

Knowledge Regarding Prevention of Novel Coronavirus (COVID-19): An Electronic Cross-Sectional Survey among Selected Rural Community

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ABSTRACT

Outbreak of novel coronavirus diseases (COVID-19) is a global health emergency, it has spread over more than 150 countries. In present situation preventive measures is main key to prevent the transmissions. An electronic cross-sectional survey was conducted to assess the knowledge and create awareness among selected rural community. Structure questionnaire was created in the Google Forms, link was generated and distributed among peoples through their email and WhatsApp to participate in the survey. A total 103 subject was enrolled through convenient sampling technique. Collected data was analyzed using descriptive statistics including frequency, percentage, mean and standard deviation. Results of the study shows that majority (95.1%) of participant had adequate information regarding the prevention of COVID-19, among that 55.3% were got the information from multimedia included television, radio, newspaper and 21.4% from the internet. Most (56.3%) of the participants had adequate knowledge, 25.2% participants had moderately adequate and in 18.5% participants had inadequate knowledge regarding prevention of COVID-19. Study concluded that in most of the participants had adequate knowledge but it is not satisfactory because adequate knowledge is very essential among each and every member of the community and have to implement it into practice.

KEYWORDS: Novel Coronavirus (COVID-19), Prevention of COVID-19, Cross-sectional Survey

1. INTRODUCTION

The 2019 novel coronavirus (COVID-19) is an infectious condition, which can be spread directly or indirectly from one person to another and causes respiratory illnesses, range from common cold to acute respiratory syndrome [1]. The first cases of this virus was found in Wuhan, China. According to the World Health Organization, COVID-19 is serious health concern and has higher risk for severe illness and spreading rapidly all over the world. Worldwide, till 3rd March, 2020, total 87,137 confirmed cases were reported [5]. Of these, 2977 (3.42%) have been fatal. Among all cases about 92% of the confirmed cases were recorded from China. Initial reports suggests that death rate ranges from 1% to 2% which varies in the study and country. The most of the death have occurred in patients over 50 years of age followed by young children. For the confirmed cases which included both laboratory and clinically diagnosed till now there is no specific antiviral treatment recommended and there were no vaccine is currently available [3].

On update of WHO on 11th march, now more than 118,000 cases in 114 countries, and 4,291 people have lost their lives, no any positive cases reported from 81 countries and 57

How to cite this paper: Rahul Ranjan | Gopi Krishna Ranjan "Knowledge Regarding Prevention of Novel Coronavirus (COVID-19): An Electronic Cross-Sectional Survey among Selected Rural Community" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-4 | Issue-3, April 2020, pp.422-426, URL: www.ijtsrd.com/papers/ijtsrd30488.pdf



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countries have reported 10 cases or less [4]. From further update COVID-19 has reached to more than 150 countries, among this China, Italy, Iran, Germany, Spain, US, France, South Korea, Switzerland and UK affected more and number of cases increasing day by day. In India total 258 cases and two death were reported, from which most of the cases was reported from Maharashtra and Kerala [7]. COVID-19 is now a pandemic and world should not have to take lightly or carelessly. If positive cases are founded, countries have to be detect, test, treat, isolate, trace, and mobilize their people in the response. This is the challenges for the many countries who are now dealing with large clusters or community transmission. [6]

Preventive strategies are mainly focusing on isolation, infection control, diagnosis and the provision of clinical care for the infected people. And droplet contact, and airborne precautions should be adopted by healthcare personnel during specimen collection and care. The WHO and other organizations have issued some general recommendations like avoid close contact with people and keep distance from infected person, wash hands frequently, avoid unprotected

contact with farm or wild animals, strict hygiene measures for the prevention and control of infections, immunocompromised should avoid public gatherings etc. [6].

In present situation preventive measures is to prevent the community from the spread of COVID-19 cases. Preparedness is the key, as we have to plan for the identification of new cases and prevention. On large scale, this is challenging role for healthcare personnel, government and non-government organizations. All countries are following the instructions of WHO, different international and national health authority, making and implementing plan for that, in India information is giving to the people through different channels like television, radio, social media, health centers, healthcare worker etc. in every community area. [5]

India is the most populated country in the after China and developing nation where in most of the area, adequate medical facilities are not available, literacy rate is also major issues among the large areas which can be linked with the acquiring knowledge regarding prevention of communicable disease and in this situation it can be the greater risk for the spreading of the COVID-19. With the support of government and different healthcare agencies we have to take step in prevention and control of COVID-19, mainly have to focus on to teach the people in mass and avail the all facilities for them to control of spreading. Therefore this study was planned to i) assess the knowledge, and ii) create awareness, regarding prevention of COVID-19 among rural community.

2. RESEARCH METHODOLOGY

Research Approach and design

Cross-sectional survey research approach using electronic distribution of a questionnaire was selected for the data collection because, have to identify it can be the one of the best method to approach on large number of community peoples for data collection as well as it suitable in present conditions where people have to avoid gathering, close contact etc. for prevention of COVID-19.

Population, Sample and sampling

This study was conducted on peoples of the selected rural community of Vaishali, Bihar, India. Convenient sampling technique was used for selection of sample with approach of online distribution and submission of questionnaire. Structure Questionnaire was prepared to find demographic data, assess knowledge of the peoples and it created in Google Forms for the survey. Google Forms link was generated and it sent to the participants on their Email and WhatsApp. Total 103 participants were participated for the survey. Participation in the study was completely voluntary and were included in the study based on Inclusion and Exclusion criteria.

Inclusion criteria includes community people who was

- residing in the selected rural community of Vaishali, Bihar.
- willing to participate in the study
- in age group between 14 year to 70 year
- able to read and understand Hindi
- have Android Mobile Phone

Exclusion criteria includes community people who was not

- available at the time of data collection
- a doctor or nurse

Tool for data collection

Investigator had developed the tool (Demographic data and Structure Knowledge Questionnaire regarding prevention of COVID-19) for data collection and validated by experts and found to be valid after some modification. Tool was divided into two section, Section-I which has eight items that are constructed to obtain demographic data of the sample i.e. Age, Gender, Educational status, marital status, family income, occupation, previous knowledge and source of knowledge respectively and in Tool-II included 10 Structure Knowledge Questionnaire which contains one marks for each question. It focused on knowledge regarding causative agent, transmission, symptoms, and preventive measures regarding prevention of COVID-19.

Scoring criteria of the tools

Adequate knowledge: $\geq 80\%$ (08 marks or above)

Moderate adequate knowledge: 60%-80% (06 marks to 07 marks)

Inadequate knowledge: $<60\%$ (less than 06 marks)

Data Collection process

Data was collected in third week of March 2020 over a period of seven days. Samples was selected based on inclusion and exclusion criteria which decided whom to include in the study. Structure questionnaire was created it in the Google Forms in Hindi language and link was generated and distributed among peoples of selected rural community for survey. Convenient sampling technique was used for selection of sample with approach of online distribution of questionnaire. Google Forms generated link was sent to the participants on their Emails and WhatsApp and talked with them to confirm eligible participants and asked to participate in the study. Total 200 peoples was approached to participate in this survey, among that 103 were participated and submitted online through Google Form survey. After the data collection investigator provided pdf file containing information regarding prevention of COVID-19 to all the participants and people which was approached. Collected data was analyzed using descriptive statistics including frequency, percentage, Mean and Standard Deviation.

3. RESULTS

Findings related to demographic characteristics of participants

Result shows that most of the subjects were in the age group of 14-28 years i.e. 47.6%. Majority (71.8%) of the participants were male. Most of the participants (36.8%) were 12th pass and 34% were graduate. In 30.1% of participant's family income was less than 10,000 and in 33% of cases family income was more than 30,000 per month. For the occupation, 37.8% were farmer. Majority of participant (95.1%) were having the adequate information and most of participants, 55.3% were got the information from multimedia included television, radio and newspaper regarding COVID 19.

Findings related to knowledge regarding prevention of COVID-19

Among 103 participants, 58 had adequate knowledge, 26 had moderately adequate and 19 had inadequate knowledge. Most (56.3%) of the participants had adequate knowledge, in 25.2% moderately adequate and in 18.5% inadequate knowledge regarding prevention of COVID-19. The mean

knowledge score was 8.01 with standard deviation of 1.78 (8.01 ±1.78) and standard error was 0.17 at confidence level

of 95% and the range was 6 where participants score was fall from 4 to 10.

Table 1 Frequency and percentage distribution of the subjects according to demographic characteristics. n=103

Demographic Variables	Frequency (f)	Percentage (%)
Age in year		
14-28	49	47.6%
29-42	22	21.3%
43-56	18	17.5%
57-70	14	13.6%
Gender		
Male	74	71.8%
Female	29	28.2%
Educational status		
No formal education	12	11.7%
10th pass	18	17.5%
12th pass	38	36.8%
Graduate or more	35	34%
Marital status		
Single	50	48.5%
Married	53	51.5%
Family income per month		
<10,000 rupees	31	30.1%
10-20,000 rupees	22	21.4%
20-30,000 rupees	16	15.5%
>30,000 rupees	34	33%
Occupation		
Student	24	23.4%
Farmer	39	37.8%
Healthcare worker	05	04.8%
Other	34	33%
Do you have adequate information/knowledge regarding COVID 19?		
Yes	98	95.1%
No	05	4.9%
Source of information		
Family/friends	15	14.6%
Multimedia (Radio, television, newspaper)	57	55.3%
Health organizations and professionals	09	08.7%
Internet	22	21.4%

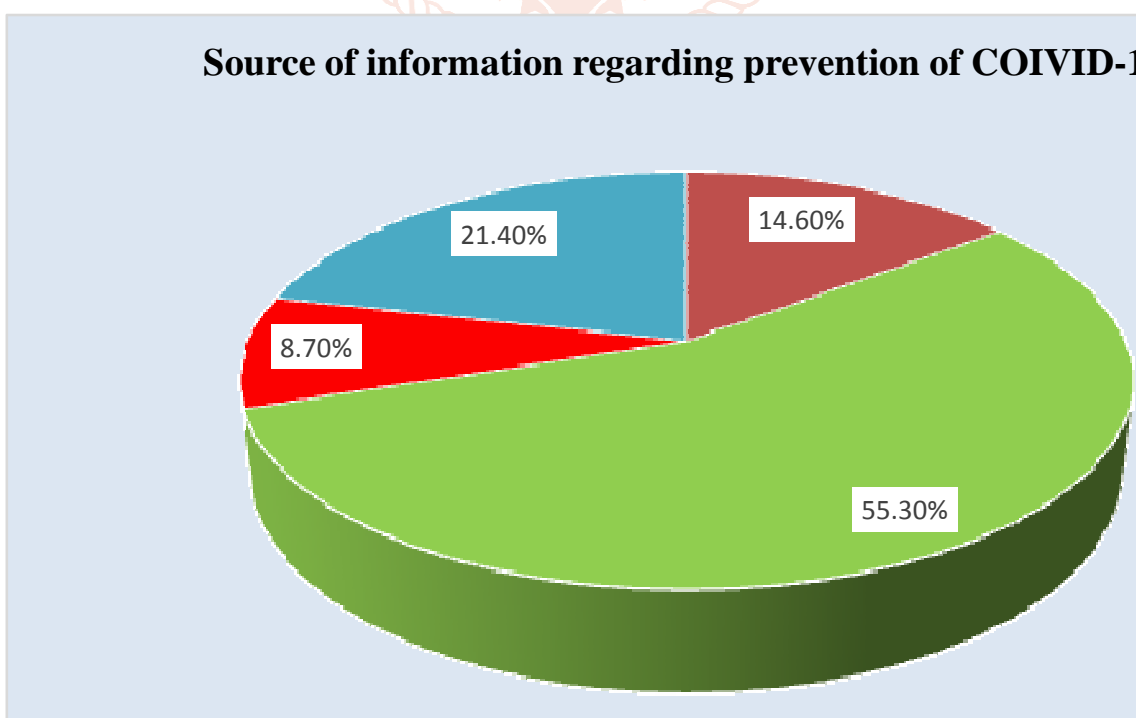


Figure 1. Pie diagram showing percentage distribution of the participants according to source of information regarding prevention of COVID-19.

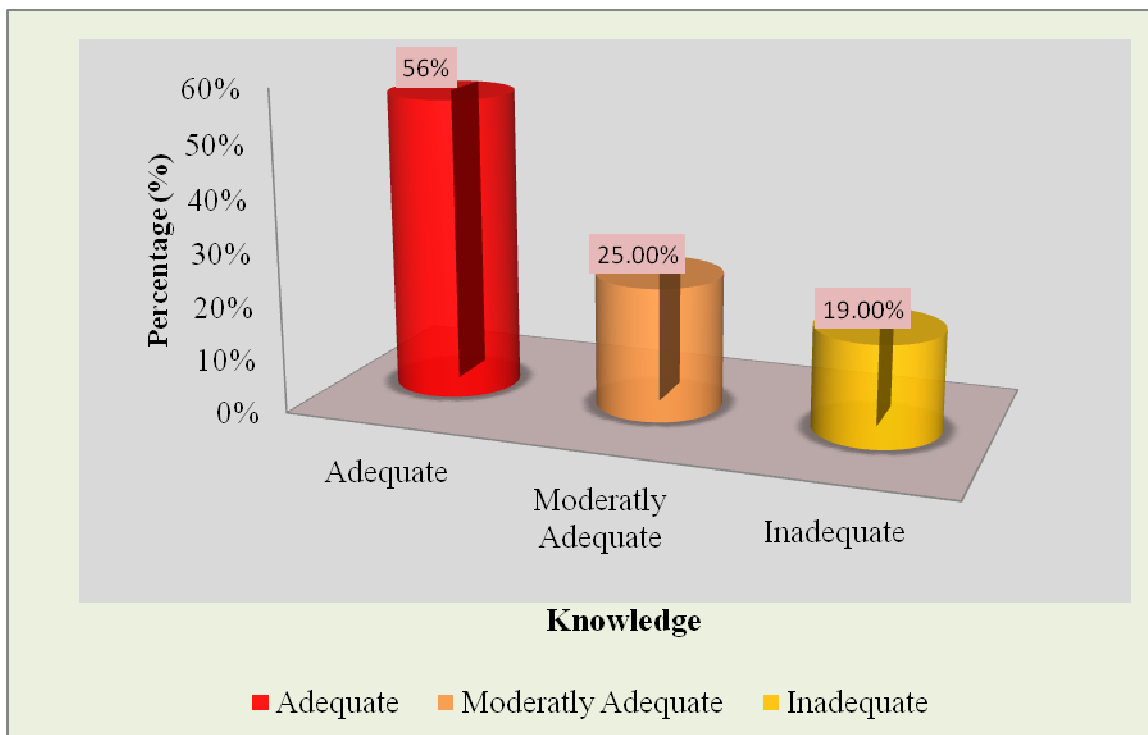


Figure 2. Cylinder diagram showing percentage distribution of participants according to knowledge regarding prevention of COVID-19.

Table 2 Frequency and percentage distribution of the subjects according to correct response given to the structure questionnaire. n=103

Structure questionnaire	Correct response	
	Frequency (f)	Percentage (%)
What is Novel Coronavirus (COVID-19)?	86	84.3%
What are transmission routes of COVID-19	64	62.1%
How the coronavirus can be spread?	75	73.5%
What are the signs and symptoms of coronavirus?	88	85.4%
Corona virus can be prevented by	81	78.6%
Wash your hands with soap or sanitizer for at least	79	76.7%
To stop spread corona virus you should	83	80.6%
How can you stop the chance of spreading corona virus?	85	83.3%
What you will do when suspected that you have symptoms of coronavirus?	95	93.1%
Important key to prevent from spreading of COVID-19 is?	89	85.6%

4. DISCUSSION

The present study shows that majority (95.1%) of participant had adequate information regarding the prevention of COVID-19. Among that, 55.3% were got the information from multimedia included television, radio, newspaper and 21.4% from the internet followed by 14.6% from their family or friend in the rural community. It is giving picture about the peoples are regularly watching television, surfing internet, it is beneficial for acquiring knowledge and stay updated regarding preventions of diseases.

Most (56.3%) of the participants had adequate knowledge, 25.2% participants had moderately adequate and in 18.5% participants had inadequate knowledge regarding prevention of COVID-19. And the mean knowledge score was 8.01 with standard deviation of 1.78. In another cross-sectional study conducted by Almutairi, et. al. (2015) among public of Saudi to assess awareness, attitudes, and practices related to coronavirus and they found that the participants showed high levels of concern and had utilized precautionary measures and knowledge was the significant^[8].

Finding from this study is limited to this particular community and adequate knowledge is required for everyone and have to implement their knowledge in practice, then after our mission will successful which have to prevent the spreading and transmission of this disease completely from the community, country and globally. This study is limited to particular rural community, the knowledge and practices can be vary in different community areas. This is the global response for each and every one for the prevention.

5. Conclusion

This study identified that there were in most of the participants had adequate knowledge regarding prevention of COVID-19. But this much knowledge of the community is not sufficient to prevent spread completely because everyone in the community should have adequate knowledge and implement it. The great effort is doing by government and health authorities in the country to educate the people in their each and every stages through different channels of communications and everyone have to cooperate and give their best in prevention and control.

6. Recommendations

Future educational interventions is recommended on large samples to raise public awareness of this diseases and should be focus on community area where lacking of information and facilities. Educational massages should be more simplified, understandable in their regional languages. Frequent communication is recommended between health care providers and the public to help dispel myths and belief about the disease and to empower the public with the information.

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