers. Vodafone Idea has 93.33 percent active mobile phone customers on its network. Reliance Jio has 83.59 percent active customers on its 4G network. BSNL has 56.20 percent active mobile users in 2018.

Mobile customers in urban areas reached 647.52 million. India has 528.48 million mobile users in rural areas. Mobile phone density in India was 89.78 in 2018. Mobile service tele-density was 155.48 in urban areas and 59.15 in rural areas.

Information delivery system is the one of the main components for dissemination of knowledge or new technology. Information gap has been recognized as one of the important constraints in the overall agricultural development of the country. Indian agriculture had been on traditional lines till the first waves of green revolution in late 60s. The green revolution gave a sudden boost to the production and productivity of major cereals in the assured irrigated areas. Quick dissemination of technological information from the Agriculture Research System to the farmers in the fields and reporting farmers' feedback to the research system is one of the critical inputs in transfer of technology.

To increase the farm production, the farmers need to be informed on recent scientific farm innovations. Farm information and technology dissemination to the farmers provides opportunities for their self-development, improves existing knowledge, skills and enhances

their capability. In this connection, Information and communication technologies (ITCs) hold lot of promise to deliver agricultural knowledge to the farmers. In order to provide agricultural extension services through ICTs, it is necessary to assess the information needs of the farmers so as to prepare and deliver specific messages or technologies and also to develop ICT based training modules as per the need and requirements of farmers.

KVK imported learning through work experience and it's concerned with technical literacy. KVK imported training to practicing farmers and farm women. The KVK catered to the needs of those who are employed and those who wish to be self-employed. The main activities of KVK is to update the technical Knowledge and Skills of the farming communities and to train the farmers and farm women in scientific farming and allied fields like Crop production, Seed production, Horticultural crops, Dairy, Fisheries, Agro forestry and other enterprises.

Information and Communication Technologies (ICTs) can accelerate agricultural development by facilitating knowledge management. Mobile phone is the important ICT tool for faster dissemination of technology almost 70 percent of the world's mobile phone subscribers are in developing world. As an affordable and accessible means of communication, both men and women are realizing the potential of this technology to create economic opportunities and strengthen social network in rural areas.

ICTs have been shown to play an important role in improving education, livelihoods, poverty, agriculture, trade and health as it can contribute to better access to information and subsequently, markets and production (Rao, 2006). The mobile phone is one of the most exciting forms of ICTs, which has the potential to allow countries to leapfrog older technologies and begin converging with the rest of the world in terms of economic performance. It significantly reduces communication and information costs for the rural poor on agricultural technologies.

The features of communication technologies can be found its quality and timeliness which can make farmers enable to use agricultural information effectively the study was conducted in India also found that mobile phone plays an important role in the contribution of farmers 'productivity and able to find good price of their product. While another study revealed about Kenya that in the flood situation mobile phone SMS service also played key role to save the crop of farmers and send alert messages to each other's. Information technologies also reducing the risk of farmers and providing more opportunities to access the market and also providing place to communicate with customers directly through mobile phones. The world is speedily transferring information about everything of the society and people are connected with each other globally. Information and communication technologies plays a role of bridge among different communities such as farmers now can get easily information about their produce by internet from any place of the world. In the context of the Nigeria government facilitating farmers and providing easy access and information of market from mobile networking services in remote areas. In modern information and communication technologies such as 3G, 4G internet, Email, Facebook, Twitter and many other social media can also have provided lot of information about the agriculture even there are many online programs are available where farmers can get benefit and also apply such applications and methods in their own land for better product of crops. YouTube is also one of the best sources of getting latest information about agriculture development. Unfortunately, farmers have no proper knowledge and education about techniques and use of technologies in their working places. It could prove that mobile phone was very powerful tool in providing basic information about agriculture. The level of usage of cell phone spreading rapidly in developing countries for the purpose of business, education and agriculture development. India did not participate in the landline phone revolution but has seen unprecedented growth in mobile phones, with over 970 million subscribers by the end of March, 2015, making it second to China. The tele-density (number of phones per 100 people) has grown from about 13 per cent in March 2006 to over 77 per cent currently. Mobile usage, which was restricted to urban areas a few years ago, has started penetrating the rural areas of the country at a good pace. Rural tele-density has grown at an impressive rate, rising from 1.9 per cent in 2005 to over 48 per cent by March, 2015 (TRAI 2015). According to the Census of India, 2011, around 69 per cent of the total population still resides in rural areas. People in rural areas, like in most of the developing countries face several challenges, such as low literacy, poor healthcare facilities, low income, high poverty, low access to formal employment and poor infrastructure.

Agricultural information is a key component for increasing agricultural production and productivity that leads to improved rural livelihoods and food security. In order to counter recent decelerating growth rate of agriculture, the challenges of infrastructural constraints, supply chain inefficiencies, and diffusion and access to information are to be addressed. In this context, increasing penetration of mobile network and widespread use of mobile phones, voice mail and SMS solutions could be an opportunity to make useful information available at the farmers' doorstep. In West Bengal, IFFCO Kisan Sanchar Limited (IKSL) made an endeavor to disseminate information and knowledge amongst the farmers through voice messaging system in local language. However, its relevance, quality and timeliness have been an issue of serious concern to the farmers. The study was conducted with sixty randomly selected farmers, who were using IKSL Green Card, from two blocks of Paschim Medinipur district, West Bengal. The result of the study revealed considerable contact of farmers with the progressive farmers (43.3%) followed by IKSL (40.0%) and input retailers (28.3%). In respect of frequency, quality and timeliness of the information provided by IKSL, farmers ranked fertilizer, pesticide and seed as Ist, 2nd and 3rd. Market information of agricultural produce was rarely covered by IKSL service. Farmers were mostly benefited from voice mail in adopting better agricultural practices followed by increased production and revenue, change in cropping pattern and connection to market. One of the most important developments in the past decade was the rapid growth of the mobile phone use around the world. Mobile phones have empowered developing countries to spread information networking coverage in the remote areas and rural areas are getting great benefit out of it.

In India, Bangladesh, Pakistan, Malaysia, Indonesia, Philippine, Vietnam and Sri Lanka, the extensive use the technology has made direct contribution to agricultural productivity as well as income of small holding farmers. Nowadays, remote sensing, satellite system and geographical information system GIS enhance the capacity of farmers in remote areas. In this context, influence of ICT brought changes in efficiency of market to improve the productivity, easy access and approach to contact with buyers in market. According to the farmers' agricultural information and economic conditions have been improved after using some communication technologies. Now small holders were saving much amount to use transport to reach market for getting the information and price of their product and only one dial using mobile phones and obtaining latest information on spot. Improving the information, communication, business, and Internet resources available to farmers and to the markets, organizations, and institutions they interact with is essential to making smallholder agriculture more productive. The proper use of information and communication technologies (ICT) is central to this improvement. Information and communication technologies also played a role in business and large scale of agriculture related services as well as these technologies provides weather and irrigation system information. It was showed that different elements of the communication networks have improved transaction in developing countries for instance in Ghana ICT helped network of rural banking and increased their efficiency and expand their services and overall population of farmers. Similarly, it was also indicated that ICT has provided facilities of different business models for offering economic and financial service to smallholders. ICT is the tool of different system, which has brought a remarkable change in daily life of people. Information communication technology has created new revolutionary changes in organizations and introduced new ways of doing in business and makes an innovative thing. This technology played venerable role in developing countries and stable the economic conditions of poor farmers. There is no doubt that communication technology used very frequently among farmers and it empowers the resources of poor farmers and provided latest updates regarding agriculture information and their related issues. Furthermore, by mobile phone farmers are touch with market and obtained trends of price, weather information.

For development of agriculture it is necessary to reform agricultural extension system that is under-funded, highly compartmentalized and has several inherent weaknesses. The use of ICT is the only way to bypass several stages and sequences in the process of agricultural development. Mobile phone that is a tool of ICT is widely recognized as a potentially transformative technology platform for developing nations. Mobile phone technology has much less requirement on the infrastructure and hence wider applicability especially in mountainous areas. Mobile phones enable both audio and video functions which can meet most of the basic needs of the poor. It also has greater affordability for the farmers than internet. It has provided producers with information and knowledge on the correct market price, quantities, availability of a particular product and technical advice. In many developing countries more than 80 per cent of the population has access to mobile phones. Jensen (2007) demonstrated that the ICT helped fishers along the coastline in Kerala, India learn about prices at different locations and decide where to sell their products profitably. As a result, price volatility and variation dropped; producer prices rose and at the same time consumer prices dropped. Aker (2008) studied the impact of the mobile phone rollout on grain markets in Niger and show that mobile phone service has reduced grain price dispersion across markets by a minimum of 6.4 percent and reduced intra-annual price variation by 10 per cent. But there are many factors like lack of awareness of the utility of communication technologies for agriculture development, language, illiteracy, poor signal, high cost and unavailability of electric power were the major constraints, poor ICT infrastructure development, high cost of broadcast equipment, high cost of access / interconnectivity and electricity power problems, fluctuating telecommunication services, inadequate access to mobile services, etc.

Methodology

The selection of the district Kanpur Dehat was selected purposively as locale for present investigation because researcher is well acquainted with the locality and culture. Secondly the most of the farmers are using cell phone as agrobased advisory services due to the collaboration of IIT, ATARI and CSAUAT Kanpur. Kanpur dehat district has a total number of ten blocks namely Akbarpur, Amrodha, Derapur, Jhinjhak, Maitha, Malasa, Rajpur, Rasulabad, Sandalpur and Sarvankheda out of these, four blocks Akbarpur, Maitha, Jhinjhak and Sarvankhera were selected purposively. Five villages from each block were selected hence that total number of twenty villages were selected randomly for the study. Selection of the farmers was done by simple random sampling method and 20 farmers from each village were selected to make a total sample size of 400 farmers.

Knowledge about cell phone

 Table 1: Distribution of the respondent's knowledge according to type of cell phone: n=400

S. No.	Type of cell phone	Yes	%	No	%
1.	Have you listened about cell phone?	400	100.00	00	0.00
(i)	Simple cell phone	396	99.00	1	01.00
(ii)	Smart phone	361	90.25	39	09.75

Table 1 pertains to general awareness of the respondents for which cent per cent respondents had listened about cell phone, 99.00 per cent respondents had listened about simple cell phone followed by 90.25 per cent who had listened about smart phone.

Table 2: Distribution of the respondent's knowledge according to functions of cell phone: n=400

2.	Do you have knowledge about the following functions of cell phone?	Yes	%	No	%
(ii)	Receive call of others	389	97.25	11	02.75
(i)	Call to other fellow farmers/any	345	86.25	55	13.75
(iii)	Text chat (SMS)	301	75.25	99	24.75
(iv)	Audio chat	247	61.75	153	38.25
(v)	Video chat	312	78.00	88	22.00
(vi)	Whatsapp message	337	84.25	63	15.75
(vii)	Calculator	226	56.50	174	43.50
(viii)	Cell phone torch	350	87.50	50	12.50
(ix)	E-mail	126	31.50	274	68.50

(x)	To use the social networks (e.g.) /Facebook/Google/Academia. edu, etc.)	148	37.00	252	63.00
(xi)	Internet 2		64.25	143	35.75
(xii)	News 2		72.00	112	28.00
(xiii)	Twitter		18.75	325	81.25
(xiv)	Paytm/ Pone pay/google pay/Yono etc.	133	33.25	267	66.75

It is cleared from the Table 2 that an over-whelming majority of the respondents 97.25 per cent had knowledge receive call of others followed by, cell phone torch 87.50 per cent, call to other fellow farmers/any 86.25 per cent, whatsapp message 84.25 percent, video chat 78.00 percent, text chat (SMS) 75.25 per cent, news 72.00 per cent, internet 64.25 per cent, audio chat 61.75 per cent, calculator 56.50 per cent, to use the social networks e.g. Facebook /Google / Academia edu, 37.00 per cent, Paytm / Pone pay / google pay / Yono 33.25 per cent, E-mail 31.50 per cent, and Twitter 18.75 per cent, respectively.

 Table 3: Distribution of the respondent's knowledge according to services of cell phone: n=400

3.	Do you know about the following services of cell phones?	Yes	%	No	%
(i)	e-top	365	91.25	35	08.75
(ii)	Top up	383	95.75	17	04.25
(iii)	Internet Pack	284	71.00	116	29.00
(iv)	Tariff	372	93.00	28	04.00
(v)	Validity recharge Boucher	361	90.25	39	09.75
(vi)	SMS Pack	213	53.25	187	46.75
(vii)	Roaming	73	18.25	327	81.75
(viii)	ISD pack	3	0.75	397	99.25

Table 3 indicates about different services of cell phone for which top up were leading one and majority of the respondents 95.75 per cent had known about this followed by tariff 93.00 per cent, e-top 91.25 per cent, validity recharge boucher 90.25 per cent, internet pack 71.00 per cent, SMS pack 53.25 per cent, roaming pack 18.25 per cent, and ISD pack 0.75 per cent, respectively.

Table 4: Distribution of the respondent's knowledge according to service provider of cell phone: n=400

4.	Do you Know about service provider of cell phone?	Yes	%	No	%
(i)	Reliance Jio	311	77.75	89	22.25
(ii)	Vodaphone / Idea	180	45.00	220	55.00
(iii)	Airtel	264	66.00	136	34.00
(iv)	BSNL	165	41.25	235	58.75

Table 4 indicates that majority of the respondents 77.75 per cent knew about service provider of cell phone i.e. Reliance

Jio followed by Airtel 66.00 per cent, Vodaphone / Idea 45.00 per cent, and BSNL 41.25 per cent respectively.

Table 5: Distribution of the respondent's knowledge according to different companies of cell phone: n=400

5.	Do you know about different companies of cell phone?	Yes	%	No	%
(i)	Samsung	233	58.25	167	41.75
(ii)	Nokia	90	22.50	310	77.5
(iii)	Apple	34	08.50	366	91.5
(iv)	Jio	326	81.50	74	18.50
(v)	Lenovo	71	17.75	329	82.25
(vi)	Micromax	65	16.25	335	83.75
(vii)	Redmi	174	43.50	226	56.50
(viii)	Realmi / Xiaomi	122	30.50	278	69.50
(ix)	Орро	107	26.75	293	73.25
(x)	Vivo	93	23.25	307	76.75
(xi)	LG	08	02.00	392	98.00
(xii)	Sony	22	5.50	378	94.50
(xiii)	Tecno	09	02.25	391	97.75
(xiv)	HTC	24	06.00	376	94.00
(xv)	Lawa	27	06.75	373	93.25

It is declared from the table 5 that the majority of the respondents 81.50 per cent knew about Jio among different companies of cell phone, followed by Samsung 58.25 per cent, Redmi 43.50 per cent, Realmi / Xiaomi 30.50 per cent, Oppo 26.75 per cent, Vivo 23.25 per cent, Nokia 22.50 per

cent, Lenovo 17.75 per cent, Micromax 16.25 per cent, Apple 08.50 per cent, Lawa 06.75 per cent, HTC 06.00 per cent, Sony 05.50 per cent, Tecno 02.25 per cent and LG 02.00 per cent, respectively.

Table 6: Distribution of the respondent's knowledge according institutional services via cell phone: n=400

6.	Do you know about the agency/ Institutes which provides need information related to agriculture and its allied <i>viz.</i> dairy, fisheries, agro forestry etc. through cell phone?	Yes	%	No	%
(i)	ATICs (Agricultural Technology information Centre)	204	51.00)196	49.00
(ii)	Kisan Call Centers provides demanded information to farmers through direct contact via cell phone.	246	61.50)154	38.50
(iii)	Krishi Vigyan Kendra (KVKs)	207	51.75	5193	48.25
(iv)	Central/ State agriculture universities	171	42.75	5229	57.25
(v)	Line departments	213	53.25	5187	46.75
(vi)		165	41.25	5235	58.75
(vii)	NGOs	117	29.25	5283	70.75

The table 6 indicates that majority of the respondents 61.50 per cent knew about the agency i.e. Kisan Call Centers which, provides demanded information to farmers followed by Line departments 53.25 per cent, Krishi Vigyan Kendra 51.75 per

cent, ATICs Agricultural Technology Information Centre 51.00 per cent, Central / State agriculture universities 42.75 per cent, Private agencies 41.25 per cent and NGOs 29.25 per cent, respectively.

Table 7: Distribution of the respondent's knowledge according to purpose of using cell phone: n=400

7.	What do you use your cell phone?	Yes	%	No	%
(i)	To communicate for agriculture loan purpose		53.25	187	46.75
(ii)	To communicate agricultural information from various stakeholders	246	61.50	154	38.50
(iii)	To seek research Information	210	52.50	190	47.50
(iv)	To communicate with fellow farmers	351	87.75	49	12.25
(v)	To promote interpersonal relationships	281	70.25	119	29.75
(vi)	To communicate with animal doctors	243	60.75	157	39.25

It is clear from the data included there in Table 7 that every respondents use their cell phone for communicate with fellow farmers 87.75 per cent followed by to promote interpersonal relationships 70.25 per cent, to communicate agricultural information from various stakeholders 61.50 per cent, to communicate for agriculture loan purpose 53.25 per cent, and to seek research information 52.50 per cent, respectively.

Table 8: Distribution of the respondent's knowledge according to needed agricultural information via cell phone: n =400

8.	Do you know about following specific agricultural information needed about your farming activities via cell phone?	Yes	%	No	%
(i)	Information about agricultural input supply & availability	251	62.75	5149	37.25
(ii)	Information for better marketing of agricultural products	235	58.75	5165	41.25
(iii)	Information about agricultural management practices	268	67.00	0132	33.00
(iv)	Information about new agricultural technologies	213	53.25	5187	46.75
(v)	Information about demand and supply situation of particular agricultural commodities	207	51.75	5193	48.25

From the Table 8 indicates that out of 400 respondents, 67.00 per cent of the respondents taken information for information about agricultural management practices via cell phone followed by information about agricultural input supply & availability 62.75 per cent, information for better marketing of

agricultural products 58.75 per cent, information about new agricultural technologies 53.25 per cent, and information about demand and supply situation of particular agricultural commodities 51.75 per cent, respectively.

Table 9: Distribution of the respondent's knowledge according to services accessed by use of cell phone: n =400

9.	Which, services accessed or known by the farming community via cell phone?	Yes	%	No	%
(i)	e-NAM	157	39.25	243	60.75
(ii)	e-governance	70	17.50	330	82.50
(iii)	e-choupal	119	29.75	281	70.25
(iv)	The aAQUAeAgri Service	67	16.75	333	83.25
(v)	AGRISNET (Agricultural Informatics and Communication Network)	50	12.50	350	87.50
(vi)	AQUA (Almost All Questions Answered)	47	11.75	353	88.25
(vii)	AGMARKNET (Agricultural Marketing Information System Network)	62	15.50	338	84.50

It is revealed from the Table 9 that majority of the respondents 39.25 per cent knew about e-NAM among services via cell phone followed by e-choupal 29.75 per cent, e-governance 17.50 per cent, AGRISNET (Agricultural Informatics and Communication Network) 16.75 per cent,

AGMARKNET (Agricultural Marketing Information System Network) 15.50 per cent, AGRISNET (Agricultural Informatics and Communication Network) 12.50 per cent, and AQUA (Almost All Questions Answered) 11.75 per cent, respectively.

Table 10: Distribution of the res	pondent's knowledge acc	cording to advantages	of using cell phone: n=400

10.	What advantages do you know from using cell phone in communicating agricultural information?	Yes	%	No	%
(i)	Reduces in time and money	364	91.00	36	09.00
(ii)	Helps to easily send agricultural information anytime the need arose	339	84.75	61	15.25
(iii)	Reduces the need to travel	351	87.75	49	12.25
(iv)	Assist in obtaining agricultural information quickly	183	45.75	217	54.25
(v)	Helps to exchange information anytime the need arose				56.50
(vi)	Increase income of the people in the community	262	65.50	138	34.50
(vii)	Allow more contacts amongst farmers	196	49.00	204	51.00
(viii)	Enhance strong social cohesion	181	45.25	219	54.75
(ix)	To obtain knowledge about new technology national and international level through cell phone	166	41.50	234	58.50
(x)	Easy contact with local customers/suppliers	227	56.75	173	43.25
(xi)	Easy to get in touch with fellow farmers	213	53.25	187	46.75

It is clear from the data included there in Table 10 that every respondents had satisfied with the statement that cell phone reduces in time and money 91.00 per cent, followed by reduces the need to travel 87.75 per cent, helps to easily send agricultural information anytime the need arose 84.75 per cent, increase income of the people in the community 65.50 per cent, easy contact with local customers/suppliers 56.75 per cent, easy to get in touch with fellow farmers 53.25 per

cent, allow more contacts amongst farmers 49.00 per cent, assist in obtaining agricultural information quickly 45.75 per cent, enhance strong social cohesion 45.25 per cent, helps to exchange information anytime the need arose 43.50 per cent, and to obtain knowledge about new technology national and international level through cell phone 41.50 per cent, respectively.

S. No.	Categories	Respondents	
		F	%
1.	Low (up to 24)	110	27.50
2.	Medium (25-56)	184	46.00
3.	High (57 and above)	106	26.50
	Total	400.0	100.00

Mean=40.05, S.D. =16.08, Range-Min. =16, Max. =70

The table 11 indicates that the majority of the respondents 46.00 belonged to the categories of medium (25-56) for their overall knowledge about using cell phone, followed by 27.50 per cent, respondents belonged from the category of low (up to 24) and only 26.50 per cent respondents belonged from the

category of high (57 and above), respectively. Hence, it can be concluded that the overall knowledge level of the cell phone users about using cell phone was maximum

medium category (25-56).

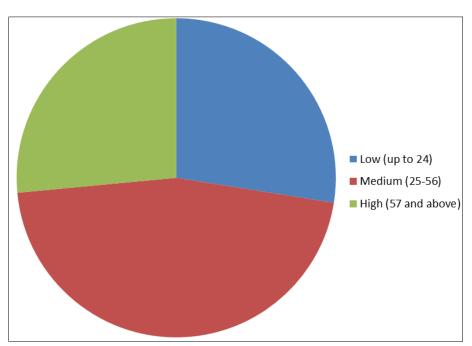


Fig 1: Extent of overall knowledge of cell phone users about using cell phone

Acknowledgement

I acknowledge to the Department of Extension Education, Acharya Narendra Deva University of Agriculture &Technology, Kumarganj, Ayodhya for providing all short of facilities required for conducting this research.

References

- Masuki KFG, Kamugisha R, Mowo JG, Tanui J, Tukahirwa J, Mogoi J *et al.* Role of mobile phones in improving communication and information delivery for agricultural development: Lessons from South Western Uganda ICT and Development-Research Voices from Africa. International Federation for Information Processing (IFIP), Technical Commission 9–Relationship between Computers and Society. Workshop at Makerere University, Uganda 2010, 22-23.
- 2. Raghuprasad KP, Devaraja SC, Gopala YM. An analysis of knowledge level of farmers on utilisation of ICT tools for farm communication. Journal of Rural Development 2013;32(3):301-310.
- 3. Verma SR, Bairwa RK, Sharma FL, Indoriya D. Impact of cell phone enabled information services in the knowledge up gradation of farmer about improved crop production techniques. Indian Journal of Extension Education and Research Development 2013;21:159-164.
- 4. Mehta BS. Impact of mobile phone on livelihood of rural people. Journal of Rural Development 2016, 35(3).
- Rajneesh Mishra S, Choudhary M. Knowledge of farmers using mobile phone based agriculture advisory services about crop management. Ind. J Ext. Educ. & R.D 2017, 25.
- Qijie G, Ali S, Shahbaz B, Shah AA. Farmers' use of mobile phone for accessing agricultural information in Pakistan. Ciencia Rural Santa Maria 2019 Epub 2019, 49(10).