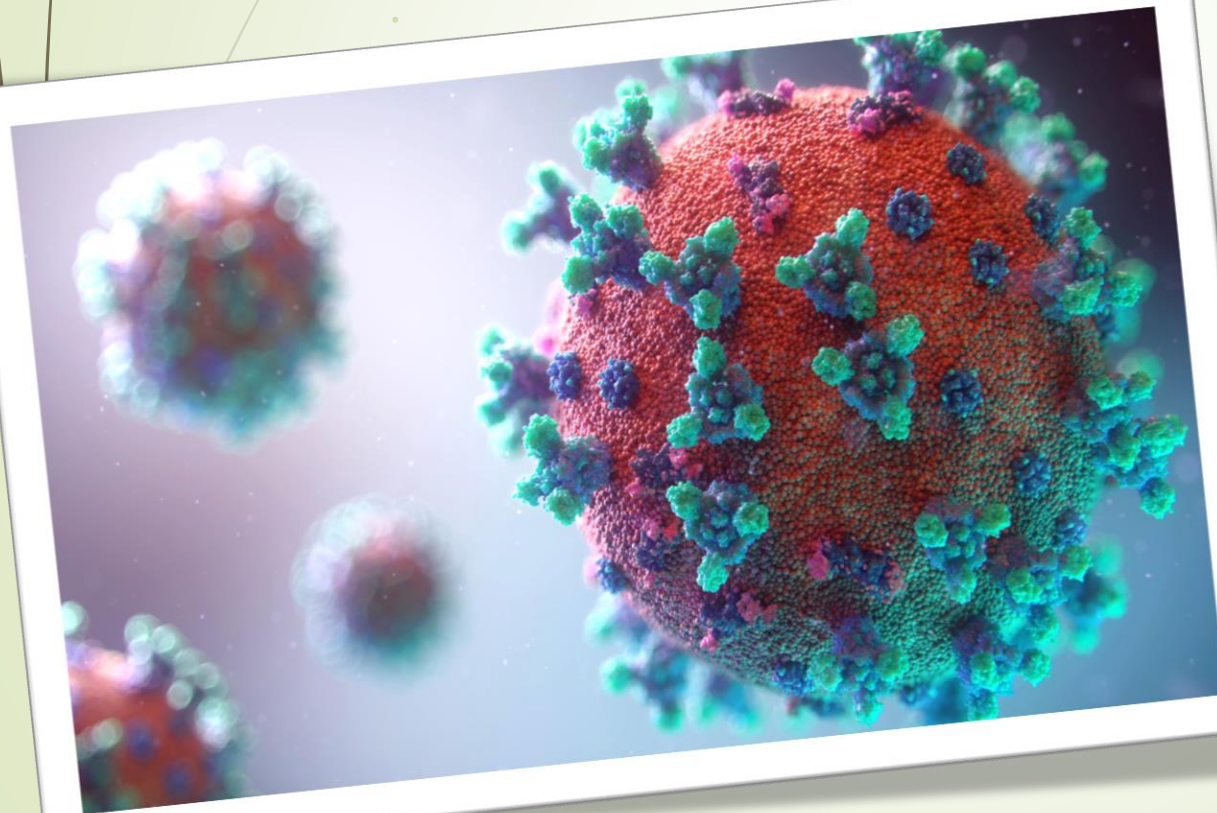


Part-1

A Survey on Knowledge and Attitude on Novel Corona Virus in Kerala



Presented By:
Dr. Nanda Kumar KN

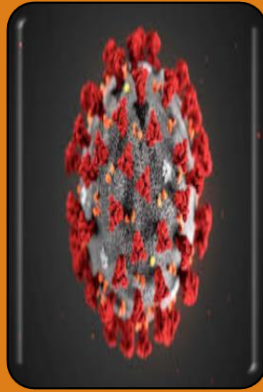
Guided By:
Dr. Susmit Jain



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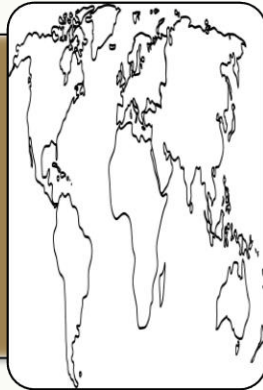
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INTRODUCTION



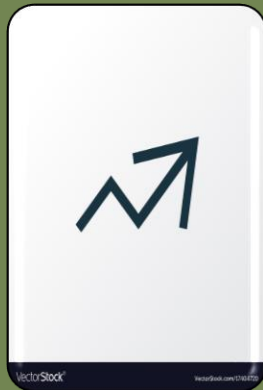
Initial Phase of COVID-19

- The corona virus started its spread from China.
- Began with clusters of Pneumonia like cases in Hubei province.
- It started to spread to other parts of china also.
- On 11th march 2020, WHO declared COVID-19 outbreak as a PANDEMIC.



The Spread across the World and India

- On June 21st 2020, it spread to 114 countries making cases 85,25,042 and 4,56,973 deaths across the globe
- In India the first case was reported in Kerala on 30th January 2020 and by June 21st, registered cases were 4,11,826 and death cases were 13,254.



Scenario in Kerala

- In Kerala by June 21st, 3039 cases were registered and 21 were deceased.
- During lockdown phases, the government got control of spread to a large extent.
- The cases again rose high in the state after the lockdown.

AIM OF THE STUDY

- During this unpredictable situation, it is very important to realize how the common people of Kerala react to such a situation based on their knowledge about the disease.
- To find what is the attitude of common people of Kerala towards the disease so that the spread and fear of disease among people could be stopped.



OBJECTIVES



To assess the knowledge regarding spread, source of information, symptoms and hand hygiene regarding COVID- 19 in Kerala.



To check the attitude towards social distancing of the people, use of sanitizer, facemasks and towards the belief of control of the disease among general population in Kerala.



To suggest the measures for improving the knowledge of COVID-19 among people of Kerala.

METHODOLOGY

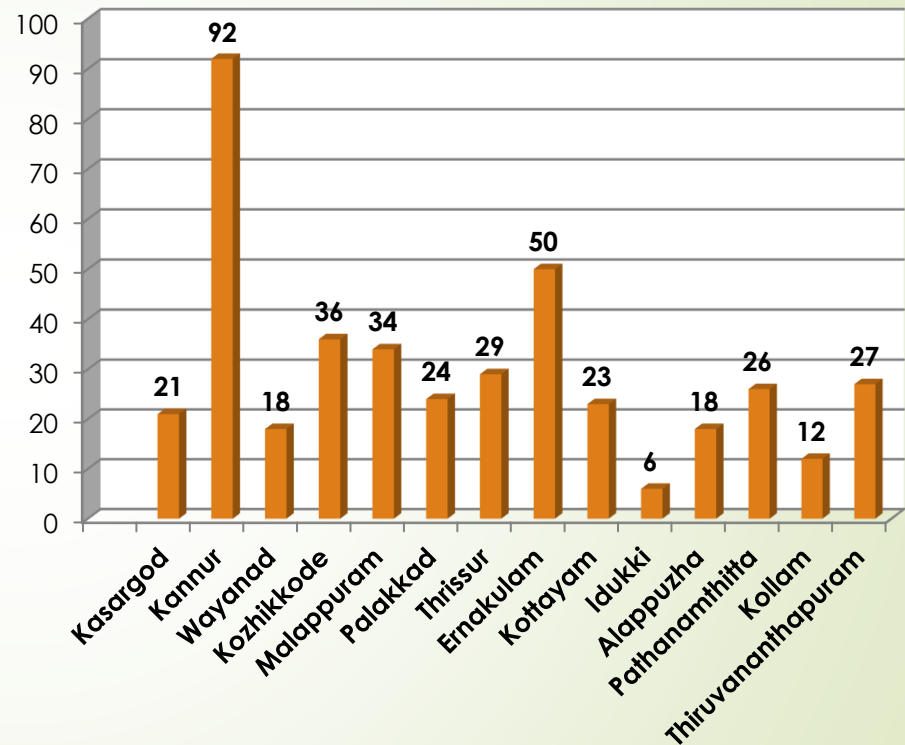
- **STUDY DESIGN: Descriptive Cross-Sectional Study**
- **LOCATION: State of Kerala**
- **STUDY TOOLS: A structured questionnaire using Google Forms**
- **DURATION OF THE STUDY: 30th April 2020 to 30th May 2020**
- **SAMPLING METHOD: Convenience Sampling**
- **Data Analysis:** Raw data was entered and analysed from **MS Excel**. Analysis was further divided into 1) Knowledge 2) Attitude and 3) Measures for enhancement of Knowledge
- **ETHICAL CONSIDERATIONS:**

The participants were informed about their voluntary participation. Along with the questionnaire, and an ethical consent

SAMPLING TECHNIQUE

- **SAMPLING FRAME:** General Population of Kerala
- **SAMPLE SIZE ESTIMATION:** z^2pq/d^2 , where z is 1.96, p is 0.5 (assuming 50% has the knowledge), q is $(1-p)$ and margin of error as 5%. After the formula usage the size of the sample required came out to be **384**. However a sample of **416** were recorded.

Sample Distribution N=416



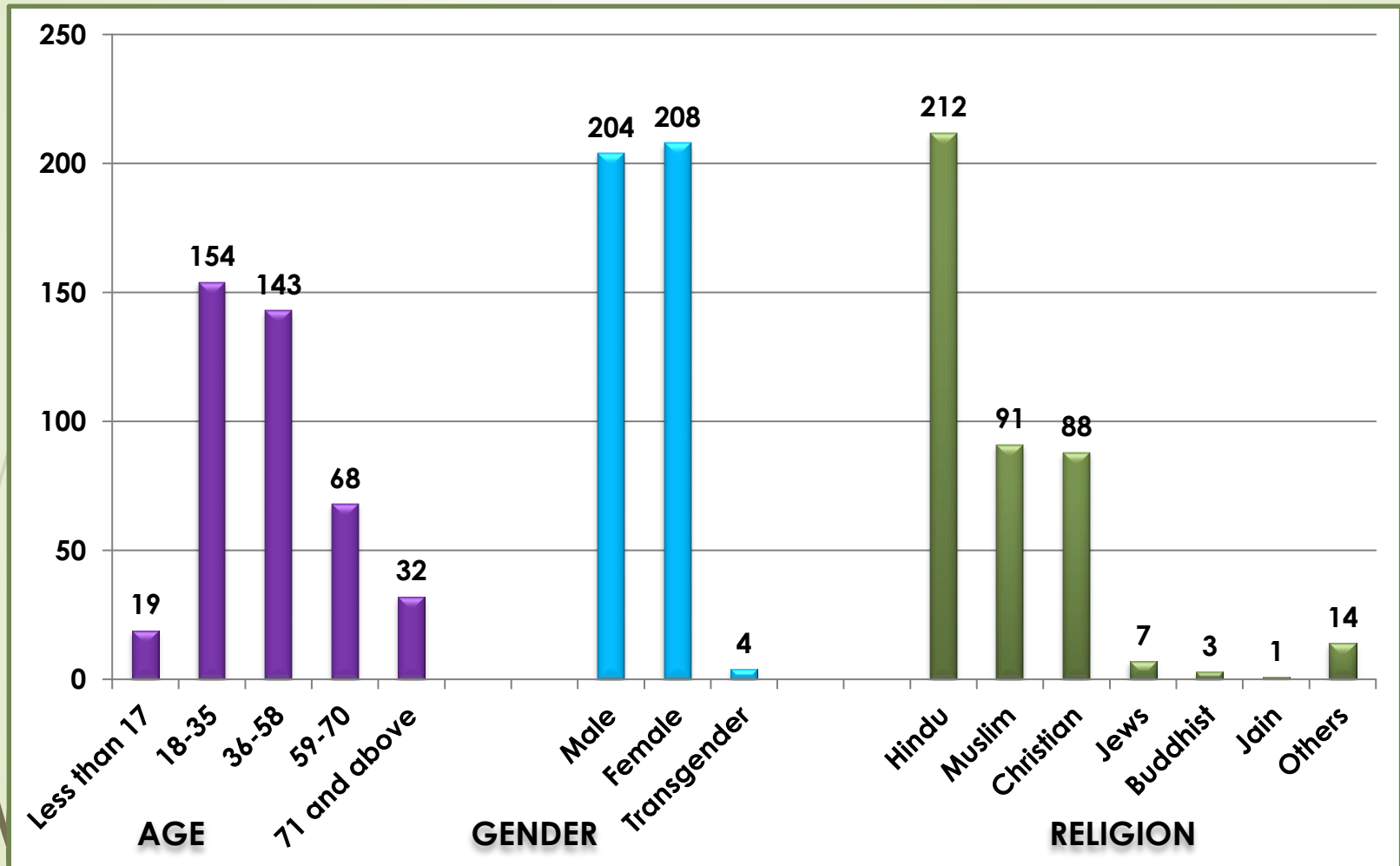
Sample size across districts of Kerala

RESULTS

Demographic part

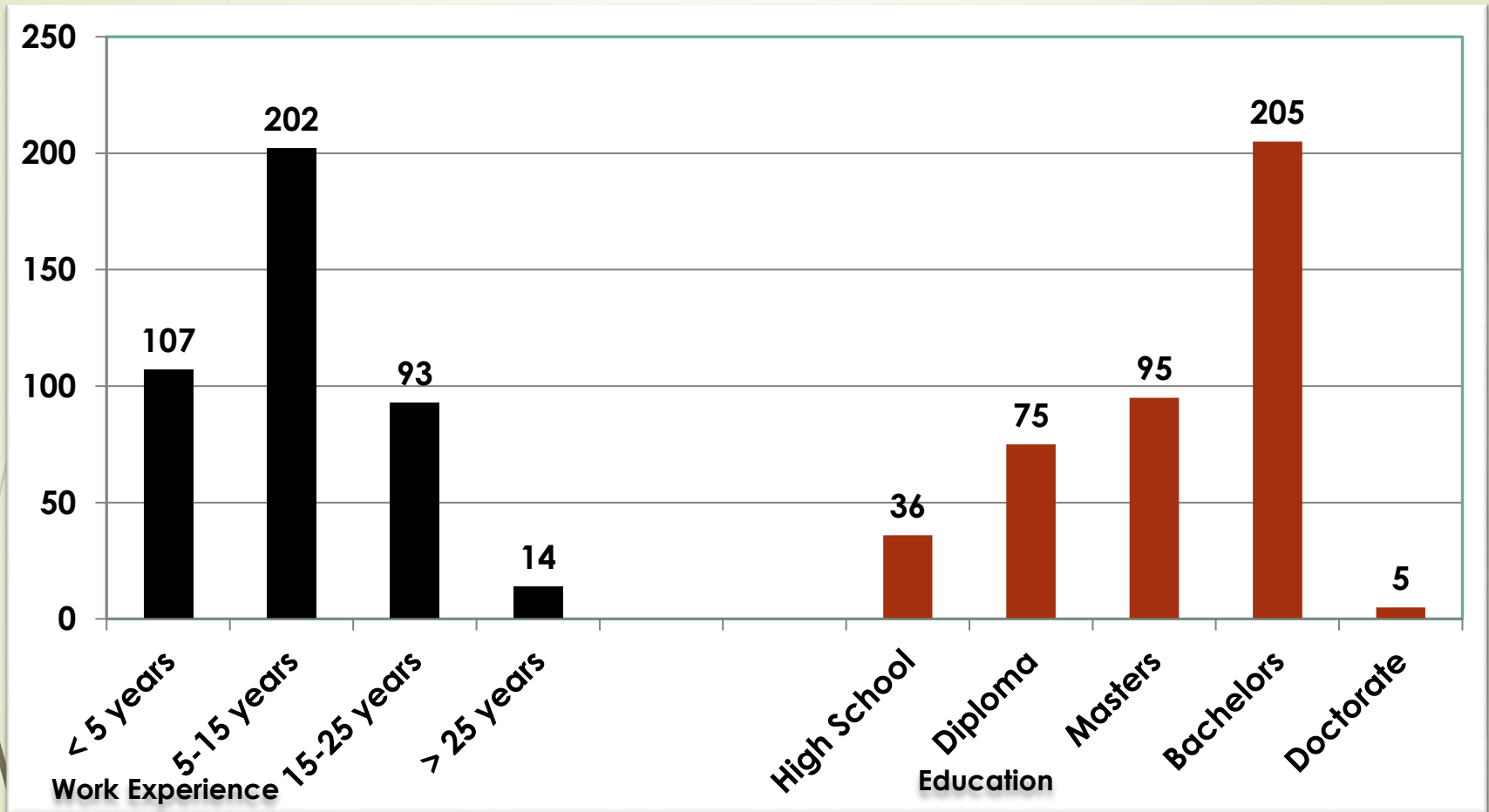
- In the age wise distribution, all the age groups were covered. It was observed that **37% (154)** of the respondents belong to age group 18 – 35 years.
- In gender, females responded **50% (208)** whereas males responded **49% (204)** and **1% (4)** transgender community has responded.
- When coming to religion, all religious communities had responded with the majority as Hindus.
- In educational qualification, most of the respondents were bachelors. The uneducated society was not been included here since difficulties in filling the online questionnaire.
- When coming to working experience, most of the people were having 5 – 15 years of work experience. The whole range of working people were included.

Demographic part of Kerala Population



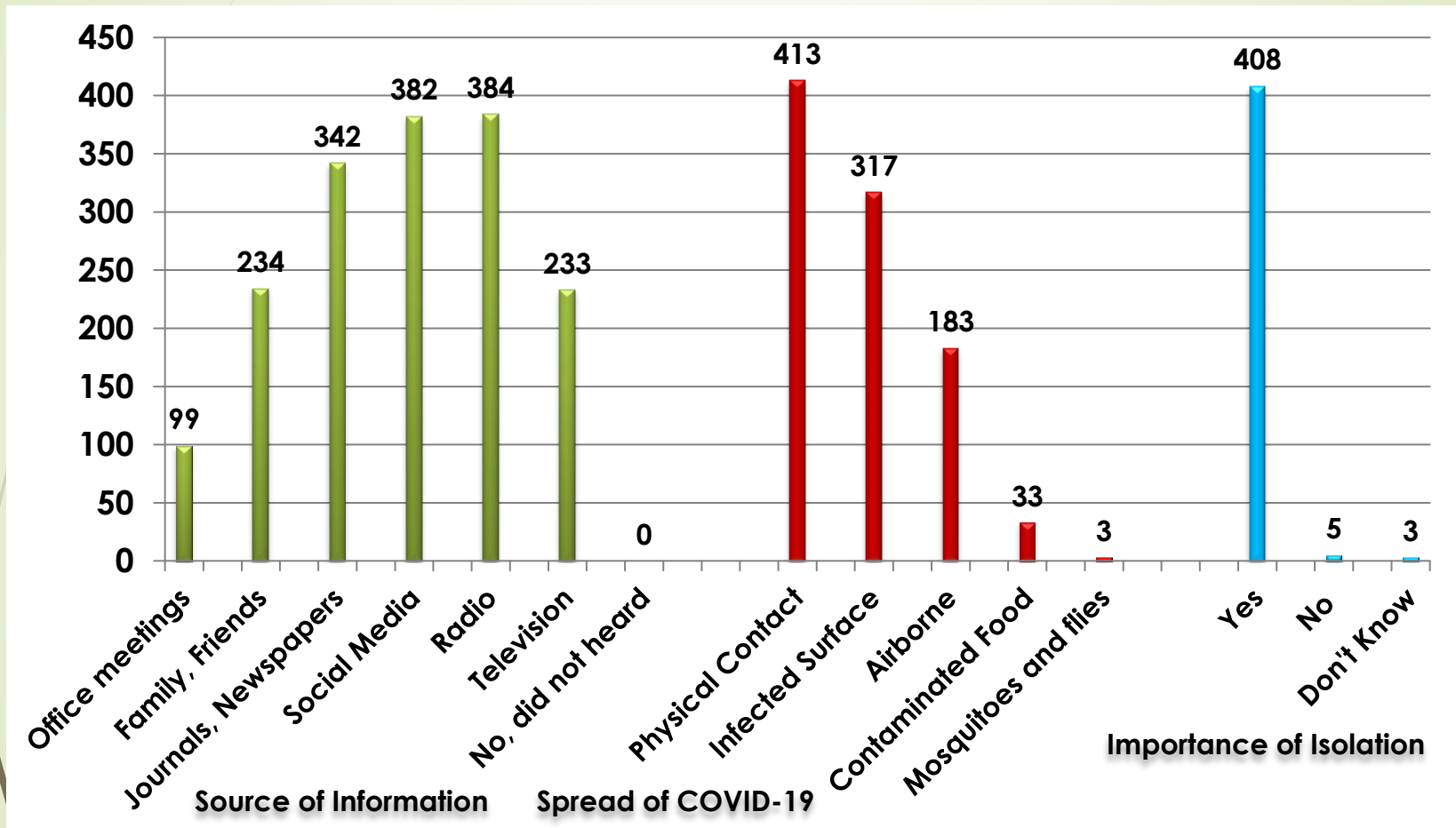
Cluster column graphs showing various demographic details of Kerala Population

Demographic part of Kerala Population



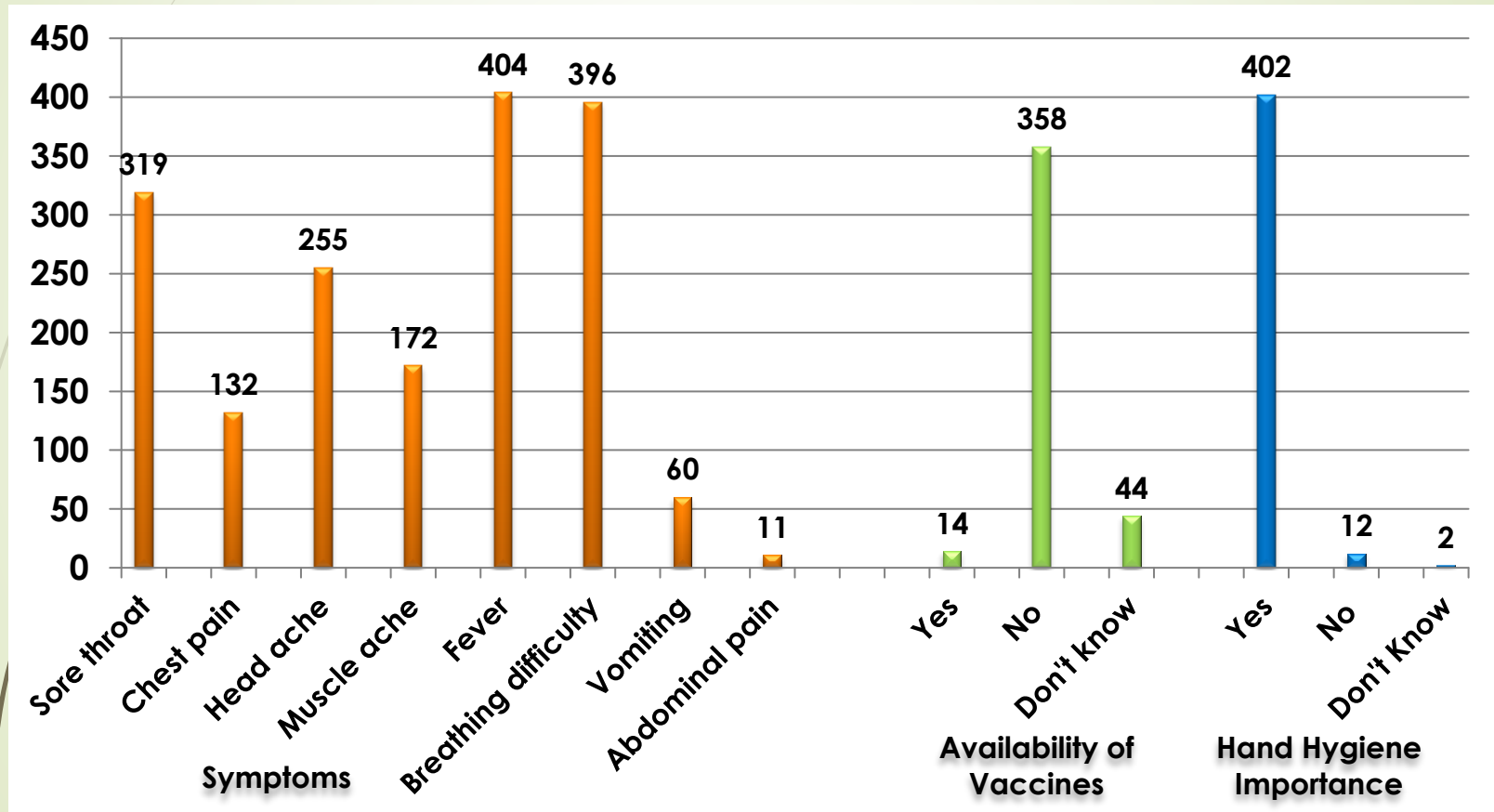
Cluster column graphs showing various demographic details of Kerala Population

Knowledge of people of Kerala on COVID-19



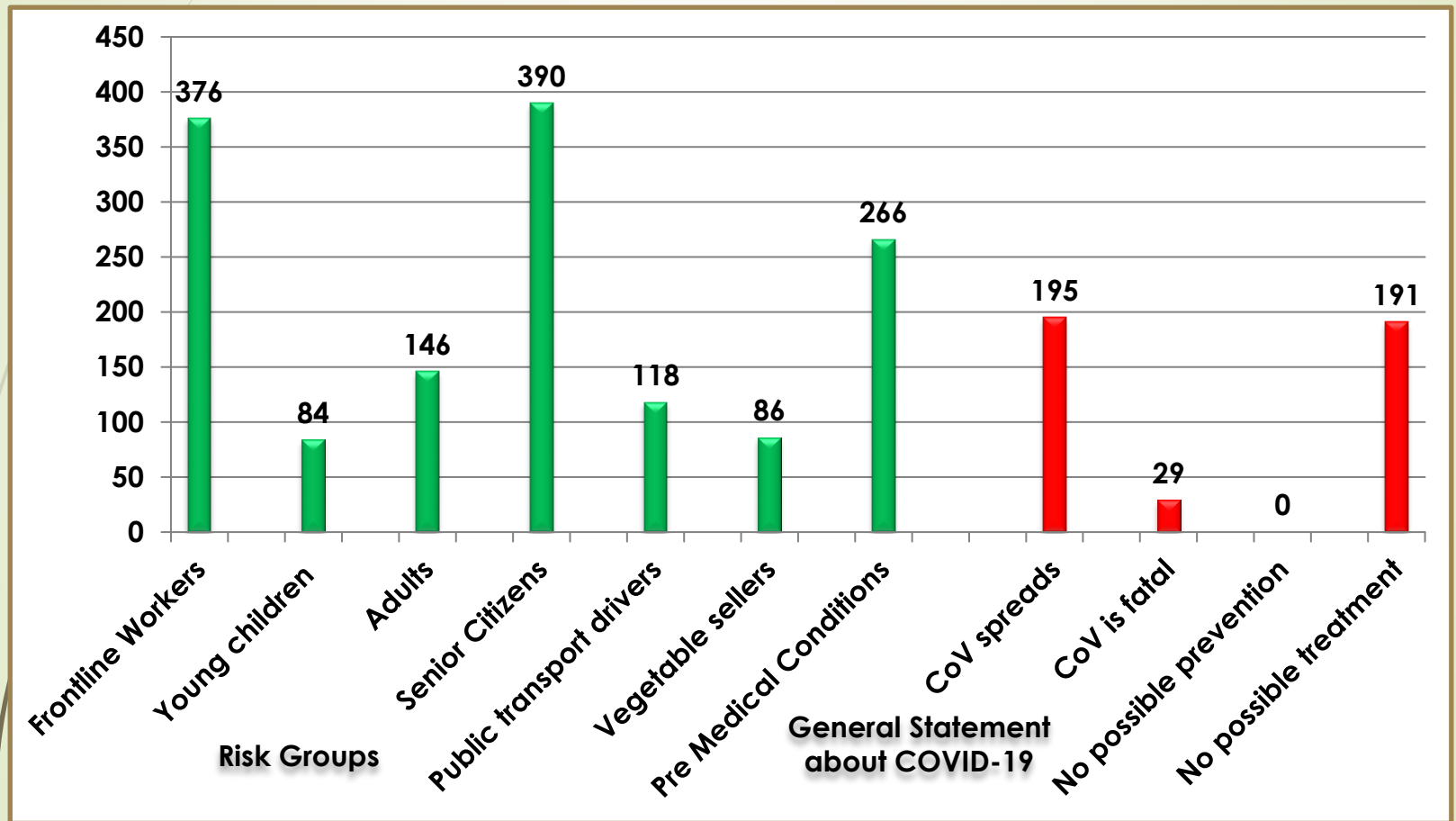
Cluster Column graphs showing details regarding Knowledge of people of Kerala on COVID-19

Knowledge of people of Kerala on COVID-19



Cluster Column graphs showing details regarding Knowledge of people of Kerala on COVID-19

Knowledge of people of Kerala on COVID-19



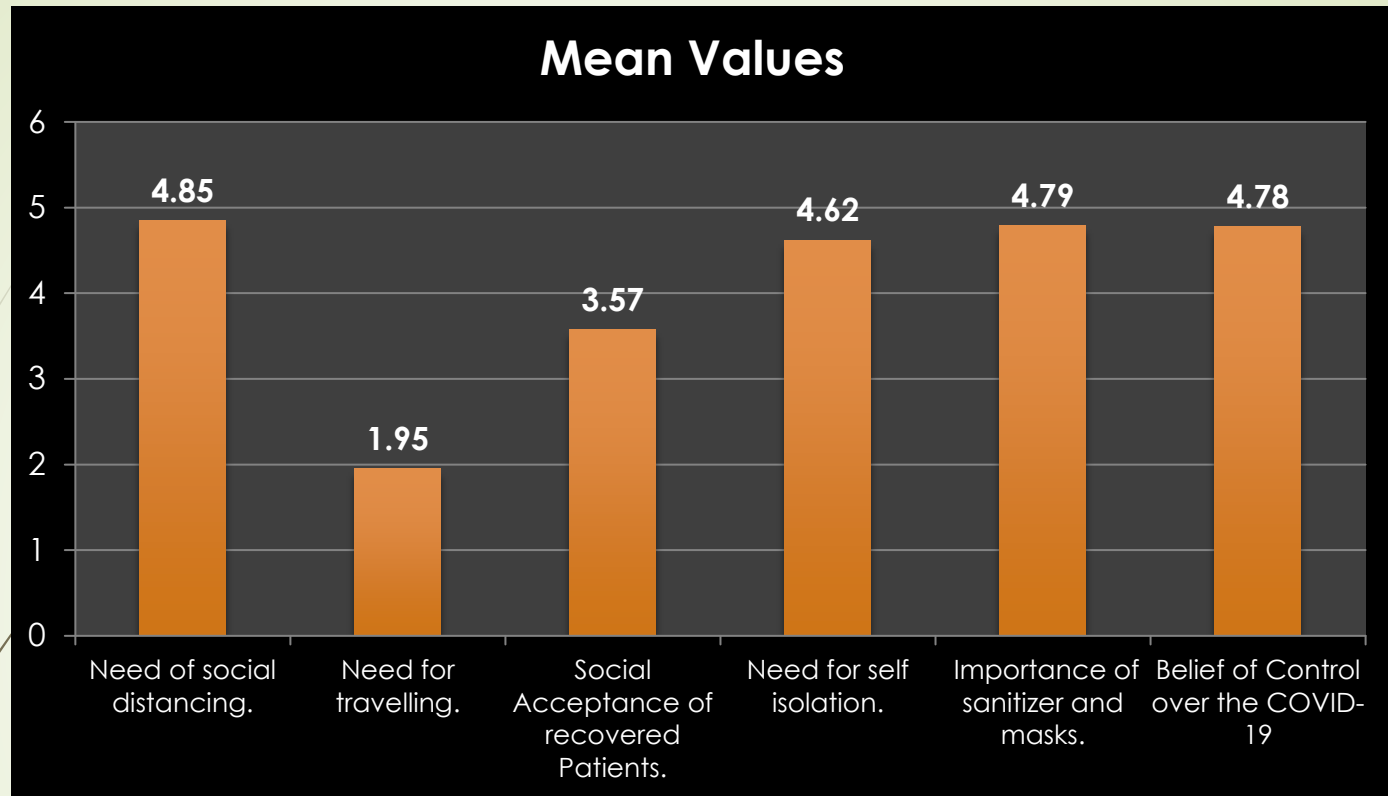
Cluster Column graphs showing details regarding Knowledge of people of Kerala on COVID-19

Knowledge About COVID-19

- In the source of information, the most responses came from Radio **(384)** and Social media **(382)**. These two are coming in the cheapest ways of communication.
- Considering spread of the disease, most people responded to physical contact **(413)**. Then from contact with infected surface **(317)**. Very few people had false believes of spread through mosquitoes and flies.
- Considering isolation, most people had chosen that by isolating, spread can be prevented **(408)**.
- When symptoms are considered, most people had marked right symptoms. This helps in identifying any upcoming cases nearby.
- In availability of vaccines, most people had chosen that there are no vaccines for COVID-19 till this time **(358)**. The people under false beliefs were very few **(14)**
- Considering hand hygiene, about **96.6% (402)** had chosen that it is important.
- Regarding the risk groups, maximum responses had came to senior citizens **(390)** and next is frontline health workers **(376)**.
- When considering the general statements on COVID-19, about **46.9% (195)** had chosen that COVID-19 highly spreads. **45.9% (191)** marked that COVID-19 has no treatment as of now and **7% (29)** selected that COVID-19 is highly fatal.

Attitude of people of Kerala towards COVID-19 Analysis

Questions	Extremely No (1)	No(2)	Neither Yes or No (3)	Yes(4)	Extremely Yes(5)	TOTAL	Mean
1. Whether Social Distancing is needed?	0	1	1	55	359	416	4.85
2. Whether travelling should be allowed during pandemic?	191	116	57	42	10	416	1.95
3. Social acceptance of the recovered patients?	43	75	77	44	177	416	3.57
4. Whether self isolation is preferred during presence of any symptoms like sore throat?	1	2	11	126	276	416	4.62
5. Acceptance of the usage of face mask and sanitizers?	0	1	8	65	342	416	4.79
6. Whether COVID-19 will be fully controlled?	0	1	15	57	343	416	4.78



Interpretation: In the attitude part, a total of six questions were asked and means were calculated as above. All the means are giving a positive based result. The highest value is for need of social distancing with **4.85**. Importance of sanitizer and masks with **4.79** and next is the belief that COVID-19 will be controlled with a mean of **4.78**. Here need for travelling is even though having very small mean of **1.95** but that answer is considered as positive or needed one implying it should be having low mean. Social acceptance of recovered patients has a mean of **3.57**. The need of self isolation is having a mean of **4.62**.

Enhancing Knowledge of COVID-19 among people of Kerala

Suggestions for Enhancing Knowledge for Individual Awareness

1. May follow the websites like WHO(facebook, twitter, instagram), UNICEF(facebook, twitter, instagram), DHS(Kerala).
2. Sharing the messages on COVID-19 from UNICEF, WHO, MoHFW and GoK to other people.
3. Each individual may register in Aarogya Setu application by MoHFW for getting knowledge and to identify safe locality or not.
4. May attend online COVID-19 classes and quizzes available under WHO, MoHFW, Ministry of AYUSH, NHM Thiruvananthapuram.
5. May use the newspapers, supplementary health magazines for getting up to date news if not active internet user.



Suggestions for Enhancing Knowledge for Community Awareness

1. ASHA workers, may be trained well for delivering efficient work. Proper reports to higher authorities.
2. The use of social media may be done for spreading awareness on hand washing, face mask designing, and boosting up the morale of the depressed. Various mediums like dance, painting, poetry and short films may be used.
3. Use of fun and humour may be a technique to spread information. For example corona virus shaped helmets used by traffic police.
4. Drones may be used for the spread of information in the containment zones where high chances for risk groups may be present.
5. Posters and banners by health workers and NGOs to spread and enhance their knowledge.



CONCLUSION

- During this Novel Corona virus pandemic (COVID-19), most of the educated people of Kerala are well aware of this infection.
- The knowledge among people about the basic preventive measures, spread of virus, symptoms of disease, use of PPEs and how to handle when an infected case happens in their family are quite convincing. However the problem still not finished yet as the cases are still rising very much per day.
- There is a need to intensify knowledge and attitude towards the disease which will further help in decreasing the individual related confusions about the disease and the community spread.
- Being a responsible citizen and trying to protect ourselves is protecting our nation. Therefore building up a positive attitude towards the pandemic will definitely help us to reduce its complications in society.

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Part 2

Data Analytics for Lean Six Sigma **Offered by University of Amsterdam**

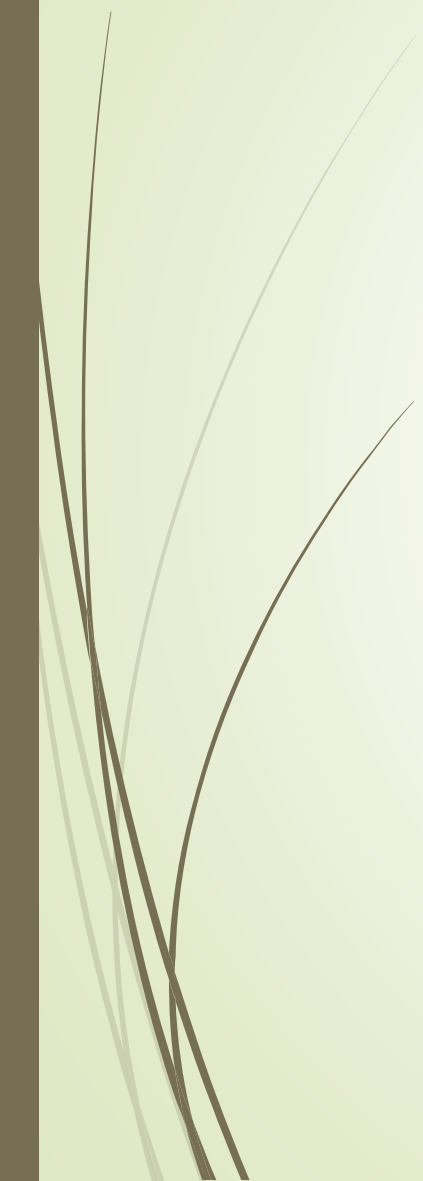


Presented by: Dr Nanda Kumar KN

Guided by: Dr Susmit Jain



Course Description



- This is a course conducted by **University of Amsterdam** in the study platform Coursera.
- In this course, data analytics techniques that are typically useful within Lean Six Sigma improvement projects are being dealt.
- Lean Six Sigma is a quality tool for solving organizational problems through a series of action for product delivery or service Example: handling phone calls at the call centre.
- The course is based on several levels like understanding, analyzing, application, evaluation and remembering.
- This course provides an overview of Six Sigma concepts and language and an introduction to the Define-Measure-Analyze-Improve-Control (**DMAIC**) process improvement cycle and also enhances technical solving skills.

Course Objectives

1. Able to analyze and interpret data gathered within such a project.
2. Emphasize on use of data analytics tools and the interpretation.
3. Able to use Minitab to analyze the data
4. To visualize the graphical representation for numerical and categorical variables.



Course Contents

- **Data and Lean Six Sigma**-Explain what Lean Six Sigma is. Distinguishing between the five phases of DMAIC.
- **Understanding and visualizing data**-Judge if data is numerical or categorical. Interpret descriptive statistics. Creating suitable graphical visualization for two variables and interpretation.
- **Using probability distribution**- Distinguish the different types of probability distributions (normal, lognormal, weibull).
- **Introduction to testing**- Identifying x and y in practice, and select the appropriate test. Interpret p-values of hypothesis tests.
- **Testing: numerical Y and categorical X**- Judge when ANOVA is the applicable method. Perform ANOVA and interpret the output, especially p-value and R-squared (relevance).
- **Testing: numerical Y and numerical X**- Interpreting and using correlation. Judging when regression is the applicable method. Performing a regression and interpret output, especially p-value and R-squared (relevance).
- **Testing: categorical Y**-Performing and interpreting a Chi-square analysis and logistic regression analysis and judge when a Chi-square analysis is the applicable method.

Learning Methodology

WEEK	MODULE	DETAILS	METHODS	TIME
WEEK 1	MODULE 1	Introduction to LSS and Minitab	11 Videos and 2 Quizzes	3 hours and 15 minutes
WEEK 2	MODULE 2	Visualize data and graphs	8 Videos 1 Reading and 2 Quizzes	3 hours and 10 minutes
WEEK 3	MODULE 3	Probability distributions	7 Videos and 2 Quizzes	2 hour and 50 minutes
WEEK 4	MODULE 4	Modelling CTQs, introduction to causality. and	3 Videos and 1 Quiz	45 minutes
	MODULE 5	Relation with numerical Y and categorical X variables	6 Video Lectures, 2 Video exercises and 2 Quizzes	2 hours 15 minutes
WEEK 5	MODULE 6	Relationship between numerical X and numerical Y	6 Video Lectures, 1 Video exercise and 1 Quiz	2 hours 55 minutes
	MODULE 7	Testing Categorical Y	2 Video Lectures, 2 Video exercises and 2 Quizzes	50 minutes

Total = 16 hours



Key Learning

- Data Analysis and distinction between categorical and numerical data.
- Downloading and usage of Minitab 17
- Introduction to DMAIC framework (D-Define, M-Measure, A-Analyze, I-Improve, C-Control)
- Interpretation of various graphical way of numerical distributions(scatter plot and box plot).
- Interpretation of various graphical way of categorical distribution (bar, pie and tally charts).
- Introduction to Regression analysis, residual analysis after regression and quadratic regression for numerical y variable.
- Usage of Chi square test and logistic regression for categorical y variable.



Thank
you!!