

SUMMER TRAINING REPORT
by
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MBA - HOSPITAL AND HEALTH MANAGEMENT 2019-21



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PART 1

SUMMER TRAINING WORK

(ASSIGNED BY FACULTY MENTOR,
Prof. Veena Nair Sarkar)

REPERCUSSIONS OF STAY AT HOME ORDER ON
PHYSICAL ACTIVITIES AND SEDENTARY CULTURE IN
DIFFERENT AGE GROUPS DURING “COVID-19
LOCKDOWN.”



INTRODUCTION

- In response to Covid-19 outbreak, almost the entire world went into lockdown, given the time period or occurrence being different or same.
- WHO declared SARS-CoV-19 as pandemic and all the nations underwent restrictions considering stay-at-home order.
- Like any other nation, the first step India took to fight the pandemic was to announce shutting down of workplaces (except a few central govt. organizations) and schools indefinitely. People were asked to stay at home and movement outside was strictly restricted.



- Any and every individual follows a **routine** in his/her daily life, people go to work, children go to school and colleges, elderly have their post-retirement routine, etc.
- For many of us, **daily natural activity** may have included walking to and from work, moving around the workplace to and from your desk and running around after the kid.
- We don't realize but each one of us have a **sequence of activities** or habits regularly followed.
- Now what happens when the same people are suddenly taken out of their routine and asked to just stay at home for an indefinite period?
- Routine is disturbed, habits are disturbed and so is mind and body.

How do you define Exercise?

What is Physical Activity?

Body movement produced by muscle action that increases energy expenditure.

eg: activities of daily living such as shopping, gardening, house keeping, child rearing, work-related activities, etc

What is Exercise?

Planned, structured, repetitive, and purposeful physical activity

e.g.: training for or performing athletics, sports, or recreational activities such as jogging, roller-blading, ice skating, swimming, etc.

Benefits of Physical Activity?



Source: adapted from Kino-Québec Scientific Committee.
Physical Activity Sports and Youth - Knowing and Acting, 2011

Importance of Physical Activity During COVID-19



1

Enhances Immune Functions -> Reduces Inflammation -> Reduces severity of infection

2

Improves common chronic condition (cvd, diabetes)

3

Great stress management tool by reducing symptoms of anxiety and depression

4

Helps bring cortisol levels in balance

OBJECTIVES

- 1) To assess the impact on physical activities in SCHOOL GOING CHILDREN & ADOLESCENTS due to Covid-19 lockdown.
- 2) To assess the impact on physical activities in ADULTS due to Covid-19 lockdown.
- 3) To assess the impact on physical activities in ELDERLY/OLDER ADULTS due to Covid-19 lockdown.



RESEARCH METHODOLOGY

STUDY DESIGN

Integrative Literature Review.

METH. APPROACH

A total of 70 studies were studied, out of which 30 were considered.

INCLUSION & EXCLUSION CRITERIA

INCLUSION CRITERIA: Studies related physical activities to given age groups. Also, studies including recommendations on the same. And published articles stating problems faced by people of the given age groups in their routine and physical movement.

EXCLUSION CRITERIA: Studies that only talked about mental health and or were not in period of Covid 19, studies in other languages than English or studies which weren't available in full text.

RESEARCH METHODOLOGY

STUDY DURATION

June 8, 2020 – June 25, 2020

STUDY POPULATION

Age groups – School going C&A (0-17),
Adults (18-64) and
Elderly (65&above)

SEARCH METHODS

Search terms identifying physical activity and sedentary lifestyle were trialed and the accompanying inquiry terms were created: truncations "lockdown" joined with "physical activity OR sedentary lifestyle" (truncated) and "impact OR effect" (truncated) "age groups" "adults" "children" "Older adults" utilizing the Boolean administrator "AND". Literature collection was done using Google scholars, Medline, Pub-med, Research gate online platforms.

LITERATURE REVIEW

[LITERATURE REVIEW.xlsx](#)

DISCUSSION

1) SCHOOL GOING CHILDREN AND ADOLESCENTS (C&A)

- Schools being closed showed significant repercussions on the well-being of children. Physical activity was **decreased** the most in this generation that is said to have with **highest energy levels**, indirectly affecting their mental well-being too.
- Home care of C&A is known to decrease the level of physical activity and **increase** in **sedentary time**, specially **screen-time**. Evidence suggests that when the schools are off (for example, weekends and summer holidays), children have **less physical activity**, increased screen time, irregular sleep patterns, and lesser healthy diets, **resulting in weight gain** and reduction of cardiorespiratory fitness.
- As we know, most C&A are vulnerable to internet, smart phones, TV, online games and social platforms. And now that the schools are closed, they tend to spend more time surfing social media and/or watching TV (increased screen time) leading to a **sedentary lifestyle**.
- Several observational and experimental studies show that event of **lockdown** indirectly **promotes sedentary** behavior which can lead to increase in time spent **sitting** or **lying down** which ultimately affects the mental and physical health of the children.

- In addition, many families have **limited resources** and they have to share **restricted space** at home which may limit the **activities** that result into coping up with a number of situations.
- Indian studies state that staying inside the house for more time may make children vulnerable to the effects of **indoor pollution** as a result affecting **brain development** which can limit the development of **cognitive abilities**.
- For many C&A, school is not just a place for learning but is also a source of eating healthy nutritious food. Research shows that school lunch (**Mid-day meal**) is associated with improvements in academic performance, whereas food insecurity (including irregular or unhealthy diets) is associated with low educational attainment and substantial risks to the physical health and mental wellbeing of children.

2) ADULTS (18-64)

- In context of the second objective, there was a **mixed result** seen among individuals. In the **initial phase** of lockdown people experienced **difficulties** in practicing a **regular routine** of exercise/workout. Due to restrictions and lockdown, there was no access to their gym/workout places. Almost **70% studies** confirm the **decrease** in physical activity among individuals and adaptation of sedentary lifestyle during the lockdown period.

- However, where majority of **active individuals** had difficulty following their exercise/workout routine, as many **inactive individuals** became active during the initial phase of lockdown. Many inactive people took up indoor exercises, home workouts, yoga etc.
- In **later stages**, it's seen that many **active individuals** increased their physical activities as their way to **de-stress** and **refresh** the brain in their days of anxiety. Inactive individuals got plenty of **free time** to actually workout at home.
- Some studies also show **no change** in the physical activity of people but the percentage of people showing no change is very less, these were mostly strict fitness followers.
- On the other side, a major change in **sleep cycle** and **quality of sleep** has been noticed due to lack of physical activity. In China, more than **60% individuals** were living in a **sedentary** lifestyle with mean screen-time of individuals increased up to **4 hours/day** i.e. more use of internet and TV. As having ample of time during lockdown people were drawn to spend more time watching TV and sleeping.
- Studies showed **association** between **physical inactivity** and **obesity**, it also observed **energy levels** among **children** are usually highest and **lowest** in **elderly** and **obese**, although significant decrease in energy levels was seen especially among **men** and **younger generation**.
- There was **decrease** in total **weekly energy expenditure** of 60% adults. Researchers associated less intensive physical activity during lockdown with obesity, hypertension, depression, lung disease and disability.

3) ELDERLY (65&ABOVE)

- There weren't many studies found on the effect on physical activity during lockdown in older adults but the few studies that came across definitely tells us about **decrease** in physical activity and **restricted movement** among the older adults especially people suffering from chronic diseases.
- Ageing, physical limitations, lack of zeal towards life, poor social and family support are reasons associated in reduction of physical activity.
- Healthy older adults mostly complained about not being able to go for **group physical activity** programmes and socializing. Some even took up on **walking** in the later stages of ease in lockdown. Home quarantine didn't give many options to them considering their age.
- **Lack** of activity inculcated loneliness, boredom, depression, loss of appetite in many older individuals.

RECOMMENDATION



1) FOR SCHOOL GOING C&A:

Studies suggest

- ✓ walking,
- ✓ running,
- ✓ bicycling,
- ✓ jumping or
- ✓ any vigorous activity for at least 60 mins/day involving
- ✓ activities that strengthen the muscle and bones.
- ✓ Playing in safe indoor places was recommended.
- ✓ Practicing healthy diet and
- ✓ Restriction in screen time by parents to reduce sedentary culture.

2) FOR PARENTS/GUARDIANS:

- They are the closest approachable beings to their own children. Good parenting skills can immensely help a child during confinement.

- In order to suffice sedentary behaviour among children various studies have suggested some ways for parents by which they can help the child to improve their physical and psychological status:

- ✓ **Close and open communication** with the children is the basic way to identify any physical and psychological issues and to provide comfort to children in prolonged isolation. Parents play an important role models in healthy behavior of a child.
- ✓ **Respecting child's identity and needs** is also very important to build the trust of own child which can help in creating a comfort zone between them.
- ✓ **Direct Conversations** about pandemic like news, issues faced by its effects like sedentary behavior and emotional imbalance.
- ✓ **Indulging in family activities** may help the children bond with the parents better and home confinement has given a good amount of time for those.
- ✓ **Monitoring Child's activities** be it physical activities or using mobile phones, tv, sleep schedule, eating habits etc. for e.g. Having fixed a bedtime (approved by kids), no screen-time before bedtime, healthy breakfast, encouraging sports and indoor games that enhances their body and brain which can also help children develop self-discipline skills.

Be active at home during #COVID19 outbreak

- 1 Try exercise classes online
- 2 Dance to music
- 3 Play active video games
- 4 Try skipping rope
- 5 Do some muscle strength & balance training



#BeActive

#HealthyAtHome

3) FOR ADULTS:

Studies suggested adapting habits like

- ✓ Walking/running,
- ✓ cycling or
- ✓ any activity that follows social distancing guidelines of WHO.
- ✓ Taking up on Zumba, aerobics, home workout routine, yoga etc with the help of online videos.
- ✓ At least 150 mins/day moderate intensity physical activity including
- ✓ Muscle and bone strengthening activities for at least 2 days in a week is recommended

4) FOR ELDERLY/OLDER ADULTS:

- ✓ The amount of activity in adults and elderly is the same only that elderly are recommended only that dividing it into **10 minutes episodes**.
- ✓ It can also involve **30 minutes** of **brisk** walking or similar activity for 5 days a week.
- ✓ Also, older adults with poor mobility should do physical activity to enhance **balance** and prevent falls on 3 or more days per week..

LIMITATION OF THE STUDY

1. Limited amount of literature was reviewed.
2. Not many studies were found on Older adults so the results for them can be biased.
3. As it is an ongoing pandemic and studies are still developing on the topic and researchers are coming up with new data every day.
4. This study is more of a general study irrespective of population and regional demographic constraints.

CONCLUSION



- As the whole world is living in unprecedented times, there is a lot we don't know about the virus and its effects. So, in order to fight it, keeping up the physical activities is one of the measures that should be taken for betterment of our own immune system and mental health.
- Although, there is no direct evidence that physical activity can safeguard one from Covid-19 virus. However, evidence suggests that physical activity do keep our immune system and defense mechanism of the body in a much better condition.
- Keeping up with this virus is getting difficult day by day for human population. Every nation, big or small is trying it's best to fight it however humans can only do so much.
- Lockdown has given people barring age the chance of adapting exercise in daily routine which will any day help them to stay fit both physically and mentally.
- So considering the co-relation between mental and physical health, to do our part as citizens, take up the responsibility of your own safety and sense.

REFERENCES

- 1) [iihmr\REFERENCES.pdf](#)

PART 2

ONLINE COURSE REPORT

Course 1 :

“Data Analytics Using R”



COURSE DESCRIPTION

IIHMR University

Management Development Programme

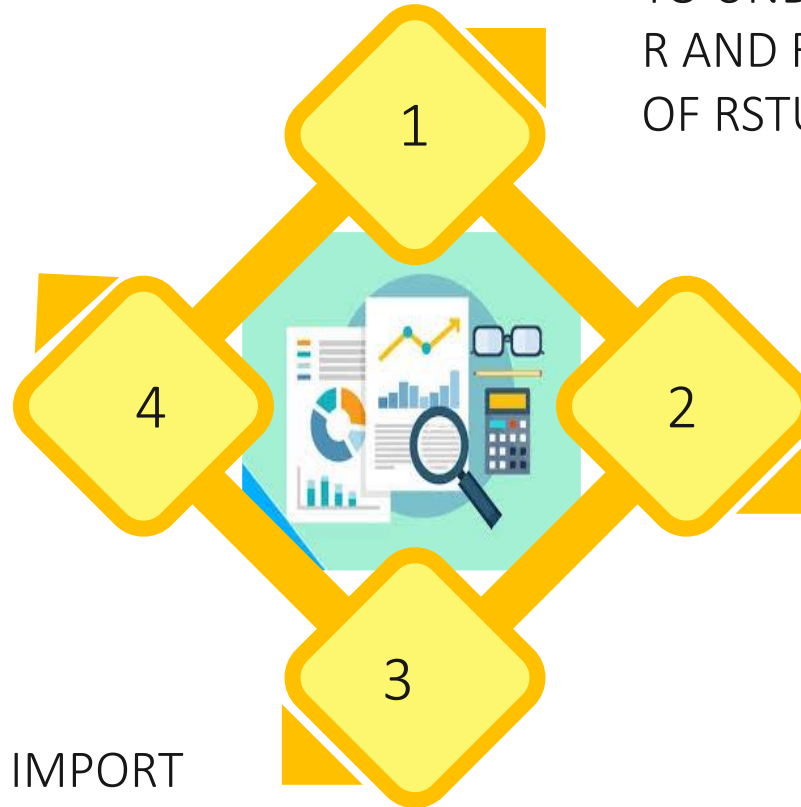
In Collaboration with Institute of London

Duration of 1 Week

- R is a language and environment for statistical computing & graphics, it is the most preferred open-source language for analytics and data science.
- R can be used for simple calculations, matrix calculations, differential equations, optimization, statistical analysis, plotting graphs, etc.
- Here are some of benefits of using R:
 - R is free to use and is a open source.
 - R has a huge library of user-contributed packages.
 - R runs on windows, OSX, Linux
 - R facilitates reproducible research.
 - R is widely used in industry and is one of highly sought after skills by analytics and data science companies.

OBJECTIVE OF THE COURSE

TO UNDERSTAND MAJOR
DATA STRUCTURES



TO UNDERSTAND HOW TO INSTALL
R AND RSTUDIO AND INTERFACE
OF RSTUDIO.

TO LEARN HOW TO READ
FILES, MANIPULATE DATA
USING DIFFERENT
FUNCTION IN R

TO LEARN HOW TO IMPORT
AND EXPLORE DATA

COURSE CONTENTS

1. Installing R and R Studio on windows	12. Correlation matrix and Heatmaps
2. Introduction to R studio	13. Plotting Histograms and Pie charts
3. Introduction to Data Frames in R	14. Plotting Bar charts and Scatter plot
4. Introduction to Basics of R	15. Introduction to Predictive Analytics
5. Introduction to R Script, Console	16. Simple Linear Regression
6. Descriptive analysis	17. Multiple Linear Regression
7. Data Visualization	18. Assumptions of OLS and its Violation
8. Creating Matrices and Data Frames	19. Testing of Simple Linear Regression
9. Operations on Matrices and Data Frames	20. Testing of Multiple Linear Regression
10. Merging and Importing data	21. Diagnostic Procedure
11. Data types and Factors	22. Application of Diagnostic Procedure

METHODOLOGY

This course comprises of 2 hour long online lectures daily for a week scheduled from 4 pm to 6 pm with two faculties guiding throughout.



1

Install R and RStudio

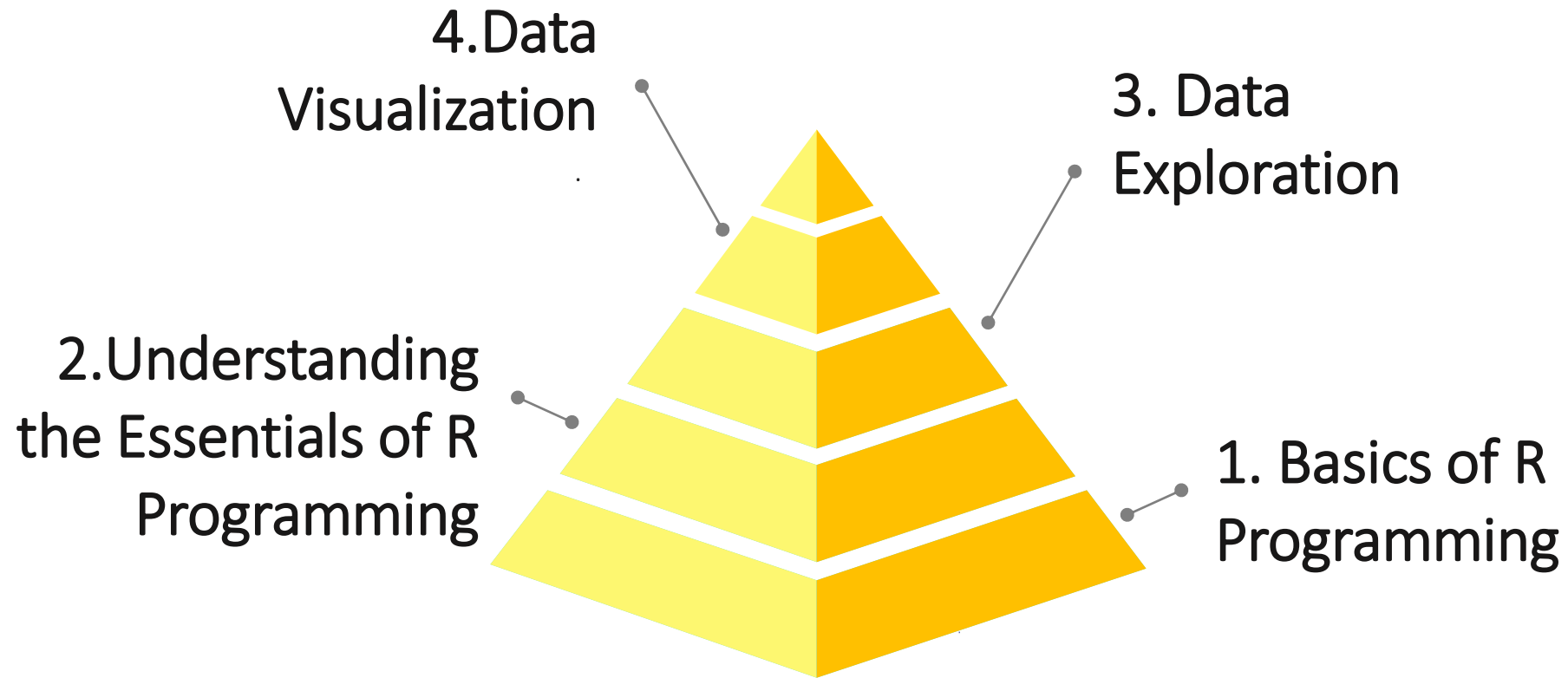
2

Fixed Schedule every-day

3

Follow the step by step learning and complete the Assignments given.

KEY LEARNING



Course 2 :

COVID 19 CONTACT TRACING

BY JOHNS HOPKINS UNIVERSITY



COURSE DESCRIPTION

Johns Hopkins University

Emily Gurley, PhD, MPH

Final assessment taken

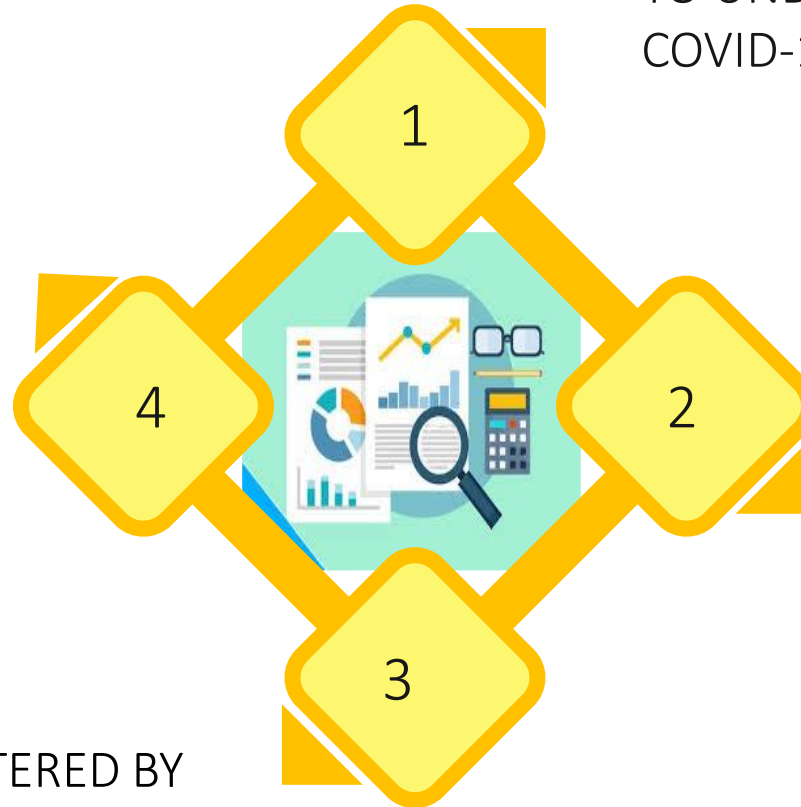
Duration of 1 Week

- Covid-19 is an infectious disease caused by a virus of new origin called as Sars-CoV-19.
- As we all know this is a disease easily spread through close contact with the infectious person, so contact tracing is a very important tool in tracking COVID19 infected people.
- It not only digs into the science of COVID19 and its origin covering all the basics but also also defines contact tracing, quarantine and isolation.
- This course also guides about skills for effective communication involved in contact tracing as they talk about ethical dimensions and issues faced by tracers.

OBJECTIVE OF THE COURSE

TO PROVIDE EFFECTIVE
COMMUNICATION SKILLS
FOR CONTACT TRACING.

TO UNDERSTAND BASICS OF
COVID-19

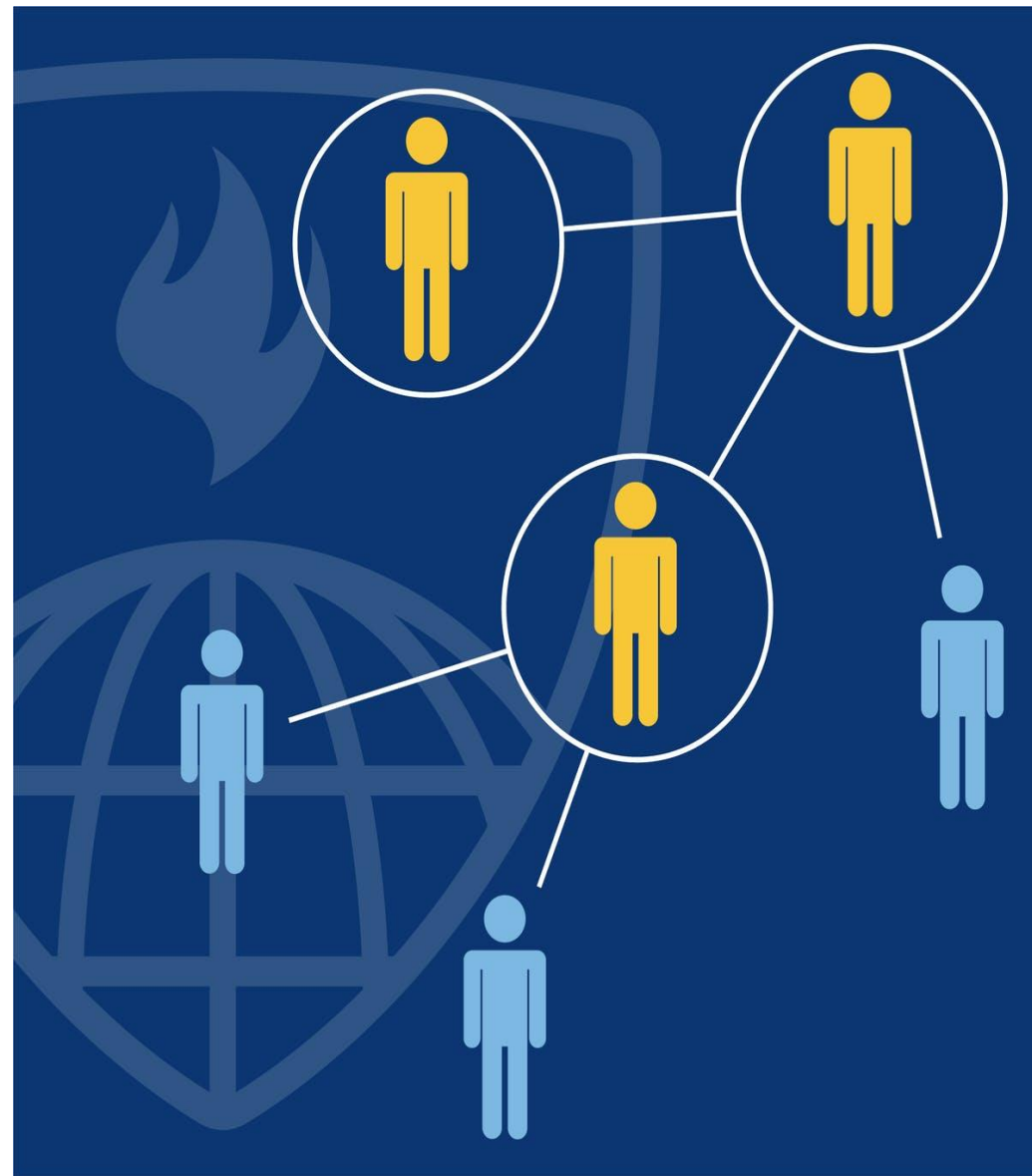


TO LEARN ABOUT ETHICS OF
CONTACT TRACING

ISSUES ENCOUNTERED BY
CONTACT TRACERS

COURSE CONTENT

1. Basics of Covid-19 : it's origin, clinical signs and symptoms, risk factors, diagnosis, transmission and infectious period.
2. Basics of Contact tracing, isolation and quarantine.
3. Calculating Isolation and Quarantine duration and identifying high risk situations.
4. Steps to investigate cases and trace their contacts.
5. Ethics of Contact tracing and Technological tools.
6. Skills for effective communication.

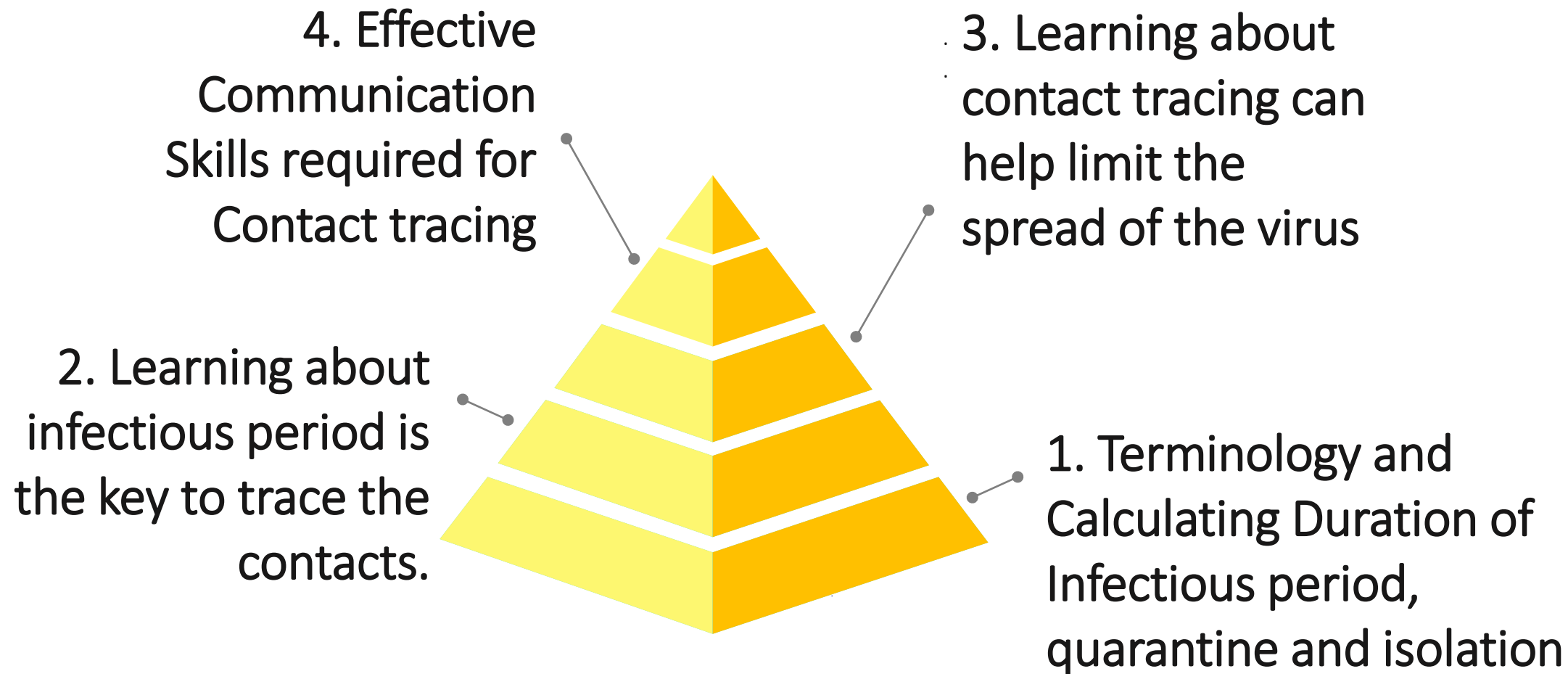


METHODOLOGY



- 1 8 hour long course
- 2 Online videos
- 3 Small quiz after each video and a Final assessment quiz

KEY LEARNING





THANK YOU

