

Summer Training

Knowledge, attitude and practice regarding COVID-19 among healthcare workers.

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Acknowledgement

The summer training opportunity I got to work under the direction of Dr. J.P Singh, associate professor, IIHMR University, Jaipur, Due to COVID-19 most of the student's didn't get the opportunity to work with any organization.

Remembering the past, I would like thanks and gratitude to my mentor, Dr. J.P Singh, associate professor, IIHMR University, Jaipur, for directing and keeping me on the right way all through the two months of internship.

It is my brilliant conclusion to put on record my best respects, most profound feeling of appreciation and obligation to Mrs. Lallu Joseph, General secretary CAHO, Consortium of accredited healthcare organization for her support and faith and for allowing me to carry out the study among enrolled healthcare professionals in an online program migration from NABH 4th to NABH 5th and I want to thank all the participants for their responses.

I would like to express my heartfelt thanks to God, my parents, my family members, my friend and all my seniors for their continuous support.

I consider the opportunity as a big landmark in my professional development. I'll strive to use the gained skills and acknowledgement on the best path, and will continue to work on their improvement, to attain the desired career objectives.

Sincerely,

Ritika Gupta

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ABBREVIATION

COVID-19	Coronavirus disease2019
HCWs	Healthcare workers
PPE	Personal protective equipment
SARS	Severe acute respiratory syndrome
MERS	Middle east respiratory syndrome
WHO	World health organization
CDC	Centre for disease control and prevention

Knowledge, attitude and practice regarding COVID-19 among healthcare workers.

INTRODUCTION

COVID-19

There is another general prosperity crisis sabotaging the world with the turn of events and spread of 2019 novel coronavirus (2019-nCoV) or the outrageous exceptional respiratory issue coronavirus 2 (SARS-CoV-2). The contamination started in bats and was transmitted to individuals through yet dark center individual animals in Wuhan, Hubei region, China in December 2019. In India there have been around 42000 cases uncovered occurrences of coronavirus cases (COVID-2019) and 1389 declared passing and 3,582,464 cases and 248,561 passing's around the globe to date (04/05/2020). The sickness is transmitted by internal breath or contact with polluted globules and the incubating time period ranges from 2 to 14 days. The reactions are typically fever, hack, sore throat, windedness, shortcoming, uneasiness among others. The disease is delicate in by far most; in a couple (regularly the more seasoned and those with comorbidities), it may progress to pneumonia, serious respiratory wretchedness issue (ARDS) and multi organ brokenness. Various people are asymptomatic. The case loss rate is assessed to run from 2 to 3%.

The study will be analyzing health care worker's knowledge, practices, and attitudes regarding COVID-19. A cross-sectional survey will be conducted in June 2020 involving health care workers enrolled in CAHO online program. To assess the knowledge of COVID-19, fear of self-infection with the virus, and following correct practices regarding COVID-19. In addition to knowledge level, some risk factors including work experience and job category influencing health care worker's attitudes and practice concerning COVID-19.

At least 90,000 health-care workers worldwide are believed to have been infected with COVID-19, and possibly twice that, amid reports of continuing shortages of protective equipment, the International Council of Nurses.

The disease has killed more than 260 nurses, it said in a statement, urging authorities to keep more accurate records to help prevent the virus from spreading among staff and patients. In India Coronavirus has infected around 548 doctors, nurses and paramedics across the country so far, according to data maintained by the Centre, official sources said on Wednesday.

It is important to control spread of covid-19 among healthcare workers.

It is settled that transmission of the malady among HCWs is related with congestion, nonappearance of detachment room offices, and natural sullyng. In any case, this is likely exacerbated by the way that some HCWs have lacking attention to disease anticipation rehearses. Information on ailment can impact HCWs' perspectives and rehearses, and off base mentalities and practices legitimately increment the danger of contamination. Understanding HCWs' information, perspectives, and practices (KAP) and conceivable hazard factors help to foresee the results of arranged conduct. Consequently, this examination planned to explore KAP concerning patients tainted with COVID-19 among HCWs. In the event that HCWs' KAP concerning the infection and the components that influence their perspectives and practices can be resolved expeditiously in the beginning periods of the scourge, at that point this data can advise pertinent preparing and strategies during the flare-up and manage HCWs in organizing security and keeping away from word related introduction. These people are working around the clock in areas with large concentrations of the virus. Many of them have had difficulties obtaining needed PPE.

The reason for transmission of the disease among health workers. Within the hospital, healthcare workers (HCWs) are often exposed to infections. Any transmissible disease can occur in the hospital setting and may affect HCWs. HCWs are not only at risk of acquiring infections but also of being a source of infection to patients. Therefore, both the patient and the HCW need to be protected from contracting or transmitting hospital-acquired infections by recommended infection control measures.

3. RESEARCH QUESTION

1. What is the level of knowledge among healthcare workers regarding COVID -19?
2. Does healthcare workers following guidelines given by WHO to fight against **COVID -19**?
3. What are precautionary measures taken by the healthcare workers to protect themselves and their family against virus?
4. What is the level of fear of self-infection with the virus among healthcare workers?

4. OBJECTIVES

- 1.To study the level of knowledge among healthcare workers regarding COVID-19.
2. To study healthcare workers following guidelines given by WHO to fight against COVID-19.
- 3.To study precautionary measures taken by the healthcare workers to protect themselves and their family against virus.
4. To study the level of fear of self-infection with the virus among healthcare workers.

5. LIMITATION OF THE RESEARCH

- Due to COVID-19 it was difficult to visit any hospital and conduct the survey.
- Due to COVID-19 many hospitals refused to conduct any survey.
- It was difficult to get the maximum responses through online survey.
- People were reluctant and were not filling the form so it increased the number of days to collect the responses.

METHOD AND MATERIAL

Study Design

This cross-sectional research study among enrolled healthcare professionals' participants in online course of migration from 4th NABH to 5th NABH in the CAHO (Consortium of Accredited Healthcare Organizations) in India, between June 16 and June 30, 2020. After obtaining consent of each participant, a semi-structured questionnaire was administered using the Google form. The permission for conducting this study was obtained from the General Secretary of CAHO.

Sampling

Purposive sampling technique was applied to collect data from 208 health professionals who were currently enrolled in the CAHO online program. A total of 161 healthcare workers (77.40%) who had access to the internet during this crucial period and had agreed to participate, completed the survey.

Data Collection

The questionnaire was developed on basis of guideline issued by WHO World health organization and ICMR, Indian council of medical research.

The questionnaire consisted of four sections, namely demographic background (five questions), knowledge (five questions), attitude (seven questions), and practices (eleven questions) regarding COVID-19. The questionnaire consisted of closed-ended questions requiring either one or multiple responses from the choices provided. The link to the questionnaire was sent on WhatsApp number to the participating healthcare professionals. They received a system-automated email which clearly mentioned that after starting the survey, the healthcare professionals could take up to an hour to record their responses to survey questions, in order to capture their real knowledge about COVID-19. After reading a brief introduction of the study and providing informed consent, participants responded to a set of questions that appeared sequentially on their screen.

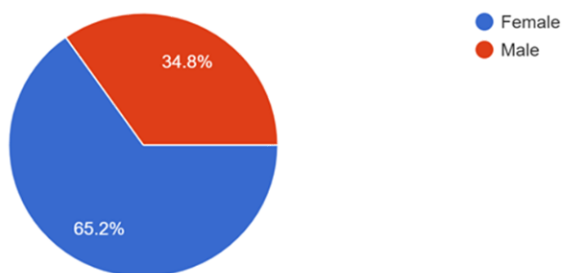
Respondents

This is a cross-sectional survey which was conducted in a span of 15 days from June 16th to June 30th, 2020, during pandemic when healthcare workers attempt to diminish the spread of coronavirus. Information was gathered online with a review structure during the predetermined period. An independent survey was flowed online which likewise remembered a concise presentation for the foundation, objective, deliberate nature of cooperation and revelations of secrecy and privacy. Medicinal services laborers over 16 years old, from different emergency clinics and other wellbeing organizations in India and were tried out CAHO in online program who consented to take an interest in this examination, were incorporated. Diverse medicinal services laborers included specialists, attendants, wellbeing associates, ensured clinical partners, drug specialists, clinical lab technician, and clinical microbiologists. Members asked to address a Yes-No, True-False inquiry to affirm their willful support. After affirmation for support, the participants were coordinated to finish the survey.

ANALYSIS OF STUDY

fig.1 Gender of the respondents

Gender
161 responses



Out of 161 respondents there were 35% male i.e. 56 males and 65% females i.e. 105 females

fig.2 Age of the respondents

Respondents were divided into four age group i.e. less than 30 years, between 31-39 years of age, between 40-49 years of age and more than 50 years of age.

Age
161 responses

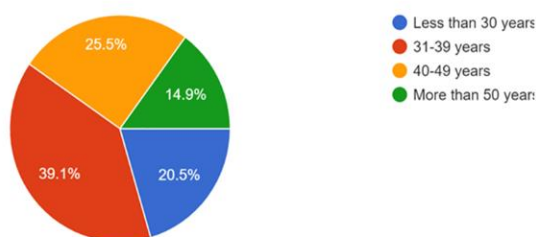


fig.3 Job category

Health workers categories as Doctors, Nurses and Paramedics

Job category
161 responses

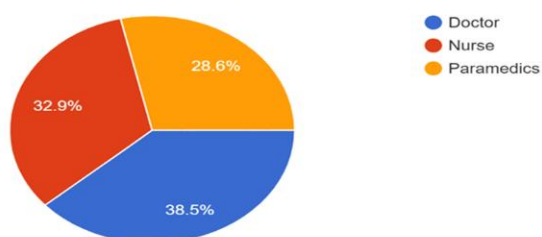


fig.4 Education attainment

Mostly respondents were post graduated only 3 respondents were graduated and 9 were junior college and below.

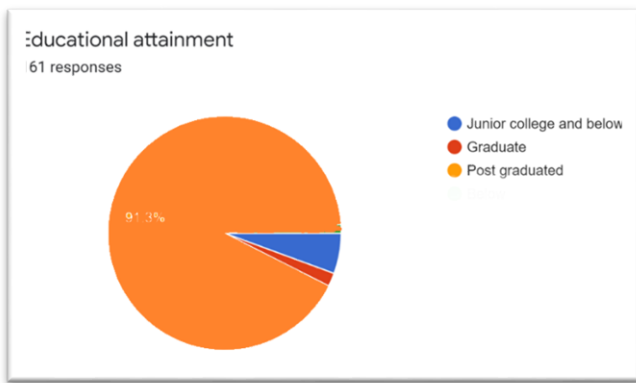


fig.5 Work Experience

62% respondents were having more then 9 years of work experience, 18%were having experience between 5-9years of age and 20% were having less than 5 years of experience.

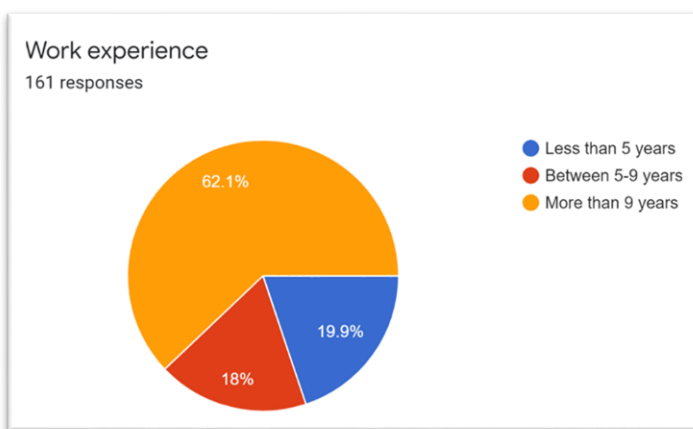


fig.6 Front line workers

50% respondents were frontline worker who are dealing with coronavirus cases whereas other 50% respondents were healthcare professionals who are not dealing with COVID-19 cases.

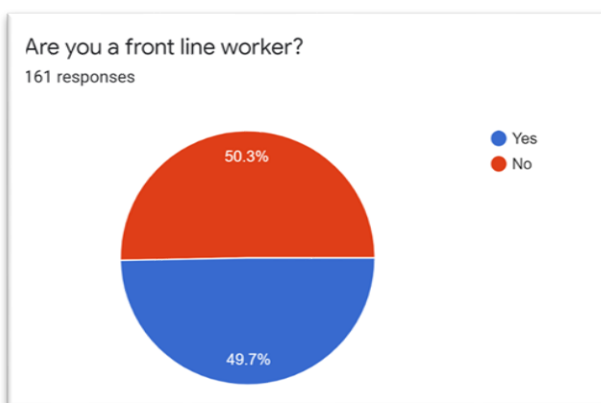
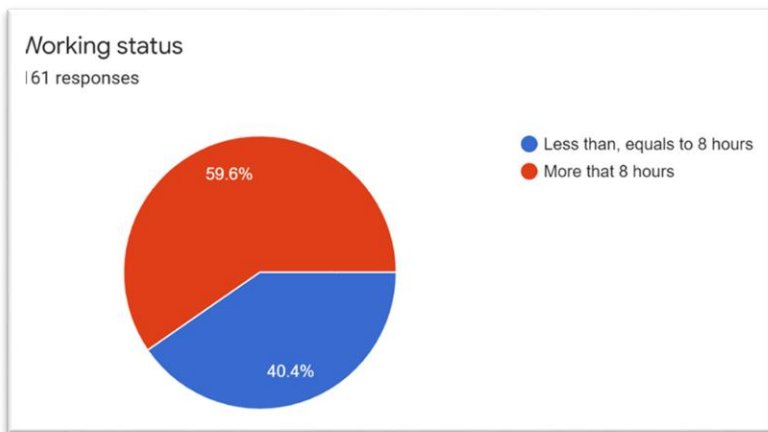


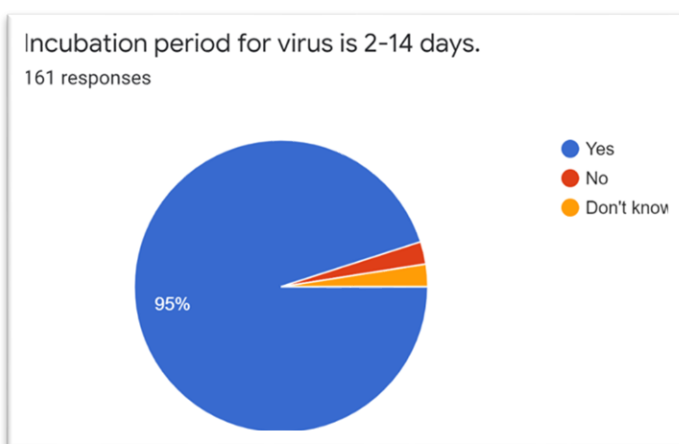
fig.7 Working status

60% healthcare worker are working more than 8 hours and 40% working less than, equals to 8 hours in COVID-19 Pandemic.



Analysis about knowledge among healthcare workers on COVID-19

fig.9 Incubation period for virus



95% healthcare workers aware about incubation period of virus is 2-14 days, 2.5% responded no for and 2.5% don't know about incubation period for virus.

fig.10 fatality of coronavirus infection

66.5% healthcare workers responded that coronavirus infection could be fatal, 9.3% responded coronavirus could not be fatal and 24.2% responded that coronavirus maybe fatal.

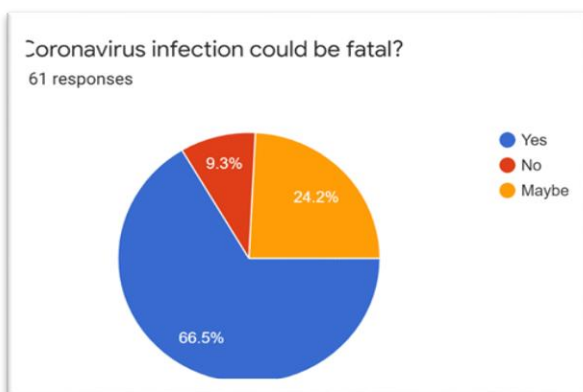


fig.11 Awareness about availability of COVID-19 vaccine

92.5% responded coronavirus vaccine is not available, 4.3% responded yes for availability of COVID-19 vaccine, 3.1% don't know about the availability of vaccine

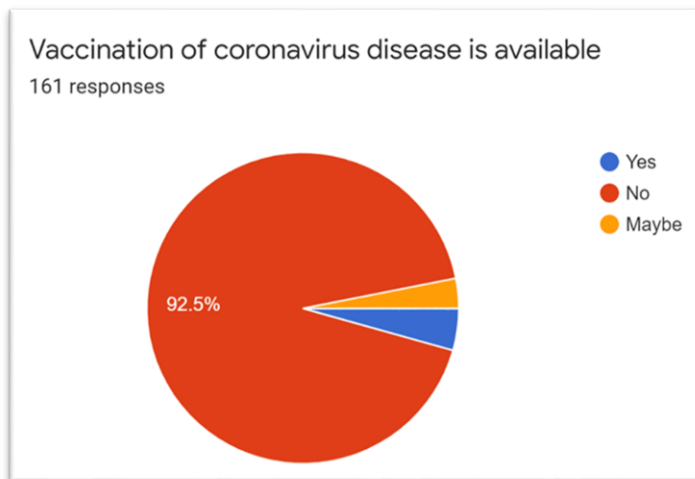
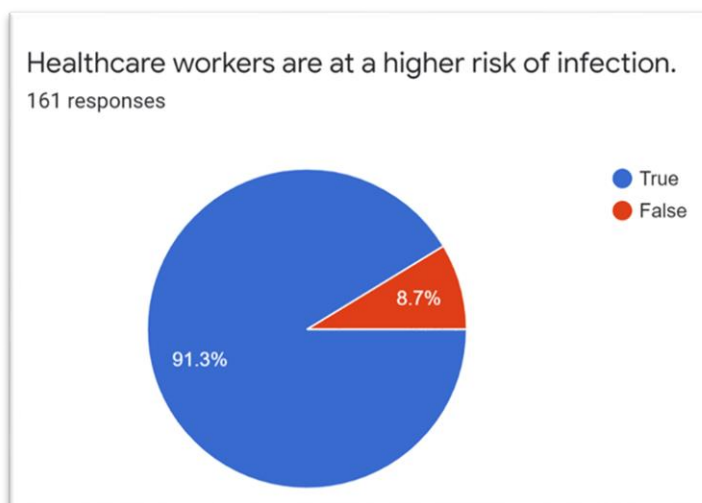


fig.12 Healthcare workers are at high risk of Infection

91.3% responded true that healthcare professionals are at high risk of infection 8.7% responded false that healthcare workers are not at high risk of infection.



Analysis regarding attitude among healthcare workers on COVID-19

fig.13 Prevalence of coronavirus can be decreased by active participation of healthcare professionals in hospital infections control programs

85.7% responded yes that the prevalence of COVID-19 can be decreased by active participation of healthcare professionals in hospital infection control programs, 3.1% responded no and 11.2% responded may be.

Prevalence of COVID-19 can be reduced by active participation of healthcare workers in hospital infection control programs.

161 responses

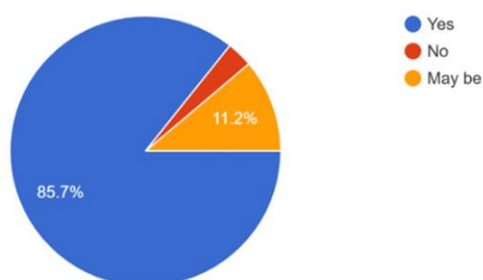
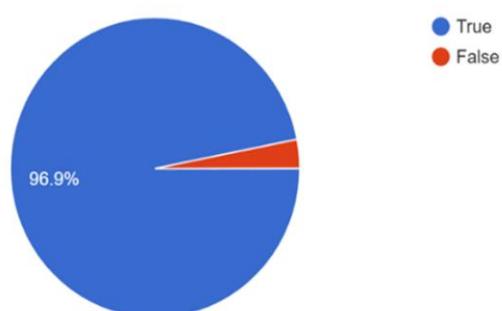


fig.14 Transmission of coronavirus infection can be omitted by using universal precautions, measures provided by WHO, CDC.

Transmission of COVID-19 infection can be prevented by using universal precautions given by WHO, CDC?

161 responses

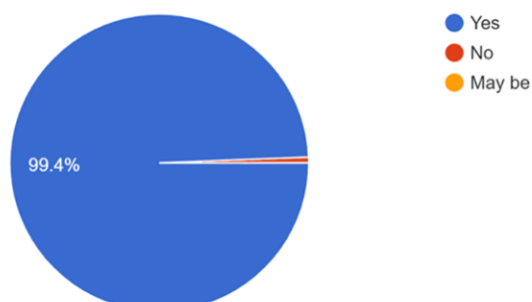


96.9% responded true that transmission of coronavirus infection can be omitted by using universal precautions, measures provided by WHO, CDC but 3.1% responded false that according to them transmission of coronavirus infection cannot be omitted by using universal precaution, measures provided by WHO, CDC.

fig.15 Gown, goggles, mask and gloves must be worn while dealing with coronavirus patient.

Gown, gloves, mask and goggles must be used when dealing with COVID-19 patient?

161 responses



99.4% responded yes that gown, goggles, mask and gloves must be worn while dealing with coronavirus patient whereas,0.6% that is only 1 responded no that gown, goggles, mask and gloves not be effective while dealing with COVID-19 patient.

fig.16 Level of fear of COVID-19

Responses were taken on Likert scale 37.3% respondent were neutral.

Likert scale	Level of fear of COVID-19	No. of respondent
1	Very strong	45(28%)
2	Strong	22(13.7%)
3	Neutral	60(37.3%)
4	Weak	23(14.3%)
5	Very Weak	11(6.8%)

Level of fear of COVID-19

161 responses

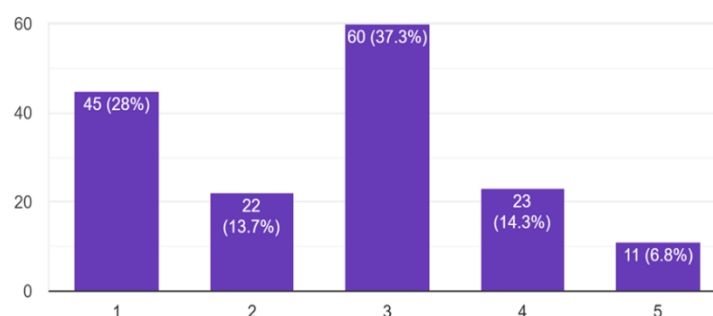


fig.17 Confidence in defeating the virus

38.5% respondent confident in defeating the virus

Likert scale	Confidence in defeating the virus	No. of respondent
1	Very weak	11(6.8%)
2	Weak	6(3.7%)
3	Neutral	39(24.2%)
4	Strong	43(26.7%)
5	Very strong	62(38.5%)

Confidence in defeating the virus

161 responses

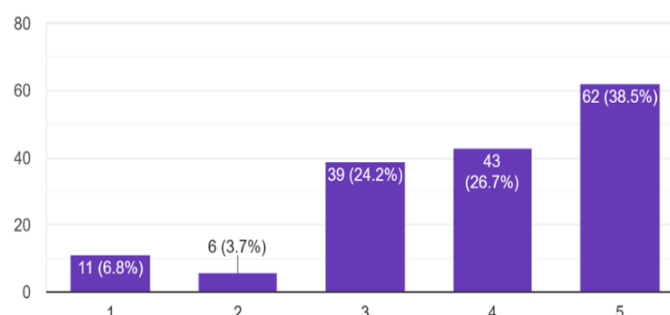


fig.18 Feeling of fatigue after the outbreak

39.1% respondent were neutral

Likert scale	Feeling of fatigue after the outbreak	No. of respondent
1	Very weak	10(6.2%)
2	Weak	18(11.2%)
3	neutral	63(39.1%)

4	Strong	38(23.6%)
5	Very strong	32(19.9%)

Feeling of fatigue after the outbreak

161 responses

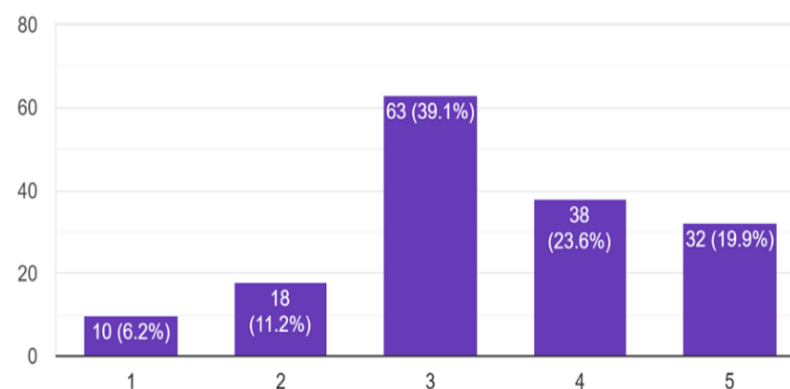
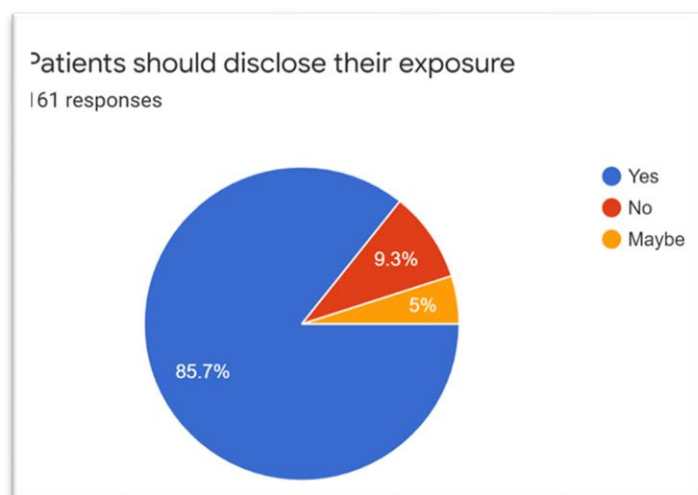


fig.19 Patients should disclose their exposure



85.7% respondent responded yes that patients should disclose their exposure, 9.3% responded no, that people should not disclose their exposure and 5% responded may be not sure.

Analysis regarding practice among healthcare workers on COVID-19

fig.20 Frequency of hand washing

47.8% respondent wash there hand more then 10 times a day.

Frequency of hand washing	No. of respondents
Less than 10 times	38(23.6%)

Less than 20 times	77(47.8%)
Less than 30 times	46(28.6%)

Frequency of hand washing

161 responses

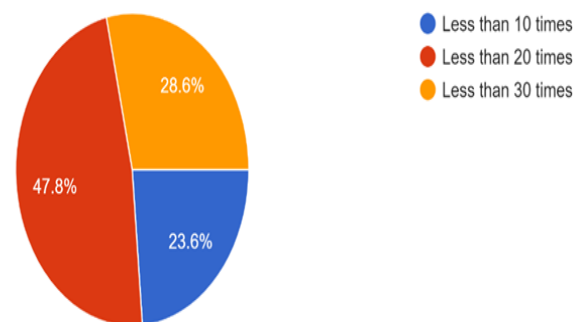
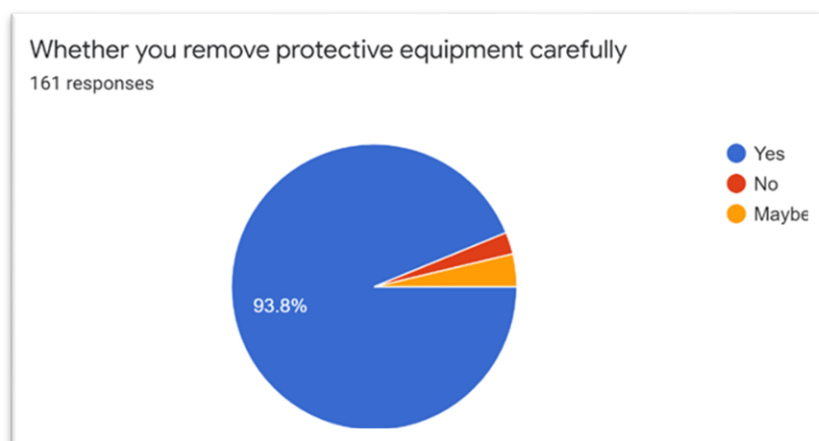
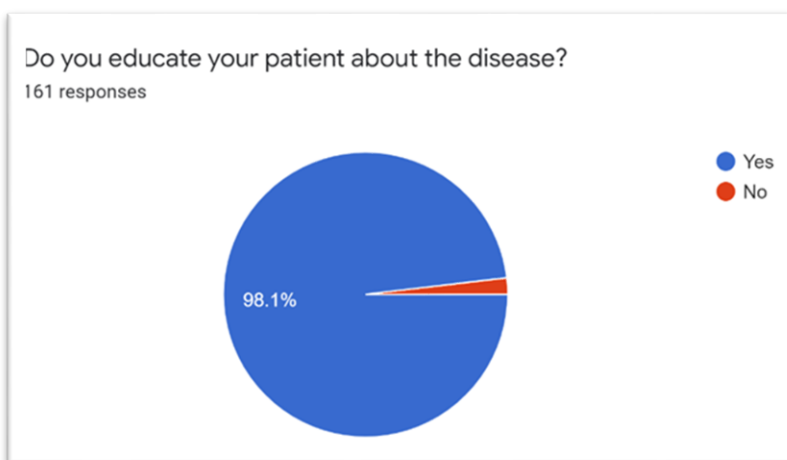


fig.21 Whether they remove protective equipment carefully



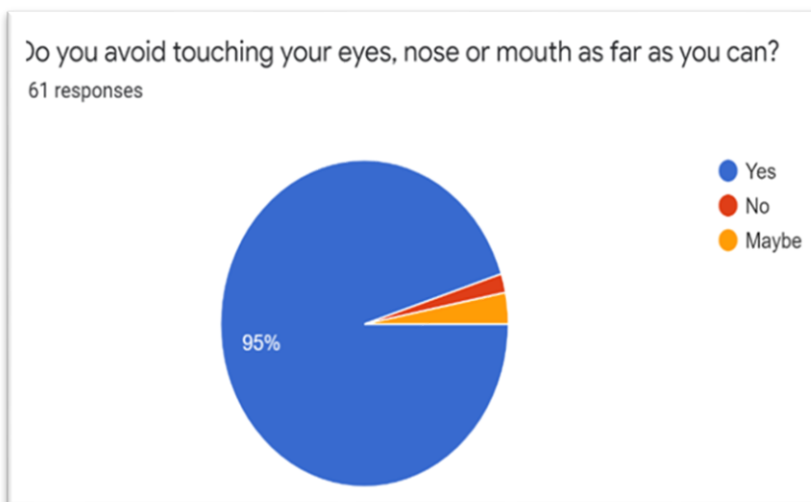
93.8% i.e. responded yes, that they remove there protective equipment carefully, 2.5% i.e. 4 responded that they don't remove there protective equipment carefully and 3.7% i.e. 6 responded may be that they were confused.

fig.22 Do they educate your patient about the disease



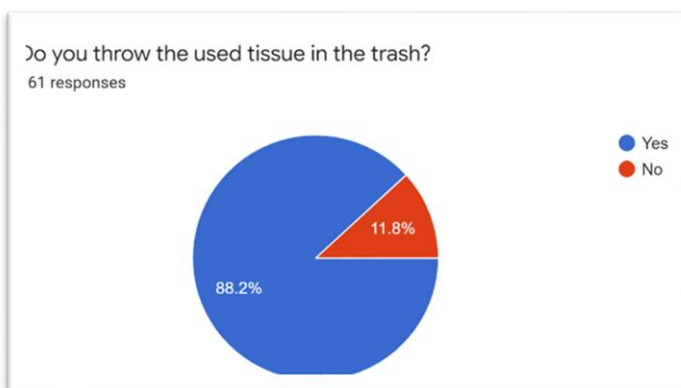
98.1% i.e. 158 responded yes that they educate their patients and 1.9% i.e. 3 responded no, that they don't educate their patient about the disease.

fig.23 Do they ignore touching their eyes, mouth or nose as much as they can



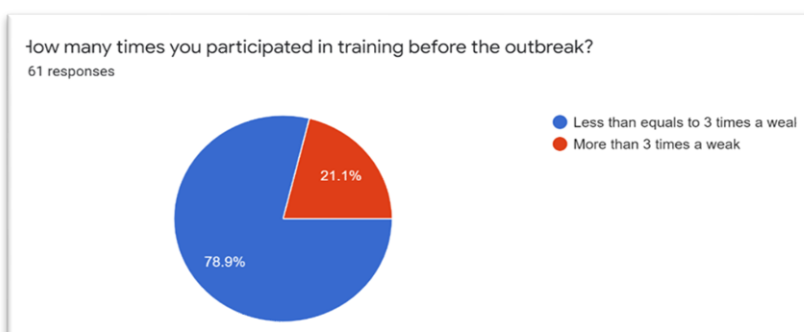
95% i.e. 153 responded yes that they ignore touching their eyes, mouth or nose as much as they can, 1.9% i.e. 3 responded no that they can't ignore touching their eyes, mouth or nose and 3.1% i.e. 5 responded were confused don't know.

fig.24 Do they throw the utilised tissue in the dustbin



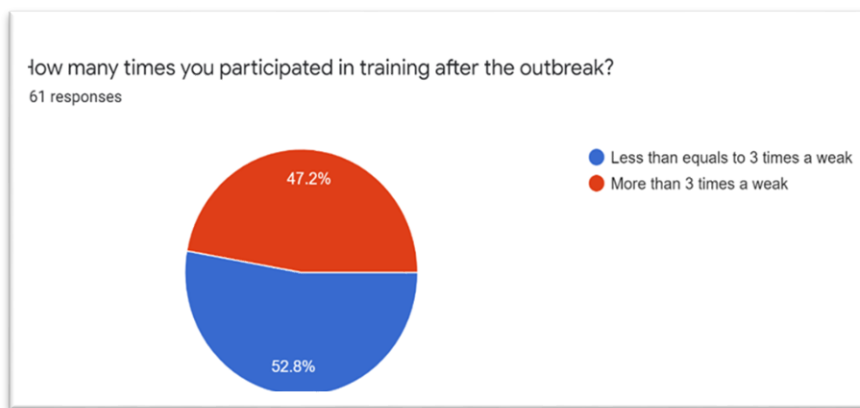
88.2% i.e.142 responded yes that they through the used tissue in trash and 11.8% i.e. 19 responded no that they don't through the used tissue in the trash.

fig.25 How many times they participated in training before the outbreak.



78.9% i.e.127 responded they participated in training less than equals to 3 times a week before the outbreak whereas 21.1% i.e.34 responded they participated in training more than 3times a week before outbreak.

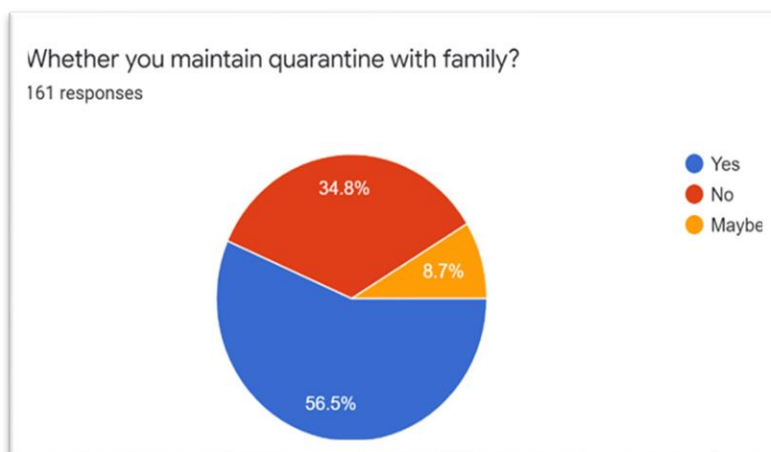
fig.26 How many times they participated in training after the outbreak



52.8% i.e.85 responded they participated in training less than equals to 3 times a week after the outbreak whereas 47.2% i.e.76 responded they participated in training more than 3times a week after outbreak.

When we compared responses of the healthcare workers that how many times they participated in training after and before the outbreak so before the outbreak 21.1% participated in training more than 3times a week but after the outbreak 47.2% healthcare workers participated in training more than 3times a week.

fig.27 Whether they maintain quarantine with family



56.5% i.e. 91 responded yes that they maintain quarantine with the family,34.8% responded no that they don't maintain quarantine with family and 8.7% i.e.14 responded may be that they don't know whether they maintain or not quarantine with the family.

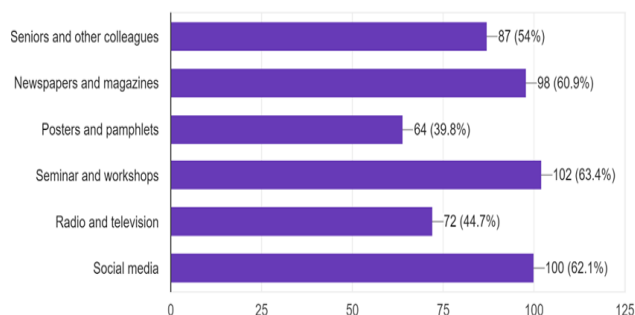
fig.28 Source of information regarding COVID-19

Respondents were asked to mark multiple options. Most of the respondent marked the source of information regarding COVID-19 through seminars and workshops, social media, newspapers and magazines.

Source of information regarding COVID-19	
Seniors and other colleagues	87(54%)
Newspapers and magazines	98(60.9%)
Posters and pamphlets	64(39.8%)
Seminar and workshops	102(63.4%)
Radio and Television	72(44.7%)
Social media	100(62.1%)

Source of information regarding COVID-19

161 responses



RESULTS

The investigation had 161 responders; all the 161 examples were qualified for examination. Most of the respondents were female (n = 105, 65%) and male were (n=56, 35%); the vast majority of the respondents were in age gathering of 31–39 years (n =63, 69.1%). The greater part of the participants had over 9 years of work understanding (n = 100, 62.1%).38% of respondents were specialists, 33% were medical attendants, 29%were paramedics. The segment profile of the example is appeared in Table one underneath.

Table 1: Demographic determinants (n = ..)

	Subgroups	n (%)
Age	Less than 30 years	20 (%)
	31-39 years	39 (%)
	40-49 years	26 (%)
	More than 50 years	15 (%)
Gender	Female	65 (%)
	Male	35 (%)
Job categories	Doctors	38 (%)
	Nurses	33 (%)
	Paramedics	29 (%)
Educational attainment	Junior college and below	6 (%)
	Graduate	1 (%)
	Post graduate	93 (%)
Work experience	More than 9 years	62 (%)

	Between 5-9 years	18 (%)
	Less than 5 years	20 (%)
Front line worker	Yes	49(%)
	No	51(%)

Awareness and Source of Information

Practically all members (99.6%) had found out about COVID-19. Internet based life (81.4%) and TV (75.3%) were the fundamental wellsprings of accepting COVID-19-related data. Over half of the respondents referenced companions, relatives, and WhatsApp as the wellspring of data of COVID-19. Wellbeing units/medicinal services laborers/outreach cutting edge laborers were accounted for as the source by more than 33% of understudies. Different sources referenced were network pioneers (20%) and radio (17%) (**Table 2**).

Table 2: Awareness and source of information among the participating regarding COVID-19 (n=161).

Indicator	n (%)
- Social media	100 (62.1)
- Television and Radio	72 (62.1)
- Seniors and other colleagues	87 (54)
- Newspapers and magazines	98 (60.9)
- Poster and pamphlets	102 (63.4)
- Seminar and workshops	79 (34.2)

*Multiple responses possible. Therefore, the total may exceed 100%.

Knowledge

The responses obtained for knowledge items of questionnaire. Mixed responses were obtained regarding 4 knowledge items. More than ninety percent (95%) students selected 2–14 days as the incubation period of COVID-19. More than 66.5% of Healthcare workers were aware about fatality of disease, 92.5% were aware about no COVID-19 vaccine is available, 91.3% aware higher risk among healthcare workers regarding COVID-19.

Table 3: Correct knowledge and mean score of regarding indicators related to protective means, treatment, and general awareness about COVID-19 (n=161)

Indicator	n (%)
- Fatality of coronavirus	153 (95)
- Incubation period	107 (66.5)
- Awareness about availability of COVID-19 vaccine	149 (92.5)
- Healthcare professionals are at high risk of infection	147 (91.3)

Attitude

Hazard discernment, avoidance goals, and self-announced anticipation rehearses were broke down (Table 4). All the Healthcare laborers reacted to each of the 7 things on their disposition in regards to COVID-19. Discoveries exhibited inspirational mentality of Healthcare laborers towards COVID-19. About 99.4% (n=160) people emphatically concurred that outfits, gloves must be utilized when managing tainted patients. 96.9% (n=156) members emphatically concurred that transmission of coronavirus could be forestalled by following general safety measures provided by WHO, CDC.

Table 4: Attitude of healthcare professionals regarding COVID-19 (n=161)

Indicator	n (%)
Attitude	
- Prevalence of coronavirus can be decreased by active participation of healthcare professionals in infections control programs in hospital	138 (85.7)
- Transmission of coronavirus infection can be controlled by using universal precautions provided by World Health Organization, CDC	156 (96.9)
- Gown, gloves, goggles and mask must be worn while dealing with coronavirus patient	160 (99.4)
- Patients should disclose their exposure	138 (85.7)

*Response were taken on Likert scale

Variable	Sub-Groups	n (%)
Level of fear of COVID-19	Very strong	45(28%)
	Strong	22(13.7%)
	Neutral	60(37.3%)
	Weak	23(14.3%)
	Very Weak	11(6.8%)
Confidence in defeating the virus	Very weak	11(6.8%)
	Weak	6(3.7%)
	Neutral	39(24.2%)
	Strong	43(26.7%)
	Very strong	62(38.5%)

Feeling of fatigue after the outbreak	Very week	10(6.2%)
	Week	18(11.2%)
	Neutral	63(39.1%)
	Strong	38(23.6%)
	Very strong	32(19.9%)

Practice

Table 5 speaks to the reactions acquired for work on surveying things of poll. All the Healthcare laborers reacted to every one of the 9 things on their demeanor with respect to COVID-19. Greater part of respondents had great work on regrading everything. Recurrence of hand washing 47.8% (n=77) under multiple times, 28.6% (n=46) under multiple times and 23.6% (n=38) under multiple times, 93.8% (n=151) members evacuate defensive gear cautiously, 98.1% (n=158) members teach their patients about the infection, 95% (n=153) members abstain from contacting their eyes, nose or mouth as far as possible, 82.2% (n=142) members reacted that they through there tissue in refuse. About 56.5% (n=91) human services laborers keep up isolate with family.

Table 5: Practice among healthcare workers regarding coronavirus (n=161)

Indicator		n (%)
Practice		
- Whether they remove protective equipment carefully		151 (93.8)
- Do they educate their patient regarding the coronavirus		158 (98.1)
- Do they ignore touching their eyes, mouth or nose as much as they could		153 (95)
- Do they throw the used tissue, napkin in the dustbin?		142 (82.2)
- Whether they maintain quarantine with family		91 (56.5)
Variable	Sub-Groups	n (%)
How many times they participated in training before the outbreak	Less than equals to 3 times a week	127(78.9%)
	More than equals to 3 times a week	34(21.1%)
How many times they participated in training after the outbreak	Less than equals to 3 times a week	85(52.8%)
	More than equals to 3 times a week	76(47.2%)
Frequency of hand washing	Less than 10 times	38(23.6%)
	Less than 20 times	77(47.8%)
	Less than 30 times	46(28.6%)

DISCUSSION

In the present study, Knowledge, attitude and good practice among enrolled healthcare professionals' participants in online course of migration from 4th NABH to 5th NABH in the CAHO (Consortium of Accredited Healthcare Organizations) in India towards COVID-19 were assessed. We found that, during the COVID-19 Pandemic, 86.32% of the participants had extensive knowledge of COVID-19. In addition, more than 91.92% of the participants had a positive attitude towards coronavirus. We have also noticed that before the outbreak majority of respondents 78.9% participated in training less than equals to 3 times a week and 21.1% participated in training more than 3 times a week but after the outbreak percentage of participants increased from 21.1% to 47.2% participants who participated in training more than equals to 3 times a week

CONCLUSION

In brief the majority of healthcare workers participated in the study had a good to moderate knowledge and practice response and had a positive attitude towards COVID-19. However, the majority of healthcare workers believe that they are confident to deal with this this pandemic. Furthermore, among all the responses participants responses lowest in knowledge section regarding COVID-19 that highlights the basicity to strengthen and improve knowledge and practice regarding coronavirus among healthcare workers.

RECOMMENDATION

18% participants do not throw used tissue in trash and 7% participants do not remove their personal protective equipment carefully therefore, the importance of these items should be emphasized more. 44% participants (healthcare professionals) do not maintain social distancing with the family, proper facility should be provided to the health care professionals so that they can maintain proper social distancing with their family.

The present study consists of a smaller number of knowledge questions and further biostatics could be applied to find the relation between the demographic determinants and knowledge, attitude and practice.

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THE FORMAT OF QUESTIONNAIRE:

* Required

1. Sex *

☐ Female

☐ Male

2. Age *

☐ Less than 30 years

☐ Between 31-39 years

☐ Between 40-49 years

☐ More than 50 years

3. Job category *

Mark only one oval.

☐ Doctor

☐ Nurse

☐ Paramedics

4. Educational attainment * *Mark only one oval.*

☐ Junior college and below

☐ Graduate

☐ Post graduated

5. Work experience * *Mark only one oval.*

☐ Less than 5 years

☐ Between 5-9 years

☐ More than 9 years

6. Are you a frontline worker? * *Mark only one oval.*

☐ Yes

☐ No

7. Working status *

Mark only one oval.

☐ Less than, equals to 8 hours

☐ More than 8 hours

8. Incubation time for coronavirus is 2-14 days. * *Mark only one oval.*

☐ Yes

☐ No

☐ Don't know

9. Coronavirus infection could be fatal? * *Mark only one oval.*

☐ Yes

☐ No

☐ Maybe

10. Vaccine for COVID-19 infection is available *

Mark only one oval.

☐ Yes

☐ No

☐ Maybe

11. Healthcare workers are at a higher risk of infection. *

Mark only one oval.

☐ True

☐

False

12. Prevalence of coronavirus can be decreased by active participation of healthcare professionals in infection control programs in hospitals. * *Mark only one oval.*

☐ Yes
☐ No
☐ May be

13. Transmission of coronavirus infection can be controlled by using universal precautions provided by World Health Organization, CDC? * *Mark only one oval.*

☐ True
☐ False

14. Gown, gloves, mask and goggles must be used when dealing with COVID-19 patient? *

Mark only one oval.

☐ Yes
☐ No
☐ May be

15. Level of fear of COVID-19 *

Mark only one oval.

	1	2	3	4	5	
Very strong	☐	☐	☐	☐	☐	Very weak

16. Confidence in defeating the virus *

	1	2	3	4	5	
Very weak	☐	☐	☐	☐	☐	very strong

17. Feeling of fatigue after the outbreak *

1	2	3	4	5	
Very weak	☐	☐	☐	☐	Very strong

18. Patients should disclose their exposure * *Mark only one oval.*

- ☐ Yes
☐ No
☐ Maybe

19. Frequency of hand washing * *Mark only one oval.*

- ☐ Less than 10 times
☐ Less than 20 times
☐ Less than 30 times

20. Whether you remove protective equipment carefully *

Mark only one oval.

- ☐ Yes
☐ No
☐ Maybe

21. Do you educate your patient regarding the coronavirus infection? *

Mark only one oval.

- ☐ Yes
☐ No

22. Do you ignore touching your eyes, mouth or nose as much as you can? *

Mark only one oval.

- ☐ Yes
☐ No
☐ Maybe

23. Do you throw the used tissue, napkin in the dustbin? *

Mark only one oval.

- ☐ Yes
☐ No

24. How many times you participated in training before the outbreak? *

Mark only one oval.

- ☐ Less than equals to 3 times a weak
☐ More than 3 times a weak

25. How many times you participated in training after the outbreak? *

Mark only one oval.

- ☐ Less than equals to 3 times a weak
☐ More than 3 times a weak

26. Whether you maintain quarantine with family? *

Mark only one oval.

- ☐ Yes
☐ No
☐ Maybe

27. Source of information regarding COVID-19 *

Check all that apply.

- ☐ Seniors and other colleagues
- ☐ Newspapers and magazines
- ☐ Posters and pamphlets
- ☐ Seminar and workshops
- ☐ Radio and television
- ☐ Social media

PART-2

Yale

07/01/2020

Ritika Gupta

has successfully completed

Essentials of Global Health

an online non-credit course authorized by Yale University and offered through Coursera

COURSE
CERTIFICATE



ONLINE COURSE

Essentials of Global Health

INTRODUCTION

Fundamental of Global wellbeing this course is offered by Yale college situated in New Haven, Connecticut and is accessible on coursera. Understudies can review this course for nothing or can pay to get the authentication and furthermore understudies need to pass all the evaluated test to get qualified for testament.

Fundamentals of overall Health might be a thorough prologue to worldwide wellbeing. it's intended to acquaint us with the current point in very much organized, clear and direct to know ways. A great part of the course is having practical experience in five inquiries: What do individuals become ill, handicapped and bite the dust from; Why do they experience the ill effects of these conditions. which people are generally influenced. For what reason would it be a good idea for us to think about such concerns. What are frequently done to manage key medical problems, ideally at least cost, as quick as could be expected under the circumstances, and in practical ways. The course is worldwide in inclusion yet with consideration on low-and centre pay nations, the strength of poor people, and wellbeing variations. Specific consideration is paid all through the course for wellbeing frameworks problem, linkages among wellbeing advancement, wellbeing things related with worldwide relationship. The course is covering key ideas and structures yet be down to earth in direction.

COURSE OBJECTIVE

Articulate key general wellbeing ideas related with worldwide wellbeing;

- Analyse the key issues in worldwide wellbeing from assortment of points of view;
- Discuss certainly the weight of illness in different locales globally; how it shifts by sex, age, and area; hazard factors in this weight; and manner in which the infection trouble is regularly tended to in financially savvy ways.
- Assess key wellbeing incongruities, particularly as they identify with the strength of low-pay and minimized individuals in low-and centre salary nations;
- Outline the key on-screen characters and associations in worldwide wellbeing and accordingly the way during which they collaborate to manage basic worldwide wellbeing concerns;
- Review worldwide wellbeing difficulties that are probably going to emerge in the coming years.

METHEDOLOGY

There are absolute 10 modules which comprise of recordings and separate perusing material identified with that module.

Every module comprises of commonly three points, every theme has recordings least of 6 minutes and limit of 25 minutes and separate understanding material, every subject has test identified with the subject which was instructed.

Each test has question which are numerous decisions and range from 5 to 10 in numbers these tests are reviewed and 80% marks are expected to pass each test.

Absolute three endeavours on the double are given to finish the test in 8hours. students have the opportunity to finish the course as per their comfort so as the test.

COURSE CONTENT

Module one: Introduction to Global health

This module acquaints us with the subject, some of the basic ideas of overall wellbeing, and assortment of main points of view for noticing worldwide medical problems. In this module additionally would acquaint us with the key on-screen characters in worldwide wellbeing and subsequently the elective ways during which they're sorted out and execution.

4 recordings (all out 58 min), 11 readings, 2 tests

Course presentation

Course centre

- The sufficiency of penniless people in vulnerable countries.
- Issues in general wellbeing that rise above national limits.
- Public medical problems that require worldwide participation.

Course Approach

1. Introducing Global Health
2. The condition of the World's Health
3. Health Systems and Value for cash in wellbeing
4. Cross-cutting subjects
5. Critical reasons for ailment and Death
6. Looking Forward

Why Study Global Health?

- It has moral measurements
- It clarifies about the effect on the efficiency of people and nations
- It joins with monetary and social turns of events
- It has suggestions for worldwide security and opportunity
- It gives proof that individuals and government spend a great deal of cash on wellbeing
- Lack of regard for limits the strength of anybody, anyplace is the soundness of everybody, all over
- Key viewpoints on Global Health and Determinants of wellbeing

Key gatherings of worldwide wellbeing entertainers

- Individuals, people group, and governments
- UN organizations
- Multilateral and reciprocal improvement associations
- International organizations
- Foundations

- National examination and wellbeing oversight associations
- Universities
- Consulting firms
- Product improvement organizations
- Non-legislative associations

Key health-related SDG targets

“2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live birth”

“By 2030, end preventable deaths of new-borns and children under 5 years of age”

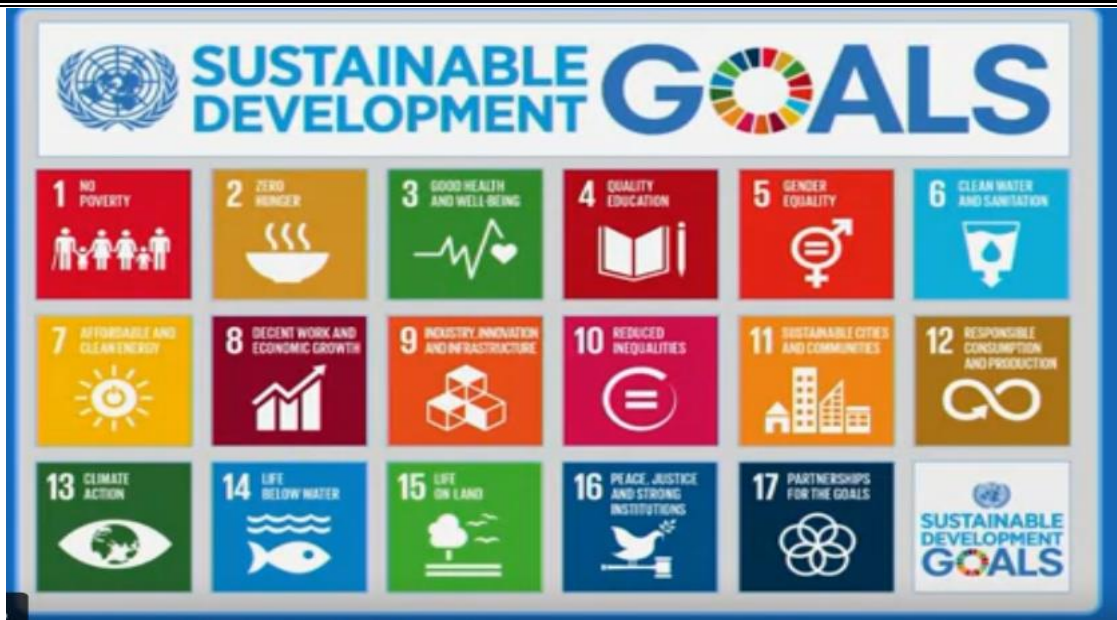
“By 2030, end the epidemics and AIDS, tuberculosis, malaria, and NTDs”

“2030, reduce by one-third premature mortality from NCDs”

“2030, guarantee widespread access to sexual and contraceptive social insurance administrations”

“Achieve universal health coverage”

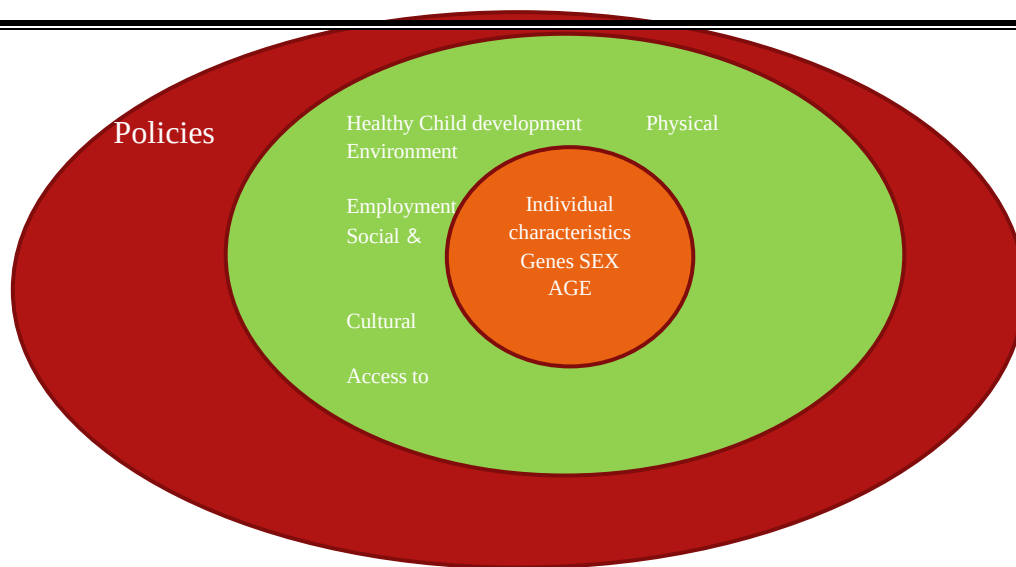
SDG Goals



Key Perspectives

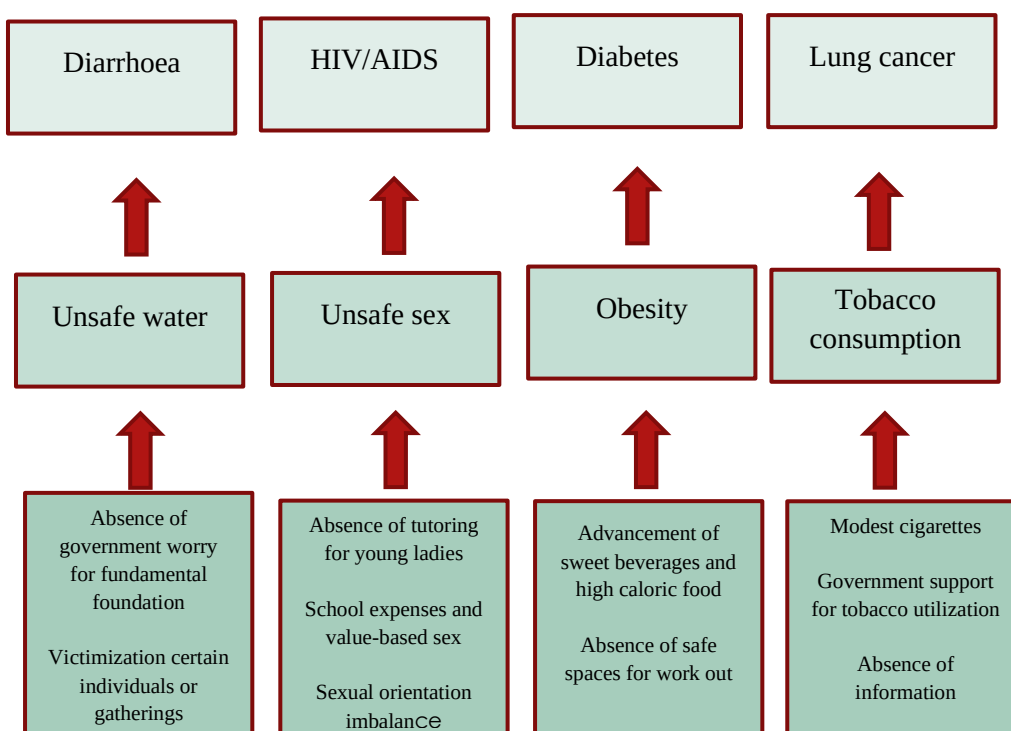
- Think comprehensively
- Health as a human right and the human rights approach
- Value for cash
- Ethical assignment in the appropriation of alarm wellbeing assets
- Globalization and wellbeing

Social Determinants of Health



Social Determinants–“The conditions where individuals are born, live, work, grow that include factors like socioeconomic status. education level, employment, social and cultural support and access to healthcare and also have impact of policies or governance”.

Social Determinants- The “causes of the causes”



Hazard factor- Any qualities, attributes or presentation of a person that improves the probability of building up an illness or injury.

- Unmodifiable risk factors- a hazard factor that is inborn and can't be changed, (for example, age, hereditary cosmetics).
- Modifiable risk factors- a hazard factor that can be dealt with or controlled, (for example, diet, work out)

The Global Health Context and Who Plays



Module two: Burden of Diseases

Module two spotlights on the "weight of sickness". It initially analyses condition of the global wellbeing. It at that point acquaints you with key segment factors and the manner in which they identify with worldwide wellbeing. It finishes up with a few meetings that look at what individuals become ill, handicapped and kick the bucket from and to what in particular hazard variables and determinants these conditions are frequently credited.

8 videos (total 112 min), 15 readings, 5 quizzes

Burden of Disease

Group 1

- Communicable, maternal, neonatal and nutritional conditions

Group 2

- Noncommunicable diseases

Group 3

- Injuries

The State of the world's Health

Indicators of health status

Life expectancy at birth

“The average number of years a new-born is expected to live looking at current mortality rate continue”.

Maternal mortality ratio

“This is ratio of the number of maternal death due to pregnancy issues during a given period per 100,000 live births”.

Neonatal mortality rate

“The number of deaths to infant under 28 days of age in a given year per 1,000 live births in that year”.

Infant mortality rate

“The quantity of passing to new-born child under 28 days old enough in a given year for every 1,000 live births in that year”.

Under-5 mortality rate

“The likelihood that another conceived infant will pass on before reaching age 5, communicated as a part for every 1,000 live birth”.

Demography and Health (Part 1)

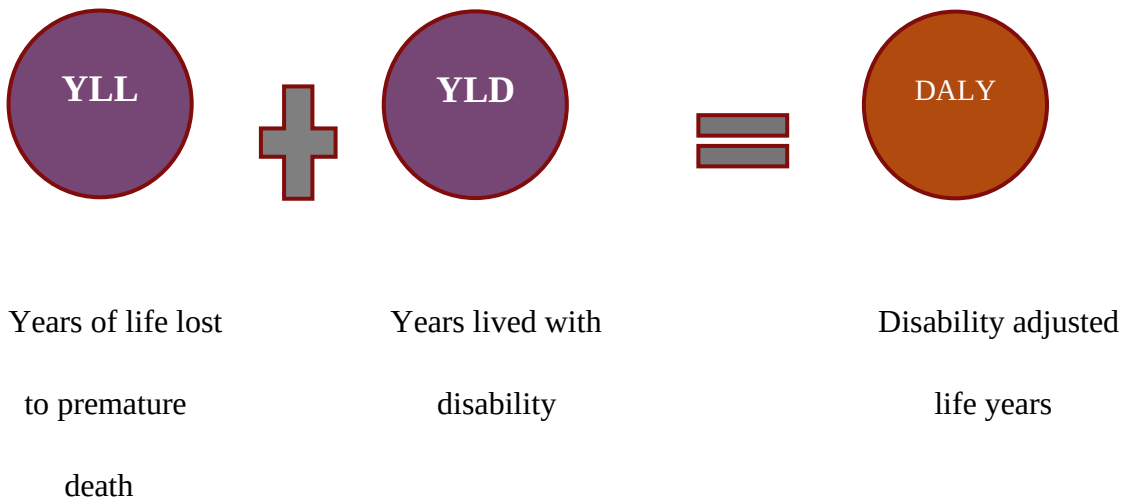
(2011)	INDIA	UTTAR PRADESH	BIHAR	KERALA
POPULATION	1.21 billion	200 million	104 million	33 million
LITERACY (MALE/FEMALE)	74/65	79/59	73/53	96/92
SEX RATIO (FEMALES/ 1000 MALES)	940	903	916	1084
%URBANIZATION (OF TOTAL POPULATION)	31.61	22	11	48

Source: Censuses India 2011

Demography and Health (Part 2)

The DALY

What is DALYs?



YLL (Years of life lost) is the difference between age at death and the highest life expectancy globally for that age.

Calculating YLL

- An individual die at 76 years
- The highest life expectancy globally at age 76 is 88
- YLL is equals to highest life expectancy globally for age 76- age of death
- Therefore, YLL is equals to 88 years – 76 years = 12 YLL



YLD (Years lived with disability) is years of live lived with disability multiplied by the weight assigned to the condition.

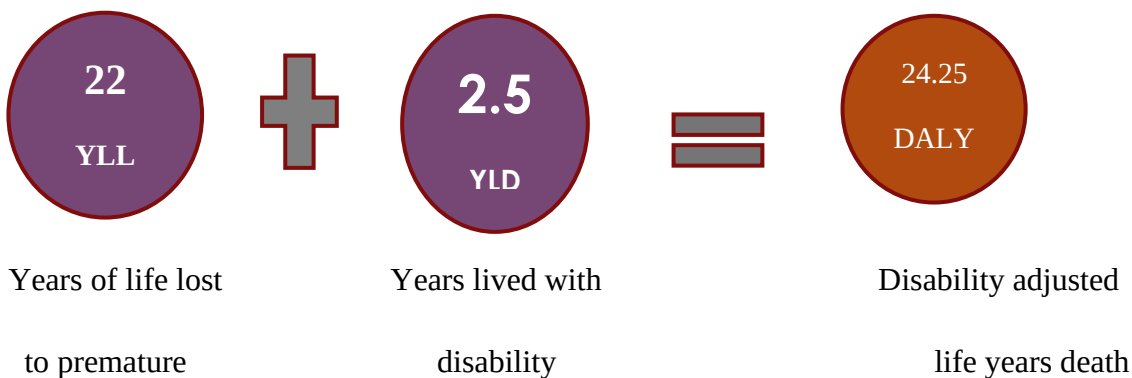
Example of disability weights

Health state	Estimates of disability weight
Sever episode of major depressive disorder	0.658
Metastatic cancer	0.451
Moderate COPD	0.225
Severe anaemia	0.149
Diabetic foot	0.020

Calculating YLD

Example

- The same individual has a leg amputated at age 63
- As noted, the individual died at 76
- The individual lived with amputated leg for $76-63=13$ years
- Disability weight for the conditions= 0.173
- $\text{YLD} = \text{years of life lived with condition} * \text{disability weight of condition}$
- Therefore, $\text{YLD} = 13 \text{ years} * 0.173 = 2.25 \text{ YLD}$



Module three: Health Systems and importance for Money in Health

Module three spotlights on wellbeing frameworks. It initially analyses the thought of "significant worth for cash" in thinking about interests in wellbeing. It at that point surveys how wellbeing frameworks in a few pieces of the planet are sorted out; some of the issues they face in adequately and proficiently offering proper types of

assistance of worthy quality; and what we are realizing are regularly done to manage those problems in financially savvy ways.

Incentive for cash in Global Health

Cost-Effective analysis
in health

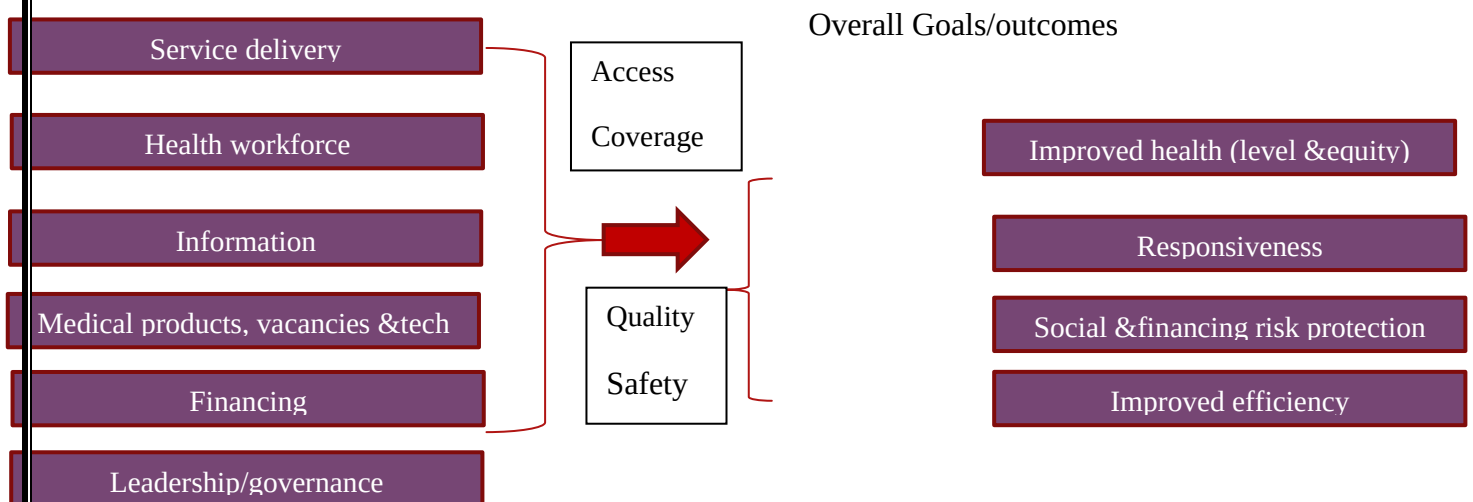
A strategy for contrasting the expense of a venture and the measure of wellbeing that can be bought with that speculation.

The association and Aims of wellbeing Systems (Part 1)

What is a
Health
System?

- “All the exercises whose basic role is to advance, re-establish or potentially look after wellbeing”.
- “The individuals, organizations and assets, masterminded together as per built up strategies, to upgrade the wellbeing of the populace they serve, while reacting to individuals' authentic desires and ensuring them against the estimation of sick wellbeing through a spread of exercises whose essential aim to improve wellbeing”.

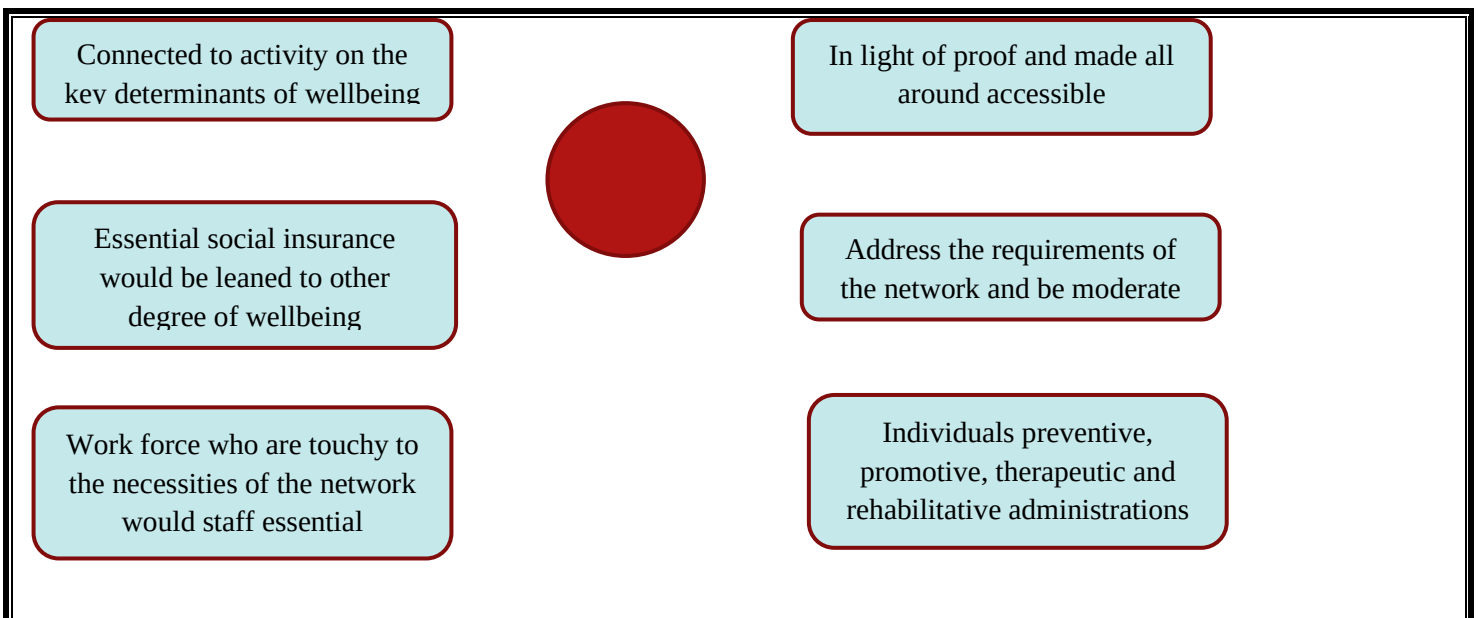
WHO Health System Framework (System Building Blocks)



The association and Aims of wellbeing Systems (Part 2)

Alma Ata & Primary Care

Be essential and socially
acceptable



Chosen instances of wellbeing administrations in a low-salary nation.

Primary	- Family planning, Diagnostic& basic treatment - Maternal healthcare, Well baby care - Diagnosis & treatment of disease as malaria and Tuberculosis
Secondary	- As above, emergency obstetric care - Diagnosis & treatment of sick children & adults' illness - Basic surgical services; some emergency care
Tertiary	- As above plus; treatment of complicated paediatric& adult cases - Specialist surgical services; advance emergency care
Level	Examples of Services

Health Expenditure, Universal health coverage and pharmaceuticals

Universal health coverage (UHC)



“Guaranteeing that all individuals can utilize the primitive, preventive, therapeutic, rehabilitative and palliative wellbeing administrations they need, of adequate quality to be powerful, while additionally guaranteeing that the utilization of these administrations doesn't open the client to budgetary difficulty”.

WHO



Task shifting

"The sound redistribution of undertakings among wellbeing workforce teams. Specific assignments are moved, where fitting, from profoundly qualified healthcare experts to social insurance experts shorter training and less capabilities so as to utilize the accessible HR for wellbeing."

WHO, 2008

Contracting in and Contracting out



Contracting in

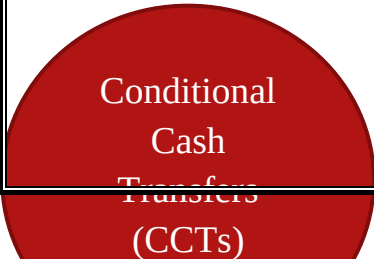
“One level of government or an open foundation contracts with a lower level of organization office express, a district, an area, or some other office to pass on organizations”.



Contracting out

“A financing office offers resources for a non-state provider like "authoritative labourer", to give a predefined set of organizations, in a foreordained territory, with showed targets”.

Conditional Cash Transfers (CCTs)



Conditional Cash Transfers (CCTs)

Tasks that give cash portions to vulnerable nuclear families that meet certain social requirements normally related to kids therapeutic administrations and guidance.

Module four: Themes in Global Health

Module 4 spotlights on some of the principal significant topics in worldwide wellbeing. These incorporate the association between the earth and wellbeing, complex philanthropic evaluation of the soundness of young ladies, youngsters, and youths. one meeting is dedicated solely to youth inoculation.

Health Disparities (Part1)

Equity

- Includes reasonableness worry about accomplishments of wellbeing and the ability to accomplish great wellbeing, not simply the conveyance of human services.

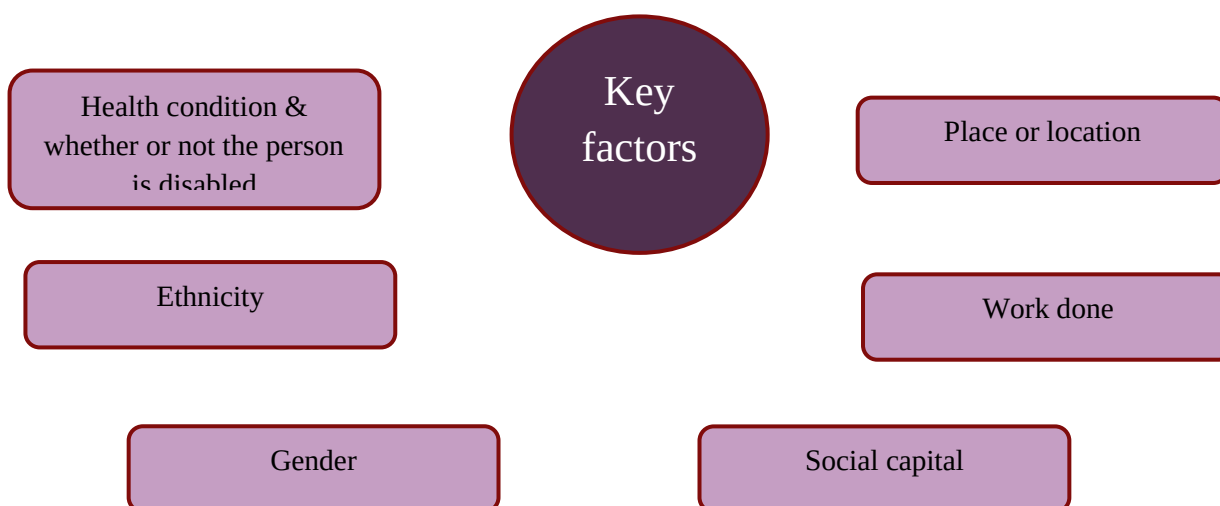
Inequality

- Differences in wellbeing status or in the conveyance of wellbeing determinants among various populace gatherings.

Health Disparities

- Differences in wellbeing that are firmly connected with social or financial inconvenience.

Factors associated with Health disparities



Women Health Part

Tending to Social Determinants

- Enhance open doors for all-inclusive tutoring of proper quality for all young ladies, at any rate through optional school.
- Implement arrangements that improve the status of ladies and lessen oppression them
- Enable expanded present day part work for ladies.

Principle messages

- There are a wide scope of organic and social determinants that impact the wellbeing of ladies.
- Women are, more than "child creator"- it is basic to think about a scope of reasons for sick wellbeing and not simply center around regenerative wellbeing.
- The driving weight of sickness among ladies all around are non-transmittable.
- Maternal and regenerative reasons for death DALYs still contribute altogether to the weight of ailment, particularly in low-pay settings.

Addressing Malaria, HIV/AIDS, and Tuberculosis

Malaria	HIV/AIDS	Tuberculosis
1. Promote use of bed Nets	1. Defer sexual introduction and decrease the quantity of	1. Encourage case- finding in women.

accomplices.

2. Promote indoor residual

2. Promote condom use

2. Raise cure rates

Spraying.

3. Provide intermittent preventative

3. Male medical circumcision

3. Implement directly

treatment to pregnant women

4. Test and treat

observed therapy

(DOTs)

Tending to Reproductive and Maternal Health

- Improve sustenance of young adult young ladies.
- Community-based intercessions planned for deferring age at marriage and first birth
- Improve access to socially proper current contraceptives and instruction on three-year birth spans.
- Increase access and adherence to pre-birth care: including micronutrients supplementation, observing of hypertension and diabetes, and lockjaw immunization
- Promote gifted chaperons at conveyance
- Address the three postponements and guarantee crisis obstetric consideration is accessible
- Improve follow-up baby blues care and directing

Addressing Sexually transmitted infections female genital mutilation

Sexually transmitted infections

Female genital mutilation

1. Delay age of sexual debut

1. Mobilize and educate communities

2. Empower women to negotiate safe sex

to change social norms

3. Promote girls' education

4. Promptly diagnosis and treat STIs

2. Take account of local cultural,

geographical, ethnic, and

socioeconomic factors influencing

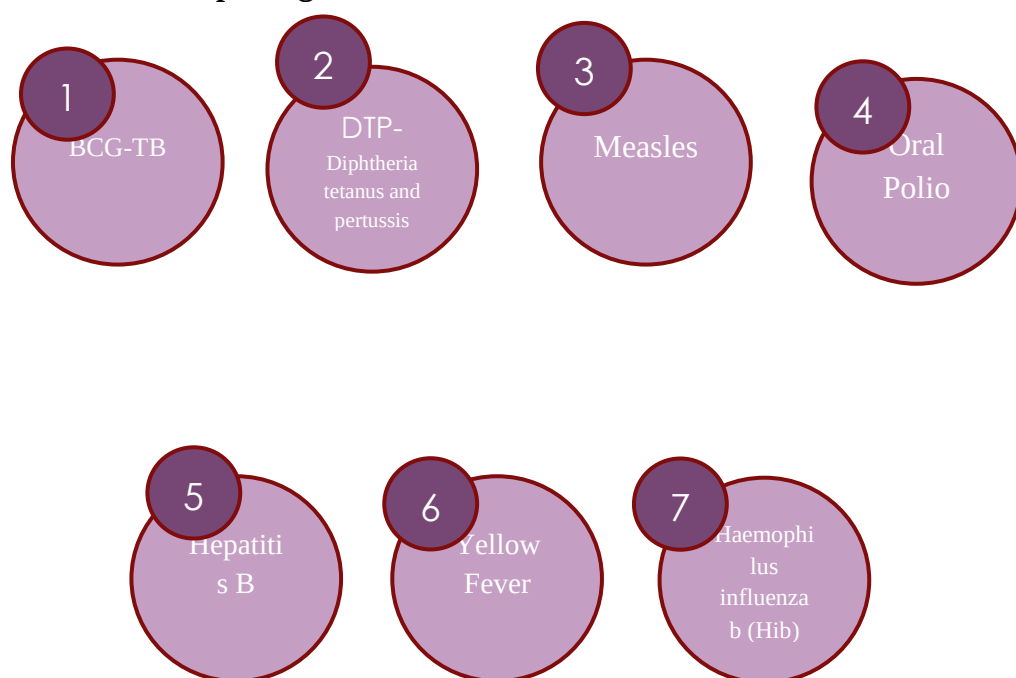
practices.

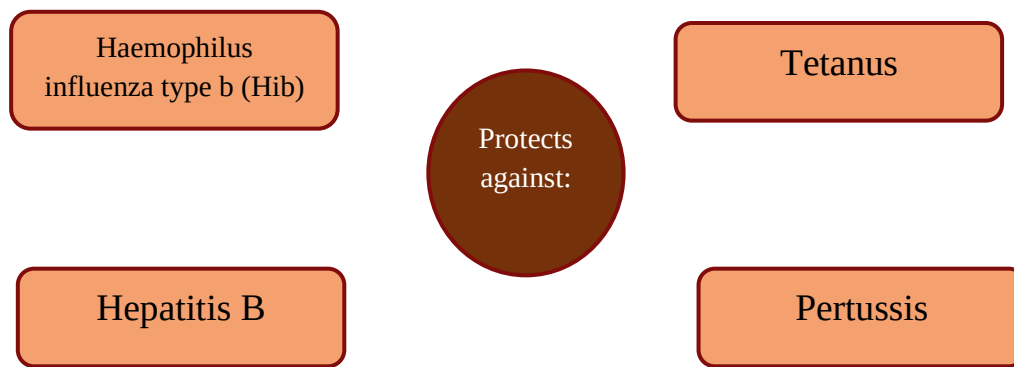
Child Immunization

Advantages of child vaccination

- Providing advantages to the individuals who are vaccinated and through herd invulnerability to the individuals who are most certainly not.
- Preventing disease that are every now and again remunerated with against contamination specialists, along these lines diminishing the threat of making creepy crawly microbial resistance.
- Helping to keep individuals sound, in this manner advancing financial development and neediness decrease and permitting kids to become profitable grown-ups.
- Saving families from the immediate and roundabout expenses of immunization preventable youth infections.

1974 EPI Vaccine package





Adolescent Health

Measures to improve Adolescent Health

- Take an actual existence course point of view
- Focus on social determinants
- Reduce the danger of auto wounds to young people
- Reduce boundaries to access to wellbeing administrations through widespread wellbeing inclusion and making administrations increasingly juvenile agreeable
- Focus on regenerative wellbeing, for example, deferring age at marriage and first birth and advancing family arranging
- Focus all the more extensively on key weights and their hazard, for example, nourishment, inoculation, HIV, tobacco and substances misuse, psychological wellness, physical movement and street wounds.

Specific issues that affect adolescents

Early pregnancy
and childbirth

HIV and STDs

Other CDs

NCDs

Mental Health

Violence

Road injuries

Types of Natural disasters

Drought

Hurricanes,
typhoons and
cyclones

Earthquakes

Volcanoes

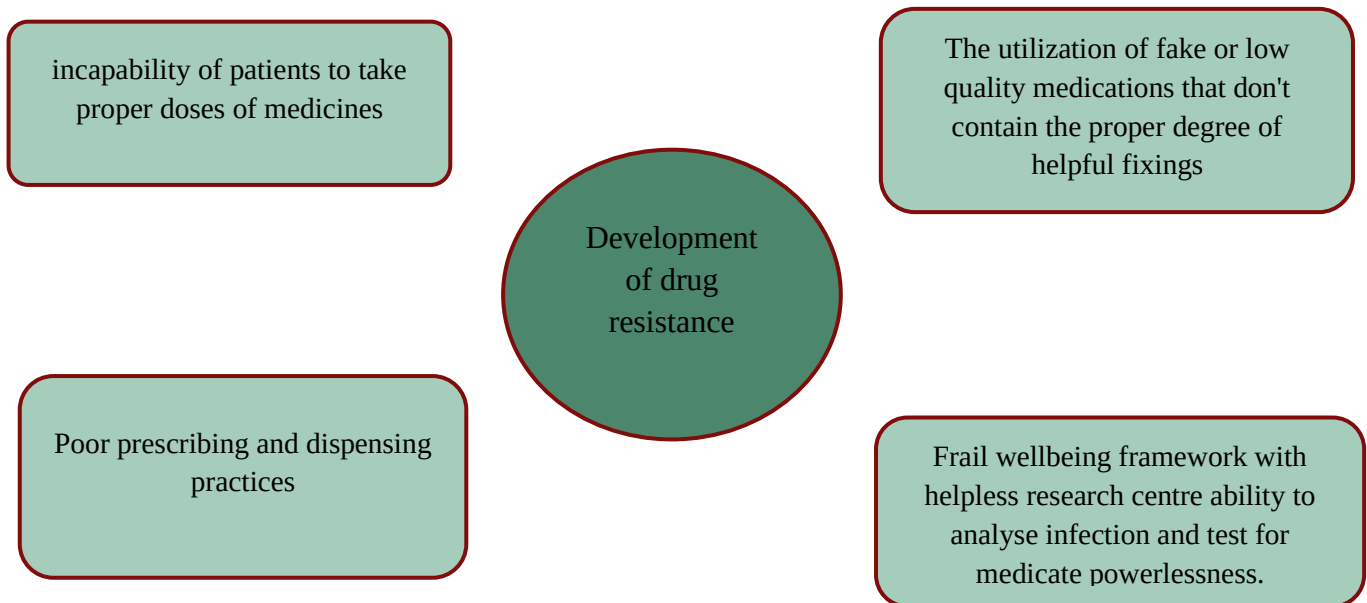
Tsunamis

Module five: Critical Causes of morbidity and mortality

Module five spotlights on basic reasons for disease, inability, and passing. It initially looks at transferable sicknesses, such as rising irresistible ailments, HIV, TB, jungle fever, and in this way the ignored tropical ailments. It at that point audits key issues in no communicable maladies, similar to heart condition, stroke, malignancy, and diabetes. It finishes up with a look at wounds. Every meeting analyses the character; its weight

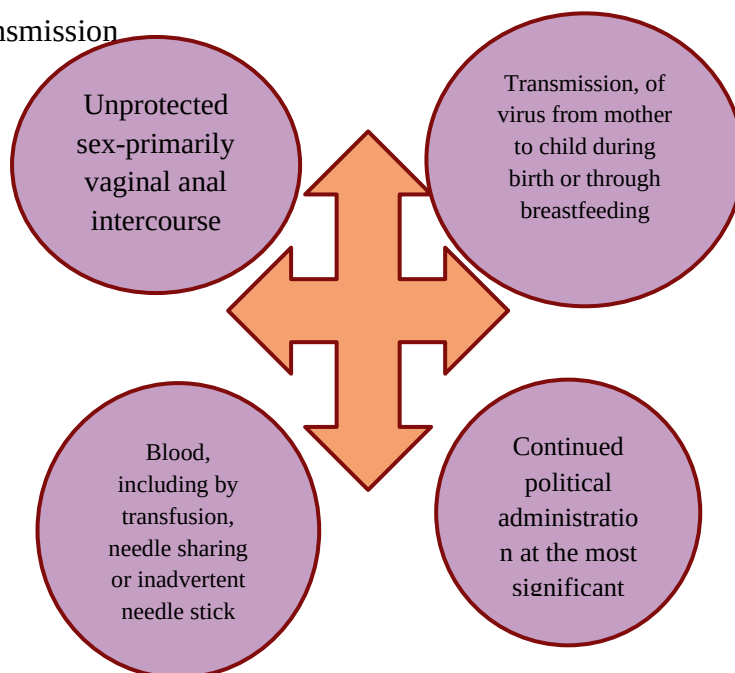
of sickness; the determinants and hazard factors for the condition; who is generally experiencing it; and what we've realized are regularly done to manage the condition in savvy ways.

Contributing factors to development of drug resistance



HIV (Part-1)

Routes of HIV Transmission



Selected Consequences of HIV

A compromised immune system, related disease and death

Maternal to child transmission

The creation of orphans

Social stigma

The direct costs of treatment

Economic losses to individuals and families

Possible larger effects on the overall economy

Country success in addressing HIV

Continued political administration at the most significant levels

Association of an expansive scope of common society endeavours to notice HIV and AIDS, along assessment pioneers and strict pioneers

Wide based projects to change normal practices among the populace

Open correspondence about HIV and AIDS and issues related to sex

Projects to diminish shame & separation

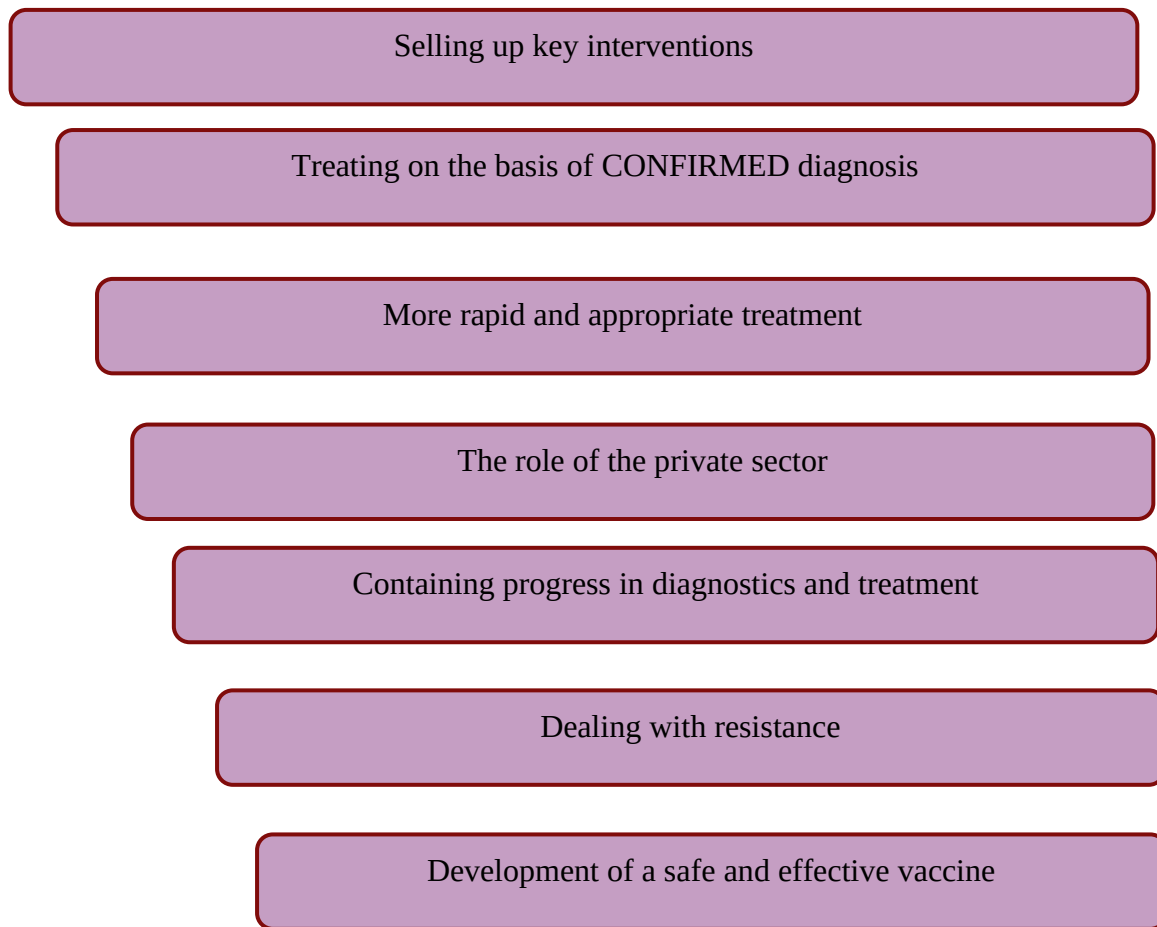
Tuberculosis (TB)

TB facts

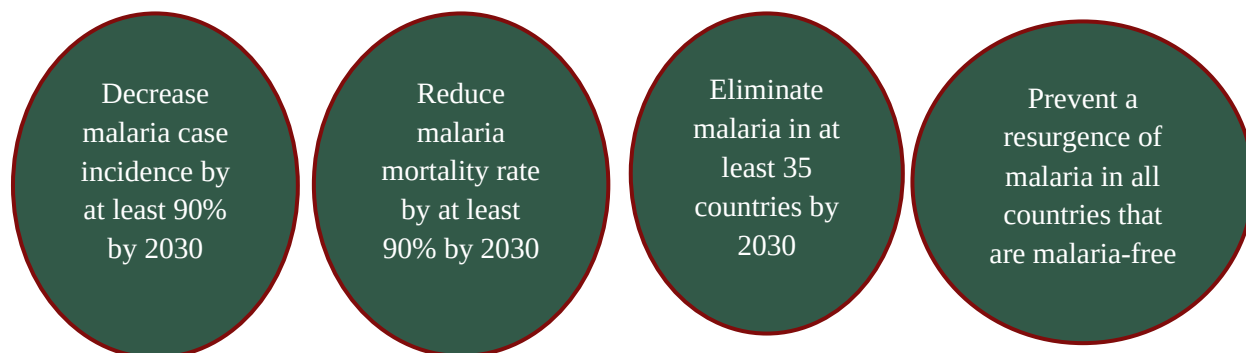
- About 33% of the individuals on the planet have inactive TB
- People with dormant TB don't spread TB
- People with inert TB, be that as it may, can create dynamic TB sickness in the event that they become resistant traded off, for example, through lack of healthy sustenance, HIV contamination or diabetes
- HIV+ individuals are multiple times bound to have dynamic TB sickness than HIV-individuals Goals of the End TB Strategy

Malaria

Challenges to Malaria control



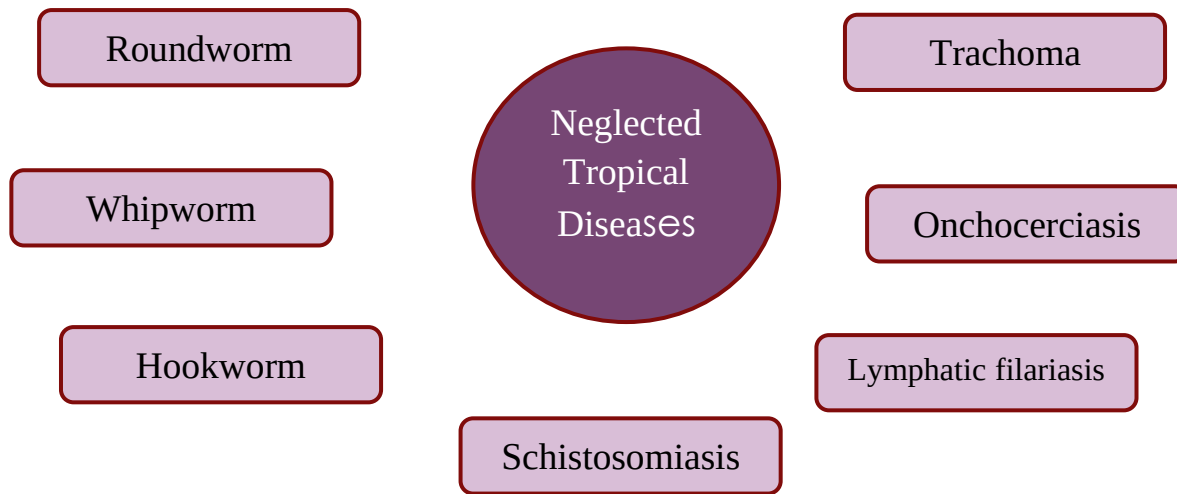
Universal strategy for malaria 2016-2030



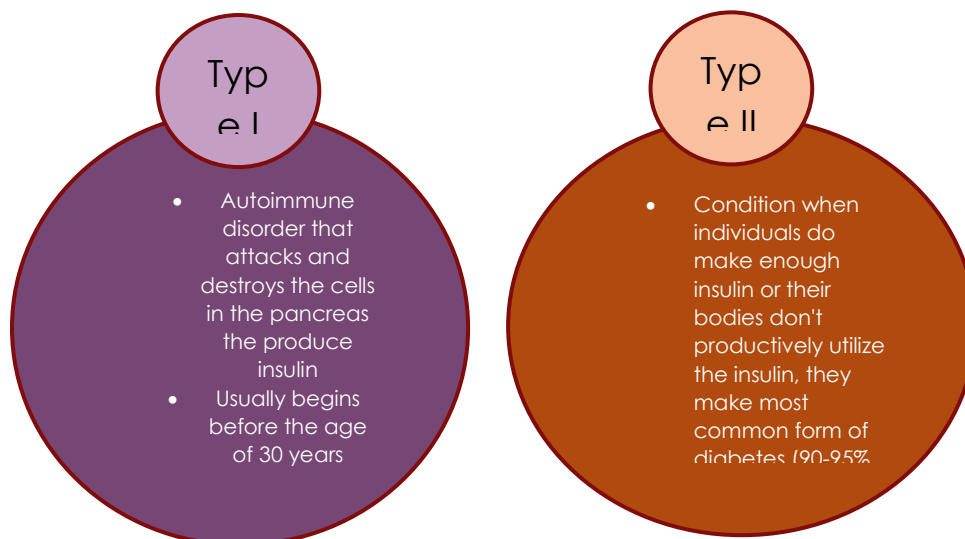
Neglected Tropical Diseases-

- A gathering of 17 parasitic and bacterial ailments that are to a great extent predominant in tropical and sub-tropical districts.
- A session one billion individuals influenced worldwide with NTDs
- The NTDs, for example, lymphatics filariasis are related with high pace of incapacity.

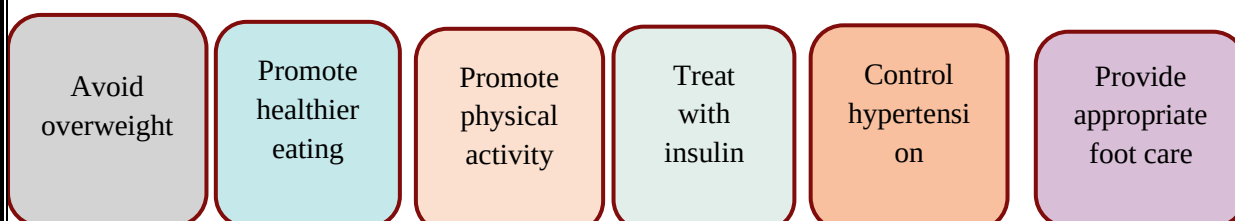
- Mass sedate organization is the way to deal with tending to soil transmitted helminth, onchocerciasis and schistosomiasis.



Cancer and Diabetes (Part 2)

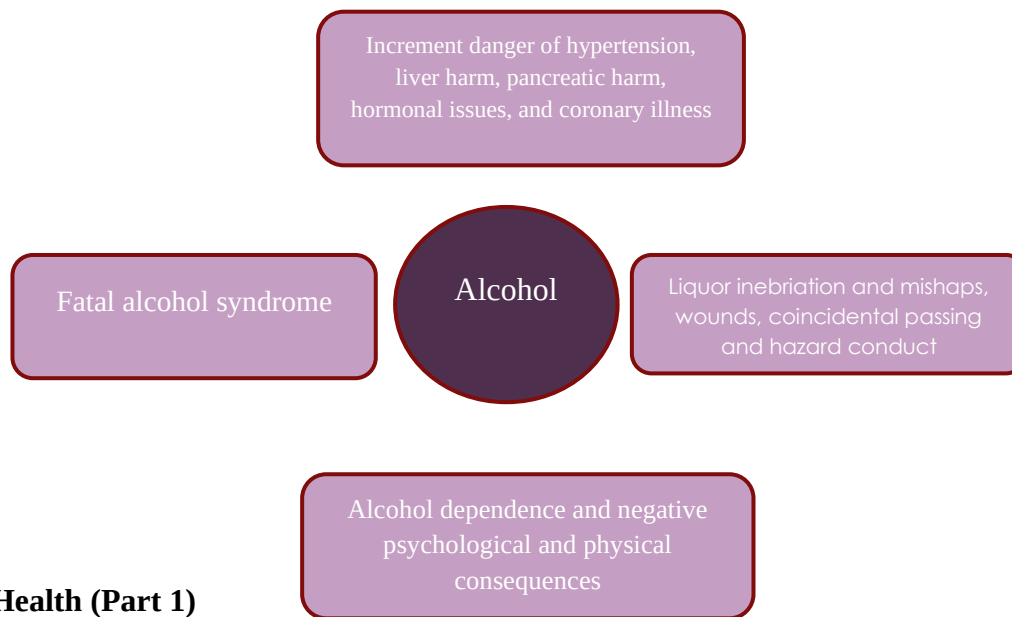


Selected Measures to address Diabetes



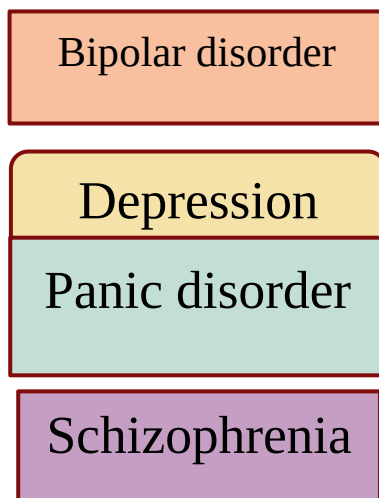
Tobacco and Alcohol

Health impact of high-risk drinking



Mental Health (Part 1)

Mental health definitions



- A authentic perspective issue portrayed with swings of craziness & horror.
- A mental condition depicted by feelings of difficulty, hopelessness, despair, low certainty, & regret.
- An anxiety issue depicted by attacks of extreme phenomenal apprehension.
- A useless conduct, the central symptoms of which are mental outing, fantasies, and change in perspective and character.

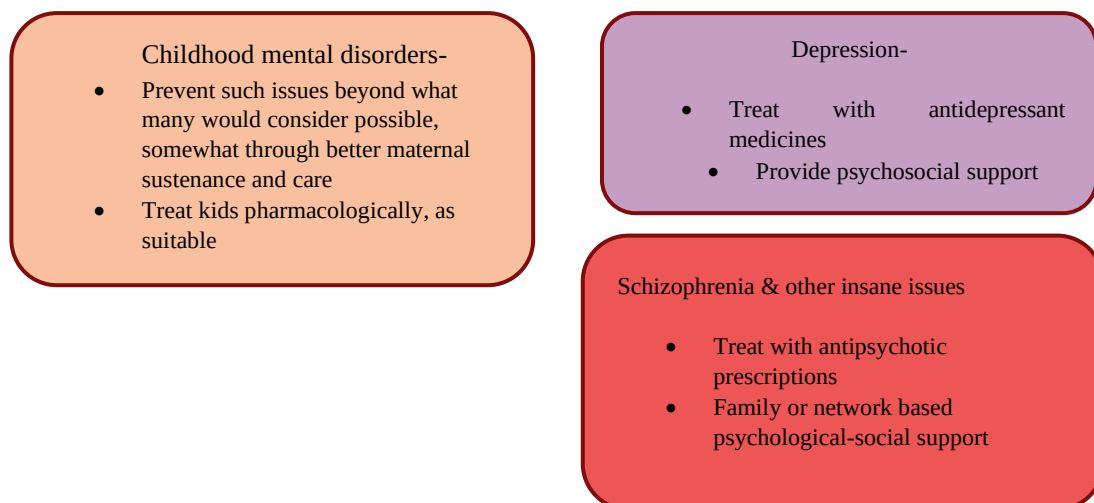
These four most common mental issue cosmetics about nearly 5% of DALYs all around.

DALY is a progressively exact proportion of the evil wellbeing inferable from mental turmoil.

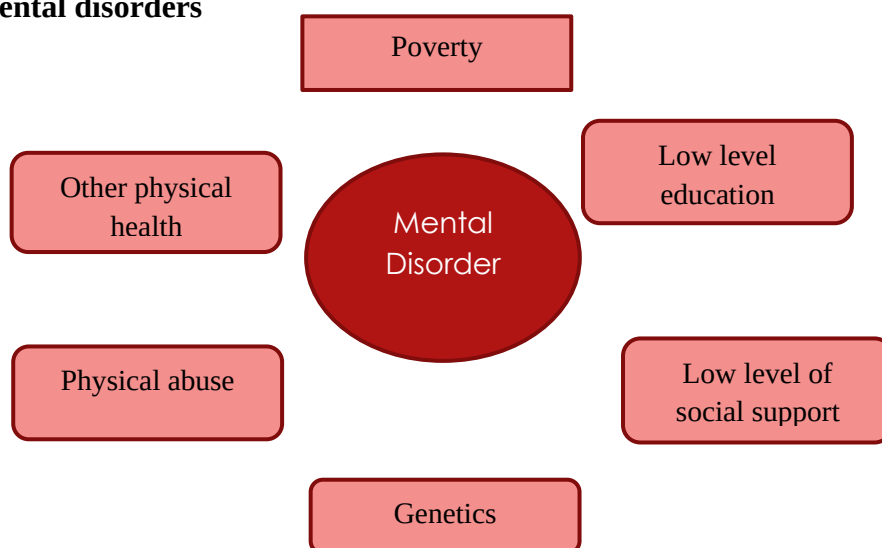
Females are increasingly influenced by gloom universally.

There is expanding proof that the network based consideration gave by cutting edge labourers connected to referral framework way to deal with address mental turmoil can be completed in cost productive manners in low-and-centre salary nations.

Potential intercession bundle for mental issues in LMICs



Risk factor for mental disorders



Module six: Future aspects

Module six spotlights on the presumable worldwide wellbeing difficulties of ensuing not many decades and the manner in which science and innovation are frequently bridled, however aggregate activity, to manage those difficulties.

Intersect oral Approaches to Enabling Better Health

Characteristic hazard factors:

- Generally, can't be changed yet have a significant relationship with prosperity (models: age, sex, hereditary make-up)
- Little to no job for organizations outside the wellbeing part

Formative hazard factors:

- Influence the improvement of the new-conceived
- Ministry of horticulture impacts nourishing approaches
- Ministry of training has a job in instructive status of mother
- Tobacco, liquor laws include the service of money and law requirement organizations among others

Infection as hazard factors for different ailments

- Diseases themselves can be chance elements for other infection (for example diabetes is a hazard factor for cardiovascular malady).
- The "hazard factors malady" might be addresses by means of activity outside the wellbeing part.
- Example elevating young lady's instruction to decrease hazardous sex, to forestall HPV disease, which forestalls cervical malignant growth.

Social and behavioural risk factors

- Tobacco
- Safe water and sanitation
- Outdoor air pollution

“Whole of government” Approach

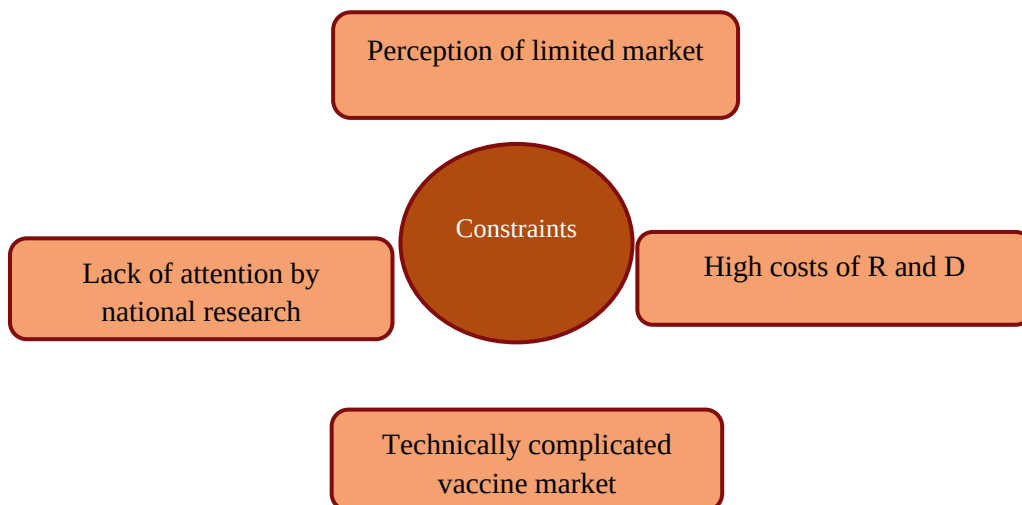
- All services represent the wellbeing ramifications of their approaches, plans, and projects.
- May not be attainable in low-pay nations.
- If unreasonable, nations can specifically address high-sway medical problems with an intersectoral approach (for example tobacco).

Science and Technology for Global Health

Some perfect attributes of diagnostics, immunizations, and conveyance gadgets

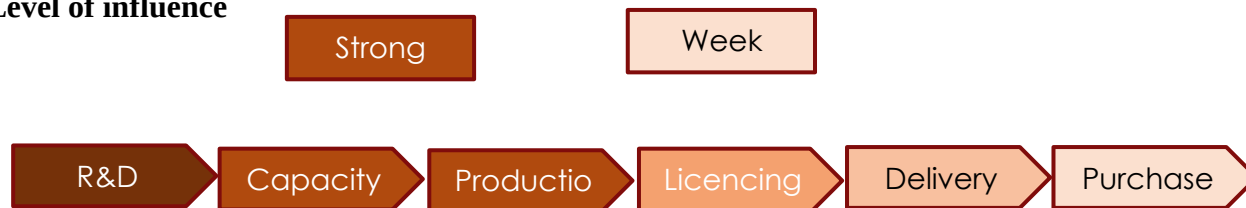
Diagnosis	• Affordable; explicit & touchy; give snappy & simple to-decipher results; simple to store and transport; heat stable
Vaccines	• Affordable; sheltered and compelling; require not many dosages; give deep rooted resistance; simple to move and store; heat stable
Medicines	• Affordable; sheltered and viable; difficult for pathogens to get impervious to; needed little dosages over a constrained time; simple to store & deliver; heat stable
Transportation devices	• Affordable; sheltered & viable; not intrusive; simple to move & store; heat stable

Key Constraints to product development



Pull and Push mechanisms for product development

Level of influence



Push Interventions

- Direct Financing
- Facilitate or perform Clinical trials



Pull Interventions

- Increase take-up of present immunizations
- Prices
- Delivery licenses
- Co-instalments
- Market mindfulness
- Tax credits for immunizations deals

Push mechanisms- Push systems bring down the expense of growing new medications by boosting innovative work through duty credits, direct financing of innovative work and help with financing clinical preliminaries.

Pull mechanisms- Pull components it is that wherein some more joyful countries offer conceivable financing for a thing if it is made and made open at an agreed expense to the people who read in certain low and focus pay countries.

Chosen items advancement Partnerships



IAVI-The universal AIDS antibodies activities

Key Challenges for the Future (Part 1)

- Completing the "incomplete plan" that identifies with undernutrition, kid wellbeing, and transferable infection.
- Addressing the developing weight of non-transferable infections.
- Making wellbeing frameworks work all the more successfully and effectively and for poor people.
- Working on the whole and proficiently and for poor people.
- Working on the whole to forestall and react to developing and reappearing irresistible illness and antimicrobial opposition.
- Working on the whole to empower the improvement of the medications, diagnostics, and immunizations expected to address the incomplete and developing plan.

Long stretches of study

Approx. 56 hours is expected to finish this course

LEARNINGS

Essentials of Global Health provides the insight of Global Health and issues faced by low-middle income countries and even in the high-income countries, solutions to overcome those issues best ways to deal with the problems and even how other countries coping with such situations.

Reason I selected this topic is that whole world is facing coronavirus pandemic every country is facing same sought of problems. It is very important to know what are the different issues faced by different income groups of different income countries and how to sought out those problems and help the affected population to live healthy and safe life.

As since past so many years we were seeing that there is epidemiological transition where there was a shift from communicable diseases towards non-communicable diseases and suddenly whole world is facing this pandemic due covid-19 a communicable disease which has affected more than 1 crore population and is still infecting and even took lives of millions of people around the world. Affected the countries there people economically millions of people lost their jobs.

There is no vaccine available to cure the infected people. Many scientists of different countries are working on developing the vaccine, till vaccine not available social distancing and following health hygiene, healthy diet and physical exercise are few measures to save ourselves from coronavirus.