Internship

Training at

IQVIA Consulting and Information Services India Private Limited, New Delhi

on

EFFECT OF COVID-19 PANDEMIC ON MENTAL HEALTH: A NARRATIVE REVIEW.

by

Dr. Ruchika Gambhir

PG/19/072

Under the guidance of

Dr. Rupsa Banerjee

Post Graduate Diploma in Hospital and Health Management

2019-21

International Institute of Health Management Research New Delhi

The certificate is awarded to

Dr. Ruchika Gambhir

in recognition of having successfully completed his/her
Internship in the department of

Business Development

and has successfully completed his/her Project on

Effect of COVID-19 on Mental Health: a Narrative Review

7th April 2021 – 17th June 2021

IQVIA Consulting and Information Services India Private Limited, New Delhi

She comes across as a committed, sincere & diligent person who has a strong drive
& zeal for learning.

We wish him/her all the best for future endeavors.

Training & Development   **Zonal Head-Human Resources**

FEEDBACK FORM

Name of the Student: Dr. Ruchika Gambhir

Dissertation Organization: IQVIA Consulting and Information Services India Private Limited, New Delhi

Area of Dissertation:

Attendance:

Objectives achieved:

Deliverables:

Strengths

Suggestions for Improvement:

Suggestions for Institute (course curriculum, industry interaction, placement, alumni):

<div align="center">

Signature of the Officer-in-Charge/ Organization Mentor (Dissertation)

Mr. Gaurav Agarwal

Head- Business Development and Partnerships

IQVIA Consulting and Information Services India Private Limited, New Delhi

</div>

Date:

Place: New Delhi

TO WHOMSOVER IT MAY CONCERN

This is to certify that **Dr. Ruchika Gambhir** student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from International Institute of Health Management Research, New Delhi is undergoing internship training at **IQVIA Consulting and Information Services India Private Limited, New Delhi** from **7 – April 2021 to 17 – June 2021.**

The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her all success in all her future endeavors.

Dr. Divya Aggarwal   **Dr. Rupsa Banerjee**

Dean, Academics and Student Affairs   **Assistant Professor**

IIHMR, New Delhi   **IIHMR, New Delhi**

IIHMR DELHI

<u>Certificate of Approval</u>

The following dissertation titled **"Effect of COVID-19 on mental health: a narrative review"** at **"IQVIA Consulting and Information Services India Private Limited, New Delhi"** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **Post Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed, or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation.

Name   Signature

Certificate from Dissertation Advisory Committee

This is to certify that **Dr. Ruchika Gambhir,** a graduate student of the **Post- Graduate Diploma in Health and Hospital Management** has worked under our guidance and supervision. She is submitting this dissertation titled **"Effect of COVID-19 on mental health: a narrative review** " at IQVIA Consulting and Information Services India Private Limited, New Delhi in partial fulfillment of the requirements for the award of the **Post- Graduate Diploma in Health and Hospital Management.**

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

Dr. Rupsa Banerjee   **Mr. Gaurav Agarwal**

Assistant Professor   **Head- Business development and partnerships**

IIHMR, New Delhi   **IQVIA**

IIHMR DELHI

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH, NEW DELHI

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **"Effect of COVID-19 on mental health: a narrative review"** and submitted by **Dr. Ruchika Gambhir** Enrollment No. **PG/19/072** under the supervision of **Dr. Rupsa Banerjee** for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from **7-April-2021** to **17 – June -2021** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Signature

Acknowledgement

Above all and everyone, I thank the almighty and my parents for their love, support and everything.

Any attempt at any level, cannot be satisfactorily completed without the support and the guidance of learned people. I owe a great debt to all the professionals at IQVIA, New Delhi, for sharing generously their knowledge and time that inspired me to do my best during my dissertation period.

I express my heartfelt gratitude to Mr. Lokesh Sharma, Senior Principal – Public health, IQVIA Consulting and Information Services India Private Limited, New Delhi, for giving me an opportunity to be a part of IQVIA, would also like to thank Ms. Shivani Adhikari for making the on boarding process comfortable, Mr. Gaurav Agarwal, Head of Business Development and Partnerships- IQVIA, New Delhi, for providing me with the valuable opportunity of working under him and his constant support.

I am indebted to the overall support of Ms. Hima Batra, Ms. Radhika Nayyar, Mr. Jatin Harjai and Mr. Tanay, my mentors and colleagues in the organization; for the constant guidance, support and learnings they enlightened me with in area of public health and for directing my thoughts, goals, and objectives. It was a privilege to have worked under their dynamic supervision.

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Abbreviations

ADHD	Attention deficit hyperactivity syndrome
COVID-19	Coronavirus Disease
COVID	Coronavirus Disease
HCWs	Health Care Workers
ID	Intellectual Disability
PPE	Personal Protective Equipment
PTSD	Post Traumatic Stress Disorder
PTSS	Post Traumatic Stress Symptoms
OCD	obsessive compulsive disorder
SARS-CoV-2	Severe Acute Respiratory Syndrome- Coronavirus 2
WHO	World Health Organization

Chapter-1

Abstract

Effect of COVID-19 on Mental Health: A Narrative Review

Keywords: Pandemic, mental health, mental illness, factors, COVID-19, youth, healthcare workers, psychiatric patients

"Health is defined as a state of physical, mental and social well-being and not mere absence of disease" as defined by WHO. One component of health is mental health, which is considered to be as important as physical health and well-being. Mental illnesses vary from conditions like stress, anxiety to delirium, dementia and schizophrenia. With spread of COVID-19 mental health of community has been affected. The prevalence of these diseases have increased from 11 % to 41% in India. In this study we have concentrated on 4 different groups: Youth (18 to 29 years of age), community with pre-existing psychiatric conditions, healthcare workers and general population who is not suffering from COVID-19

There are various factors which are affect mental health of an individual. In the pandemic i.e COVID-19 the reasons which have impacted community are change in work environment, fear of losing control, end of social life, financial crisis, economic recession, fear of losing loved ones, pain and grief associated with losing loved ones, fear of death, lack of resources and healthcare services, lack of complete and correct information. Due to increased fear in mind s of people, prevalence of certain mental illnesses have increased which includes stress, anxiety, panic attacks, depression, binge watching behavior, binge eating behavior, substance abuse and suicidal thoughts.

In this tough era, while we are paying attention towards our physical health we also need to take care of our mental health, therefore we need to introduce some form of physical activity or meditation into our lifestyle, following a healthy lifestyle and a balanced diet is the key to keep our mind strong and healthy. And, also at this time we need to maintain communication channels.

Chapter-2

The Organization

IQVIA

IQVIA, formerly Quintiles and IMS Health, Inc. is an American multinational company serving the combined industries of health information technology and clinical research. The company was founded in 1954, and it is a provider of biopharmaceutical development and commercial outsourcing services, focused primarily on Phase I-IV clinical trials and associated laboratory and analytical services, including consulting services. It has a network of more than 70,000 employees in more than 100 countries.

It is a global leader in providing healthcare advisory, consulting, research, performance management, technical assistance, technology, and data analytics services to both the public & private sector. IQVIA is a recognized leader in human data science, machine learning, predictive analysis, and healthcare technology. The company was founded in 1954, and today a Fortune 500 company with revenue of $12 billion, with over 70,000 employees operating in more than 100 countries around the world, with thousands of proprietary methodologies. IQVIA serves key organizations and decision makers around the world, spanning government agencies, multilateral agencies, policymakers, researchers, and private sector companies, consumer health and medical device manufacturers, as well as distributors, and the financial community.

IQVIA as a global public health, technology and data consulting firm is presently engaged with developing and developed economies including India towards supporting emergency COVID-19 response, medium to long term strengthening of public health systems with focus on infrastructure development, IQVIA has have conducted several large-scale health care assessments, policy advocacy, impact evaluations, program implementation, formulating strong monitoring frameworks, assessing community-based model, and a strong presence in the healthcare market across data, analytics and consulting services and is the "ONLY" integrated healthcare informatics player in India, with solutions across healthcare sector value chain.

Ari Bousbib is the CEO while Mr. Lokesh Sharma is the Senior Principal & Practice Leader - Public Health, AMESA at IQVIA. The company is also working with the Government of India to support implementation of flagship programs such as Technical PMU for Ayushman Bharat, National Health Resource Repository (NHRR), National Family Health Survey, Global Youth Tobacco Survey, etc.

At present IQVIA has a force of:
- o 70,000+ Experts
- o 10,500+ Technology Experts
- o 4,600+ Analysts
- o 2,000+ PHDs
- o 1,650+ Doctors
- o 1,900+ Epidemiologists

IQVIA has strong presence of experienced healthcare professionals including MBBS, Epidemiologists, Public Health experts , Hospital Administration, Civil & Structural Engineers, Hospital experts, Biostatisticians , Researchers, etc. specialized in Program Management, Implementation, Health Economists , Monitoring & Evaluation, Supply Chain Management, Medical Education and Efficiency improvement across India.

The range of services includes

- ● business strategy
- ● market research
- ● performance monitoring tools
- ● global market insights
- ● regulatory policy support
- ● operations improvement
- ● quality assurance supply chain management
- ● allied technology solutions

IQVIA's Public Health Practice in India works with the Ministry of Health & Family Welfare, National Health Authority, Department of Pharmaceuticals, Department of Medical Health for Uttar Pradesh, Andhra Pradesh, Karnataka & Nagaland, NITI Aayog, National Health authority (NHA).

IQVIA has experience of working across various states including Uttar Pradesh, Bihar, Jharkhand, Chhattisgarh, Madhya Pradesh, Tamil Nadu, Karnataka, West Bengal, Odisha, Nagaland, Mizoram, Arunachal Pradesh, Assam, etc.

IQVIA is presently working with various national state, donor and philanthropic organizations in India under scopes leading to strengthening of CPHC services development of online support and training/ capacity building initiatives so as to enable efficient and equitable healthcare services

IQVIA is further leveraging its similar experience of working in developing economies of South Asia and Africa for knowledge exchange and best practices. This is further complemented by its engagements in developed economies of Middle East, Europe specifically in domains of Digital Health, Universal Health Coverage, Real World Evidence leading to proprietary global best practices developing economies like India

The key marquee projects:

1. PMJAY-Programme Management and Consultant for Ayushman Bharat
2. National Digital Health mission
3. National health resource Repository- First National Health Facility Registry
4. Access to affordable medicines and Healthcare and role of Pharmaceutical Industry
5. Revamping of 41 district level hospital
6. Independent Verification of Disbursement Linked Indicators (DLIs) and Process Documentation of ISSNIP
7. Independent Verification of Disbursement Linked Indicators (DLIs) for National Nutrition Mission

And many COVID-19 related projects

Strengths of IQVIA

Largest in-house public health work force
   o 70,000+ Experts
   o 10,500+ Technology Experts
   o 2,000+ PHDs
   o 1,650+ Doctors
   o 1,900+ Epidemiologists

Vast experience in Technology advisory, Consulting and Implementation support

IQVIA has been instrumental in enhancing the quality of healthcare services delivery by providing policy input and technical assistance for the development of robust healthcare quality standards, standard treatment guidelines, health benefit packages, digital training content, functional requirement specification, software requirement specification etc. eventually contributing towards the strengthening of health systerne at the national and state levels and enabling positive health outcomes

- Delivered 100+ Public Health projects in last 5 years
- Worked with multilateral agencies and Central and State Governments

IQVIA has completed many projects both of National and International significance and also holds extensive experience in healthcare software implementation.

Working as an **intern in the business development** department I have being introduced to the process of Tender documentation.
Team I am part of is always there to teach and make me understand the processes, they are always there to help me in correcting my mistakes and also provide morale support, making this journey even more comfortable and knowledgeable

Tasks performed under internship:

o   Provided support in Updating CV repository

o   Learnt and understood the technical specifications to be attached

o   Provided Support in Updating the projects file

o   Provided support in certain tender documents

o   Provided support in other activities as and when required

o   Learnt reading contracts and RFP

o   Learnt broader aspects of healthcare systems

Observations:
IQVIA is an amazing place to kick start the career, it has broad range of services and hence, broad range of learning and knowledge. The flexi work timing, provision to work from home and supporting teams creates a happy and helpful environment. IQVIA is concerned about its employee's health and therefore organize certain wellness programs at regular intervals.
While working in IQVIA employees get a sense of responsibility, ownership and authority which acts as a motivating factor.
The teams and employees are always available to help.
All these factors results in creating a positive workplace environment.

Mental health comprises more than just two words; it's not just the absence of a mental disorder but a state of complete well-being where an individual has the power or strength to identify his/her abilities, enjoy daily life, and do daily chores easily and with interest. WHO defines mental health as "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community"

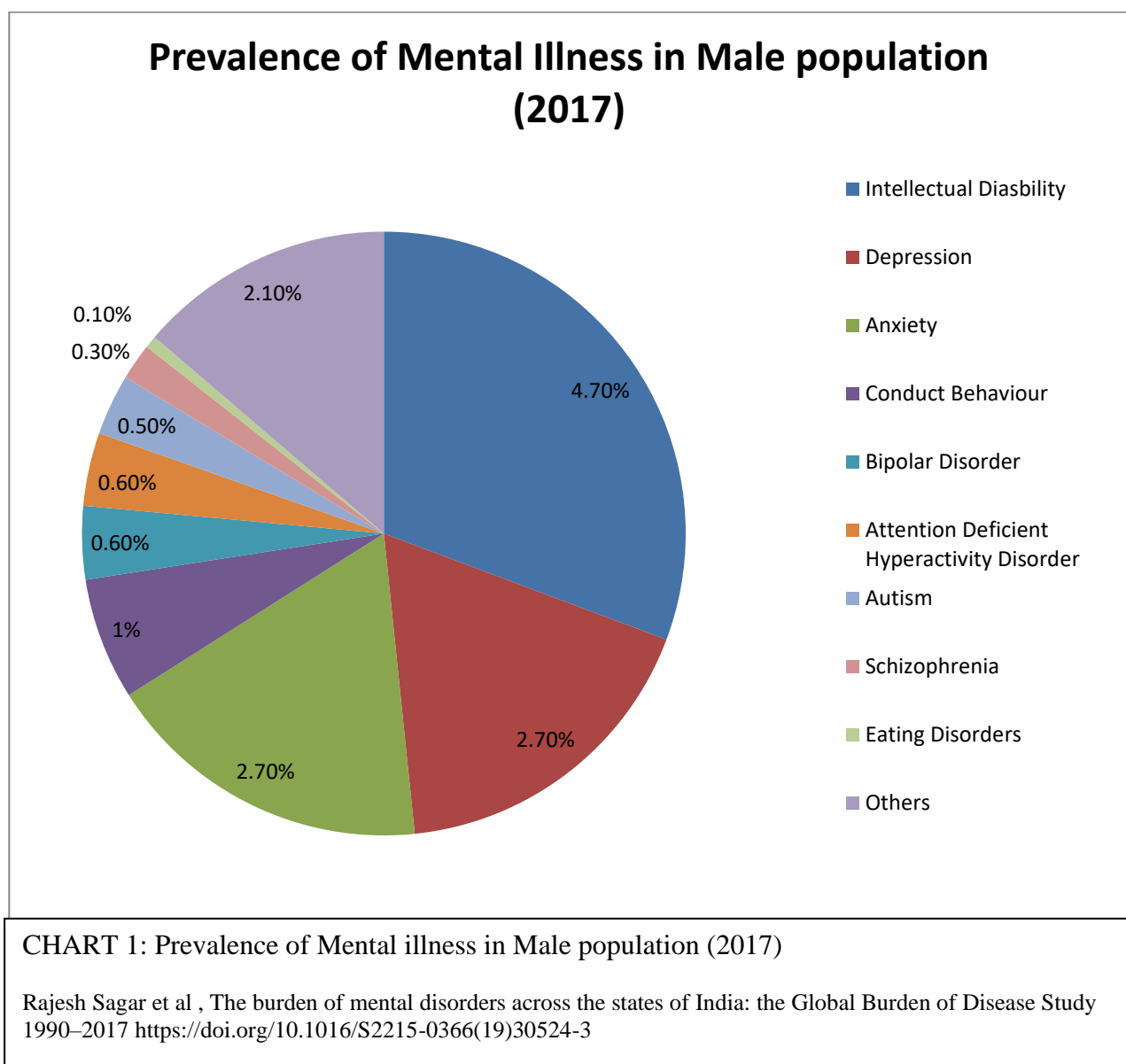Mental disorders are classified into following categories as per ICD – 10

- **F00-F09**: This group includes organic mental disorders which are basically cerebral dysfunction due to brain injury or due to a disease, group comprises of two groups DEMENTIA and DELIRIUM,
    - o Dementia is associated with impairment of cognitive function including deterioration in emotional control, social behavior, learning capacity, thinking, memory, language and judgment.
    - o Delirium is related to hallucinations (areas of perception), delusions (thoughts contents), mood and emotion (depression, anxiety)
- **F10 – F19:** These are related to mental and behavioral disorders due to SUBSTANCE USE (alcohol, opioids, cannabinoids, sedatives, cocaine, caffeine, hallucinogens, and tobacco) which can be classified into intoxication and dependence.
- **F20 – F29**: SCHIZOPHRENIA- distortion in thinking and perceptions
- **F30 – F39:** Mood Disorders, in this group of diseases there is a change of mood observed, which can be observed with or without anxiety, these mood alterations are observed with change in level of activity, it includes:
    - o MANIC EPISODES like hypomania: Hypomania is a condition in which energy levels are on higher side, increased activity/ sociability/ talkativeness are observed.
    - o BIPOLAR AFFECTIVE DISORDER: In Bipolar state patient experiences episodes of both hypomania and depression.
    - o DEPRESSIVE EPISODES: Depression is associated with low level of activity and energy; in case of depression individuals tend to have lower concentration, lesser span of attention, increased tiredness, disturbed sleep and diminished appetite.
- **F40 – F49**: This group comprises of neurotic, stress – related and somatoform diseases which includes:
    - o PHOBIAS

- o OCD (obsessive compulsive disorder)
- o PTSD (Post Traumatic Stress Disorder): PTSD arises due to delayed or prolonged response to a stressful condition which causes distress for example response after COVID in community.
- o PANIC disorder: Panic attacks are recurrent attacks of severe anxiety which are unpredictable and not associated with any particular situation
- o ADJUSTMENT and DISSOCIATIVE disorders.
- **F50 – F59:** This group comprises of behavioral syndromes associated with physiological disturbances and physical factors, this group includes
  - o EATING DISORDERS : anorexia nervosa (forcefully restricting diet associated with weight loss), bulimia nervosa (associated with repeated episodes of eating), overeating associated with psychological disturbances usually leads to obesity, is associated with mood disorders usually
  - o SLEEP DISORDERS: sleep walking, insomnia(where patient cannot easily fall asleep and also cannot sleep for long hours which may be because of fear, stress or emotional response) , hypersomnia (excessive sleeping), sleep tremors
  - o SEXUAL DYSFUNCTION (loss of sexual desire, excessive sexual desire, failure to genital response, premature ejaculations)
  - o Disorders associated with PUERPERIUM, ABUSE OF NON DEPENDENCE PRODUCING SUBSTANCES example antidepressants, analgesics, antacids, vitamins, steroids.
- **F60 – F69:** Disorders of adult PERSONALITY AND BEHAVIOR which includes:
  - o Paranoid personality disorder (keeping grudges, excessive sensitiveness, express excessive self importance, living in fantasy world)
  - o Dissocial personality disorder (low threshold for frustration/anger/ aggression, persistent attitude of irresponsibility)
  - o Anxious personality disorder
  - o Personality change
  - o Habits like pathological gambling or stealing
  - o Gender identity disorders
- **F70 – F79:** MENTAL RETARDATION is a condition of incomplete development of brain because of which impairment in skills are observed, this affects cognitive, language, motor and social abilities of an individual.
- **F80 – F89:** disorders of psychological development: associated with impairment or delay in development of functions, most common disorder seen in this group is AUTISM, symptoms included are disorders in speech and language.

There are various reasons or factors which results in mental illness, it can be because of genetic makeup, lifestyle choices, loneliness, life experiences (stressful conditions) and some serious disorders/diseases like cancer (G, 2016).

Mental illness is not confined to any single age group, or any specific gender, it has no boundaries for race, religion, gender, age, demography (G, 2016).

Prevalence of mental disorder is gradually increasing every year. Both genders are almost equally affected by mental disorders but the type of illness varies in both sexes. (Rajesh Sagar, 2019)

Prevalence of Mental Illness in Male population (2017)

CHART 1: Prevalence of Mental illness in Male population (2017)

Rajesh Sagar et al , The burden of mental disorders across the states of India: the Global Burden of Disease Study 1990–2017 https://doi.org/10.1016/S2215-0366(19)30524-3

Prevalence of Mental Illness in Female Population (2017)

Pie chart legend:
- Intellectual Diasbility
- Depression
- Anxiety
- Conduct Behaviour
- Bipolar Disorder
- Attention Deficient Hyperactivity Disorder
- Autism
- Schizophrenia
- Eating Disorders
- Others

Chart values: 4.30%, 3.90%, 3.90%, 0.60%, 0.60%, 0.20%, 0.20%, 0.20%, 0.30%, 1.40%
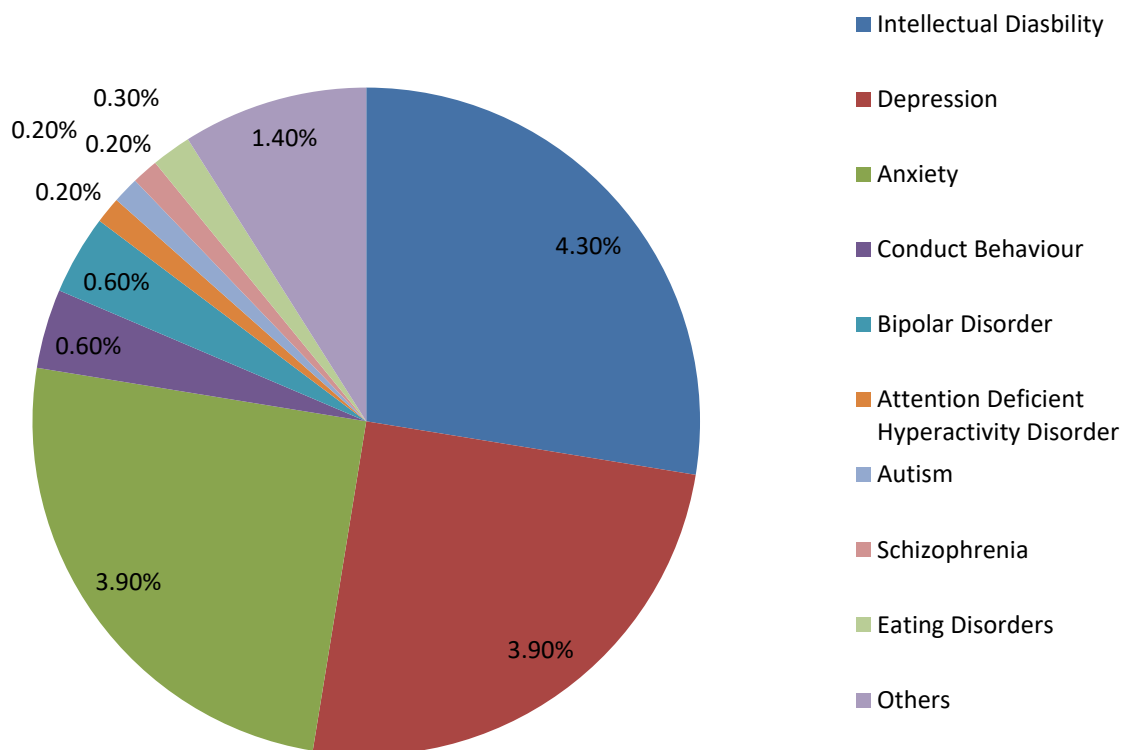
CHART 2: Prevalence of Mental illness in Female population (2017)

Rajesh Sagar et al , The burden of mental disorders across the states of India: the Global Burden of Disease Study 1990–2017 https://doi.org/10.1016/S2215-0366(19)30524-3

According to studies conducted in year 2017 in India 197.3 million (Rajesh Sagar, 2019) people were suffering from mental illness or disorder which comprises 14.4% of the population, in which 45.7 million (~3.42%) were suffering from depression and 44.9 with anxiety disorders (~3.35%) (G, 2016).

In year 2017, prevalence of mental illness in Indian population was seen varying from depression followed by anxiety, intellectual disability, schizophrenia, bipolar disorder, eating disorder, and attention deficient hyperactivity disorder. (Rajesh Sagar, 2019)

There is a spike in number of cases in year 2020 which is observed because of the COVID-19 pandemic, and studies conducted have shown that in 2020 prevalence has increased from 28.4% in 2017 to 48.3% in 2020, these estimates are of depression cases in China (Moreno C, 2020).

In India in 2020, these estimates have increased to 34.1% from 3.42% in year 2017 in case of depression, and anxiety cases has increased to 88% from 3.35% in year 2017 (Awasthi, 2020), at present 73.8% reported suffering from binge watching behavior. (Moreno C, 2020)

The prevalence of mental illness has increased in year 2020- 2021 which is noticed to be associated with COVID-19 pandemic caused by the Novel Corona Virus (SARS- CoV- 19). The first case of COVID-19 was reported in Wuhan, China in the year 2019 which later spread globally therefore being declared as a PANDEMIC (WHO Director-General's opening remarks at the media briefing on COVID-19, 2020).

With the situation getting worse due to the spread of the pandemic and rising infections, forceful lockdowns and restrictions of movement were implemented in a lot of countries across the globe. These kinds of restrictions have been noticed for the first time in a century. Such a large scale pandemic has not been seen since the 'Spanish flu' of 1920, and the pandemic response was a new experience for most people across the world. Strict enforcement of lockdowns, cancellation of air and road travel and mandatory stay-at-home were not something that people were prepared for, and this had an adverse impact on the mental health of many individuals.

While pandemic progresses through different stages, human brain also faces certain stages of grief, these stages can be different for individuals and these can be seen interchangeably in different individuals. Roy et al described the stages of grief with respect to the pandemic, as explained in the diagram below:

Stages of Grief	Signs	Examples
Denial	• Disbelief • Resistance to the facts	This can't be happening! Are you serious? It's just the flu and it's killing people everywhere. It's just some gimmick. I am not getting into this hype. I'm not old, immune-compromised or susceptible to lung ailments, so I'll be fine.
Anger	• Outrage • Blaming	This is ridiculous!! What are the authorities doing? Why did anyone not take any step earlier? It is impossible that no one knew about the forthcoming consequences
Bargaining	• Making Trade-offs	This painful, but probably for the best. I might just get mild symptoms, but if it is my grandma, will she survive? Maybe something good will happen out of it. Maybe It's OK to spend time with others as long as they wash their hands before they see me.
Depression	• A feeling of helplessness or hopelessness	What's the use? We are all going to get the virus anyway. How will I pay my rent? How will I pay for my family's food?My business cannot survive a prolonged lockdown.
Acceptance	• Exploring options • Moving on	This is what is happening and therefore, this is what we need to do in response. We have to stay indoors and save ourselves and our families' life. We should act fast and decisively.

Stages of a Pandemic

Stage I Imported Cases

Stage II Local Transmission

Stage III Community Transmission

Stage IV Epidemic

N.B.- These symptoms of mental health disorders often may interchangeably exist in different stages of pandemic specific to each individual. The vulnerable populations and people with pre-existing mental health conditions may experience symptoms of greater magnitude at earlier stages.
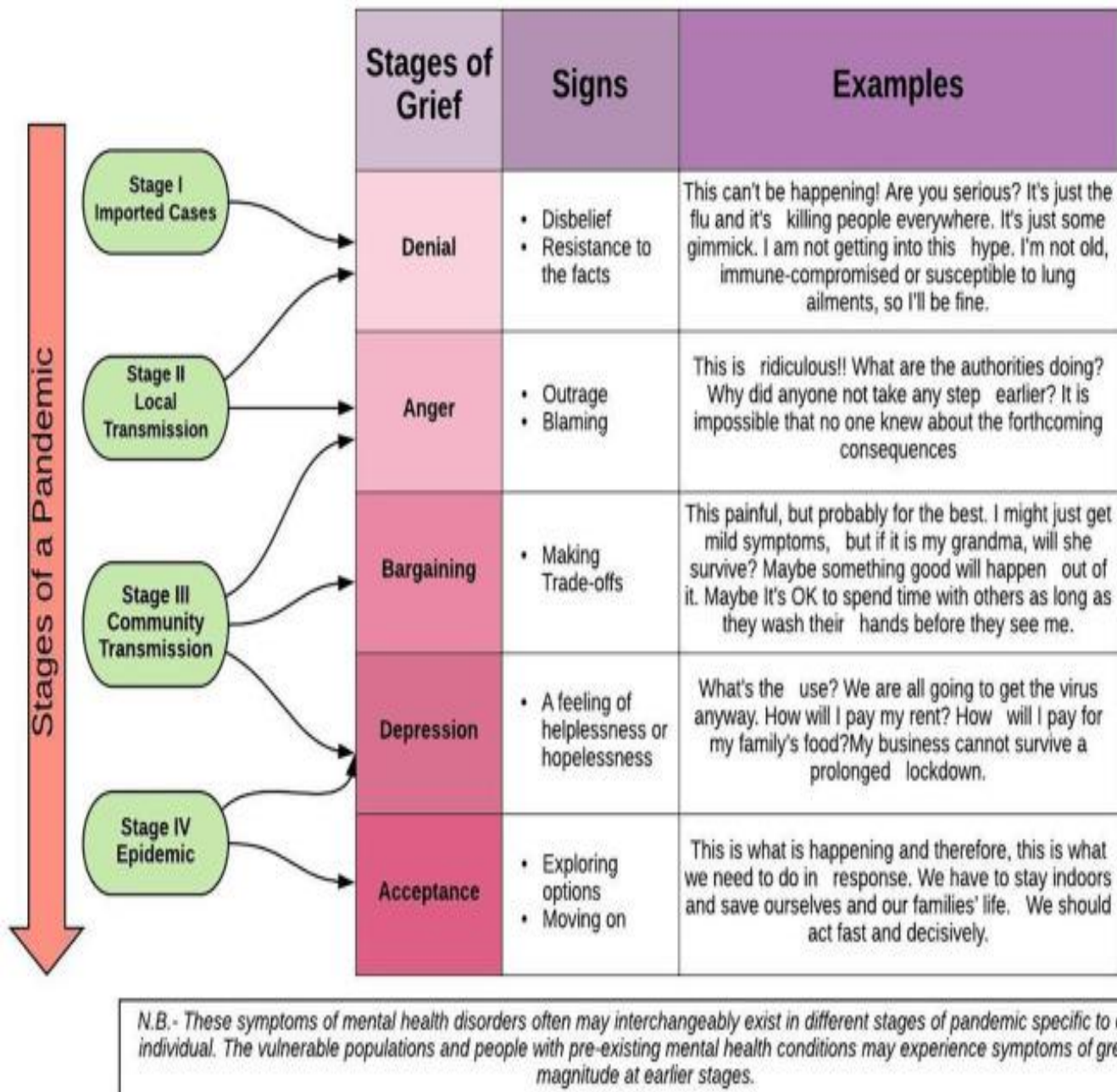
FIGURE 1: Stages of Grief During Pandemic

Roy et al. Mental health implications of COVID-19 pandemic and its response in India.
doi: 10.1177/0020764020950769

COVID 19 has spread globally and till date affecting more than 17 crore individuals worldwide, causing ~16.28 million deaths globally (Bhatia, Anisha, 2020). The pandemic has inculcated a deep fear in minds of people, with subsequent waves hitting and affecting different age groups, fear has increased exponentially.

With the 2nd wave affecting India's youth, the fear has increased tremendously. COVID is associated with a change in the environment and whenever environment changes our brain and body is not able to handle it. And when change occurs at country level shifting the way of life, this can cause impact more adversely than expected. One such effect is seen on mental health with change in environment because of COVID-19.

Whole world is facing the mental illness crisis and not just India, studies conducted show that range of mental illness is different in different countries, in 2020, depressive symptoms varied from 14.6 to 48.3%, anxiety symptoms from 6.33 to 50.9%, stress from 8.1 to 81.9%, PTSS from 7 to 53.8%[1234]. (Clifford W. Beers, 2020)

According to a meta analysis conducted by Hossain et al, the percentage of cases of mental illness in South Asia has risen from 11-17% to 30 - 60% in this pandemic (Hossain, 2021), an increase in case of anxiety, stress, depression, distress also indicating increase in substance use and suicidal thoughts.

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[1] https://mhanational.org/issues/2020/mental-health-america-prevalence-data

[2] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7365642/

[3] file:///C:/Users/admin/AppData/Local/Temp/mmc1.pdf

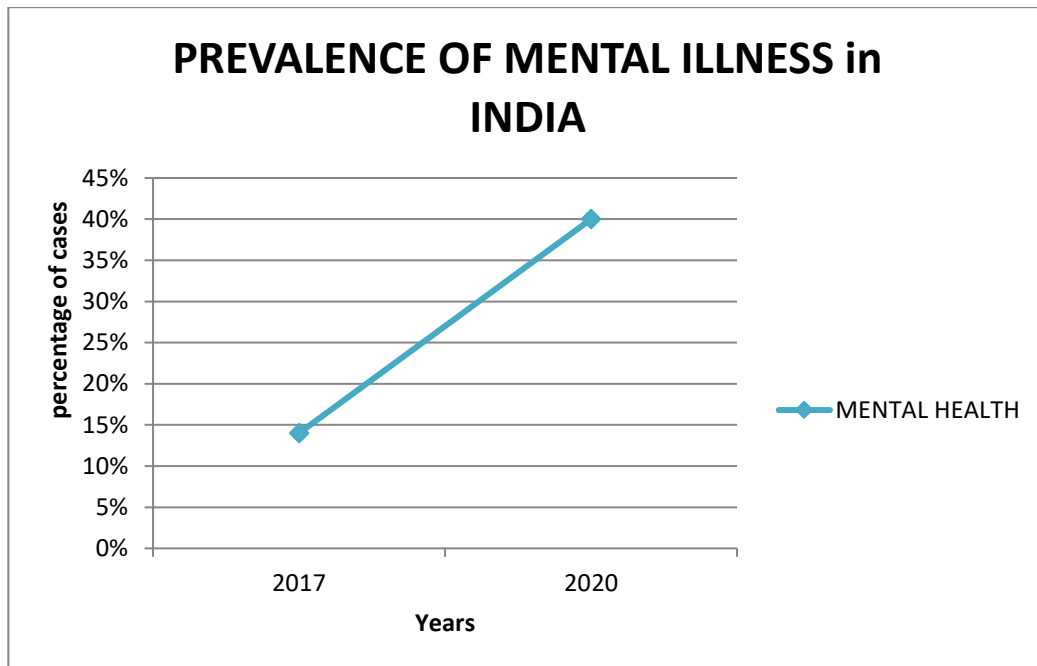[4] https://pubmed.ncbi.nlm.nih.gov/32202646/

CHART 3: Prevalence of Mental illness in India

Hossain et al. Prevalence of anxiety and depression in South Asia during COVID-19: A systematic review and meta-analysis. doi: 10.1016/j.heliyon.2021.e06677

In country like India, while communities are conscious about the physical health and well being we, ignore the fact that mental health is also important. India was already facing issues understanding mental health and in this pandemic while we keep full check on our physical well being we tend to forget to keep check on mental health. The aim of this study is to understand mental issues reported in the pandemic, what made people more susceptible towards mental illness in this pandemic and what are the most common mental health issues observed among 4 different groups of society during the pandemic.

Chapter- 4
Objectives of study

Primary objective:

➢ To identify the factors associated with disruption of mental health during COVID-19 pandemic, among four groups:

  o the Youth/ Young Adult (18-29 years of age),
  o healthcare professionals,
  o people who are not suffering from COVID-19
  o patients already suffering from mental disorders

Secondary objectives:

➢ To assess the change in magnitude of mental illness during the pandemic period.
➢ To find out the pattern of mental disorders reported during the pandemic.

Chapter-5

<u>Methodology</u>

METHODOLOGY

STUDY DESIGN: Narrative review

STUDY PLAN:

KEYWORDS which were used are: COVID-19, novel Corona virus, mental health, youth, young adults, psychiatric, Healthcare workers, Doctors, Nurses, Front line workers, Mental illness, mental disorders, Pandemic.

SEARCH METHODOLOGY:

Boolean search was conducted using keywords in various combinations to navigate through databases, like the following:

- ➢ Mental health AND youth AND COVID-19
- ➢ Mental health AND COVID-19 OR Youth
- ➢ Mental health AND COVID-19 AND psychiatric patients
- ➢ Mental health AND healthcare professionals AND COVID-19
- ➢ Mental disorders AND factors AND COVID-19

SEARCH STRATEGY: Electronic databases like PubMed, Google Scholar and Medline, were searched to select relevant published articles, along with some official government websites to find the prevalence of mental illness in various countries. All articles which matched the objectives, inclusion and exclusion criteria were selected. The articles were initially shortlisted through relevant abstracts and then selected once those articles were thoroughly studied. All articles relevant to COVID-19 Pandemic only were selected.

INCLUSION CRITERIA:

- Articles published in year 2020 or 2021
- Published articles in the English language
- Free full text articles available online
- Articles were not restricted to any particular country but more importance was given to Indian context.

EXCLUSION CRITERIA:

- Any article revolving around any other epidemic or pandemic except COVID was not included in the study.

Articles that were found in the database search were reviewed thoroughly as per inclusion criteria and relevant articles were selected for the purpose of this review.
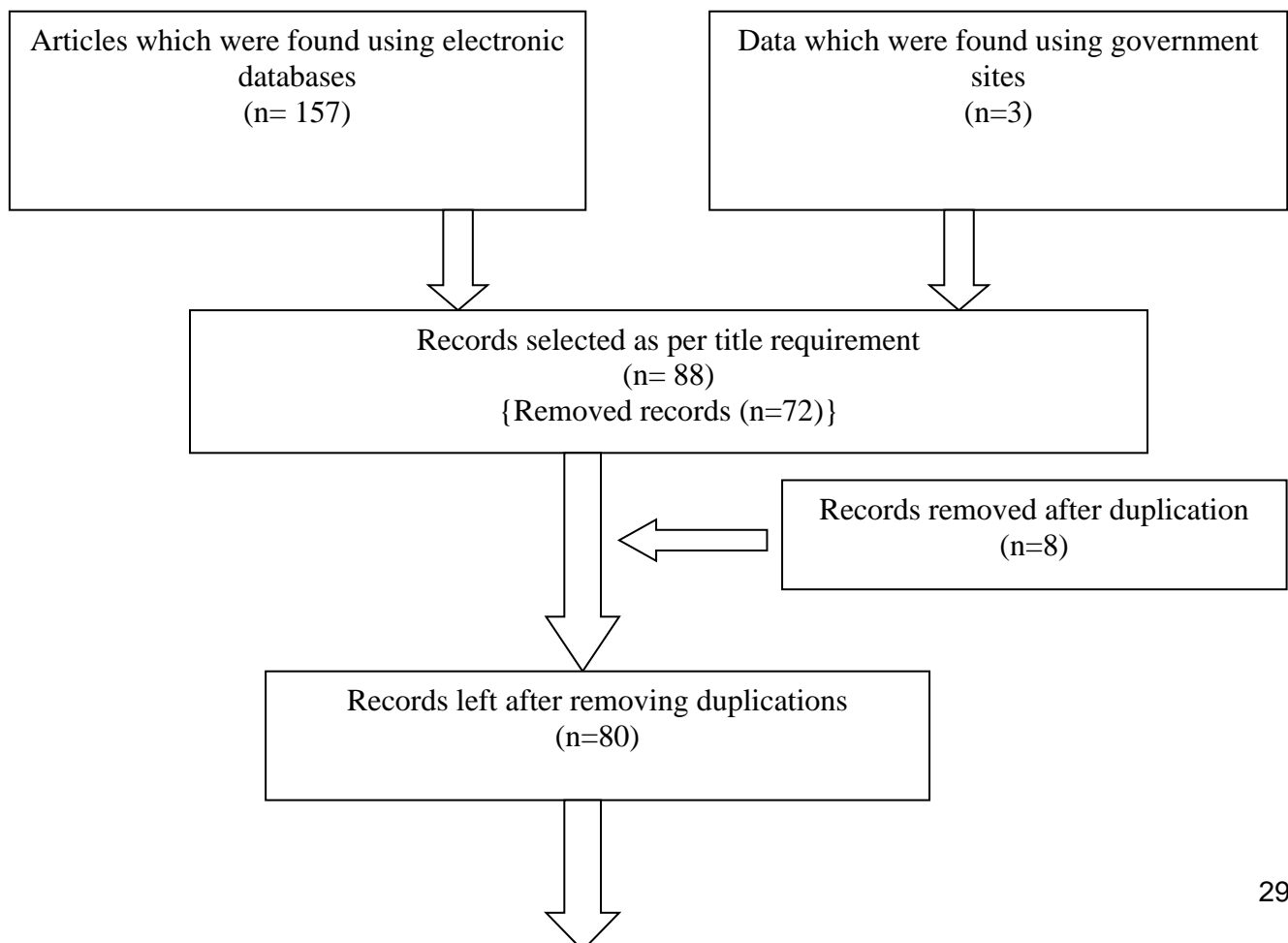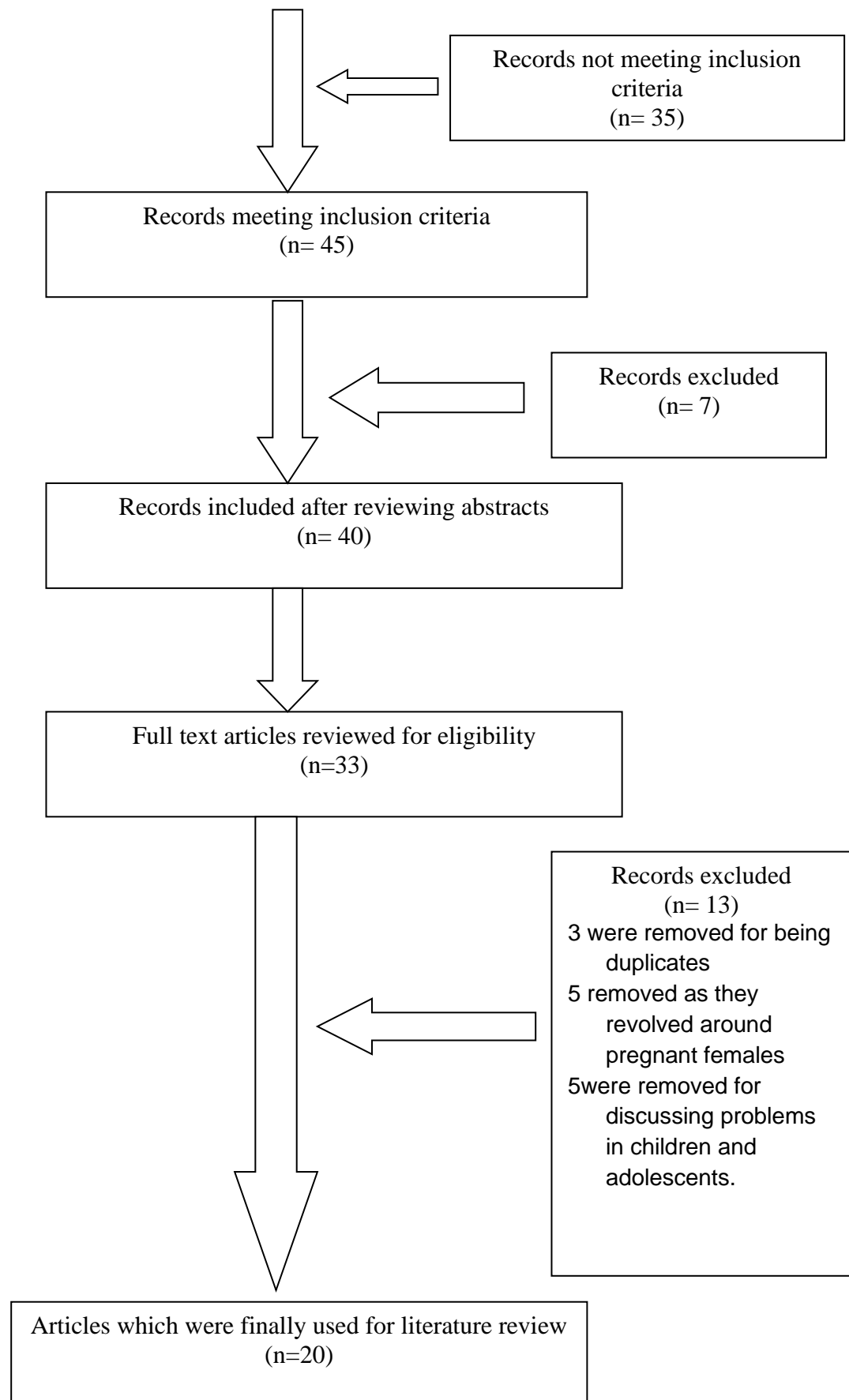
Chapter-6
Results

Out of 160 articles which were found on electronic databases (PubMED, Google Scholar, Medline and Government sites), 88 articles were shortlisted based on their titles, which were related to mental health and COVID-19. Out of those 88 articles, 8 were removed because of duplications, 45 articles were shortlisted after reading the abstracts and out of these 45 articles, 20 were finally selected after thorough reading. The selected articles revolved around impact of COVID-19 on mental health of youth, on patients with psychiatric needs, on healthcare professionals.

Out of 20 articles which were selected 9 were on the general population and covered the general factors/reasons along with trends in prevalence of mental health, 3 articles concentrated towards Youth of the countries, 5 focused on healthcare workers and 3 focused on the issues faced by patients suffering from mental disorders.

In these studies most researchers came to the conclusion that mental health was directly or indirectly impacted by the Spread of pandemic, and it was also seen that almost all countries have seen a poor impact of COVID on mental health. All the studies conducted depicted disruptive effect of COVID-19 on mental health, not even a single study depicted the other way round.

.
| Articles which were found using electronic databases (n= 157) | Data which were found using government sites (n=3) |

Records selected as per title requirement
(n= 88)
{Removed records (n=72)}

Records removed after duplication
(n=8)

Records left after removing duplications
(n=80)

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Records not meeting inclusion
criteria
(n= 35)

Records meeting inclusion criteria
(n= 45)

Records excluded
(n= 7)

Records included after reviewing abstracts
(n= 40)

Full text articles reviewed for eligibility
(n=33)

Records excluded
(n= 13)
3 were removed for being
duplicates
5 removed as they
revolved around
pregnant females
5were removed for
discussing problems
in children and
adolescents.

Articles which were finally used for literature review
(n=20)

Chapter-7
Discussion

In case of a pandemic or epidemic, both physical and mental health gets affected adversely, while these infectious disease target human bodies, the change in environment targets the human brain. Even a slight change which occurs around can lead to create a stressful condition in one's life, people feel anxious with changes which occur in our surroundings. In cases with spread of infectious diseases where spread, cause, outcomes everything is unclear the fear and tension is at different level. The impact of fear, panic and terror has been observed in various parts of world[5], with toilet papers getting stocked in supermarkets to empty grocery stores in various cities, a sense of panic has been observed.

Any sort of health emergency tends to have detrimental effect on human brain. Spread of infectious diseases lead to increase in fear and this fear has been observed in population since centuries, noticed in individuals since all epidemics and pandemics.

With spread of COVID 19 and restriction on movements, there is a tendency that it will leave people in distress for long, may leave population vulnerable to mental health issues.

In case of epidemic or pandemic the cases of mental health seems to rise exponentially due to the infectious nature of a disease, and in case COVID-19 dual factors play a role: highly infectious disease has not only inculcated a fear of getting infected and hence forced everyone to follow preventive methods but also words like social distancing, quarantine, isolation are adding more disturbance (usher, 2020).

There are many studies which have show that in COVID there has been an increase in cases of depression, insomnia, stress, panic and anxiety. It is also observed that COVID has also shown an increase in cases of suicides, domestic violence, child abuse, substance abuse, loneliness. (Dalila Talevi1, 2020)

While it is believed that mental illness shows no age boundaries or gender association still some groups are considered to be more Vulnerable during these times, like pregnant women, older age group, and individuals already suffering from psychiatric conditions.

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[5] https://www.who.int/teams/mental-health-and-substance-use/covid-19

For individuals already suffering from ***PSYCHIATRIC CONDITIONS*** COVID has increased their problem in different ways: (Yao, 2020)

- ❖ Mental health disorders tend to increase the risk of catching infections; the reason for same is predicted to be less awareness of personal hygiene, Cognitive impairment, and little awareness of risk.
- ❖ Another problem observed is that people with mental illness when get affected with Virus don't tend to get treatment at time because of the discrimination and stigma attached to it and also the morbidities attached with it makes treatment difficult.
- ❖ People who are already suffering from emotional disturbances and fear/ anxiety/ panic will have a worsened condition because they are more susceptible to stress.
- ❖ Also many serious mental conditions require regular visits and prescriptions from doctors, with everything going on technological platform these patients found it difficult to communicate with their doctors.
- ❖ Mental health professionals (psychologists and psychiatrists) are deployed in COVID Care making it difficult for patients with mental disorders to connect with their doctors to seek help.

Acc to WHO, Also 60% of critical mental health services are disrupted, in which 67% disruptions is seen in counseling and 45% is seen in disruption of withdrawal treatment, with 35% disruption seen in emergency services problem exaggerated in people suffering from seizures. In case of patients with mental disorders and those with mood disorders most common symptoms seen were insomnia, depression, anxiety, stress and post traumatic stress symptoms. From the studies conducted in different countries it was anticipated that the patients which mental disorders (including OCD) found it more difficult to cope up with the stress and anxiety created (Ghebreyesus, Dr Tedros Adhanom, 2020).

While COVID-19 impacts mental health of those who are suffering or recovering from the disease, it does not leave behind the population which is ***NOT SUFFERING FROM COVID-19***, general population/community be it any age group, children/adolescent/youth/ elderly.

Reasons for each group may vary but the end impact is usually observed in form of stress, anxiety, depressive symptoms, binge eating and binge watching disorder, suicidal thoughts and PTSS. (Moreno C, 2020) Some reasons which were observed to cause disruptive effect on mental health are Compulsory closure of schools, closing of public places, stock outs at grocery stores, suspension of all non essential services, shifting of work environment suddenly. (usher, 2020)

These infectious diseases not only result in fear and terror but also leave individuals with post traumatic stress disorder (PTSD). In cases of epidemics and pandemics PTSD become quite common, these events inculcate deep fears in minds of people and considerably affect their mental health. Also in case of infectious diseases, where spreading of infection occurs at higher risk,cases of depression are seen to rise. (Dalila Talevi1, 2020)

There is a feeling of hopelessness, despair, grief, bereavement, and a profound loss of purpose observed in this pandemic (usher, 2020). Fear of losing control over life and resources tend to scare people.
Lack of proper and complete information leads to increase the confusion and fear in mind of community and individuals. And because of these there is a negative societal behavior observed in individuals (usher, 2020).

This fear is not just associated with people getting infected or with those who are already suffering from psychiatric issues, but these problems is tend to be associated with almost all individuals.

The fear of getting infected, the fear of getting our loved ones affected, the fear of losing everything we have, fear of losing our family or loved ones in this whole pandemic is being seen to be increased. (COVID-19 has a tendency to spread at very fast pace, has a tendency to affect whole family while one person carries the virus inside them, has caused so many deaths that now people have a fear of losing their loved ones..

In general it was noticed female faced more of mental health issues as compared to male (approximately 49% vs. 40%) (Nirmita Panchal, 2021)
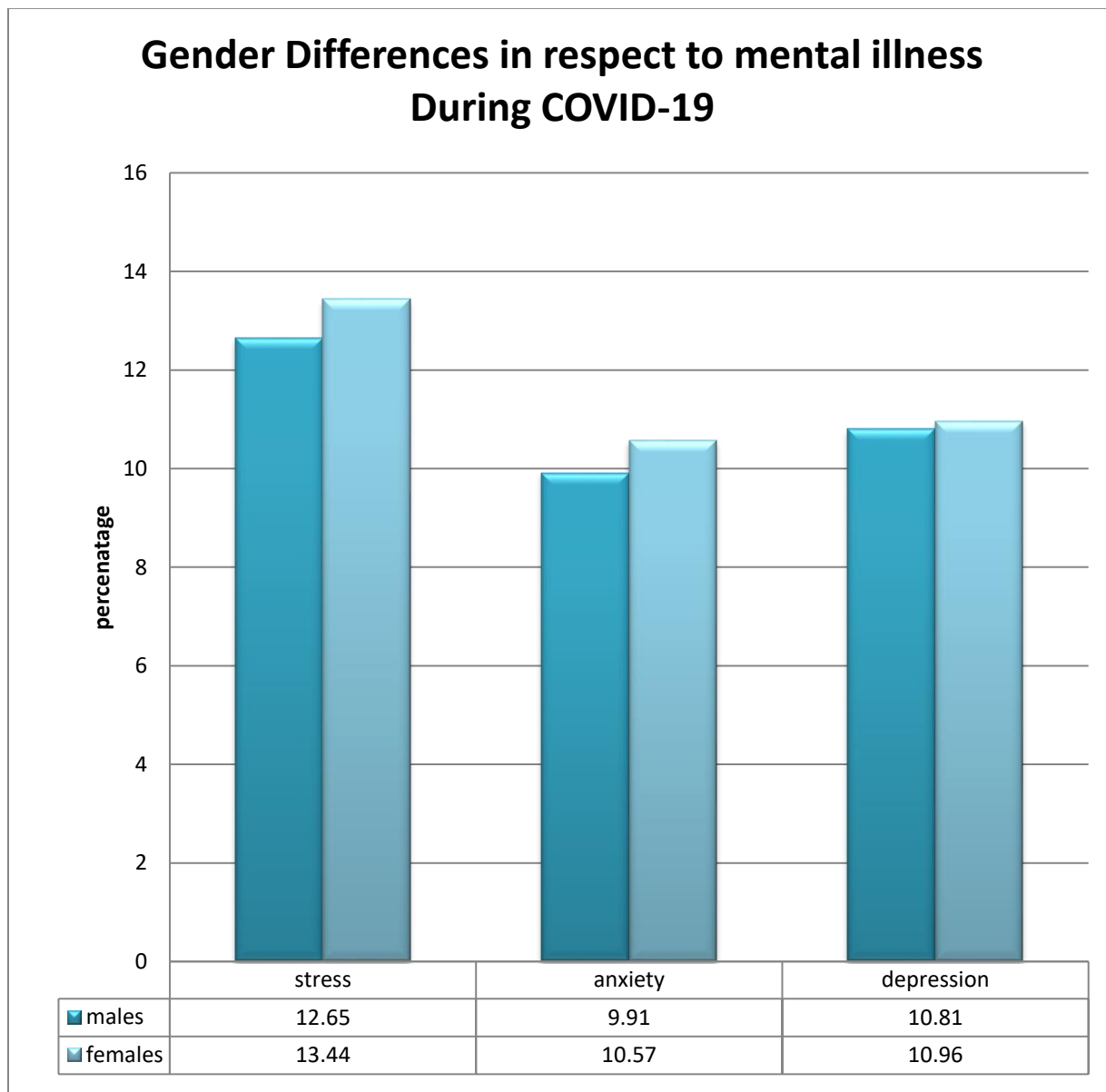
Gender Differences in respect to mental illness During COVID-19

	stress	anxiety	depression
males	12.65	9.91	10.81
females	13.44	10.57	10.96

CHART 4: Gender Differences in respect to mental illness during COVID-19

Nirmita Panchal etal, The Implications of COVID-19 for Mental Health and Substance Use
https://www.kff.org/coronavirus-covid-19/issue-brief/the-implications-of-covid-19-for-mental-health-and-substance-use/

One additional issue which has affected mental health of **_YOUTH COMMUNITY_** is **economic crisis** (Power, 2020) with people losing their jobs, lesser opportunities, earning members not getting paid or hired at any other place, reduction in income levels, these all factors too affect the mental health of an individual.

With economic recession affecting the world, age groups of 18 to 29 years have being affected adversely, these ages comprise of people with individuals who have finished their education and are stepping into the professional age, with economic crisis and recession hitting the world, these age groups find it difficult to find their place in the professional world, affecting their mental health and causing depression and self doubt in many cases.

 It is observed that economic inactivity tends to increase the suicidal thoughts (*Power et al 2015)*, it is also observed that young highly educated women are at higher risk of poorer mental health due to economic insecurity (*Fiori et al 2016*).

Families which have experienced job or income loss, have noted to face more severe impact on mental health (Power, 2020). Loss of employment and money is reported to lead towards more suicidal deaths.

With months long lockdowns imposed in countries the social life (Power, 2020) has come to an end many people are away from their families, and being alone at home in this pandemic has been a reason for more panic. This has specifically affected the Youth of the countries.

Youth is the age group who is a combination of cognitive, social and emotional transitions, and social connectedness & social identity are prominent parts of life for youth.

The interaction people used to have with their colleagues, friends, families have been left just on the social media or telephones, making it difficult to express their feelings, leaving them with a feeling of being stuck, making them feel lonely.

Loneliness in young individuals seems to be connected with negative behavioral impact and poor mental health condition.

In case of patients who have suffered from COVID-19 and were advised to stay in isolation or were quarantined for 14 days have reported to be having post traumatic stress symptoms.

The reason for which are mentioned as   staying away from their loved ones and fear of death had a bad impact on their mental health, leaving many people suffering from INSOMNIA and also pushing themselves towards substance abuse.

Another group of individuals which have been badly impacted by the pandemic is the _**Healthcare professionals and frontline workers**_; (Gupta & sahoo, 2020)health care workers play a crucial role in saving lives and fighting diseases during the pandemic and nevertheless mental health of this community gets ignored unintentionally, it was observed that healthcare professionals working in COVID ward were seen to have higher levels of depressive symptoms and PTSS (Post traumatic Stress symptoms).

Healthcare workers which includes doctors, nurses, paramedic staff are seen to face several mental health issues like emotional distress & burnout (Gupta & sahoo, 2020), anxiety disorders, depressive symptoms, insomnia, acute stress reactions & PTSS/PTSD, and some other issues like poorly perceived self health, depersonalization (feeling detached from themselves), lack of control over lives (Gupta & sahoo, 2020).

Many biological, psychological and social/environmental factors are associated with mental problems in HCWs (Gupta & sahoo, 2020):
- Biological factors included having child or an elderly at home.
- Psychology factors included:
  - People suffering from anxious avoidant personality trait, avoidant coping mechanism were at higher risk of mental illness.
  - Doctors have a professional and ethical duty towards society but they are too a family person having some duties towards their families, fear of carrying infection at home and infecting their own family increased the level of stress doctors and nurses feel.
- Socio-environmental factors include:
  - Inadequate communication and lack of information (rapidly changing protocols& treatment plans, no proper chain of command leads to sense of uncontrollability and rumors adds to worsening the situation),
  - Risk of exposure to infection (HCWs are at a higher risk of getting infection which is attached to the fear of transmitting it to their family members),
  - Social distancing (social distancing deprives them from the social support and emotional support they need),
  - Limited availability of staff HCWs are packed with long working hours
  - Limited resources and frequent changes in the shifts and wards poses a negative impact on mental health.
- Other reasons include
  - Lack of the personal protective equipment
  - Staff working in isolation wards are usually advised to stay in isolation wards as they carry the risk of carrying infection which makes them more vulnerable to stress and PTSS.

- o Also, in isolation wards single doctor and nurse are usually working leading to burnout and tiredness
- o Lack of information and support from authorities creates a fear in minds of HCWs, a fear that they can make any sort of mistake; support is also needed in concern with finances/ incentives/ recognition and family matters.
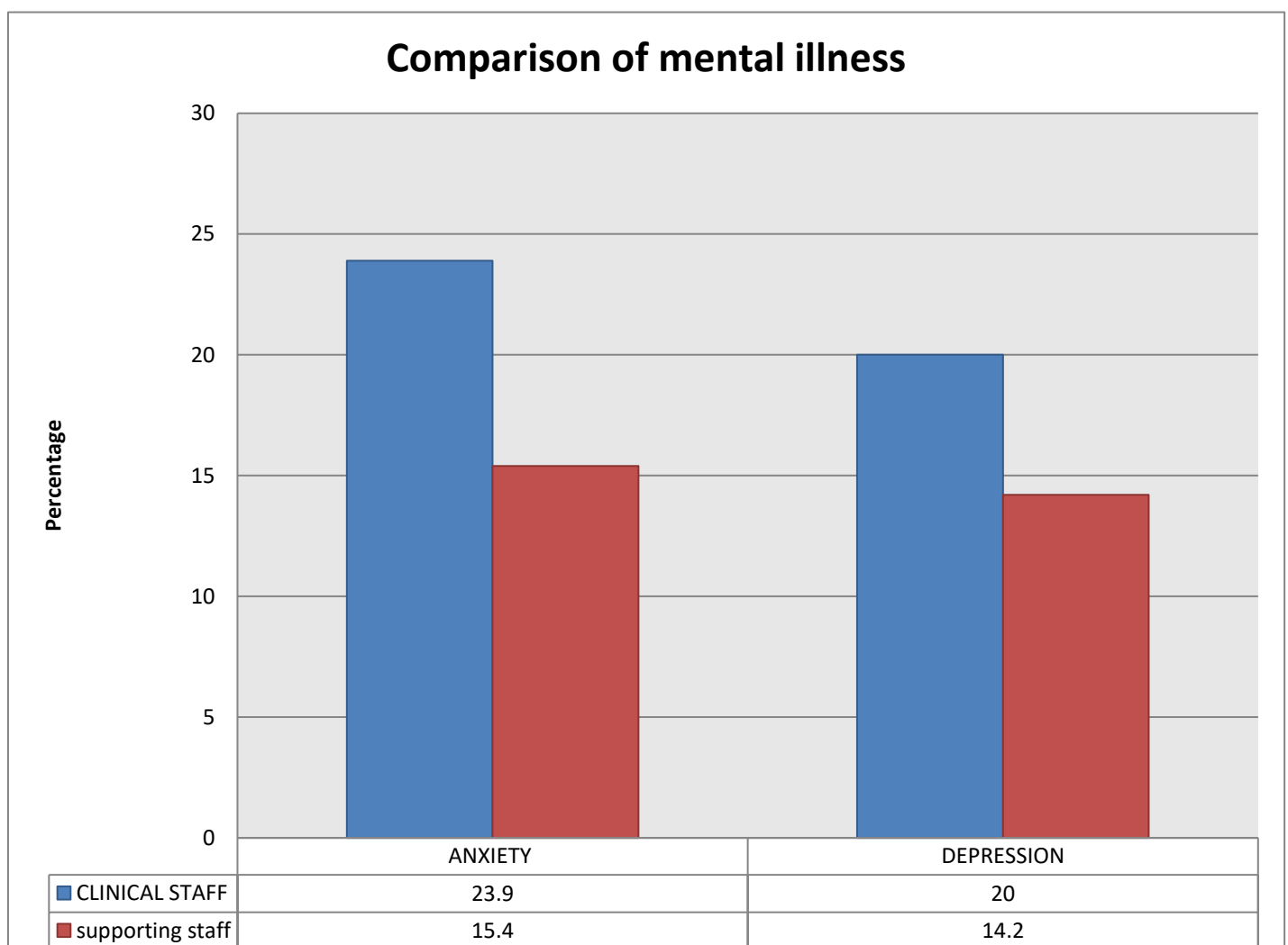- o HCWs are also facing a fear of violent crowd behavior due to high level of emotions and stress. (Gupta & sahoo, 2020)

Comparison of mental illness

	ANXIETY	DEPRESSION
CLINICAL STAFF	23.9	20
supporting staff	15.4	14.2

CHART 5: comparison of mental illness

RajaniParthasarathy et al Mental health issues among health care workers during the COVID-19 pandemic – A study from India https://doi.org/10.1016/j.ajp.2021.102626

Out of the supporting staff and frontline staff, more cases of mental illness is noticed in case of the frontline workers especially those working in COVID ward.

Although mental health of supporting staff has also being impacted the reason for the same stands to be slightly different from that of the clinical staff.

In a study it was observed that one reason for poor mental health in supporting staff is the inferior feeling, as the doctors and nurses serve he population directly, supporting staff tend to feel less important and not being able to help the public, it makes them feel un-worthy (Parthasarathy, 2021) and hence, impact their mental health.
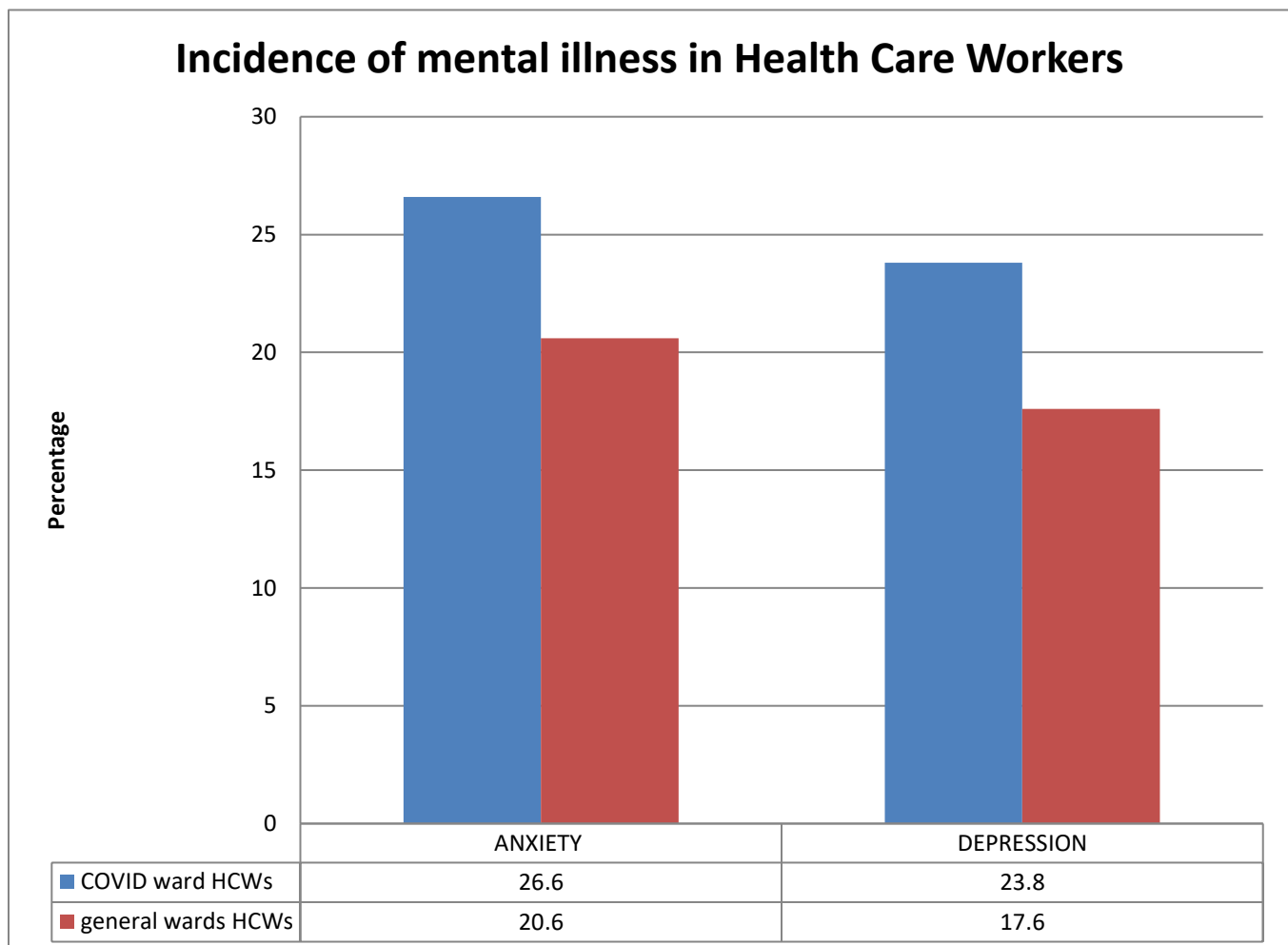
Incidence of mental illness in Health Care Workers

	ANXIETY	DEPRESSION
■ COVID ward HCWs	26.6	23.8
■ general wards HCWs	20.6	17.6

CHART 6: Incidence of Mental illness in Helathcare workers

RajaniParthasarathy et al Mental health issues among health care workers during the COVID-19 pandemic – A study from India https://doi.org/10.1016/j.ajp.2021.102626

Chapter-8
Conclusion

COVID 19 has caused a lot of damage to mankind, environment and economy. It has not only affected physical wellness of community but has severely impacted mental health too. In countries like India where there is a lot of stigma attached to mental health, COVID 19 has added more factors while worsening the situation. Not only India but communities across the globe have faced adverse impact of COVID on mental health. Mental illness statistics have seen an exponential increase in many different countries and different forms of mental illnesses are observed in various countries. In China from 11% cases of mental illness have increased to 60- 80 %, in US statistics have changed from 11% in Jan 2019 to 41% in Jan 2021. In India, statistics have changed from ~ 14% to ~30 – 60% in 2017 vs. 2020 respectively.

Types of mental illness in this pandemic as reported by studies across the world are stress, anxiety, binge eating behavior, binge watching behavior, eating disorders, depression, suicidal thoughts, post traumatic stress symptoms, substance abuse. The magnitude of each of these illnesses differs with country and population. The most common problems seen were stress, anxiety, PTSS and depression.

Factors which have impacted mental health of community are different for different sections and age groups of society. For the general population, without any known history of mental disorders before the pandemic, common reasons observed were loneliness, fear of losing loved ones, fear of death, financial constraints, pain and grief in those who lost their loved ones, limited resources, non-availability of healthcare services, fear of transmitting disease, change in work environment. In case of people who were already suffering from some psychiatric illness, the pandemic disrupted their existing line of treatment and their communication with the treating psychologist/physician. For the youth, loss of social life, staying at home, economic crisis, losing control over life and change in school and work environment were the factors for poor mental health during the pandemic. For healthcare professionals, the main reasons were fear of infection, fear of facing violence, long working hours, staying away from family.

Chapter-9

Recommendations to Way forward

Mental health needs equal care and attention as any other disease or deformity. We need to make sure people are not hiding these illnesses and are getting proper care for cure.

For this we need to stop deploying mental health professionals towards COVID patient care and need to make sure that services are being provided through online consultations and telemedicine.

We even need to make sure that community be it youth or healthcare professionals are able to express their fear, able to talk to someone to seek help and morale support to feel better and positive in tough times, pay attention to self care.

Another way to keep mental health under check is spending time with family and friends, in case stuck alone at home calling family and friends at regular intervals. In this tough time it's very important to stay connected and express feelings for better mental health.

In any pandemic or endemic a lot of wrong information floats on various platform (Infodemic) and therefore it is necessary to control the information we are digesting and absorbing from social media and other digital platforms, being selective about absorbing information which is useful staying away from negative information.

We also need to control routes of transmission of wrong information Syncing of habits according to quarantine and keeping one occupied in their hobbies or anything which makes them feel better.

People also need to realize this that they don't have to be hard on themselves and should celebrate even the smallest events, even if it's small as making their beds.

Introducing any form of exercise to form a healthy lifestyle is important.

Introducing yoga and meditation are good ways to stay positive and healthy in this pandemic
Following a balanced diet is another way

As a society we need to provide these individuals with more support and affection and not isolate them or stay away from them, we need to understand that individuals with mental illness need someone to talk to therefore for humanity we need to stick together with each other.

The only way to reduce fear from minds is by following the precautions and safety measures so as to stay safe and reduce burden on mental health.

To reduce fear from HCWs mind it is important to organize for proper PPE kits and other safety equipments available, also providing them with insurance and taking strict legal advices to safeguard them from violence. Communicating with doctors and front line workers to provide them morale support is also important.

In today's era we also have helplines to support us in fight against mental illness and also there are self help groups, we also nowadays have some websites which gives us the access to share our feelings, stress, anxiety issues, or even life problems without revealing one's identity, with the sole purpose of creating a user friendly platform just for COMMUNICATION. Communication is the key to fight mental illness.

Therefore everyone be it someone who is suffering from mental illness even something like stress and anxiety or someone who is perfectly fine everyone needs to communicate.

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