Original Research Article

Change in Covid19 Related Perception and Practices Amid Inhabitants Of Kerala, Post Primary Level Intervention: A Field Trial done after the peak of second wave

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Abstract

Introduction: Since many cases of the novel coronavirus disease 2019 (COVID-19) first appeared in Wuhan, China, in December 2019. The virus has infected millions worldwide. On January 30, 2020, the World Health Organization (WHO) declared that the outbreak of COVD-19 constituted a Public Health Emergency of International Concern (PHEIC), calling for countries to take urgent and aggressive action against the spread of the virus. **Methodology**: This is a Field trial at all the 14 districts in the state of Kerala From May 2021 – Sept2021. Data Collection Period: Data collection began after getting approval from Institutional Ethical committee and after obtaining permanent registration number from Clinical Trial Registry of India. **Results**: Socio-demographic Profile of the study participants: The mean age of the study participants was 43.74 ± 15.502 years. It was found that 68% of the respondents were from South Kerala and there was almost equal participation from Central and North Kerala. More than half of the study participants were males (60%). Almost half of the study population were Hindus (47.1%). Perception and Practices regarding Covid 19, pre and post intervention: On doing the assessment of knowledge, during pre test, 59% participants were found to have adequate Knowledge (score> 80%) which increased to 62% post intervention. Similarly 56% had an agreeing attitude and 55% had accurate covid19 guideline related practices in the pre test which increased to 57% and 63% respectively. **Conclusion**: This Study shows that more than half of the study participants had adequate knowledge, agreeing attitude and good practice but it is a point of concern that the other half had low perception and practice. This reflects the fact that, in place of online intervention, full blown primary health intervention strategies focussing on reducing the gap between perception and practices of Covid19 will make a great difference in this period of time were the government is relaxing the restrictions that were enforced due to the pandemic.

Keywords: Covid19, Post Primary Level Intervention, Field Trial.

Introduction

Since many cases of the novel coronavirus disease 2019 (COVID-19) first appeared in Wuhan, China, in December 2019[1,2]. The virus has infected millions worldwide. On January 30, 2020, the World Health Organization (WHO) declared that the outbreak of COVD-19 constituted a Public Health Emergency of International Concern (PHEIC), calling for countries to take urgent and aggressive action against the spread of the virus[3].Responding to the pandemic has become a serious challenge, as complete knowledge about the epidemiological evidence of the disease, including its transmission dynamics, epidemic doubling time, and reproductive frequency[4].

Our world was not prepared to face such a crisis. However, knowledge and awareness regarding symptoms and mode of transmission of the disease and preventive measures, including basic hygiene principles and measures adopted in the public health crisis, have proven effective in preventing the epidemic's spread in a broader scale.

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Amidst the pandemic, educating, engaging, and mobilizing the public to become active participants may help achieve public health emergency preparedness, reducing the overall population's vulnerability[5]. When people collectively engage in preventive behaviours, including practicing personal hygiene, maintaining social distance and taking vaccination against Covid19, it is possible to control the spread of the disease. According to recent studies, individual behaviours may dramatically decrease morbidity and mortality rates of COVID-19 [7, 8]. Therefore, a routine practice of precautionary behaviours among the public must become the new status quo.

Background

Coronavirus disease (COVID-19) is an infectious disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). On 11th March, the WHO announced this disease as a global pandemic [1]. As of 9th January, 2021, there have been more than 87.3 million confirmed cases of COVID-19 with more than 1.89 million deaths globally. [9].In a study done in India, accuracy for knowledge was around 75% and less than 50% respondents had 80% knowledge score, thus reflecting inadequate information about COVID‑19[10]. In a study from Kerala the participants scored 81.6%, 91.3%, and 84.7% correct rate of knowledge about, attitude towards, and practice for the COVID-19 pandemic[11].

Rationale

Better perception and practices of preventive measures against Covid19 plays a major role in containing the Pandemic. Despite of the measures taken by the Government and the public, Kerala is witnessing a spike of cases in the second wave which implies the significant gap between knowledge and practise. Assessing the current status of perception and practices and providing adequate health education could help in narrowing this gap.

Research question

What is the perception and practices regarding Covid19 post Second wave amid inhabitants of Kerala?

Objectives

Primary objective

1. To assess the perception and practices regarding Covid 19 post Second wave amid inhabitants of Kerala
2. To determine the impact of primary level intervention on perception and practices regarding Covid19 among adults in Kerala.

Methodology

Study design

Field trial

Study setting

All the 14 districts in the state of Kerala.

Study period

From May 2021 – September 2021

Data Collection Period

Data collection began after getting approval from Institutional Ethical committee and after obtaining permanent registration number from Clinical Trial Registry of India

Study subjects

Adults residing in the state of Kerala.

Inclusion criteria

1. Those above 18 years
2. Those who are residing in the state of Kerala for the past 2 years and more
3. Those who give informed consent

Exclusion criteria

1. Those who do not have internet access
2. Those who are not able to read and understand English
3. Not submitting the response sheet, pre and post intervention within the proposed time and those who are not attending the intervention session

Sample size

The sample size was obtained by using the formula $4pq/d^2$. According to a previous study done by Lakshmi Venkata Simhachalam Kutikuppala et.al[12] in general population of India in which the prevalence of knowledge among the general population was 81%, the prevalence p was taken to be 81%, q = 100-p = 19%, with 6% of absolute precision the sample size was estimated to be 171.

Adding 10% non response rate, the sample size was estimated to be 189.

Sampling technique

Snowball sampling technique

Due to the Covid19 related travel restrictions existing in the State, social media was used to conduct the survey online across various districts of Kerala. The snowball sampling technique was used to pool the initial eligible respondents who could potentially recruit more respondents from their acquaintances.

Study variables

(1) Sociodemographic variables of the study participants

(2) Variables to assess the perception and practices of Covid19 preventive measures.

Operational definitions

Perception

It is the sensory experience of the world. It involves both recognizing environmental stimuli and actions in response to these stimuli. It is influenced by cognition and attitude.

Practices

The actual application or use of an idea, belief, or method, as opposed to theories relating to it.

Primary level intervention

Intervention is defined as any attempt to intervene or interrupt the usual sequence in the development of disease in man. Primary level intervention includes health promotion and specific protection.

Health education

Health education is one of the methods of primary level intervention coming under health promotion. According to WHO Health education is any combination of learning experiences designed to help individuals and communities improve their health, by increasing their knowledge or influencing their attitudes

Ethical consideration

The study was conducted only after obtaining the approval of the Institutional Ethics Committee. An informed consent was annexed to the Google form for the respondents. Registration of this interventional trial under Clinical Trial Registry of India was done and Permanent Registration number was obtained

Data collection methodology

Tools

Structured questionnaire containing 2 parts

a) First part contains questions related to socio-demographic information
b) Second part contains questions related to perception and practices of Covid19 preventive measures.

There were 9 items to assess Cognition, 5 items to assess attitude and 5 items to assess practices of the study population for each item, 1 mark was allotted for the correct response. The lowest score that could be obtained is 0 and highest is 21. A cut of 80% and above in each category was considered as satisfactory. Improvement of scores from the base score in each category, post intervention was considered as effective.

Procedure of the study

By using Google forms, an online structured questionnaire with annexed informed consent form and patient information sheet was developed. Only the participants who agree to have read and understood the patient information sheet and giving informed consent were directed to the questionnaire. The survey link was generated and was sent through online platforms like WhatsApp, Emails and Facebook to the contacts of the investigators. The respondents were motivated to refer links to their contacts for participation. The participants were auto directed to the survey on clicking the link.

The participation was voluntary in nature and no incentives were rewarded. The participants were given a time period of 10 days to respond to both pre and post intervention surveys and a reminder was sent on the 9th day through online platforms. Total of 170 responses were obtained. After collecting the pre-test response, an online intervention session in the form of health education was conducted by the principal investigator. Two more sessions were arranged for those who were unable to attend the first session. Based on their convenience. At the end of each session time was allotted for an interactive session, where the participants cleared their doubts. 30 days after the intervention session, the link for post test was shared

Data entry and analysis

Data were entered in the MS Excel sheet Individual data were analysed using SPSS trial version, quantitative data were expressed using mean and standard deviation. Qualitative data were expressed using frequency and proportions/percentages. Appropriate tests of significance was used and 95% Confidence Interval or p value less than 0.05 were considered as statistically significant.

Results

Socio-demographic Profile of the study participants

The mean age of the study participants was 43.74 ± 15.502 years. It was found that 68% of the respondents were from South Kerala and there was almost equal participation from Central and North Kerala. More than half of the study participants were males (60%). Almost half of the study population were Hindus (47.1%). (Table1)

Table1: Distribution of Study participants based on Sociodemographic factors(N= 170)

Socio Demographic Characteristics		Number (%)
Age (years)	18 to 35	75 (44.1%)
	36 to 51	30 (17.6%)
	>51	65 (38.2%)
Gender	Male	102 (60%)
	Female	68 (40%)
Religion	Hindu	80 (47.1%)
	Christian	47 (27.6%)
	Muslim	43 (25.3%)
Education	Primary	11 (6.5%)
	Middle school	27 (15.9%)
	High school	42 (24.7%)
	Post high school	41 (24.1%)
	Graduate	45 (26.5%)
	Post graduate	4 (2.4%)
Occupation	Unemployed	4 (2.4%)
	Unskilled worker	14 (8.2%)
	Semiskilled worker	20 (11.8%)
	Skilled worker	39 (22.9%)
	Clerk, shop, farmer	52 (30.6%)
	Semi-professional	37 (21.8%)
	Professional	4 (2.4%)

Perception and Practices regarding Covid19, pre and post intervention

On doing the assessment of knowledge, during pre test, 59% participants were found to have adequate Knowledge (score> 80%) which increased to 62% post intervention. Similarly 56% had an agreeing attitude and 55% had accurate covid19 guideline related practices in the pre test which increased to 57% and 63% respectively. Before intervention, Sociodemographic factors including religion (Chi square value= 17.77), education (Chi square value= 23.369) and occupation Chi square value= 47.35) were found to be significantly associated (p value< 0.01) with the level of knowledge while attitude was associated with education (Chi square value= 20.40) and occupation (Chi square value= 49.46) and practice with age.(Chi square value= 17.843), gender (Chi square value= 5.43) education (Chi square value= 11.58) and occupation Chi square value= 45.56)

Post intervention, among the sociodemographic factors, religion (Chi square value= 18.53), education (Chi square value= 24.006) and occupation Chi square value= 19.572) were found to be significantly associated (p value< 0.01) with the level of knowledge while attitude was associated with education (Chi square value= 7.747) and occupation (Chi square value= 10.392) and practice education (Chi square value= 27.259) and occupation (Chi square value= 31.11)

Comparison between pre and post test scores were done and it was found that the difference of mean between pre and post test scores for all the 3 domains were statistically significant (p value< 0.01) (Table2)

Table2: Comparison between pre and post test scores of the study participants

Domain	Pretest mean+/-SD	Posttest mean+/-SD	t value	p value
Knowledge	5.0118 ± 2.017	7.705 ± 1.233	20.219	0.000***
Attitude	2.588 ± 1.174	3.576 ± 1.036	14.260	0.000***
Practice	1.623 ± 1.161	2.794 ± 1.054	17.399	0.000***

An increase in the proportion of post intervention scores was observed in all the 3 domains,

Comparison of socio-demographic characteristics with post test scores of knowledge, attitude and practice were done. For comparison, Unpaired t test was used for gender and ANOVA was used for age, religion, education and occupation. (table3)

Table3: Comparison of socio-demographic characteristics with post test domain scores (only the t and f values of statistically significant (p<0.01) results are shown in the table)

Sociodemographic factors	Domain	F value
age	knowledge	5.48
gender	attitude	4.49*(t value)
religion	Knowledge	6.49
	attitude	8.75
Education	Knowledge	3.79
	Attitude	2.90
	practice	10.32
occupation	Knowledge	7.314
	Attitude	5.705
	practice	15.17

It was found that the difference between the mean value of post test knowledge score for different categories of age religion education and occupation were found to be statistically significant. Post test practice score for different categories of education and occupation were found to be statistically significant

Discussion

This study was undertaken during the second wave when the covid relaxation measures resulted in the surge of Covid19 related casualities and death in Kerala. It threw a light on the fact that other than the emergence of variant strains of Covid 19, the gap between Perception and practices related to Covid19 has played an important role in the raising the case load. The present online study include participants in the age group of 19 to 70 years with a mean age of 43.74 ± 15.502 years. Whereas in a study conducted in prachi agarwal et al the participants belonged to age group of 12 to 83 years with a mean of 35.6 +/- 13.7 years and it was 12 to 64

years in another study done in Bangladesh. More than half of the participants were males similar to studies done in Jaipur(52.4%), Bangladesh (59.8%), and Jammu & Kashmir study done among Indians (50.4%). More participants were well educated in this study. In studies conducted in China and North India majority of the participants were graduate and above [2]. This result may be due to the fact that online surveys are promptly responded by educated groups. From the results it was observed that 2.4% of the respondents were unemployed which was higher compared to the study done by Most. Zannatul Ferdous et al. The higher proportion in this study may be due to the fact that students were also included in the category of unemployed group[12].This study found out that, before intervention 59% had adequate Knowledge, 56% had an agreeing attitude and 55% had good practice. Compared to these findings higher proportion of good knowledge was found in a study from central India (80.6%) and it was lower in a study from North India (49%). Agreeing attitude was lower in a study done in J&K (8.9%) but higher in study from one of the neighbouring countries (62%). Proportion of good practice was alarmingly low (19.02%) in a study from J&Kon Indian population study. But similar to the current study, 55.1% of the participants followed correct covid 19 related practices in the study conducted in Bangladesh.In the present study, Post intervention there was an increase in the levels perception and practice which reflects the influence of intervention done in the form of online health education.Before intervention, in this study, sociodemographic factors including religion, education and occupation were found to be significantly associated with knowledge. Here no significant association was found with gender in contrast to the results of study from Jaipur were gender was significantly associated. Gender, education and occupation had significant association with knowledge in study done by Zang[2].In this study education and occupation were significantly associated with attitude and age, gender education and occupation with practice. Only age and education had significant association with attitude in study done in Bangladesh. In a study done by Goruntly Narayanan et al found that age and education was statistically significant with covid related practices whereas in a study done in central India it was gender and education. The post intervention results of the present study were similar to pre intervention outcome except that education was also found to be significantly associated with practice

Conclusion

This Study shows that more than half of the study participants had adequate knowledge, agreeing attitude and good practice but it is a point of concern that the other half had low perception and practice. One month after the web based primary intervention, an increase in the proportion of scores in all the three domains were observed. This reflects the fact that, in place of online intervention, full blown primary health intervention strategies focussing on reducing the gap between perception and practices of Covid19 will make a great difference in this period of time were the government is relaxing the restrictions that were enforced due to the pandemic.

Post intervention, It was seen that socio demographic factors including religion, education, and occupation were significantly associated with knowledge, and education and occupation with both attitude and practice scores. Further analysis can be done to find out those socio demographic factors which can be the possible predictors of good perception and practices. Government Policies and health communication strategies focussing on these predictors can help in obtaining a better outcome.

Conflict of Interest: Nil Source of support: Nil

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