A Study to Assess the Knowledge, Attitude and Practice Regarding Prevention of Novel Coronavirus (COVID-19): An Electronic Cross-Sectional Survey among Selected Rural Community

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ABSTRACT

Objective: To assess the knowledge, attitude and practice toward coronavirus disease (COVID-19) Background: The World Health Organization declared COVID-19 as a pandemic on the 11th of March 2020 and declared as a global health emergency. Since then, many efforts are being carried out to control the rapid spread of the ongoing COVID-19 epidemic in India. The control measures COVID-19 is affected by their knowledge, attitudes, and practices (KAP) towards COVID-19. Knowledge attitude and practice of people should be directed towards strict preventive practices in order to prevents the spread of the virus. Materials and Methods: The aim of the current electronic cross-sectional study is to assess the knowledge, attitude and practice among selected rural community. Structured questionnaire was created in the google forms, the link was generated and distributed among the people though email and other media to participate in the survey. A total 153 subject was enrolled through convenient sampling technique. Collected data was analysed using descriptive statistics including frequency, percentage, mean and standard deviation. Results: Majority of participant (91.50%) were having the adequate information regarding the covid-19 and most of participants, 52.28% were got the information from multimedia included television, radio and newspaper regarding COVID 19. About 52.28% participants were the aware about the online training program by the government .Among 153 participants, 115 had adequate knowledge, 23 had moderately adequate and 15 had inadequate knowledge. Most (75.16%) of the participants had adequate knowledge, in 15.03 % moderately adequate and in 9.80% % inadequate knowledge found regarding prevention of COVID-19. The mean knowledge score was 15.54 with standard deviation of 2.93. Most of the 102 (66.66%) had most favourable attitude, 31(20.26) had favourable and 20(13.07%) had unfavourable attitude . The mean attitude score was 34.76 with standard deviation of 2.86.Majority of the participants, 129 had good practice, 20 had average practice and 4 had bad practice . Most (84.31%) of the participants had good practice, in 13.07 % average practice and in 2.61 % bad practice found regarding prevention of COVID-19. The mean practice score was 25.2 with standard deviation of 2.56.

KEYWORDS: *COVID19, knowledge, attitude, practice, Electronic rural community, survey*

1. INTRODUCTION

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness. The best way to prevent and slow down transmission is be well informed about the COVID-19 virus, the disease it causes and how it spreads. Protect yourself and others from infection by washing your hands or using an alcohol based rub frequently and not touching your face. The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes, so it's important that you also practice respiratory etiquette (for example, by coughing into a flexed elbow).[1] 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 8th April , 2020, total 14,46,242 , 308146 recovered and 83,424 deaths reported. [2]. 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] 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. As of 8 April 2020 (8:00 AM),

according to the Ministry of Health & Family Welfare (MoHFW), a total of 5194 COVID-19 cases, (including 70 foreign nationals) have been reported in 31 states/union territories. These include 401 who have been cured/discharged, 1 who has migrated and 149 deaths. Hospital isolation of all confirmed cases, tracing and home quarantine of the contacts is ongoing.. 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.[4]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, immune compromised should avoid public gatherings etc. [5] 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 centres, healthcare worker etc. in every community area. [6]

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 bokaro , Jharkhand 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, attitude and practice among 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 153 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 bokaro, Jharkhand.
➤ Willing to participate in the study
➤ Able to read and understand English
➤ Have Android Mobile Phone

➤ Able to assess the online questionnaire

Exclusion criteria includes community people who was not
➤ Available at the time of data collection
➤ Any paramedics
➤ Not able to use android mobile
➤ Not able to read and write English

Tool for data collection
Investigator had developed the tool (Demographic data and Structure Knowledge Questionnaire , structured rating scale for the attitude and practice checklist 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, marital status, educational qualification, previous knowledge and source of knowledge respectively and in Tool-II included 10 Structure Knowledge Questionnaire which contains one marks for each question. 10 Structed rating scale to assess the attitude and 10 structured practice checklist to assess the practice.

Scoring criteria of the tools
A. **For knowledge**
➤ There are 10 question carry 1 marks each:-
➤ Adequate knowledge: ≥ 80% (08 marks or above)
➤ Moderate adequate knowledge: 60%-80% (06 marks to 07 marks)
➤ Inadequate knowledge: <60% (less than 06 marks)

B. **For attitude**
There are 10 statements lowest 0 and highest 30 score
➤ Unfavourable 0-10
➤ Favourable 11-20
➤ Most favourable 21-30.

C. **For practice**
➤ Good practice : ≥ 80% (08 marks or above)
➤ Average practice: 60%-80% (06 marks to 07 marks)
➤ Bad practice: <60% (less than 06 marks)

Data Collection procedure
Data was collected in 1st week of April 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 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 250 peoples was approached to participate in this survey, among that 153 were participated and submitted online through Google Form survey. Collected data was analysed using descriptive statistics including frequency, percentage, Mean and Standard Deviation.

3. RESULTS

### A. Findings related to demographic characteristics of participants

Result shows that most of the subjects were in the age group of 21-30 years i.e. 50.98%. Majority (83.66%) of the participants were male. Most of the participants (36.67%) were graduation pass and 24.83% were 12th pass .In this participant were single (71.24%). Majority of participant (91.50%) were having the adequate information regarding the covid-19 and most of participants, 52.28% were got the information from multimedia included television, radio and newspaper regarding COVID 19. About 52.28% participants were the aware about the online training program by the government.

Table 1:- Frequency and percentage distribution of the subjects according to demographic characteristics.

N=153

SL. no	Sample characteristics	Sample Responses	
		No. of sample(f)	Percentage %
1.	**Age in year**		
	< 20	24	15.68%
	21-30	78	50.98%
	31-40	39	25.49%
	>40	12	7.84%
2.	**Gender**		
	Male	128	83.66%
	Female	25	16.33%
3.	**Educational qualification**		
	12th pass	38	24.83%
	Diploma	35	22.87%
	Graduation	50	32.67%
	Post-Graduation	30	19.60%
4.	**Marital status**		
	Single	109	71.24%
	Married	42	27.45%
	Divorced/Separated	2	1.3%
5.	**Do you have adequate information / knowledge regarding COVID 19?**		
	Yes	140	91.50 %
	No	13	8.49 %
6.	**If yes, what is the source of information regarding COVID-19 ?**		
	Multimedia (Radio, television, newspaper)	80	52.28%
	Internet	40	26.14%
	Health organizations and professionals (hospital, dispensary)	6	3.92%
	Family members	14	9.15%
7.	**Are you aware about the online training program of thecovid-19?**		
	Yes	80	52.28%
	No	73	47.71%

Figure1. Pie diagram showing percentage distribution of the participants having adequate information regarding prevention of COVID-19
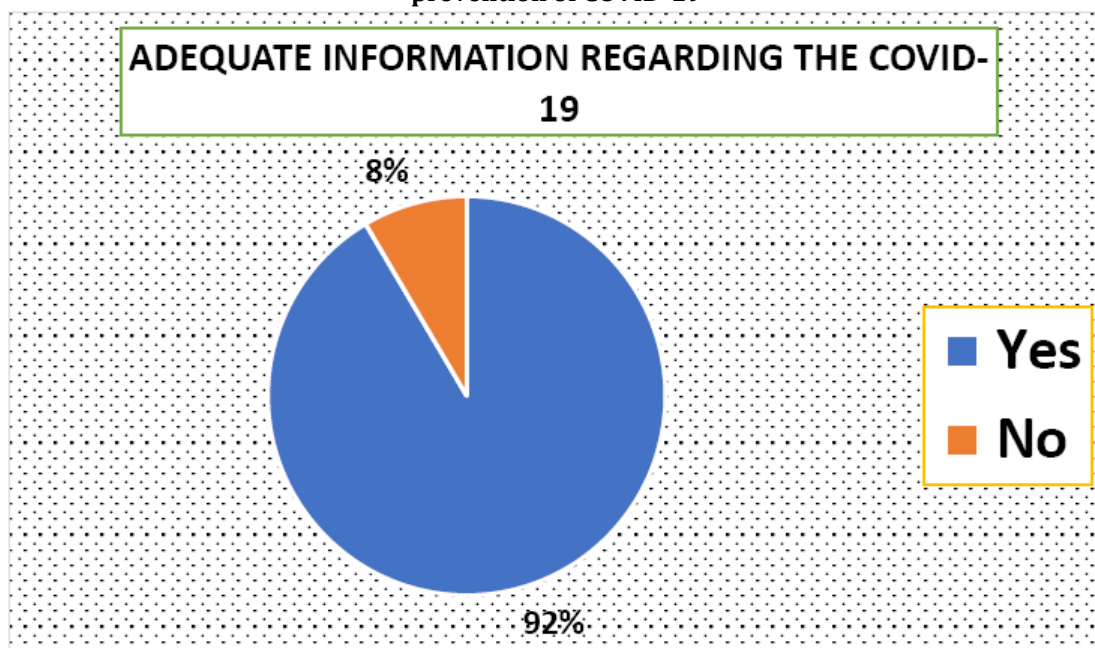
Figure 2 . Pie diagram showing percentage distribution of the participants according to source of information regarding prevention of COVID-19
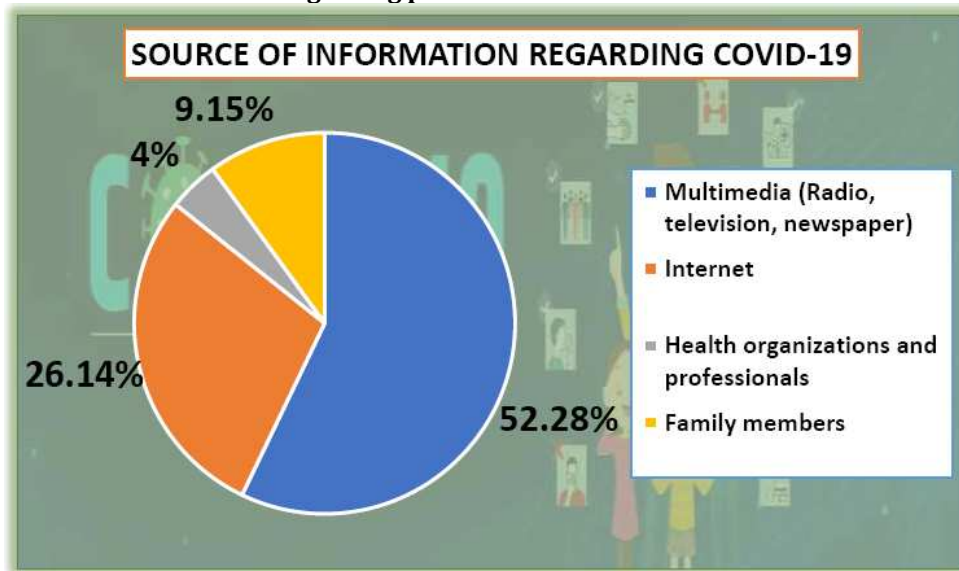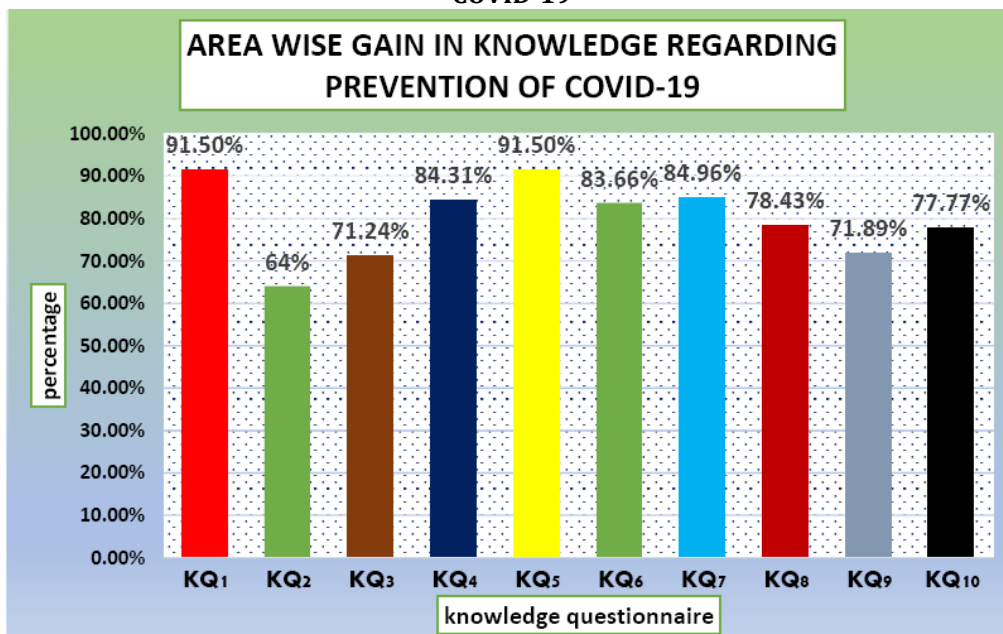

B. Findings related to knowledge regarding prevention of COVID-19

Among 153 participants, 115 had adequate knowledge, 23 had moderately adequate and 15 had inadequate knowledge. Most (75.16%) of the participants had adequate knowledge, in 15.03 % moderately adequate and in 9.80% % inadequate knowledge found regarding prevention of COVID-19. The mean knowledge score was 15.54 with standard deviation of 2.93.

Table 2:- Frequency and percentage distribution of the subjects according to correct response given to the structure questionnaire.

N=153

Structured knowledge questionnaire	Correct responses	
	Frequency (f)	Percentage(p)
What is novel coronavirus ?	140	91.50%
What is the mode of transmission ?	99	64%
Coronavirus affect which system, of our body?	109	71.24%
What are the sign and symptom of coronavirus?	129	84.31%
Washing hand with soap and sanitizer for at least	140	91.50%
Coronavirus can be prevented by	128	83.66%
When we have to contact health care provider	130	84.96%
Spreading of coronavirus is prevented by	120	78.43%
Home quarantine is for how manydays	110	71.89%
Is vitamin c help to boast our immune system	119	77.77%

Figure 3:- Bar diagram showing the area wise gain in knowledge score of the respondent on the prevention of COVID-19
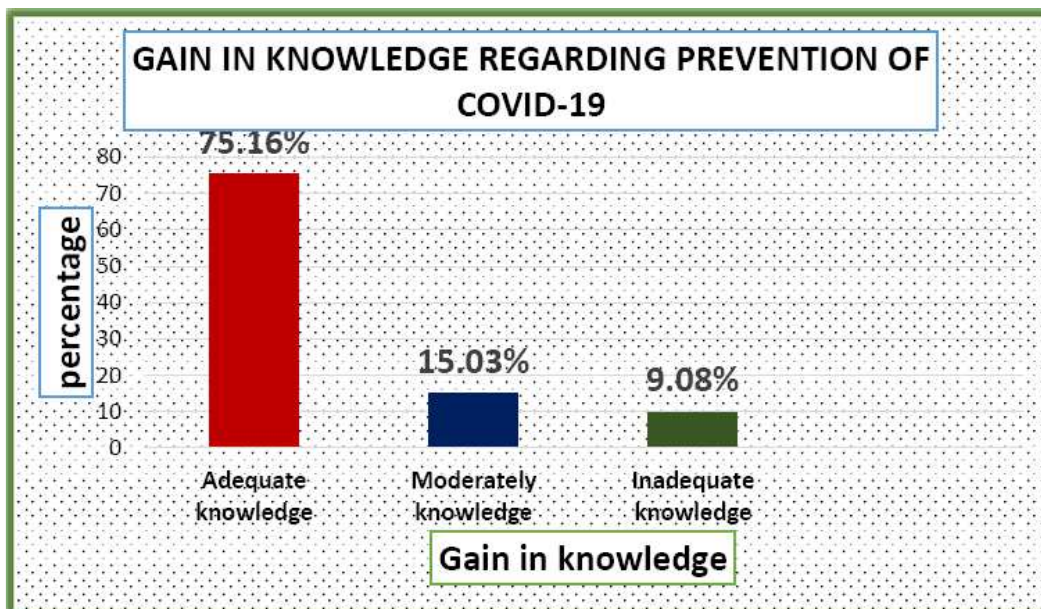
Figure 4:- Bar diagram showing percentage distribution of participants according to knowledge score regarding prevention of COVID-19.

C. Findings related to attitude regarding prevention of COVID-19
Among 153 participants, 102 (66.66%) had most favourable attitude , 31(20.26) had favourable and 20(13.07%) had unfavourable attitude . The mean attitude score was 34.76 with standard deviation of 2.86.

Frequency and percentage distribution of the subjects according to correct response given to the structured attitude scale

N=153

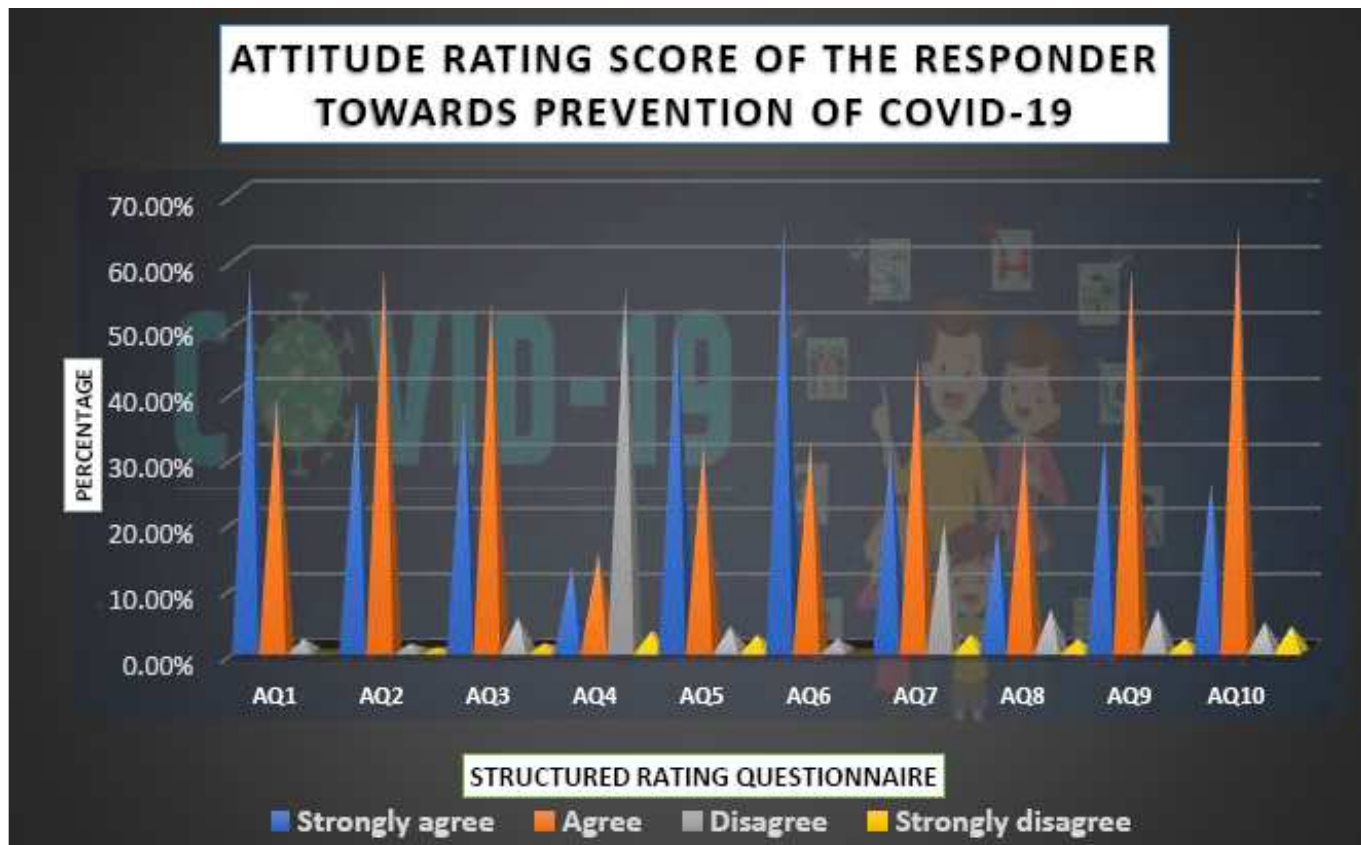| Attitude	Responses							
	Strongly agree		Agree		Disagree		Strongly disagree	
	(f)	(p)	(f)	(p)	(f)	(p)	(f)	(p)
1. Hand washing with soap and water help in prevention of infection	90	58.82%	60	39.21%	3	1.96%	0	0%
2. Face mask(n95) can prevent the transmission of the virus	60	39.21%	90	58.82%	2	1.30%	1	0.65%
3. Smoking will prevent infection	60	39.21%	83	54.24%	8	5.22%	2	1.30%
4. Drinking Alcohol help to prevent from the infection	20	13.07%	23	15.03%	85	55.55%	5	3.26%
5. I should not hide my symptom of covid-19	80	52.28%	49	32.02%	6	3.9%	4	2.6%
6. If getting any symptom of covid19 I will go to hospital as advised	100	65.35%	50	32.67%	3	1.96%	0	0%
7. Can lock-down help to prevent the spreading of covid-19	50	32.67%	69	45.09%	30	19.60%	4	2.6
8. I can get virus form infected patient despite my good immunity	29	18.95%	50	32.67%	35	22.87%	39	25.49%
9. Have you bought face masks	50	32.67%	90	58.82%	10	6.5%	3	1.96%
10. Drinking water (10-12 glass) a day is good for health	40	26.14%	100	65.35%	7	4.5%	6	3.9%

Figure 5:-Conical diagram showing the attitude rating score of the respondent on the prevention of COVID-19
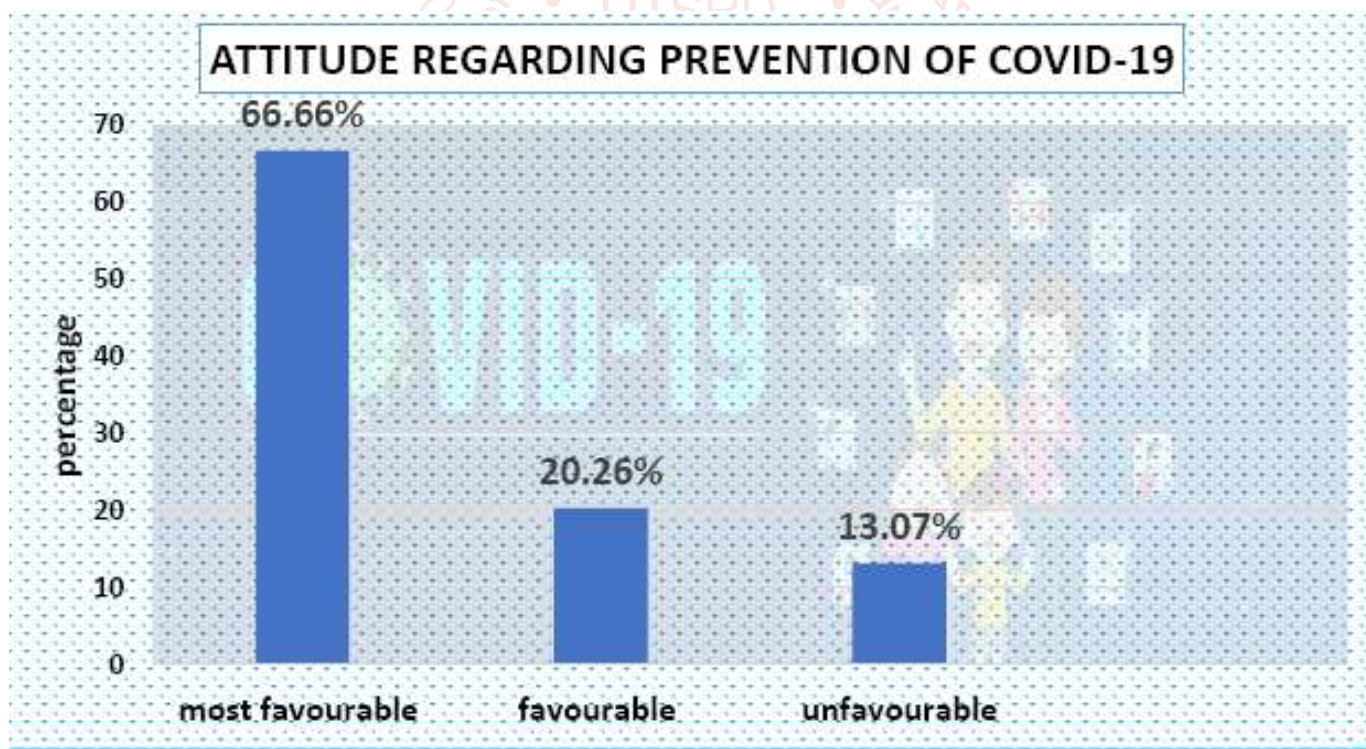

Figure 6:- Bar diagram showing percentage distribution of participants according to attitude scores regarding prevention of COVID-19.

D. Findings related to practice regarding prevention of COVID-19

Among 153 participants, 129 had good practice , 20 had average practice and 4 had bad practice . Most (84.31%) of the participants had good practice, in 13.07 % average practice and in 2.61 % bad practice found regarding prevention of COVID-19. The mean practice score was 25.2 with standard deviation of 2.56.

Frequency and percentage distribution of the subjects according to correct response given to the structure practice checklist

N=153

| Practice	Correct responses	
	Frequency (f)	Percentage(p)
1. I wash my hands with water and soap regularly	139	90.84%
2. I avoid hand shaking	120	78.43%
3. I avoid going to crowded area	130	84.96%
4. I cough and sneeze in a tissue and throw it in waste bin	100	65.35%
5. I wear a face mask	140	91.50%
6. I follow the protocol of social distancing	138	90.19%
7. I drink 6-12 glass of water daily	109	71.24%
8. I can update my-self about the covid-19	89	58.16%
9. I can-not touch my face with my hands	90	58.82%
10. I can use the alcohol based sanitizer(70%) to clean the most touchable item in the home (e.g.- tv remote)	89	58.16%
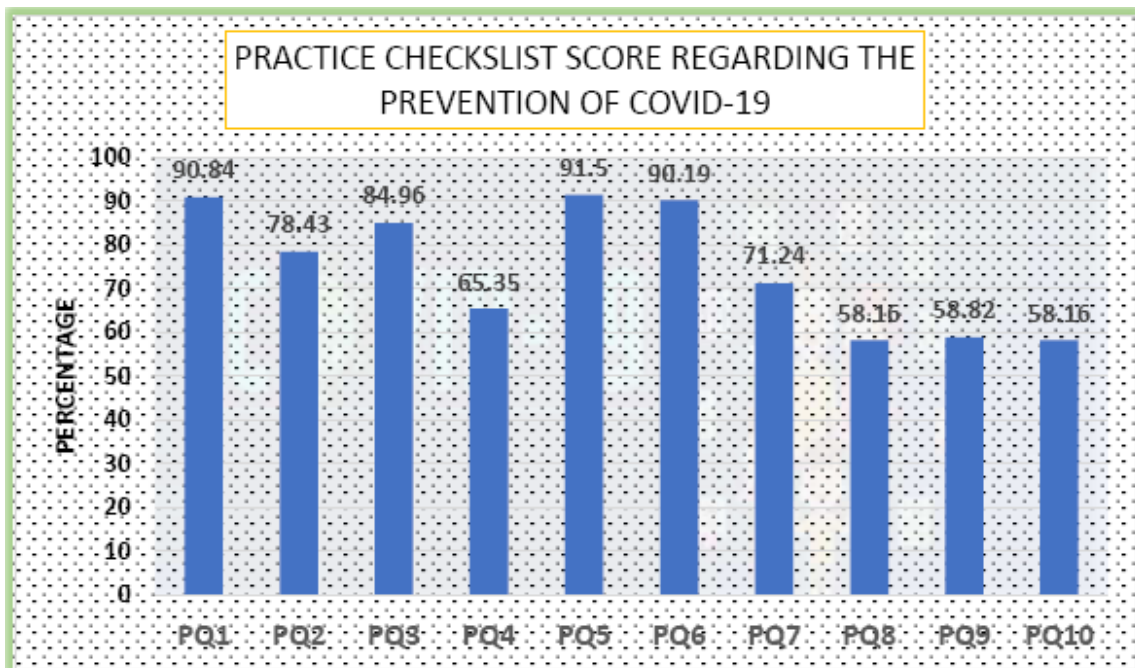
Figure 7:- Bar diagram showing the practice checklist score of the respondent on the prevention of COVID-19
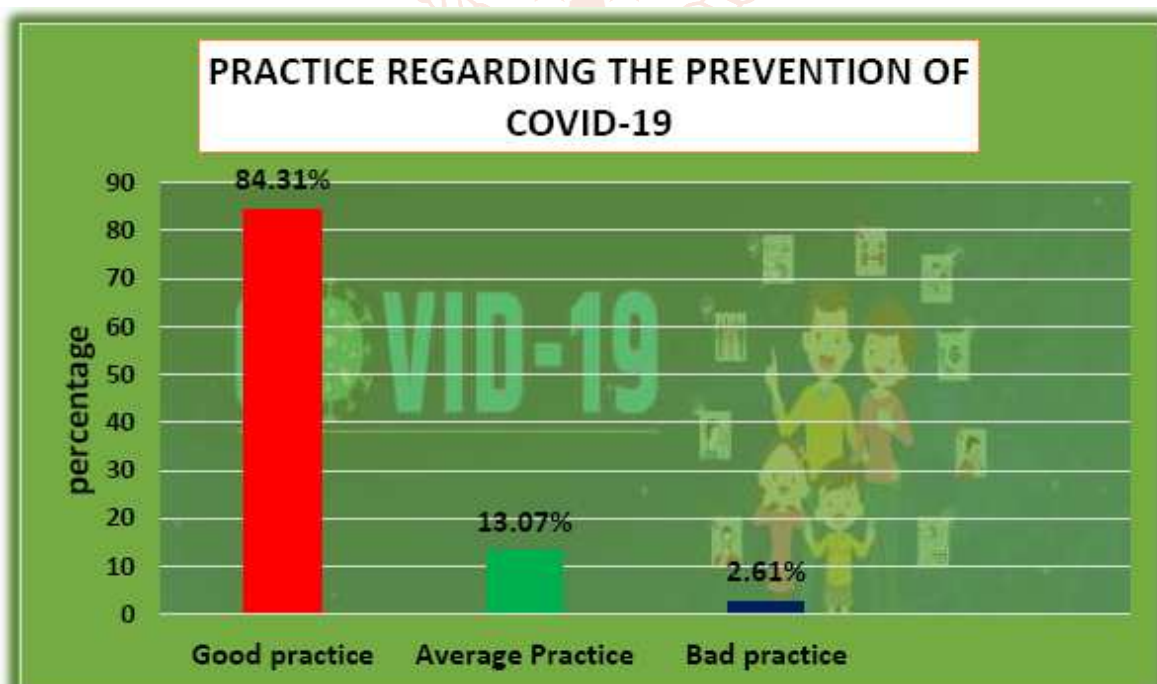

Figure 8:- Bar diagram showing percentage distribution of participants according to practice scores regarding prevention of COVID-19.

4. DISCUSSION

The present study shows that majority that most of the subjects were in the age group of 21-30 years i.e. 50.98%. Majority (83.66%) of the participants were male. Most of the participants (36.67%) were graduation pass and 24.83% were 12th pass .In this participant were single (71.24%). Majority of participant (91.50%) were having the adequate information regarding the covid-19 and most of participants, 52.28% were got the information from multimedia included television, radio and newspaper regarding COVID 19. About 52.28% participants were the aware about the online training program by the government. Among 153 participants, 115 had adequate knowledge, 23 had moderately adequate and 15 had inadequate knowledge. Most (75.16%) of the participants had adequate knowledge, in 15.03 % moderately adequate and in 9.80% % inadequate knowledge found regarding prevention of COVID-19. The mean knowledge score was 15.54 with standard deviation of 2.93. Most of the 102 (66.66%) had most favourable attitude, 31(20.26) had favourable and 20(13.07%) had unfavourable attitude. The mean attitude score was 34.76 with standard deviation of 2.86.Majority of the participants, 129 had good practice , 20 had average practice and 4 had bad practice . Most (84.31%) of the participants had good practice, in 13.07 % average practice and in 2.61 % bad practice found regarding prevention of COVID-19. The mean practice score was 25.2 with standard deviation of 2.56.

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[7]. 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

The research findings suggest that most of the participants had adequate knowledge ,most favourable attitude and good practice regarding prevention of COVID-19. But this much knowledge of the community is not sufficient to prevent spread of the COVID-19 completely because everyone in the community should have adequate knowledge so that early diagnosis and prompt treatment can be made possible. The community people has good practice but all the people should be aware to prevent the spreads of virus and attitude of the people has to change towards the reporting of the disease and the virus. so that the spread can be prevented. The government and health authorities in the country doing great effort to educate the people weather he is residing in rural or urban the information booklet and online training is going on to educate the people and now it's the responsibility of us to take the disease as seriously follow the guidelines by the government.

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