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Fundamental of Health and Basic Health Care System

Volume - 4

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Health Issues in Children's

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Chapter - 1

Health Issues in Children's

Adarsh Kumar

Abstract

Protecting and improving the health of children is of fundamental importance. Over the past several decades, we have seen dramatic progress in improving the health and reducing the mortality rate of young children. Among other encouraging statistics, the number of children dying before the age of 5 was halved from 2000 to 2017, and more mothers and children are surviving today than ever before. The world is facing a double mandate. More than half of child deaths are due to conditions that could be easily prevented or treated given access to health care and improvements to their quality of life. At the same time, children must also be given a stable environment in which to thrive, including good health and nutrition, protection from threats and access to opportunities to learn and grow. Investing in children is one of the most important things a society can do to build a better future. All children deserve high-quality medical care. As a parent, it is important to be aware of the most up-to-date treatment guidelines so you can be sure your child is getting the best care possible.

Keywords: Fundamental, mortality rate, prevented, medical care, environment, guideline

Introduction

Common child health issues include allergies, colds, conjunctivitis, gastro, hand, foot and mouth disease, impetigo, lice and worms. You can treat mild health issues at home. But if you're worried, see your doctor.Mild illnesses are part of growing up-there's not a lot you can do to help your child avoid them. But if you're ever worried about your child's health.Knowing you have good medical care for your young child can put your mind at ease and choosing a good family doctor ahead of time can save you a lot of worry. It's important for you and your child to have a good relationship with the doctor and feel confident about the family doctor's advice.There might be times when you're not happy with a doctor's

diagnosis or advice. It's OK to want a second opinion or to consider changing doctors.

Common child health issues

Allergies

Allergies happen when your child's immune system reacts to substances in the environment that are harmless to most people – for example, foods, insect stings, dust mites, animals or pollen.

Asthma

If your child has asthma they might have a whistling wheeze when breathing, be short of breath either during physical activity or while they're resting, have a persistent dry cough, or cough during physical activity or at night. If you think your child has asthma.

Colds

Children can get colds as often as once a month. The best treatment is usually fluids, comfort and rest. Antibiotics won't help. If you're worried that it's something more serious than a cold,

Conjunctivitis

Conjunctivitis is an infection of the lining of the eyeball and eyelids. Symptoms include red, puffy, sticky and sore eyes. Bacterial and viral conjunctivitis are very contagious, but allergic conjunctivitis isn't contagious. Take your child to the GP to check which kind of conjunctivitis your child has and how to treat it.

Food intolerances

Food intolerances are a reaction to a food you've eaten. Symptoms include bloating, diarrhea and stomach pain, which usually clear up by themselves. Talk to your GP if you think your child has a food intolerance.

Gastroenteritis

Many children get gastroenteritis ('gastro'). Symptoms include diarrhea, loss of appetite, vomiting and nausea, stomach cramps and fever. Most cases of gastroenteritis in children aren't serious, but it's important to make sure that your child gets enough fluid.

Hand, foot and mouth disease

Hand, foot and mouth disease causes small blisters inside the mouth and on the hands and feet. These aren't itchy. It's a mild and harmless infection.

Impetigo

Impetigo or school sores usually starts as flat, red spots or small blisters anywhere on your child's body. The spots might fill up with yellow or green pus, burst or crust over. The blisters are very itchy. If you think your child has impetigo, go to the GP, because your child needs antibiotics. Impetigo is highly contagious so keep your child at home until they've been on antibiotic treatment for at least 24 hours.

Lice or nits

These insects attach themselves to children's hair, lay eggs (often called nits), and cause a lot of scratching and itching. You can remove lice by combing wet hair with conditioner or using anti-lice products. Keep your child at home until you've treated the lice.

Warts

A wart is a small, flesh-coloured, raised growth. You mostly see them on children's arms, hands and legs. Warts are usually painless. See your GP if the wart is on your child's face, feet or genitals, or if the wart looks red, hot and painful.

Worms

Symptoms of worms include an itchy or red bottom. Worms aren't usually dangerous. They're easy to treat with anti-parasitic tablets that you can buy over the counter from your local pharmacy. You should treat everyone in the family at the same time. It's very common for infections to come back, particularly in children at child care, preschool or school.

Low birth weight

The birth weight of babies born to well-nourished mothers is usually about 3.5 kg. But the average birth weight of Indian babies is 2.7 to 2.9 kg. It's very important to record the weight of the baby within one hour of birth. It determines the growth and chances of survival of the baby.

The low birth weight internationally has been defined as a birth weight of less than 2.5 kg (up to and including 2.499 kg) the measurement being taken preferably within the first hour of life, before significant post-natal loss has occurred. The baby may be born full term or pre term. There are two types of low birth weight babies.

1. **Pre-term babies:** Those babies who are born prematurely or before time i.e. 37 weeks of gestation. Their intrauterine growth may be normal i.e. their weight, length and development may be within

normal and development within 2 to 3 years of age with proper care during neonatal period and care thereafter. In developed countries, most of the low birth babies are preterm babies. The pre-term deliveries are often due to multiple pregnancy, severe infections, toxemia, teenage pregnancy, hard physical work etc. and in many cases the cause may not be known.

2. **Small for date (SFD):** Those babies may be born at term or pre-term. Their weight is less than 10th percentile of the gestational age. They are due to related fetal growth. The majority of the low birth weight babies in developing countries are small for date. There are many factors, which are associated with this category of LBW babies. These include in relation to mother, fetus and placenta. Mother related factors are malnutrition, severe anemia, very young age, short stature, multipara (mother had many earlier pregnancies), close birth spacing hypertension, toxemia, and malaria. Most of these causes are associated with low social-economic and education status of women and people at large. The fetus related factors are: multiple gestation (twins or triplets), intrauterine infections, fetal abnormalities and chromosomal abnormality. The placental related factors include placental abnormalities and insufficiency.

Infectious diseases

There are number of infectious diseases which are common among children and are the cause of high mortality in them. These include diarrhea, acute respiratory infections (ARI). Measles, pertussis (whooping cough), diphtheria, polio, tetanus and tuberculosis.

Accidents and poisoning

Accidents and poisoning are quite common in children because of hazards in home, on the roads, schools etc. they are prone to get burns, injures, drowning, poisoning, falls, electric shock, road accidents etc.

Child health care

Child health care refers to care of children from conception to birth and after birth till the age of five. After the age of five, the child's health is taken care by school health programmer team. Health workers working for MCH services may or may not be the part of school health team.

The health of the child, in fact starts with the birth of girl child who is the future mother of the child. Child health care services include health care of the fetus before birth (ante-natal pediatrics), health care of neonates from

birth to 28 days, care of infants from one month to 12 months, care of toddlers from one year to two years and care of pre-school child from two years of age. The objectives of child health services are to ensure that:

1) Every child receives adequate care and proper nourishment.
2) Their growth and development is monitored and any deviation is identified and treated on time.
3) Ailments are detected and treated without any delay to prevent it from getting worse.
4) Trained persons render care.
5) Mothers and family members are educated and trained to give proper care to their children to promote their health.

The health care of children in various stages of childhood is presented here

Care of fetus

One of the objectives of care during pregnancy is 'to ensure the birth of mature, live and healthy baby'. The focus of antenatal care is thus not only to promote health of mothers and prevent complications in mothers, but also to prevent low birth weight, fetal disorders, neonatal asphyxia, congenital anomalies etc. in the fetus. Care of fetus also refer to antenatal pediatrics.

Low birth weight and many abnormalities can be prevented and normal growth and development can be promoted to quite an extent by adequate and proper antenatal care, nutrition etc. Adequate and proper care including family planning before pregnancy also helps.

Care of neonates

Care of newborn baby includes from birth to 28 days. The care during this period is very important because it helps in reducing postnatal and neo-natal mortality. The care during this period is rendered by a team comprising of obstetrician, pediatrician, nursing personnel. The care during the first week after birth and especially during the first 24-48 hours is very crucial because this period is very critical as lapses during this period can cause serious problems resulting in high mortality, proper care on neonates help prevent 50-60 percent of all infant deaths and more than half of these can be prevented during the first week of their life.

Neonatal jaundice

Yellowish staining of the skin and whites of the newborn's eyes (Sclerae) by pigment of bile (bilirubin) is termed neonatal jaundice. In

newborn babies a degree of jaundice is normal. It is due to the breakdown of red blood cells (which release bilirubin into the blood) and to the immaturity of the newborn's liver (which cannot effectively metabolize the bilirubin and prepare it for excretion into the urine). Normal neonatal jaundice typically appears between the 2nd and 5th days of life and clears with time. Neonatal jaundice is also referred to as neonatal hyperbilirubinemia and physiologic jaundice of the newborn. It may last till 8 days in normal birth or around 14 days in premature births.

Symptoms

- Yellow skin.
- Yellow sclera and nail beds.
- Baby sleeps for a longer time than usual.

Care

If the jaundice is mild, it clears on its own in 10 days of time. However, it is mandatory to follow these treatments in order to reduce the severity.

1) Breastfeed the baby more often.
2) Exposure to indirect sunlight. Preferably place the cot or the cradle of the baby next to the window with a thin screen.
3) Place them under bili lights (a photo therapy tool) to expose them to high level of colored light to break down the bilirubin. Blue light is usually used for this purpose. Green light is more effective in breaking down bilirubin. However, it is not commonly used as the babies start appearing sick.
4) In severe conditions blood is transfused.
5) Use of specific drugs to stimulate the liver to get rid of the yellow pigment.

If jaundice continues beyond 2 weeks, then newborn metabolic screen should be checked for Galactosemia and congenital hypothyroidism. Family history should be explored with the evaluation of infant's weight curve. Stool color should also be assessed.

Care of infants, toddlers and preschoolers

The infant, toddlers and preschoolers together can be categorized as under five children. In fact, these are defined stages of growth and development of less than five years. The care of all these age group of children is discussed simultaneously from convenience point of view. It is

also felt that the care is continuous care from one age group to another and the components of the care are same. The care is given by the same team of the health personnel in health centers and clinics in the hospitals and is discussed as care under five children.

Monitoring of growth and development

It is very important to monitor growth and development of children regularly. It indicates health and nutrition status of the child. It helps in identification of any deviation from normal growth and development and timely corrective measures can be taken at the family and health center level.

Growth of child

Growth of the child refers to increase in size of the body, which is measured in terms of body weight, height (length of the baby) head, and arm and chest circumference. These measures are called 'anthropometrics' measurements. These measures are compared with the reference standards to assess whether the measure is within the normal limits or not (+ or – 2 standard deviation). The measures can also be assessed in terms of percentile i.e. percentage of individuals falling below a particular level e.g. 50th percentile limits are considered as 3rd percentile and 97 the percentile. The weight of the children (94%) falling between these two limits considered within normal range.

The growth chart has many advantages. It can help in:

- Regular recording of weight and monitoring of growth of the child with the active participation of mother.
- Identifying level of malnutrition in children
- Taking recommended action according to specific grade of malnutrition
- Education of mothers and health workers about the importance of regular weight taking and prevention and control of malnutrition.
- Making assessment of the effectiveness of remedial measures for malnutrition in children.

Pattern of growth

The growth in children varies in different age groups and may vary in children in each age group depending upon various endogenous and exogenous factors. The growth of children follows a definite design/course with references to anthropometric measurements, which is discussed in brief underneath. In normal, healthy and well-nourished children rapid growth takes place during the first year of life.

Weight: Almost all babies lose weight during the first 3 to 4 days of birth and regain weight by 7 to 10 days. The increase in weight is 25-30 gms per day for the first three months, thereafter the increase is less rapid. Normally, the baby doubles its birth weight by five months and triples it one year, except for low birth weight babies.

The low birth weight babies double their weight earlier and quadruple their weights in one year. After one year, the increase in weight is not very fast.The weight curves of many children are very good for the first five to six months with the birth weight doubling by this age. But after this age the growth curve tends to falter i.e. go unsteadily. This is because the breast feeds alone are not sufficient for the child. Breast feeds need to be supplemented by additional food items discussed earlier.The weight of the child depends upon his/her height. It is very important to determine whether the weight of the child is in normal range or not. The child's weight can be overweight or underweight for height. The underweight for height indicate emaciation or malnutrition.

Height: The height is another measurement of growth of the child. The height of the new born baby is 50 cms (20"). The height increase during the first year is 25 cms., in the second year 12 cms. In 3rd, 4th and 5th year the increase is 9 cms, 7 cms, and 6 cms, respectively. If the height is less for age. It refers to stunted growth. Unlike weight, height is not affected by malnutrition immediately. Chronic malnutrition affects it over a period in the past. It is very important to record height very accurately.

Head circumference and chest circumference: These are also the measurements of growth the head circumference at birth is about 34 cms (14"). It is about 2 cms more than chest circumference. The chest circumference increases further and becomes more than head circumference. If the child is malnourished, the overtaking of chest circumference is delayed by 3 to 4 years.

Mid-arm circumference: This is an easy and useful measurement; the middle of the upper arm is measured while it is hanging relaxed at the side of the body. The tape is directly placed gently but firmly without compression of the soft tissues round the midpoint. There is rapid increase in the circumference from birth to 1 year: the increase is from about 11cms to 12 cm. These after till 5th birthday it remains fairly constant at about 16-17 cms in well-nourished children. During this period muscles replace the fat of early infancy. A measurement below 80 percent of normal i.e. about 12.8 cms indicates moderate to severe malnutrition. A colored strip for measuring arm circumference is available.

Development of the child

The development of the child refers to development of skills and functions related to intellectual, emotional and social aspects. This refers to psychosocial behavioral developments; it is therefore important not only to monitor the growth pattern of children but also monitor their developments. For this it is necessary to be familiar with some of the important landmarks of milestones of developments. There is a normal range for achievement of milestones and therefore achievement of milestones differs in children. Health workers must make observations of growth and mile stones and also must educate mothers and family members about growth and development of children so that they can also be guided in developing healthy habits in their children.

The growth and development of children is influenced by various factors. These factors include: biological endowment like genetic inheritance, age sex, nutrition of mother and child after birth onwards; physical environment like-good housing conditions sunlight, safe water supply, prevention and control of infections like diarrheal diseases etc. Family welfare aspects like family size, birth order and birth spacing, care during pregnancy. Most of these factors are under the direct influence of socio-economic status of families and women in particular. In order to promote normal growth and development it is important to consider all these factors, which have direct influence on growth and development of children.

Diarrhea

A child has diarrhea when there is a change from normal bowel habits to more frequent and looser or watery stools. The stools are often foul smelling. During the diarrheal episodes the baby becomes sick, irritable and/or lethargic. Most diarrhea is self-limiting and last for 2-3 days.

Danger signs of diarrhea

The major concern in diarrhea is rapid fluid loss resulting in dehydration. Any significant dehydration constitutes an emergency, so be aware of the following signs:

- Excessive thirst / irritability
- Sunken eyes
- Dry lips, tongue and skin
- Decreased amount of urine
- Very frequent passage of watery stools

- Lethargy or poor oral acceptance of fluids
- A child with any of the above signs should be shown to a doctor without delay
- Consult the doctor also if the child has blood in his stools. This is dysentery and child requires to be given medicines for this.

Prevention of diarrhea

Diarrhea can be prevented by simple measures like:

- Drinking clean drinking water
- Exclusive breast feeding for first 6 months
- Avoid use of bottle for feeding the infant
- Frequently washing the child‘s hands, washing hands before preparing food and cleaning the child after he has passed stools
- Keeping food articles covered
- Giving only freshly prepared food to the child. Any food that is left over from a previous meal should not be given to the child again at the next meal
- Avoiding consuming food prepared and served in unhygienic conditions

Oral Rehydration Solutions - the most effective, least expensive way to manage diarrhoeal dehydration.

To prevent too much liquid being lost from the child's body, an effective oral rehydration solution can be made using ingredients found in almost every household. One of these drinks should be given to the child every time a watery stool is passed.

Ideally these drinks (preferably those that have been boiled) should contain:

1. Starches and/or sugars as a source of glucose and energy
2. Some sodium and
3. Preferably some potassium

The following traditional remedies make highly effective oral rehydration solutions and are suitable drinks to prevent a child from losing too much liquid during diarrhea:

1. Breast milk

2. Gruels (diluted mixtures of cooked cereals and water)
3. Carrot Soup
4. Rice water-kanji

A very suitable and effective simple solution for rehydrating a child can also be made by using salt and sugar, if these ingredients are available. If possible, add 1/2 cup orange juice or some mashed banana to improve the taste and provide some potassium.

Recipe for home-made salt and sugar solutions

For preparing one liter oral rehydration solution (ORS) using salt, sugar and water at home, mix an oral rehydration solution using one of the following recipes; depending on ingredients and container availability:

1. One level teaspoon of salt
2. Eight level teaspoons of sugar
3. One liter of clean drinking or boiled water and then cooled 5 cupful's (each cup about 200 ml.)
4. Stir the mixture till the salt and sugar dissolve. An efficient and effective homemade remedy to be used when watery diarrhea strikes and is a good substitute for oral rehydration salts

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Chapter - 2
Mental Health

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Chapter - 2

Mental Health

Dr. Janvhi Singh and Dr. Neha Vyas

Abstract

Background: Mental health problems influence society, and not just a small, remote phase. They may consequently be a chief venture to global development. Mental health refers to cognitive, behavioral, and emotional well-being. It is all about how people think, feel, and behave. People sometimes use the term "mental health" to mean the absence of a mental disorder. Mental health can affect daily living, relationships, and physical health.

Methods: Absolutely everyone has a few hazards of developing an intellectual fitness disease, no matter their age, sex, earnings, or ethnicity. Within the U.S. and much of the evolved world, intellectual issues are one of the main causes of incapacity. The most common types of mental illness are Anxiety Disorders, Mood Disorders and Schizophrenia Disorders, they can be characterized based on their sign and symptoms.

Discussion: COVID-19 pandemic has left in its wake an unprecedented task for mental fitness offerings across the world. With nearly all affected, intellectual fitness provider transport to cope with the mental outcomes at the character degree has become close to impossible. Troubles to be dealt with encompass immediately intellectual health impacts such as worry, denial, tension, insomnia, dissociative signs and symptoms, depressive signs, and symptoms, suicidal thoughts/tries, substance withdrawal and relapse of pre-present mental fitness issues. Issues commonly providing encompass grief, survivor's guilt, despair, substance use, relapses of pre-present mental contamination, PTSD, and somatization issues. The principal stressor throughout this era might be the direct and the oblique socio-monetary effect of COVID-19.

Conclusion: Any pre-existing psychiatric situations like psychosis, temper disorders, anxiety spectrum disorders, sleep issues and so on can exacerbate mental health. Early detection is possible by noticing the signs and

symptoms of individuals. Hence health line workers and every individual should give importance to mental health same as physical health.

Keywords: Mental health, physical health, COVID 19, psychiatric situations, global development, global mental health

Introduction

Intellectual health is extra than the mere lack of mental issues. The high-quality dimension of mental health is harassed in WHO's definition of health as contained in its constitution: "Health is a nation of complete bodily, mental and social properly-being and no longer merely the absence of disorder or illness". Principles of intellectual health encompass subjective properly-being, perceived self-efficacy, autonomy, competence, intergenerational dependence and reputation of the ability to recognize one's highbrow and emotional potential. It has also been described as a nation of nicely-being whereby individuals apprehend their skills, are able to cope with the regular stresses of life, work productively and fruitfully and contribute to their groups. intellectual fitness is ready improving talents of individuals and groups and allowing them to gain their self-decided goals. Mental health needs to be a problem for every person, as opposed to best for those who be afflicted by a mental disorder.

Mental health problems influence society and not just a small, remoted phase. They may be consequently a chief venture to global development. No organization is proof against intellectual problems, but the risk is higher the various terrible, homeless, the unemployed, men and women with low education, victims of violence, migrants and refugees, indigenous populations, children, and kids, abused ladies and the not noted aged.

For all individuals, mental, bodily and social health are carefully interwoven, crucial strands of life. As our expertise of this interdependent dating grows, it turns into ever extra obvious that intellectual health is important to the general properly-being of people, societies and nations. Sadly, in most components of the sector, intellectual health and mental problems are now not accorded anywhere the equal importance as bodily health. As an alternative, they have been in large part left out or overlooked.

What is mental health

Mental health refers to cognitive, behavioral and emotional well-being. It is all about how people think, feel and behave. People sometimes use the term "mental health" to mean the absence of a mental disorder. Mental health can affect daily living, relationships and physical health.

Factors in people's lives, interpersonal connections and physical factors can all contribute to mental health disruptions

- Looking after mental health can preserve a person's ability to enjoy life.
- Doing this involves reaching a balance between life activities, responsibilities, and efforts to achieve psychological resilience.
- Conditions such as stress, depression, and anxiety can all affect mental health and disrupt a person's routine.
- Although the term mental health is in common use, many conditions that doctors recognize as psychological disorders have physical roots.

In this we explain what people mean by mental health and mental illness. We also describe the most common types of mental disorders, including their early signs and how to treat them.

The WHO pressure that mental fitness is "More than simply the absence of mental issues or disabilities" peak intellectual fitness is about now not only averting active situations however also searching after ongoing well-being and happiness.

In addition, they emphasize that keeping and restoring mental fitness is essential on an individual basis, in addition to in the course of exclusive groups and societies across the world. Within the USA, the national Alliance on intellectual contamination estimate that nearly one in five adults revel in mental fitness issues every year.

In 2017, an envisioned 11.2 million adults within the U.S., or about four-Five % of adults, had an extreme mental condition, in keeping with the country wide Institute of intellectual fitness (NIMH).

Risk factors for mental health conditions

Absolutely everyone has a few hazards of developing an intellectual fitness disease, no matter their age, sex, earnings, or ethnicity. Within the U.S. and much of the evolved world, intellectual issues are one of the main causes of incapacity. Social and economic situations, organic factors, and way of life choices can all form someone's intellectual health.

A large percentage of human beings with an intellectual health sickness have more than one situation at a time. It's miles essential to be aware that correct intellectual health relies upon on a delicate balance of factors and that numerous factors of lifestyles and the sector at huge can work collectively to contribute to disorders. The subsequent factors may contribute to intellectual fitness disruptions.

Continuous social and economic pressure

Having restrained financial manner or belonging to a marginalized or persecuted ethnic institution can growth the danger of intellectual fitness disorders.

A 2015 study Trusted source of 903 households in Iran recognized several socioeconomic reasons of mental fitness conditions, consisting of poverty and living at the outskirts of a large city.

The researchers additionally defined the distinction inside the availability and fine of intellectual health remedy for positive organizations in phrases of modifiable factors, which could alternate over time, and nonmodifiable factors, that are everlasting.

Modifiable factors for mental health disorders include

- Socioeconomic conditions, such whether work is available in the local area
- Occupation
- A person's level of social involvement
- Education
- Housing quality

Nonmodifiable factors include

- Gender
- Age
- Ethnicity

The study lists gender as both a modifiable and nonmodifiable factor. The researchers found that being female increased the risk of low mental health status by 3.96 times. People with a "weak economic status" also scored highest for mental health conditions in this study.

Biological factors

The NIMH advise that genetic own family history can increase the chance of mental health situations, as positive genes and gene versions put someone at higher risk. But many different factors contribute to the development of these issues.

Having a gene with hyperlinks to a mental health ailment, which include melancholy or schizophrenia, does no longer guarantee that a situation will develop. Likewise, human beings without associated genes or an own family record of mental contamination can nonetheless have mental health troubles.

Intellectual health conditions along with stress, melancholy, and tension may also develop due to underlying, existence-changing bodily fitness issues, along with most cancers, diabetes and continual pain.

Common mental health disorders: The most common types of mental illness are as follows.

- Anxiety Disorders
- Mood Disorders
- Schizophrenia Disorders

Anxiety disorders: According to the tension and despair affiliation of the United States, anxiety issues are the maximum not unusual sort of intellectual illness. People with these situations have intense worry or tension, which pertains to certain objects or situations. most people with an anxiety disorder will try to avoid exposure to something triggers their anxiety.

Examples of anxiety issues include

1. Generalized tension disorder (GTD)

The American Psychiatric association outline GAD as disproportionate worry that disrupts everyday dwelling. People may additionally experience bodily signs and symptoms, inclusive of

- Restlessness
- Fatigue
- Aggravating muscle tissue
- Interrupted sleep

A bout of hysteria symptoms does no longer necessarily need a specific trigger in humans with GAD. They may experience excessive anxiety on encountering everyday conditions that don't present an immediate chance, which include chores or retaining appointments. someone with GAD may additionally on occasion sense anxiety and not using a trigger at all.

2. Panic issues

People with a panic disorder enjoy regular panic attacks, which involve unexpected, overwhelming terror or a sense of coming near disaster and demise.

3. Phobias

There are one-of-a-kind types of phobias:

Easy phobias: Those might contain a disproportionate worry of specific objects, situations, or animals. A fear of spiders is a commonplace example. Research greater about simple phobias here.

Social phobia: Every now and then referred to as social anxiety, this is a fear of being difficulty to the judgment of others. Human beings with social phobia frequently restriction their exposure to social environments. discover greater right here.

Agoraphobia: This time refers to a worry of conditions in which getting away can be difficult, consisting of being in an elevator or transferring educate. Many humans misunderstand this phobia as a fear of being outdoors. examine all approximately agoraphobia right here. Phobias are deeply personal, and medical doctors do now not recognise every type. There will be heaps of phobias, and what might appear uncommon to one character can be an intense problem that dominates daily life for any other.

Obsessive-compulsive sickness (OCD)

Human beings with OCD have obsessions and compulsions. In other phrases, they enjoy consistent, demanding thoughts and a powerful urge to carry out repetitive acts, including hand washing.

Put up-annoying strain disease (PTSD)

PTSD can arise after someone studies or witnesses a deeply demanding or stressful event. All through this sort of event, the person thinks that their existence or different people's lives are in hazard. they will experience afraid or that they have got no manage over what's going on. Those sensations of trauma and fear may also then contribute to PTSD. Find out the way to understand and deal with PTSD.

Mood disorders: Humans may additionally seek advice from mood disorders as affective issues or depressive problems. People with those situations have massive changes in temper, commonly related to both mania, that is a duration of high energy and elation, or depression.

Examples of mood disorders include

Predominant depression: A character with fundamental despair reviews a steady low temper and loses interest in activities and events that they formerly loved. they are able to sense prolonged durations of sadness or intense unhappiness.

Bipolar disease: A person with bipolar disease reviews unusual changes of their temper, power tiers, levels of activity, and ability to continue with

everyday existence. Intervals of high mood are called manic stages; even as depressive phases bring on low mood. Study extra about the different forms of bipolar here.

Seasonal affective ailment (sad): Decreased daylight triggers all through the fall, winter, and early spring months cause this kind of foremost despair. It's miles most common in nations away from the equator. study greater about sad right here.

Schizophrenia problems

Mental fitness government are nevertheless seeking to decide whether schizophrenia is an unmarried sickness or a collection of related illnesses. It's miles a highly complicated circumstance.

Signs and symptoms of schizophrenia commonly expand among a long time of sixteen and 30 years, in step with the NIMH. The man or woman may have thoughts that seem fragmented, and they will also discover it tough to procedure statistics.

Schizophrenia has bad and wonderful symptoms. high quality symptoms include delusions, concept disorders, and hallucinations. terrible signs and symptoms include withdrawal, loss of motivation, and a flat or irrelevant mood.

Early Sign: There is no bodily check or test that reliably shows whether someone has evolved a mental illness. but people should appearance out for the following as feasible signs of a mental health ailment:

1) Withdrawing from buddies, family and colleagues.
2) Avoiding sports that they would generally enjoy.
3) Sleeping an excessive amount of or too little.
4) Eating too much or too little.
5) Feeling hopeless.
6) Having constantly low energy.
7) Using mood-changing substances, including alcohol and nicotine, extra often.
8) Displaying poor emotions.
9) Being pressured.
10) Being unable to complete each day responsibilities, which includes getting to paintings or cooking a meal.
11) Having chronic thoughts or reminiscences that reappear frequently.

12) Thinking of inflicting physical harm to themselves or others.

13) Hearing voices.

14) Experiencing delusions.

Treatment

There are various strategies for managing mental fitness issues. Remedy is noticeably person, and what works for one man or woman might not paintings for another.

A few techniques or remedies are extra successful in aggregate with others. A person residing with a continual mental disease may additionally select exceptional alternatives at numerous tiers in their existence.

The man or woman needs to work closely with a medical doctor who can help them identify their wishes and provide them with suitable remedy.

Remedies can consist of

Psychotherapy, or speak to me therapies

This sort of remedy takes a mental technique to treating intellectual contamination. Cognitive behavioural remedy, exposure therapy, and dialectical conduct therapy are examples.

Psychiatrists, psychologists, psychotherapists, and some primary care physicians perform this sort of treatment.

It can assist human beings apprehend the basis in their mental infection and start to work on greater healthful notion patterns that assist ordinary living and decrease the danger of isolation and self-damage.

Medication

Some human beings take prescribed medicines, which includes antidepressants, antipsychotics, and anxiolytic pills. Even though those can't therapy intellectual problems, a few medicines can improve symptoms and help someone resume social interaction and an ordinary routine at the same time as they work on their mental fitness. A number of those medications paintings via boosting the body’s absorption of experience-accurate chemical compounds, which include serotonin, from the mind. other tablets either improve the overall levels of those chemicals or prevent their degradation or destruction.

Self-help

A person coping with intellectual fitness problems will typically need to adjust their way of life to facilitate well-being. Such adjustments might consist

of lowering alcohol intake, sound asleep more, and consuming a balanced, nutritious diet. Humans may also want to take time faraway from work or solve problems with personal relationships that can be inflicting damage to their mental fitness. Humans with situations inclusive of a tension or depressive sickness might also benefit from relaxation strategies, which encompass deep respiration, meditation, and mindfulness. Having a guide network, whether thru self-assist agencies or near buddies and own family, can also be important to restoration from mental infection.

Suicide prevention

In case you recognize a person at immediate chance of self-harm, suicide, or hurting every other man or woman: Ask the hard question: "Are you considering suicide?" Concentrate to the person without judgment. Call the local emergency number, or textual content speak to an educated crisis counsellor. Stay with the character till professional help arrives. Attempt to take away any guns, medications, or other probably dangerous gadgets.

Mental health assessment of COVID-19 Patient in health care & community settings

COVID-19 pandemic has left in its wake an unprecedented task for mental fitness offerings across the world. With nearly all affected, intellectual fitness provider transport to cope with the mental outcomes at the character degree has become close to impossible. The present health offerings are at its break point to control the spread and decrease mortality of COVID-19. Policy makers even though aware about the intellectual fitness effects are prioritizing ability building of the fitness services and trying to reduce the socio-financial hardships of communities following COVID-19. Front-line personnel consisting of scientific specialists however face the daunting task of coping with the distress and trauma of people, households, and groups on an everyday foundation. further, most should cope with their own feelings and anxieties. Most frontline employees have restrained intellectual fitness capabilities. This bankruptcy is a frame-paintings for an easy intellectual fitness assessment by using the front-line employees. The assessment may be integrated into the fitness care response or frontline response to the COVID-19 pandemic. Some theoretical standards were brought to make certain an extra clarity for medical professionals. Intellectual fitness issues noted in (biological) disaster zones such as COVID-19 may be labelled into an acute section at some point of the outbreak (approximately 2-6 months) and long-time period segment after the manager of the outbreak (>6 months).

a) **Acute section (at some point of the outbreak):** Troubles to be dealt with encompass immediately intellectual health impacts such as worry, denial, tension, insomnia, dissociative signs and symptoms, depressive signs, and symptoms, suicidal thoughts/tries, substance withdrawal and relapse of pre-present mental fitness issues. Except, stress associated troubles of the health care providers and frontline employees need to be addressed.

b) **lengthy-time period segment (after the manager of the outbreak):** Issues commonly providing encompass grief, survivors guilt, despair, substance use, relapses of pre-present mental contamination, PTSD, and somatisation issues. The principal stressor throughout this era might be the direct and the oblique socio-monetary effect of COVID-19.

Along with the diagnosable intellectual fitness problems, the affected community also harbours a large variety of the involved well. intellectual health experts ought to be privy to this phenomenon and restrain themselves from labelling this population with intellectual disease and treating them aggressively with medications. Further, all fitness care and frontline personnel ought to be aware that mental fitness issues post-covid-19 (or any catastrophe), constitute emotional reactions of normal humans in strange situations and for a majority these signs and symptoms are self-restricting. The assessment of intellectual health issues in this phase will cognizance on the mental problems in the extreme phase of the COVID-19 outbreak.

Mental health issues in hospital quarantine/isolation

Introduction

Quarantine is defined as proscribing the motion of regular folks that may also had been uncovered to infected humans. The quarantine can also assist restrict the unfold of communicable diseases like COVID-19. The quarantine can be executed at home, sanatorium or network-primarily based facilities. In evaluation, isolation is the separation of human beings affected with contamination/contagious sickness from folks that are not affected. on this chapter, we talk intellectual fitness issues associated with 'medical institution Quarantine and Isolation'.

Intellectual fitness troubles all through clinic Quarantine.

Quarantine is achieved for the larger interest of the network through curtailing the right of the person.

Quarantine can cause physical, psychological, emotional and economic stress due to fear of contracting.

The illness, boredom, loneliness, loss of private freedom, a brand-new set of day-by-day routine and shortage of social togetherness.

The mental fitness problems following the health centre quarantine period can be

1) New-onset mental fitness troubles.
2) Exacerbation of pre-existing mental health issues.

New-onset intellectual health issues

Those include health-associated tension: Through some distance this will be the most not unusual circumstance that could get up for the duration of:

Isolation: This can occur due to uncertainty of outcome, worry of turning positive on checking out.

Stigma: It may variety from slight to intense. In intense cases, it may lead to panic attacks.

Depression and tension: Worry of contracting an excessive and probably existence-threatening contamination, isolation from the circle of relatives, helplessness and guilt related to behaviours which brought about contamination, is a supply of contamination to own family and public, and not being able to carry out duties and so on.

Low mood, fear, anxiousness, irritability, anger, frustration, boredom, emotional exhaustion, feeling confused, numbness and insomnia: Many quarantined humans may experience those issues which may additionally or may not quantity to a diagnosable mental health disorder, nevertheless, they want to be recognized and addressed.

Substance withdrawal: Withdrawal from substances can arise because of non-availability and sudden stoppage from the substances mainly alcohol.

Quit-of-lifestyles crisis: Thoughts of whether they have achieved their responsibilities accurately, fear of demise, apprehension closer to the circle of relatives' response to one's dying, guilt and many others might also haunt the character.

Acute strain reaction and submit-stressful stress sickness (PTSD): Health facility quarantine can be a vast traumatic occasion resulting in acute stress sickness. Humans uncovered to sanatorium quarantine have a better threat of later improvement of PTSD.

Resilience: A few can also report superb feelings. Resilience is thought to occur no longer best within the men and women inflamed but additionally within the community. Network's resilience assists us in bouncing returned from tough times.

Exacerbation of pre-present psychiatric situations

Any pre-existing psychiatric situations like psychosis, temper disorders, anxiety spectrum disorders, sleep issues, and so on can exacerbate during the quarantine. This can show up due to 3 reasons:

1) Contamination related.

2) Stopping ongoing psychotropic medicinal drugs for reasons along with non-disclosure of mental infection, non-availability of medicinal drugs, drug interactions and shortage of get right of entry to mental health care carriers.

3) **Drug negative consequences:** Tablets presently used to treat COVID-19 are regarded to cause psychiatric symptoms either within the shape of emergence of new symptoms or exacerbation of present.

Signs and Symptoms

Several the commonly mentioned psychiatric symptoms related to the usage of chloroquine, steroids, and antiretrovirals are psychosis, delirium, mood disorders and cognitive disturbances management.

a) **Validation:** Acknowledge the sensation of boredom, loneliness, feeling sad, pressured, burdened, loss of personal freedom and guilt

b) Keep quarantine as brief as possible based totally on the knowledge of the incubation duration. keep away from overcautious technique and avoid extension of quarantine. keep on with the encouraged length. Extension of the quarantine length may additionally result in frustration and demoralisation.

c) Provide as a whole lot of statistics as viable approximately the contamination and intent in the back of the quarantine. For the duration of quarantine, humans might also generally tend to misread all physical signs as indicative of infection which may additionally then lead to immoderate health anxiety and other psychological problems. consequently, the quarantined humans must have an accurate and unambiguous information approximately the character of the problem. health specialists worried in worrying for them may additionally have to periodically reassure them.

d) Keep away from hypothesis and wreck the chain of rumour during the health centre quarantine.

e) Display for pre-existing scientific, psychiatric and substance use disease situations. humans with pre-existing mental health troubles may be extra susceptible than others to increase mental issues. make certain remedy and continuity of care with the hospital for pre-existing clinical and psychiatric situations.

f) Provide centres to the character to stay physically energetic, preserve or increase hobbies to be mentally lively and make sure a balanced weight loss program to hold themselves suit and calm.

g) Provide get admission to family and buddies via mobile telephones. The quarantined human beings want to maintain touch with others and feature get entry to social networks to avoid boredom and loneliness.

h) Train coping strategies to humans who have mental troubles.

i) Make certain ok supply of fundamental wishes (food, water, drugs, and so forth.) and enhance an experience of altruism.

j) Protect an individual's safety and privateness.

k) Use psychotropics sparingly as most people may do nicely with easy measures defined above.

Counselling for patients with COVID-19 in health facility

The telepsychiatry platform may be taken into consideration appropriate for counselling those with COVID-19 who are in sanatorium quarantine. This will reduce the chance of contracting contamination for fitness care employees and prevent wastage of precious non-public protection equipment.

Early intervention services are key to improving the lives of people living with mental health disorders

Early Intervention in intellectual fitness aims to decorate focus of the early phases of mental health issues greater normally, in addition to the causes, remedy, prevention and the method of restoration. It targets to offer a worldwide network for those worried inside the look at and remedy of the early phases of mental health issues encompassing a trans-diagnostic method.

Ahead of the eleventh worldwide conference on Early Intervention in intellectual fitness, to be held in Boston from seventh 10th of October 2018, Professor McGorry answered a few speedy hearth questions.

What is early intervention in intellectual fitness?

Intervening whilst there are the first signs of a need for care-this is the first degree of illness according to our staging version. providing included multidisciplinary proof-based care from the first treated episode until remission and restoration is finished. Then maintaining the remission and recuperation over the medium to lengthy term.

How does poor intellectual fitness impact young adults?

It has a dose response dating across a vast range of consequences from mortality to the fulfilment of ability to economic, social and vocational outcomes.

Why is early intervention critical?

They "bend the curve" to improve consequences throughout a large range and result in a dramatic return on investment. EI in intellectual health represents the very best purchase in health care. Decreasing delays for treatment and assuring evidence-based treatment during the critical duration of the first five years put up-diagnosis.

What is the price of early intervention (for society, for humans with psychosis; for their households)?

There are large advantages for people, families, and society at the human, social and monetary the front. Improvement in social functioning of human beings living with psychosis development in employment for humans with psychosis advanced to standard treatment across a huge range of clinically applicable outcomes, which includes hospitalization chance, mattress-days, signs and symptoms, and international functioning.

What ought to policymakers do to improve early intervention in young adults?

Invest in early intervention to keep lives, shop futures and save heaps of money.

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Chapter - 3
Health Care System in India

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Chapter - 3

Health Care System in India

Ankita Trigunayat

Abstract

India, one of the oldest civilizations and second most population country is ethnically, linguistically, geographically, religious, and demographically diverse is poorly due to complex public health-care system, which suffers from insufficient funding, poor management. The health of the people is a national priority. Health care system infrastructure includes services, facilities, institutions/establishments and organization. They provide individuals, families and communities with promotive, diagnostic, curative and rehabilitative measures and services. There are different health care system all over the world, which are strongly influenced by nation's history, traditions, socio-cultural, economic, political and other factors. But, regardless of all present differences, there are common characteristics, typical for all health care system, in this modules three levels of healthcare (primary, secondary, tertiary) are described, as well as their historical development. Concerning sources of funding, there are three main models of national health care system. The quality of health care system is expressed through coverage, access, equity, but also efficiency in use of resources and financing. Health care system facing new challenges, among them are aging of the population, new medical technology, innovations increasing costs, lack of community involvement and inter- sectoral action.

Keywords: Health care systems, health care sectors in India, moderns health care systems in India, role of public health sectors in health care system.

Introduction

A health system, health care system is an organization of people, institutions, and resources that delivers health care services to meet the health needs of target populations. There is a wide variety of health systems around the world, with as many histories and organization structure as there are nations. Implicitly, nations must design and develop health systems in accordance with their needs and resources, although common elements in

virtually all health systems and primary health care measures. In some countries, health system planning is distributed among market participated. In others, there is a concerted effort among governments, trade unions, charities, religious organizations, or other co-Ordinated bodies to deliver planned health care services targeted to the populations they serve. However, health care planning has been described as often evolutionary rather than revolutionary. As with other social institutional structures, health systems are likely to reflect the history, culture and economics of the states in which they evolve. These peculiarities bedevil and complicate international comparisons and preclude any universal standard of performance.

Definition: health care system in which ensures need based comprehensive health care services to people at large especially those living in remote and backward areas, using available resources, manpower, money and material.

Health care sector in India: (Historical)

Pre-independence: Conventionally health care in India has been based on voluntary work. Since ancient times traditional practitioners of health care have contributed to the medicine needs of society. Acute knowledge in the medicinal properties of plants and herbs were passed on from one generation to another to be used for treatment. The colonial rule and the dominance of the British changed the scenario. Hospitals managed by Christian missionaries took Centre stage. Even the intellectual elite in India with their pro west bias favored western practices.

Post-independence: Prior to independence the healthcare in India was in shambles with large number of deaths and spread of infectious disease. After independence the govt. of India laid stress on primary health care and India has put in sustained efforts to better the health care system across the country. The government initiative was not enough to meet the demands from a growing population be it in primary, secondary or tertiary health care.

Health care system in India: Health care system in intended to delivery the health care services. its operates with in the socio-economic and political frame work of the country. In India it is represented by five major sector or agencies which differ from each -other.

Sectors

- Public health sector.
- Private sector.
- Indigenous system of medicine.

- Voluntary health agencies.
- National health program.

1. Public health sector

I. Primary health care

a) Primary health center (PHC).

b) Sub center (SC).

II. Hospital and health center

a) Community health center.

b) Rural hospitals.

c) Districts hospitals/health center.

d) Specialist hospital.

e) Teaching hospital.

III. Health insurance schemes

a) Employes state insurance.

b) Central government health scheme.

IV. Other agencies

a) Defence Service.

b) Railways.

2. Private sectors

Till about 10-20 years back, the private sectors venture in the health care sector consisted of only solo practitioners, smell hospitals and nursing homes. the quality of service provided was excellent especially in the hospitals run by charitable trusts and religious foundations. In 1980 realizing that the govt. on its own would not be able to provide health care, the government allowed the entry of private **sector** to reduce the gap between supply and demand for healthcare.

3. Indigenous system of medicine

In India, in addition to existence of modern medicine, indigenous or traditional medical practitioners continue to practice throughout the country. Popular indigenous healthcare traditions include ayurveda, siddha, Unani, Homeopathy, Naturopathy, the Yoga.

The Ayurveda (meaning science of life) deals with causes, symptoms, diagnoses, and treatment based on all aspects of well-being (mental, physical,

and spiritual). These professionals, traditionally, have been inheriting the skills from their ancestors. However, with the advent of education, a variety of institutions offer training in indigenous medical practice.

The Siddha system defines disease as the condition in which the normal equilibrium of the five elements in human beings is lost resulting in different forms of discomfort. The diagnostic methods in siddha medical system are based more on the clinical acumen of the physician after observation of the patient, pulse and diagnosis and clinical history.

The Yoga is science as well an art of healthy living physically, mentally, morally and spiritually. Yoga is believed to be founded by saints and sages of India several thousand years ago. Yoga has its origin in the Vedas, and philosophy is an art and science of living in tune with the universe.

Naturopathy has several reference in the Vedas and other ancient texts, which indicates that there methods were widely practiced in ancient India. Naturopathy believes that all the disease arise due to accumulation of morbid matter in the body and if scope is gives for its removal, it provides cure or relief. If also believes that the human body possesses inherent self-constructing and self-healing powers. Naturopathy differs slightly with other systems of medicine, as it does not believe in the specific cause of disease and its specific treatment but takes into account the totality of factors responsible for disease such as one un-natural habits living. Thinking working, sleeping, or relaxation and the environmental factors that disturbs the normal functioning of the body.

Unani system of medicine believes that the body is made up of four basic elements viz, earth, air, water and fire, which have different temperaments i.e. cold, hot, wet and dry. After mixing and wet, hot-dry, cold-wet and cold-dry. The body has simple and compound organs, which got their nourishment believe in humours, viz. blood, phlegm, yellow bile, black bile. Unani system of medicine believes in promotion of health, prevention of disease and cure

Moderns (allopathic) healthcare system in India

The moderns (allopathic) health care system in India consists of a public sector, a private sector, and an informal network providers. The size, scale, and spread of the country hampered complete adherence to the number of well-intended guidelines and regulations. although there are norms and guidelines, compliance is minimal.in reality, the sector operates in a largely unregulated environment, with minimal control on what services can be provided, by whom, in what manner, and at what cost. Thus, wide disparities occur in access, cost, levels, and quality of health services provided across the country.

India health system can be categorized into three distinct phases:

a) **In the initial phase of 1947-1983,** health policy was assumed to be based on two broad principles:

i) That none should be denied health care for want of ability to pay.

ii) That if was the responsibility of the state to provide health care to the people.

b) **In the second phase of 1983-2003,** a national health policy was announced for the first time in 1983, which articulated the need to encourage private initiative in health service delivery and enhanced the access to publicly funded primary healthcare, facilitating expansion of health facilities is rural areas through national health program (NHPs)

c) **The third phase, post- 2000,** is witnessing a further shift and broadening of focus: the current phase addresses key issues such as public- private partnership, liberalization of insurance sector, and the government as a financier.

Role of public sector in health care

The public healthcare system consist of facilities run by the central and state govt. these public facilities provide free or subsidized rates to lower income families in rural and urban areas. the constitution of India divides health-related responsibility between the central and the state governments. While the national governments shoulder the responsibility for infrastructure, employment, and service delivery. The concurrent list (in the 9th schedule to the constitution of India includes issues that concern more than one state.

The health system infrastructure in India

National level

Ministry of health and family welfare.

State and U.T.S

Department of health family welfare. Apex hospital.

Districts

District hospital

a) **Rural areas:** Community health centre, primary health centre, sub-centre.

b) **Urban areas:** Hospital dispensary.

Ministry of health and family welfare is instrumental end responsible for implementation of various programmes on a national scale in the areas of health and family welfare, prevention and control of major communicable disease and promotions of traditional and indigenous systems of medicines.

Ministry of health and family welfare incurs expenditure either directly under central schemes or by way of grants-in-aids to the autonomous/ statutory bodies.

The ministry of health and family welfare comprises the following departments, each of which is headed by a secretary to the government of India.

Sub-Centre: Sub-centre is the peripheral outpost of the Indian healthcare.

One sub-centre to the healthcare needs of 5000 population in general and 3000 population in hilly, tribal and backward areas.

Services provided by sub-centre

- Antennal, natal, postnatal.
- Family planning and counselling.
- Treatment of common illness like respiratory tract.
- Infections diarrhoea, fever, worm infestation.
- Prevention of malnutrition.
- Implementation of various national health programmes.

Staff pattern of sub centre: Each sub centre is required to be manned by at least one auxiliary nurse midwife (ANM) female health worker and one male health worker.

PHC-(primary health centre): Primary health centre occupies a key position in the nation health care system.it provide an integrated curative and preventive health care to the rural population with emphasis on preventive and promotive aspects of health care.

Population covered by one PHC, rural populations in the plains: 30000 and hilly, tribal and backward areas-20000.

Staff pattern of PHC: Medical officer-1, pharmacist-1, nurse midwife-1, health worker (F) ANM-1, block extension educator-1 health assistant male -1, health assistant (F), upper division clerk-1 lab technician-1 class iv-1, driver-1, total-15.

Community health centers: The secondary sector of the Indian health care systems consists of rural hospitals and community health centers. Serving four PHCs the CHCs specialized medical service are intended for 80000-120,000 people. For several years now, there have been plans to upgrade 2000 CHC to the status of regional hospital. Community health centre are supposed to have at least 30 beds, an operating theatre, a laboratory, x-ray facility, as well as 25 staffing patterns.

Role of private sector in healthcare: India is encouraging investment in healthcare sector, over the years private sector in India has gained a significant presence in all the sub-segments of medical education and training, medical technology and diagnostics, pharmaceutical manufacture and sale, hospital construction and ancillary services, as also the provisioning of medical care. Over 75% of the human resource and advanced medical technology, 68% of hospitals and 37% of total beds in the country are in the private sector.

Health infrastructure: Health infrastructure is an important indicator to understand the healthcare delivery provisions and mechanisms in a country.it also signifies the investments and priority accorded to creating provisions and mechanisms in a country. It also signifies the investments and priority accorded to creating the infrastructure in public and private sectors. The health infrastructure in India is spread over the different systems of medicine such as allopathic, ayurveda, siddha, Tibetan medicine, Unani and homoeopathy and can be categorized as follows:

a) Physical infrastructure

b) Human resources

a) Physical infrastructure

The physical infrastructure consists of health facilities in the public sector and those provided by the private sector. Public health services consists of a network of sub-center, PHC, CHC and district hospital.

The infrastructure in the private sector provides at least 80 per cent of health services in the country and can be classified as follows

- Private dispensaries.
- Private hospitals.
- Charity hospitals, ngos.
- Corporate hospitals.

Human resources

Table 1: Density of health workers in India

Categories	Year	Number	Density per 1000
Physicians	2005	645285	0.60
Nurses	2004	865135	0.80
Midwives	2004	5069924	0.47
Dentists	2004	61424	0.06
Pharmacists	2003	592577	0.56
Public and environmental health workers	1991	325263	0.38
Community health workers	2004	50393	0.05
Lab technicians	1991	15886	0.02

Conclusion

Health care services in general are rendered by the government through a network of health centre from the grass root areas to the block level in the rural areas and through hospitals, dispensaries, maternal, child health and family welfare centre in the urban areas.

The following are personal and impersonal health services: immunization services, nutrition, school health, industrial health.

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Chapter - 4
Government Schemes for Health Facilities

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Chapter - 4

Government Schemes for Health Facilities

Gunjan Kandpal

Abstract

Human health not only influenced the immunity of society, but also social structures, culture, politics, and economics. After independence of our nation, the National Health Programmes are launched by the Central Government for the control/ eradication of the communicable diseases, improvement of environmental sanitation, improving the standard of nutrition, control of population and promotion of rural health. The Union Ministry of Health and Family Welfare is instrumental and responsible for implementation of various programmes on a national scale in the areas of health, prevention and control of diseases and promotion of traditional and indigenous systems of medicines. Various International agencies have been providing technical and material assistance in the implementation of these programmes.

Keywords: Health, governmental schemes, health schemes, national programmes

Introduction

Public Health is a State subject; hence, the responsibility of providing medical assistance to patients of all income group is of respective State/UT Governments. However, National Health Mission (NHM)-a flagship programme of the Ministry with its two Sub-Missions, National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM), supports States/UTs to strengthen their health care systems so as to provide universal access to equitable, affordable and quality health care services.

The schemes launched under NHM are available free of cost to all income groups visiting in Public Health Facilities at sub district and district level.

Health care schemes

According to Government of India, Ministry of Health and Family Welfare

The following programmes/schemes are run by government under National Health Mission:

Reproductive, maternal, neonatal, child and adolescent health

- Janani Shishu Suraksha Karyakaram (JSSK).
- Rashtriya Kishor Swasthya Karyakram (RKSK).
- Rashtriya Bal Swasthya Karyakram (RBSK).
- Universal Immunisation Programme.
- Mission Indradhanush (MI).
- Janani Suraksha Yojana (JSY).
- Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA).
- Navjaat Shishu Suraksha Karyakram (NSSK).
- National Programme for Family planning.
- LaQshya' programme (Labour Room Quality Improvement Initiative).

National nutritional programmes

- National Iodine Deficiency Disorders Control Programme.
- MAA (Mothers' Absolute Affection) Programme for Infant and Young Child Feeding.
- National Programme for Prevention and Control of Fluorosis (NPPCF).
- National Iron plus Initiative for Anaemia Control.

Communicable diseases

- Integrated Disease Surveillance Programme (IDSP).
- Revised National Tuberculosis Control Programme (RNTCP).
- National Leprosy Eradication Programme (NLEP).
- National Vector Borne Disease Control Programme (NVBDCP).
- National AIDS Control Programme (NACP).
- Pulse Polio Programme.
- National Viral Hepatitis Control Program (NVHCP).

- National Rabies Control Programme.
- National Programme on Containment of Anti-Microbial Resistance (AMR).

Non-communicable diseases

- National Tobacco Control Programme (NTCP).
- National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS).
- National Programme for Control Treatment of Occupational Diseases.
- National Programme for Prevention and Control of Deafness (NPPCD).
- National Mental Health Programme.
- National Programme for Control of Blindness & Visual Impairment (NPCB&VI).
- Pradhan Mantri National Dialysis Programme (PMNDP).
- National Programme for the Health Care for the Elderly (NPHCE).
- National Programme for Prevention & Management of Burn Injuries (NPPMBI).
- National Oral Health programme.

Support under NHM to States/UTs includes provision of a host of free services such as maternal health, child health, adolescent health, family planning, universal immunisation programme, and for major diseases such as Tuberculosis, HIV/ AIDS, vector borne diseases like Malaria, Dengue and Kala Azar, Leprosy etc.

Other major initiatives include Janani Shishu Suraksha Karyakram (JSSK) (under which free drugs, free diagnostics, free blood and diet, free transport from home to institution, between facilities in case of a referral and drop back home is provided), Rashtriya Bal Swasthya Karyakram (RBSK) (which provides newborn and child health screening and early interventions services free of cost for birth defects, diseases, deficiencies and developmental delays to improve the quality of survival), implementation of Free Drugs and Free Diagnostics Service Initiatives and PM National Dialysis Programme.

Mobile Medical Units (MMUs) & Telemedicine are also being implemented with NHM support to improve healthcare access particularly in rural areas.

- The Ayushman Bharat Programme launched last year provides for holistic and integrated health care and is the principal vehicle for achieving Universal Health Coverage (UHC).
- It's Health and Wellness Centre component (AB-HWC) provides essential primary and community health services such as maternal, neonatal and child health services including immunization and nutrition, thus fostering human capital development during children's critical early years. These centres also provide services to prevent and manage common NCDs and major communicable diseases.
- The other component, AB-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) provides free and cashless care to about 500 million poor and deprived people for secondary and tertiary hospitalization care.
- To enhance the facilities for tertiary care of cancer, Strengthening of Tertiary Care for Cancer Scheme is being implemented to support setting up of State Cancer Institutes (SCI) and Tertiary Care Cancer Centres (TCCC) in different parts of the country. Oncology in its various aspects has focus in case of new AIIMS and many upgraded institutions under Pradhan Mantri Swasthya Suraksha Yojna (PMSSY).
- Financial assistance to patients living below poverty line for life threatening diseases under the schemes such as Rashtriya Arogya Nidhi (RAN), Health Minister's Cancer Patient Fund (HMCPF) and Health Minister's Discretionary Grant (HMDG) is also provided.
- Affordable Medicines and Reliable Implants for Treatment (AMRIT) Deendayal outlets have been opened with an objective to make available drugs and implants for Cardiovascular Diseases (CVDs), Cancer and Diabetes at discounted prices to the patients.

Services at Ayushman Bharat – Health and Wellness Centres (AB-HWCs) are free and universal to all individuals residing in the service area.

A Government Health Insurance Scheme is a State or Central Government powered health insurance initiative for its citizens. It is directed towards enhancing the healthcare quotient of the region by offering low-priced insurance policies with a sizeable sum insured. Such policies are usually offered on an annual basis.

Government health insurance schemes in India

1) **Ayushman Bharat:** This scheme came into existence because of recommendations made by the National Health Policy. Ayushman

Bharat Yojana is designed keeping in mind Universal Health Coverage (UHC). Health services in India are largely segmented and Ayushman Bharat aims to make them comprehensive. It is about looking at the health sector as a whole and ensure continuous care for the people of India.

There are two components related to Ayushman Bharat: Health and Wellness Centres (HWC) and Pradhan Mantri Jan Arogya Yojana (PM-JAY). 150000 HWCs have been created in order to ensure better healthcare for the people. These HWCs are transformed versions of earlier initiatives like Sub Centres and Primary Health Centres. The PM-JAY is a health insurance scheme for the poor. It offers a health cover of Rs. 5 lakhs per family on an annual basis, and the payable premium is Rs. 30.

2) **Awaz Health Insurance Scheme:** This is a health insurance cover for migrant workers and is initiated by the Government of Kerala. It also offers insurance for death by accident for labourers. The scheme was launched in the year 2017 and targeted 5 lakh inter-state migrant labourers working in Kerala. The health insurance coverage offered under Awaz Health Insurance is Rs.15000, while the cover for death is Rs. 2 lakh.

This policy can be obtained by labourers falling in the age group of 18 to 60. They shall be provided with an Awaz Health Insurance card, post submitting and processing of enrolment details pertaining to biometric information and other work-related documents.

3) **Aam Aadmi Bima Yojana:** The Aam Aadmi Bima Yojana (AABY) is meant for people involved in certain vocations such as Carpentry, Fishing, Handloom weaving, etc. There are 48 such defined vocations. Before 2013, there were two policies of similar nature, AABY and Janashree Bima Yojana (JBY). After 2013, JBY was merged with AABY.

The premium for Rs.30000 insurance policy is Rs. 200 for a year. The eligibility criteria for this policy is that one should be a family head or an earning member of one's family (around the poverty line) and should be performing one of the 48 mentioned vocations.

4) **Bhamashah Swasthya Bima Yojana:** Rajasthan Government, supports insurance initiatives towards its citizens under the Bahmashah Swasthya Bima Yojana. This is a cashless claims scheme for rural people of Rajasthan. There is no prescribed age limit for availing the benefits of this scheme.

Those who are a part of the National Food Security Act (NFSA) and the Rashtriya Swasthya Bima Yojana (RSBY) are also qualified for this insurance policy. This scheme covers hospitalization expenses for general illness as well as critical illnesses as per the terms and conditions. It covers both in-patient as well as out-patient expenses.

5) **Central Government Health Scheme (CGHS):** As the name suggests, this policy is initiated by India's Central Government. Central Government employees are eligible for this policy. For example, Supreme Court judges, Certain Railway Board employees, etc. This policy has been active for six decades and has covered more than 35 lakh employees and pensioners.

Hospitalization, as well as domiciliary care, are covered as per this plan's terms and conditions. Central Government Health Insurance Scheme covers Allopathy and Homeopathy as well. It is available in 71 cities and the plan is to expand the scope to more areas.

6) **Chief Minister's Comprehensive Insurance Scheme:** This is a state government scheme. It is promoted by Tamil Nadu Government in association with United India Insurance Company Ltd. The Chief Minister's Comprehensive Insurance Scheme is a family floater plan designed for quality health care.

One can claim for hospitalization expenses up to Rs. 5 lakhs under this policy. Select government and private hospitals are a part of this scheme. People residing in Tamil Nadu earning less than Rs. 75000 annually are eligible for this scheme. More than a thousand procedures are covered under the Chief Minister's Comprehensive Insurance Scheme.

7) **Employees' State Insurance Scheme:** A huge number of people worked in factories post-independence in India. The working conditions were such that there were injuries and deaths as well. This is where the concept of insurance proved beneficial. Employees' State Insurance Scheme was launched in the year 1952 to offer a financial cover in case of illness, disability or death faced by insured workers/employees.

Initially, only Kanpur and Delhi were considered, but the scope of the scheme expanded with time. This policy got an upgrade in the year 2015. Now, more than 7 lakh factories are a part of this scheme.

8) **Karunya Health Scheme:** Kerala Government had launched this initiative in the year 2012. Karunya Health Scheme is directed

towards providing Health Insurance for listed chronic illnesses. It is a Critical Illness plan for the poor and covers major diseases such as Cancer, Kidney Ailments, Heart-related medical issues, etc.

Those below or near the poverty line can enrol themselves for this cover. Aadhaar Card and appropriate Income Certificate are needed for this scheme. There were rumours that this scheme has been abolished, however, they were just rumours as this scheme is still active.

9) **Mahatma Jyotiba Phule Jan Arogya Yojana:** This policy is initiated by the Government of Maharashtra, for the betterment of its downtrodden people. Rajiv Gandhi Jeevandayee Arogya Yojana was renamed as Mahatma Jyotiba Phule Jan Arogya Yojana in the year 2017.

Farmers from select districts and people below and around the poverty line across all districts are eligible for this scheme. It is a family cover with a benefit of Rs. 150000. The diseases mentioned as inclusions in the scheme shall be covered from day one, without any waiting period unless specified.

10) **Mukhyamantri Amrutum Yojana:** The Government of Gujarat launched the Mukhyamantri Amrutum Yojana in the year 2012 for the benefit of the state's poor people. Lower middle-class families and those living below the poverty line are eligible for this cover.

This scheme offers a cover of Rs. 3 lakhs for a year on a family floater basis. Treatment can be availed in different types of hospitals such as public hospitals, private hospitals, trust-based hospitals, Grant-in-Aid hospitals, etc.

11) **Pradhan Mantri Suraksha Bima Yojana:** This scheme came into existence to offer accident insurance to the people of India. In 2016, it was observed that only 20% of the Indian citizens had an insurance cover. However, Pradhan Mantri Suraksha Bima Yojana aspires to change this statistic in a positive manner.

People aged 18 to 70 and having a bank account can avail of the benefits of this scheme. This policy offers an annual cover of Rs. 1 lakh for partial disability and Rs. 2 lakhs for total disability/death for a premium of Rs. 12. The premium gets debited automatically from the insured person's bank account.

12) **Dr YSR Aarogyasri Health Care Trust Andhra Pradesh State Government:** The Andhra Pradesh Government along with the Dr YSR Aarogyasri Trust, which works for health care, has come up with four beneficial welfare schemes. These schemes cater to different people and assist them in time of need.

Here are the four schemes

1) **Dr. YSR Aarogyasri:** This scheme is dedicated to the welfare of the poor.
2) **Aarogya Raksha:** This scheme is designed to benefit people Above Poverty Line (APL).
3) **Working Journalist health scheme:** This scheme is for journalists and it offers cashless treatment in case of listed procedures.
4) **Employee health scheme:** This scheme is for the benefit of state government employees.

13) **Telangana state government-employees and journalists health scheme:** This health scheme is offered by the Telangana Government for its employees and journalists. It is beneficial for those who are currently working as well as those who have retired and are pensioners. The highlight of this scheme is the cashless treatment.

Beneficiaries can approach hospitals that are a part of this scheme and avail cashless treatment for certain treatments as per the terms and conditions. This helps the beneficiaries as they do not have to rush to gather funds for medical expenses in an emergency.

14) **Rashtriya Swasthya Bima Yojana:** This scheme is directed towards people working in the unorganized sector. Often, they are not covered under any insurance policy. And in such a scenario, if they fall ill-which happens frequently-their savings get exhausted. Thus, they are never able to ensure they have savings in the bank. This is where health insurance can prove helpful to them.

Rashtriya Swasthya Bima Yojana is initiated by the Indian Government's Ministry of Labour and Employment. Individuals workers in the unorganized sector and below the poverty line are covered under this scheme. The cover also extends to their family (maximum of five members).

15) **Universal health insurance scheme:** Globally, a lot of developed and developing nations have some sort of health care schemes for the benefit of their poor people. In India, the Universal Health Insurance Scheme aspires to do that and much more. This scheme can be availed by the poorest of the poor in the age group of 5 to 70 years.

Universal Health Insurance Scheme offers individual as well as group health insurance. It covers hospitalization, accident, and disability. The

premium varies as per the size of the family. Those falling under the poverty line need to show proper documentation to avail the policy.

16) **Yeshasvini health insurance scheme:** The Yeshasvini Health Insurance Scheme is promoted by the Karnataka State Government. It is meant for farmers and peasants associated with a co-operative society. More than 800 procedures (Orthopaedic, Neurology, Angioplasty, etc.) are covered as per this insurance policy.

Co-operative societies help the peasants and farmers to get enrolled in the Yeshasvini Health Insurance Scheme. The beneficiaries can avail health care through network hospitals. The scheme extends its benefits to the family members of the main beneficiary as well.

17) **West bengal health scheme:** This scheme was launched by the Government of West Bengal for its employees in the year 2008. It is also applicable for pensioners. It received an update in the year 2014 and was called West Bengal Health for All Employees and Pensioners Cashless Medical Treatment Scheme.

This cover is for an individual as well as the family members and the sum insured is Rs. 1 lakh. The policy covers OPD and surgeries as per the terms and conditions. Its exceptions include cosmetic surgeries and non-emergency procedures.

Features and benefits of government health insurance plans: Here's a list of features and benefits of health insurance schemes:

- Policies are offered at a low price.
- Encourages people below the poverty line to avail insurance.
- Ensures the poor people have some sort of insurance cover.
- The government initiated policies help policyholders to feel assured.

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Chapter - 5
Untangling the Sweet Enigma: Investigating the Correlation between Blood Sugar, Age and Gender in Coochbehar's Population

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Chapter - 5

Untangling the Sweet Enigma: Investigating the Correlation between Blood Sugar, Age and Gender in Coochbehar's Population

Mayukh Bhattacharya

Abstract

In the modern world, hyperglycemia, or high blood sugar, is one of the main causes of human illnesses. The development of high blood sugar is caused by a variety of physiological, genetic, and other known and unknown variables. In order to conduct a critical analysis of this relationship, blood samples were obtained from a top pathology lab in the centre of Cooch Behar town. The blood samples were then used to compare hyperglycemia with age and gender. On the basis of the 500 samples gathered throughout the four weeks of study sessions, a critical analysis was conducted. 2 ml blood samples were taken from the donors during this time, along with community data, six days a week for six hours each collection session by obtaining their informed consent. The Oxidase-Peroxidase method was used to estimate blood sugar levels from the samples that were obtained, and statistical methods were used to assess the results. The study mentioned above looks at the relationship between hyperglycemia and age and gender separately as well as a community-specific scenario.

Keywords: Diabetes, hyperglycaemia, diabetic ketoacidosis, mortality, blood group, gender, age group

1. Introduction

Hyperglycemia, also known as high blood glucose, is a disorder that happens when the blood has an excessive quantity of sugar in it (World Health Organization, 2023). This occurs when your body can't effectively use the insulin that it does create or when it doesn't produce enough insulin, the hormone that transports glucose into the blood (CDC, 2022). Hyperglycemia is defined as blood sugar levels that are greater than 125 mg/dL (milligrammes per deciliter) while fasting (now not consuming for at least 8 hours; someone with a fasting blood glucose level greater than 125 mg/dL has diabetes) (Mouri

et al., 2022). One to two hours after eating, a person has hyperglycemia if their blood sugar is more than 128 mg/dL (IQWiG, 2020). If hyperglycemia is ignored for a long time, it may cause harm to the nerves, blood vessels, tissues, and organs (American Diabetes Association, 2009). The risk of heart attack and stroke can be raised by blood vessel damage as fallout of high blood-sugar levels (CDC, 2022). High blood sugar levels not only damages nerve, it can also cause eye damage, kidney damage and non-healing wounds (Maroz *et al*., 2014). While insulin sensitivity is an early phenomena partially associated to fat, the loss in pancreas beta-mobileular properties over time happens prior to the development of medical hyperglycemia (Cerf *et al*., 2013; Stumvoll *et al*., 2005, World Health Organisation, 2019). Glucotoxicity, lipotoxicity and amyloid formation have all been proposed as potential mechanisms for beta-mobileular disorder (Cernea *et al*., 2013; Weir *et al*., 2020), whereas expanded non-esterified fatty acids, inflammatory cytokines, adipokines, and mitochondrial disorder have all been proposed as potential mechanisms for insulin resistance (Ye *et al*., 2013). However, only a small number of genes, including those for calpain 10, potassium inward-rectifier 6.2, peroxisome proliferator-activated receptor gamma, insulin receptor substrate-1 and others, have been discovered so far (Das *et al*., 2006; Dean *et al*., 2004). The condition also has a significant genetic component. In addition to the best diet and exercise routine, management currently comprises combining anti-hyperglycaemic medication therapy with lipid-lowering, anti-hypertensive, and antiplatelet therapy (Davies *et al*., 2018).

Review of literatures

In order to mine the existing knowledge in the literatures, a review was carried out using databases and obtaining literatures. One of the most prevalent diseases in the world today is diabetes, a silent killer. Nowadays, people are living longer. The average lifetime has dramatically grown during the past century. From 3 million (or 4% of the population) in 1900 to 40 million (or 12% of the population) in 2010, the number of Americans over 65 is predicted to more than quadruple to 83 million (or 21% of the population) by the year 2050. This trend is widespread and advances significantly more quickly in underdeveloped countries. There were roughly 617 million (8.5%) individuals over 65 in the world. The International Diabetes Federation (IDF) has calculated that 8.8% of persons in the world between the ages of 20 and 79 have diabetes (Khan, 2019). Before diabetes can be identified, chronic hyperglycemia must be established. Diabetic, borderline and normal glycemia can all be categorised. Diabetes is defined as having a fasting plasma glucose (FPG) level of 7.0 mmol/l (126 mg/dl) or above, as well as a 2 hour plasma

glucose level of 11.1 mmol/l (200 mg/dl) (Kuzuya, 2002). A serious pregnancy condition known as gestational diabetes mellitus occurs when pregnant women who have never had diabetes develop chronic hyperglycemia. Around 16.5% of pregnancies around the world are affected by gestational diabetes mellitus, and this percentage is predicted to climb as the obesity endemic expands (Ploughs, 2018). Despite the fact that the development of hyperglycemia is complex, insulin resistance and a decrease in pancreatic insulin production has been among the most often reported pathogenetic pathways connected to diabetes (Stumvoll, 2005). According to Kutty *et al*., women have lower plasma glucose levels in younger age groups (20-29 years) and higher plasma glucose levels in elderly age groups (>69 years) than men. This assertion, however, is unsupported by sufficient data, and a recent study indicated that ageing had no bearing on the glycemic index of lentils (Wolever, 1988). In a study involving 1513 people, age-related increases in glycated haemoglobin (HbA1c) levels were noted (Ko, 1997). However, it has been observed that insulin sensitivity decreases as people age (Basu, 2003). A possible explanation for the age-related drop in insulin resistance is the hormone dehydroepiandrosterone sulphate (DHEA), which can reduce the accumulation of visceral fat and improve insulin resistance (Perrini, 2004).

Methodology

For the purpose of collection of data, one leading private pathological laboratory in the heart of Cooch Bihar city was selected. Null hypothesis was set up as there is correlation between hyperglycaemia and age or gender. A study was conducted 6days per week (In Sundays there was no data collection) for 4 weeks. By taking proper consent from the individuals who used to come for blood testing to that laboratory, 2 ml blood was collected as a sample from 7AM to 1PM daily (for a 6 hour sampling session). So, in a week total 36 hours were invested in sampling sessions. Along with the collection of blood samples with age and gender details, community specific data used to be collected from the test-seekers by asking general questionnaires. Then, from the collected blood sample, blood glucose was estimated by commonly used Oxidase-Peroxidase method. Test seekers who used to visit the laboratory in fasting condition (preferably in the Morning), their fasting state (F) blood glucose level was estimated. Those test seekers who used to visit the laboratory on or after 2 hours of meal intake, their after-meal blood glucose used to be estimated. Random test seekers who used to visit the laboratory with any light meal or after tea intake, used to test randomly for blood glucose. In the entire sampling process, the main aim was to collect data for a

considerably large sample size to minimize the standard deviations in the study. To maintain the medical ethics in the collection process, test seeker's names was not disclosed. In the entire sampling procedure, a total of 500 samples were collected (250 males and 250 females). Further, correlation analysis was done using standard statistical method while analysing the data for testing the hypothesis along with general collected data profile processing.

2. Principal findings

2.1 Results of the sampling

Table 1: Community Specific Collection of Data on Blood Sugar Levels Along with Gender and Age of the Test-Seekers

Sample Community name as collected by general Questioneers	Gender of the Test seekers (Male/Female)	Age of the Test seekers	Blood Sugar Levels Tested	
			Test at Fasting Condition (F)	Test after 2 hours of Meal (PP)
General	M	33	98	
SC	M	48		193
OBC	M	58		138
Muslim	F	29		119
OBC	M	35		254
Muslim	F	46		153
General	F	45	101	
General	M	75		231
General	F	45		258
General	F	22		102 (Random)
OBC	F	68		276
Muslim	F	34		96
General	M	60		281
General	M	49		220
General	F	55		198
OBC	M	36	97	140
Rajbongsi	M	45	84	106
Brahmin	M	39	138	242
SC	M	46	142	
OBC	M	59		145 (Random)
Rajbongsi	M	60	93	
GEN	F	58	94	147

GEN	M	60	89	
GEN	F	43	104	
Muslim	F	37	83	
GEN	M	64		153
Brahmin	F	60		174
SC	M	52		113
Rajbongsi	M	53		278
SC	F	31		96
SC	F	54		118
GEN	F	32	93 (Random)	
GEN	F	39	103	136
Muslim	F	58	147	324
GEN	M	27	201	311
Rajbongsi	M	45	114	218
OBC	F	40	107	193
OBC	M	57	109	135
GEN	M	50	166	
OBC	F	50	141	236
Rajbongsi	F	57	116	263
Muslim	M	46	88	136
OBC	F	61	196	
GEN	F	30	180	254
SC	F	28	106	149
GEN	F	65	93	
SC	M	45	91	194
OBC	M	36	110	177
OBC	M	68	117	
SC	F	59	89	131
GEN	M	65	108	163
OBC	M	41	111	176
OBC	F	63	94	
GEN	M	49	87	110
OBC	M	48		269
Rajbongsi	F	29	79	
Rajbongsi	F	50	148	333

GEN	M	40	86	
GEN	F	60	119	
Muslim	M	71	85	
GEN	F	20	81	
Rajbongsi	F	58	86	
SC	F	70	93	
GEN	M	43	85	
GEN	M	41	91	
Muslim	M	56	152	
GEN	M	38	98 (Random)	
OBC	F	31		96
SC	F	52	90	
Rajbongsi	F	28		95
GEN	F	20		97
Muslim	F	29		94
GEN	F	30	84 (Random)	
OBC	M	67	98	153
OBC	F	54	117	193
GEN	M	87	98	
Muslim	F	54	117	
GEN	F	63	93	
Muslim	M	54	87	
Rajbongsi	F	40	85	
GEN	F	74	76	131
ST	F	60	122	231
Muslim	F	52	96	
OBC	F	30		87 (Random)
Rajbongsi	F	22		97
Muslim	M	35		110 (Random)
SC	F	23		95
General	F	30		96
Muslim	F	20		85 (Random)
GEN	F	56		266
GEN	M	61		126
GEN	M	65		162

Brahmin	M	48		231
SC	M	35		126
Muslim	M	60		197
GEN	M	33		115
GEN	M	48		138
GEN	M	50		125
Rajbongsi	F	29		112
OBC	F	43		106 (Random)
GEN	M	42	106	
SC	F	58	156	311
Rajbongsi	M	76	87	133
SC	F	56	138	192
Muslim	F	43	183	326
GEN	M	65	91	
OBC	F	60	102	131
Muslim	M	35	79	
OBC	F	50	148	333
Muslim	M	40	86	
OBC	F	60	119	
Brahmin	M	71	85	
OBC	F	20	81	
Brahmin	F	58	86	
Rajbongsi	F	70	93	
SC	M	43	85	
SC	M	41	91	
GEN	M	56	152	
GEN	M	38		98 (Random)
Muslim	F	31		96
GEN	F	52	90	
OBC	F	28		95
SC	F	20		97
SC	F	29		94
GEN	F	30	84 (Random)	
Muslim	M	65	98	153
GEN	F	48	117	193

OBC	M	87	98	
OBC	F	54	117	
GEN	F	87	93	
Muslim	M	54	87	
GEN	F	63	85	
Muslim	F	54	76	131
Rajbongsi	F	40	122	231
GEN	F	74	96	
ST	F	60	87 (Random)	
Muslim	F	52		97
Rajbongsi	M	30		110 (Random)
Rajbongsi	F	22		95
GEN	F	35		96
Rajbongsi	M	23	86 (Random)	
Muslim	F	30		106
Muslim	F	20	85 (Random)	
GEN	F	56		266
GEN	M	61		126
GEN	M	65		162
Brahmin	M	48		231
SC	M	35		126
Muslim	M	60		197
GEN	M	33		115
GEN	M	48		138
GEN	M	50		125
SC	F	29		112
OBC	F	43		106 (Random)
GEN	M	42	106	
SC	F	58	156	311
SC	M	76	87	133
SC	F	56	138	192
Muslim	F	43	183	326
GEN	M	65	91	
Muslim	F	60	102	131
GEN	M	35	79	

OBC	M	35	201	
Muslim	M	63	90	129
OBC	M	58	122	281
Brahmin	M	44	101	
OBC	F	57	169	277
Brahmin	F	16	87	
Brahmin	M	63	92	138
GEN	M	53	112	193
OBC	F	35	179	
OBC	F	54	93	
SC	F	63	102	
SC	F	65	87	
OBC	M	28	86	
OBC	F	42	83	
GEN	F	55	139	259
OBC	M	62	111	184
Rajbongsi	F	61	87	
OBC	F	27	81	
GEN	F	64	88	
GEN	F	39	87	
SC	M	24	82	
SC	M	48		119
Rajbongsi	M	48		113
OBC	M	56	109	
Muslim	F	46		309
Muslim	F	29		138
GEN	F	56		257
OBC	M	71		113
SC	F	34	141	245
GEN	F	33		102
GEN	F	23		106
GEN	M	59	97	158
OBC	F	55	146	237
Muslim	M	60	238	366
OBC	F	54	112	156

OBC	M	49	153	249
SC	M	55	90	
GEN	M	70	110	178
SC	F	36	148	237
Muslim	M	50	181	249
Muslim	M	64	114	
Brahmin	M	52	162	257
Muslim	M	48	88	
Brahmin	M	52	85	116
GEN	F	62		189
Brahmin	M	42	87	
Rajbongsi	M	59	113	202
Rajbongsi	M	38	111	180
GEN	M	65	91	
Rajbongsi	M	61	89	
Muslim	M	26	87 (Random)	
OBC	F	75	137	228
GEN	F	25	86	
SC	F	22	83	
GEN	F	38	87	118
SC	F	27		98
SC	F	57		231
SC	F	48	84	
SC	M	67		152
SC	M	44		238
GEN	F	25		96
Rajbongsi	F	57	85	
SC	F	50	89	
Muslim	M	39	82	
SC	M	33	91	
GEN	F	52	183	301
GEN	F	52	79	
Brahmin	M	54	89	
Muslim	F	30		117
SC	M	42		114

GEN	M	35		110
GEN	F	40		113
GEN	F	78		94 (Random)
Muslim	M	30		136
Rajbongsi	M	35	112	179
Muslim	M	47	173	
Muslim	M	55	146	228
Muslim	M	55	105	
Rajbongsi	M	55	97 (Random)	
GEN	F	64	102	
Brahmin	M	47	97	149
OBC	F	36	91	
GEN	M	39	149	193
SC	M	55	178	
Muslim	F	54	93	
OBC	M	65	90	117
OBC	F	55	111	192
OBC	F	52	88	
SC	F	42	137	266
OBC	M	72	111	
GEN	M	32	91	
GEN	M	50	87	
Rajbongsi	F	79	118 (Random)	
Rajbongsi		58		211
Brahmin	M	61		98
SC	F	22	79	
GEN	F	28	89	
GEN	M	35	88	
Muslim	M	20	157	
GEN	F	60	82	
SC	F	37	89	
GEN	F	28	84	
Rajbongsi	F	21	105	
Rajbongsi	F	41	91	138
OBC	F	75	87	

Muslim	M	19	115 (Random)	
Muslim	F	42	86	
OBC		18		95
OBC	F	25		97
SC	M	30		113
Rajbongsi	F	28		108
Muslim	F	52		115
OBC	F	64		105
SC	F	65	122	
OBC	M	22	79	
Brahmin	M	38	105	
Rajbongsi	M	24	107	
SC	F	81	121	144
SC	F	65	78	132
OBC	F	67		231
Brahmin	M	32	143	202
Muslim	F	23	98	
Muslim	F	19		126
Rajbongsi	F	29	107	
Rajbongsi	M	35		119
Muslim	M	56	167	331
GEN	F	70	81	102
GEN	M	55	86	
ST	F	74	119	
GEN	F	41	115	
GEN	M	62	94	
Muslim	F	64	80	
Muslim	F	75	79	
SC	M	61	97 (Random)	
GEN	F	27		97
GEN	F	26		110
OBC	M	58		157
SC	M	32		118 (Random)
GEN	F	40	89	
Rajbongsi	M	65	116 (Random)	

GEN	M	32		138
SC	F	56		143
Muslim		73		98
SC	F	38	91	
Muslim	M	32	93	
SC	M	38		104
GEN	M	22		201
SC	M	30		262
OBC	F	42		298
GEN	M	33		117 (Random)
Muslim	F	57		95
SC	M	53		130
SC	M	50		330
Brahmin	F	66		127
OBC	M	64		116
OBC	F	57		196
SC	F	45		211
SC	M	45	86	122
SC	F	52	192	297
GEN	F	63	88	112
SC	M	62	87	
OBC	F	50	122	178
Brahmin	F	35	109	144
OBC	M	42	98	
GEN	M	27		115
OBC	M	34	104	136
OBC	F	22	95	
GEN	M	28	97	
Rajbongsi	F	39	86	
Muslim	M	54	84	116
OBC	M	42	85 (Random)	
GEN	F	56	84	
Brahmin	M	63	115	169
Muslim	F	50	112	180
SC	M	63	112 (Random)	

SC	M	44		118
GEN	M	46	85	
GEN	F	65		137
Rajbongsi		68		118
SC	M	53		97
SC	M	56		95
OBC	M	35	101	147
Muslim	M	62		98
GEN	F	50	90	
Muslim	M	59	86	
Muslim	F	26		119
Muslim	M	59		128
SC	M	21		113
Muslim	M	75		207
SC	F	46		96
SC	F	63		96 (Random)
Rajbongsi	F	50		202
OBC	F	65		112
Rajbongsi	M	25		141
GEN	F	16		119
SC	M	48		231
GEN	F	47		118
SC	F	56		87
OBC	F	50	181	342
GEN	M	32	112	213
OBC	F	63	166	
SC	M	57	90	147
GEN	F	46	205	376
Muslim	M	53	102	161
Muslim	M	53	157	
GEN	F	50	145	280
Rajbongsi	M	45	148	288
Brahmin	M	62	89	127
SC	F	70	88	
Muslim	F	58	113	159

GEN	M	75	96	
GEN	F	66	95	
OBC	M	65	101	
ST	F	56	92	
SC	F	58	106	
GEN	F	75	89	
OBC	F	82	114	218
Brahmin	M	52	129	166
OBC	M	69	141	
Brahmin	M	58	115	222
SC	M	60		98 (Random)
Muslim	F	54	101	
Rajbongsi	F	39	112	
OBC	F	49	87	
Rajbongsi	F	64	91	115
Muslim	M	57	106	167
SC	M	35	97	
SC	F	57	86	107
Brahmin	F	47	110 (Random)	
ST	M	40	84	
Brahmin	M	25	79	
SC	F	63	86	
Brahmin	F	62	87	
SC	M	60	97	
GEN	M	51	86	
SC	F	20	89	
GEN	M	74		98
Muslim	M	23		86
ST	M	12	94	131
OBC	F	20		97 (Random)
SC	M	46		95
GEN	M	63		116
OBC	M	24		164
Brahmin	M	53		122
Brahmin	F	27		112

Brahmin	F	60		117
OBC	M	59		143
OBC	F	63		196
OBC	M	21		211
Rajbongsi	F	64		113
GEN	M	65		287
OBC	F	75		153
GEN	F	47	93	
Muslim	M	47	201	334
Muslim	M	61	182	318
Muslim	F	70		99 (Random)
GEN	F	69	101	
SC	M	54	112	197
SC	M	46	98	
Brahmin	F	53	127	219
OBC	M	44	119	
OBC	F	75	89	112
Brahmin	F	48	116	
Brahmin	M	45	87	
Brahmin	M	25	112	201
OBC	F	22	81	
Brahmin	M	60	94	
GEN	F	47	82	
GEN	M	32	98	
GEN	F	67		166
GEN	M	32		217
Brahmin	M	76	146	270
OBC	F	62		116
Rajbongsi	F	15		105
SC	M	22		238
SC	M	52		268
SC	F	76		127
GEN	M	52		106
Brahmin	M	31		115
Brahmin	F	49		156

SC	F	53	96	
OBC	F	60	115	194
Rajbongsi	F	63	154	
ST	M	50	94	
GEN	M	50	101	
GEN	F	24	116	215
Rajbongsi	F	78	119	
Rajbongsi	M	54	111	
SC	M	44	104	
SC	F	75	86	
GEN	M	54	118	197
SC	F	68	137	291
SC	F	64		280
OBC	F	31		322
OBC	M	50		127
Brahmin	F	80		110
Brahmin	M	48	88	
OBC	M	65	91	
Rajbongsi	M	62	119	250
ST	M	46	91	
GEN	F	63	91	
OBC	M	40	87	
OBC	F	23	90	
SC	F	76	87	
SC	M	47	84	
OBC	M	50	102	
OBC	M	73	89	
Muslim	M	58		248
Rajbongsi	M	51		124
Muslim	M	56		233
SC	M	54		146
SC	F	63		219
Rajbongsi	F	76	99	
Brahmin	M	25		140
SC	M	52	108	

OBC	M	67	87	
OBC	M	64		312
GEN	F	37		124
GEN	M	36	84	
Muslim	F	56	88	
Muslim	M	50	97	128
Rajbongsi	M	72	149	272
OBC	M	31	76	122
Rajbongsi	F	58		203
Rajbongsi	M	78	110	
GEN	F	22	119	
OBC	M	51	121	143
Brahmin	M	24	93	
Rajbongsi	F	39		140
Brahmin	M	54	108	138
Brahmin	M	42	87	
ST	F	28	106 (Random)	
SC	F	32	115	201
Rajbongsi	F	34		304
ST	M	75	109	196
Muslim	M	44	87	
Muslim	F	72	86 (Random)	
Muslim	F	52		142

3. Discussions

From the table above while analysing the data it is seen that from the total 500 sample data, 43 samples were collected from test seekers from Brahmin community (8.60%). Samples collected from Schedule Tribe (ST) community as a whole was 10 samples out of 500 samples (2%). Samples collected from Muslim community was 78 samples out of 500 (15.6%), Samples collected from Rajbongsi community was of total 55 samples accounting 11% of the total 500 samples. Other backward communities (OBCs) accounted for total 92 samples (18.4%) and Schedule Caste communities (SCs) other than Rajbongsi community accounted for total 94 samples (18.8%) out of the 500 samples. Other General caste communities other than Brahmins (GEN) accounted for 27.8% of the collected (139 out of 500) samples. Out of total 500 tested samples there was 250 female and 250 male participants in the

study. Equal numbers of both the male and females were taken into consideration to remove any scope of human biasness in the study. Overall mean age of the entire test seeker participants were 48.69 years. Out of the 500 samples, random test-seekers accounted for total 33 (6.6%). Out of 43 samples collected from Brahmin community, 14 samples reported high blood sugar level (32.55% of the tested samples from Brahmin community have shown high blood sugars). Out of 10 samples collected from Schedule Tribe (ST) community, 2 samples found to have high blood sugar levels (20%). Out of 78 samples collected from Muslim community, 26 samples found to have high blood sugar levels (33.33%). Out of 55 samples from the aboriginal Rajbongsi community, 24 samples found to have high sugar levels (43.63%). In the entire study, total samples collected for estimating fasting condition blood sugar levels were 307(61.4%). Through further analysis by using statistical methods, it is seen that there exists some positive yet not so significant correlation between age and sugar levels at fasting state. Mean age of the participant test-seekers who tested their fasting state blood glucose level found to be 50.80 years approximately. Mean blood glucose level at fasting condition in that testseekers population was 107.72 mg/Dl. It is found that there exists positive correlation between age and blood sugar levels after 2 hours of meal uptake. So, in general there exists positive correlation between age and blood glucose levels. Average age of participants of the random tests was 43.36 years and average blood glucose in them was 99.75 mg/Dl. Around 12.67 % of the total samples found to have 'borderline reading' (within the range of 110+/-5 in case of fasting state or 140+/-5 in case of sugar levels tested 2 hours after meal) and needs immediate monitoring to control it. It was seen that almost 63.33% of test seekers who used to visit the laboratory for testing, were either recommended by doctors for a test or came in the laboratory to monitor present condition of hyperglycaemia detected previously. In case of female test-seekers between the ages 16-45 years, approximately 11.49% found to have gone for test after recommendations of the gynaecologist as a part of safe pregnancy practice. These two findings ushers a ray of positive hope because of the increased people's awareness to control hyperglycaemia by proper monitoring. In the study, it is seen that past history of the disease (whether previously detected with high blood sugar or not) was reported in 265(53%) of the cases along with first time test seekers were only 95 (19%). As per the collected data from 250 male and 250 female participants, it is seen that high blood sugar levels accounted for total 96 cases on males (38.4%) and 84 cases (33.6%) in females, indicating that although males have a slightly higher susceptibility to high blood sugar levels than females, yet gender biasness is not so prominent. In case of male test takers with high blood sugar, average age was seen to be 52.32 years. In case of

female participants with high blood sugar levels, average age was found to be 52.29 years. So, from the above data it is prominent that irrespective of gender (male/female) or community, high blood sugar risk is higher in person with more or less 52 years of age and needs proper monitoring of blood sugar levels in this age group.

3.1 Limitations of this study and further scope of research

If the author becomes self-critical about this study and candidly admit the limitations, we must say that although this study searches for the correlations between hyperglycaemia and gender or age groups, but it remains silent on relations of hyperglycaemia with blood groups, occupations, food habits etc., keeping the room for further research on this field to find out the probable risk factors and their correlation with hyperglycaemia.

4. Conclusions

Heredity and past history of the disease is an important factor in case of hyperglycaemia along with occupation, food habits and lifestyle as suggested by doctors. The study reports/ and have found negligible yet. Above text reported that the occurrence of hyperglycaemia can reach above 40% of the total tested samples in some places based on communities. There are many aspects of the hyperglycaemia that are yet undiscovered. Proper knowledge and public awareness regarding hyperglycaemia is the need of hour to control this nuisance in coming years.

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