DNHE-003: NUTRITION AND HEALTH EDUCATION
Guess Paper-I

Q. Explain the concept of health and its different types.

Ans. Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. WHO1948. "A resource for everyday life, not the objective of living Health is a positive concept emphasizing social and personal resources, as well as physical capacities. "This means that health is a resource to support an individual's function in wider society. A healthful lifestyle provides the means to lead a full life.

More recently, researchers have defined health as the ability of a body to adapt to new threats and infirmities. They base this on the idea that modern science has dramatically increased human awareness of diseases and how they work in the last few decades.

Types of health: There are 4 types of health given below:

- **Physical health:** In a person who experiences physical health, bodily functions are working at peak performance, due not only to a lack of disease, but also to regular exercise, balanced nutrition, and adequate rest. We receive treatment, when necessary, to maintain thebalance.
  Physical wellbeing involves pursuing a healthful lifestyle to decrease the risk of disease. Maintaining physical fitness, for example, can protect and develop the endurance of a person's breathing and heart function, muscular strength, flexibility, and body composition.
  Physical health and well-being also help reduce the risk of an injury or health issue. Examples include minimizing hazards in the workplace, practicing safe sex, practicing good hygiene, or avoiding the use of tobacco, alcohol, or illegal drugs.
- **Mental health:** Mental health refers to a person's emotional, social, and psychological wellbeing. Mental health is as important as physical health to a full, active lifestyle.
  It is harder to define mental health than physical health, because, in many cases, diagnosis depends on the individual's perception of their experience. With improvements in testing, however, some signs of some types of mental illness are now becoming "visible" in CT scans and genetic testing.
  Mental health is not only the absence of depression, anxiety, or another disorder.
  It also depends on the ability to enjoy life, bounce back after difficult experiences, achieve balance, adapt to adversity, feel safe and secure, and achieve your potential. Physical and mental health's are linked. If chronic illness affects a person's ability to complete their regular tasks, this may lead to depression and stress, for example, due to money problems.
  A mental illness such as depression or anorexia nervosa can affect body weight and function. It is important to approach "health" as a whole, rather than its different types.
- **Social health:** If an individualrecognizes his/her belongingness to a family, the first stage of social health has been achieved. An individual who recognizes his/her relation to others in a society is the nextstage of social health, if an individual achieves both these stages, he/she can bedescribed as socially healthy.
  It is impossible to maintain social health if an individual is not keeping up his/her mental health or physical health. Any individual suffering with either mental health orphysical health would find it difficult to maintain his/her relations with others in thefamily as well as in a wider community.
  Social health is commonly defined as your ability to form meaningful relationships with other people and interact in healthy, positive ways. The way you connect to the people around you, adapt to different social situations, and experience a sense of belonging all contribute to your social health.
- **Spiritual health:** Participants defined spiritual health in three dimensions: religious, individualistic, and material world-oriented. The study revealed four types of connection in spiritual health: human connection with God, himself, others and the nature. The majority of participants stated that spiritual health and spirituality were different, and pointed out the following characteristics for spiritual health: it affects physical, mental, and social health; it dominates other aspects of health; there are religious and existential approaches to spiritual health; it is perceptible in people's behaviour; and it can be enhanced and improved. Most experts recognized human connection with God as the most important part of the definition of spiritual health. In conclusion, the connection between humans and themselves, others and the nature was not seen as a component specific to spiritualhealth.
  One specific definition does not completely summarize spiritual health. While organized religion and prayer - two concepts familiar to most in Western societies - can certainly be part of spiritual health, they

are not all that should be considered. Spiritual health can also consist of more broad concepts, such as hope, purpose, and peace.

Some common criteria that fall within the category of spiritual health include belief in a supreme being, unity with a greater force, a guiding sense of meaning and value, an organized religion, balance, introspection, and meaning. While all of these aspects are not necessary to be spiritually healthy, addressing the main concepts can provide a foundational understanding to this way of approaching one's health.

Overall health can be positively impacted by high levels of spiritual health. For example, people experiencing a life-changing event may deal with their situation in a more positive manner if their levels of spiritual health are high. In other words, people can become more resilient by properly addressing their spiritual health.

Q. Describe the concept of nutrition and its relation to health.

Ans. As molecular biology, biochemistry, and genetics advance, nutrition has become more focused on metabolism and metabolic pathways - biochemical steps through which substances inside us are transformed from one form to another. Nutrition also focuses on how diseases, conditions, and problems can be prevented or reduced with a healthy diet.

Similarly, nutrition involves identifying how certain diseases and conditions may be caused by dietary factors, such as poor diet (malnutrition), food allergies, and food intolerances.

Food is essential—it provides vital nutrients for survival, and helps the body function and stay healthy. Food is comprised of macronutrients including protein, carbohydrate and fat that not only offer calories to fuel the body and give it energy but play specific roles in maintaining health. Food also supplies micronutrients (vitamins and minerals) and phytochemicals that don't provide calories but serve a variety of critical functions to ensure the body operates optimally.

Nutrition is closely associated with health. If a person eats right kind of foods in right amounts, that person will keep good health provided no other factors intervene. If there is any imbalance in eating pattern i.e., eating too little or too much will result in poor health. It must be emphasized, however, that though good food is one of the crucial factors in ensuring health, it is not the only one. The food eaten must not only be nutritious but also it must be complete and clean. If this is not so, the person eating the food would get ill even if the food is nutritious.

If the right food is not consumed in right quantities by a person it results in malnutrition. 'This malnutrition can result in either inadequate or excessive intake of food. In other words, malnutrition refers to both under nutrition and over nutrition.

Undernutrition denotes insufficient intake of energy and nutrients to meet an individual's needs to maintain good health. In most literature, undernutrition is used synonymously with malnutrition. In the strictest sense, malnutrition denotes both undernutrition and overnutrition. And over nutrition means excessive intake of right food but undernutrition and over nutrition both results in ill health. One example of undernutrition is 'vitamin A deficiency' when young children do not consume enough vitamin **A** rich food; their eyes are affected initially and blindness results ultimately. An example of over nutrition is 'obesity'. When a person takes in more energy than he is able to spend his daily activities, he accumulates fat in the body and his weight increases. If the weight increases substantially, the person becomes obese.

The Relationship between Nutrition and Health: Food is a basic and foundational part of our lives. But sometimes we act as if the link between a balanced diet and our health does not exist – rather, we should look at it as a strong one.

Study after study has shown that people who eat whole foods rich in nutrients enjoy their lives more, live longer, and are at a reduced risk of disease. By eating the right foods, reducing our intake of fat and sugar, and exercising portion control, we can also maintain a healthy body weight and avoid chronic diseases such as diabetes and heart disease.

Here are some of the better-researched relationships between what we eat and our health:

- **Vitamin C:** Vitamin C is an important immune system booster, and may also help increase "good" HDL cholesterol levels and strengthen bones. Citrus fruits, such as oranges, lemons, and grapefruit, are high in Vitamin C, as are strawberries, avocados, and peppers.
- **Potassium:** Potassium is important for proper nerve function, and potassium-rich foods can also lower your risk of high blood pressure, stroke, and heart disease. Bananas are famously high in potassium, but so are avocados, sweet potatoes, and some tomato varieties.
- **Anti-oxidants:** Anti-oxidants have been all the rage in health circles for some time, and for a good reason: They remove potentially damaging oxidizing agents in a living organism, cutting down on the free radicals

that can harm healthy tissues. A range of fruits and vegetables, from apples and blueberries to carrots and peppers, contain anti-oxidants, as do nuts such as almonds and peanuts. (Here's a tip: Add citrus, mentioned above, to some green tea. One study found that citrus increases your body's ability to absorb the antioxidants in the tea by about 80 percent)

One kind of anti-oxidant you'll enjoy eating is flavonoids, which have been shown to reduce "bad" LDL cholesterol and increase "good" HDL levels. These are not only found throughout plants but also in cocoa powder, the main ingredient in dark chocolate.

- **Fatty Acids:** One nutrient the American diet is often lacking is Omega-3 fatty acids, found primarily in flaxseed oil, salmon, chia seeds, walnuts, soybeans, and spinach. Too bad we don't eat more of it, as studies have linked it with a reduced risk of depression, heart disease, andcancer.

A balance of foods is just as important as any one food or food group. It is rare that you can get all the nutrients you need from a handful of foods. Thus, eat a variety of foods regularly helps ensure that nothing is lacking. Not only that, but many foods have nutrients that can work together in synergy with each other (see our tip about citrus and green tea above.) A balanced diet can unlock more of these winning combinations. All of the above recommendations need to be understood with portion control in mind. While eating healthy is a great thing, eating too much in a sitting can undo many of the benefits of eating healthier foods. Poor portion control has been linked to obesity, diabetes, heart disease, and stress.

Q. Explain the concept of community health and nutrition in detail.

Ans. These two terms cannot really be defined separately since problems of nutrition and health co-exist in the community where one influences the other. Therefore, generaldefinitions have been provided followed by an elaboration of the concept of communitynutrition.

Community health: A community is a group of people who might have different characteristics but share geographical location, settings, goals, or social interest. Examples of communities include people living in the same town, members of a church, or members of a sports team. Community health is a field of public health that focuses on studying, protecting, or improving health within a community. It does not focus on a group of people with the same shared characteristics, like age or diagnosis, but on all people within a geographical location or involved in specific activity.

Community health covers a wide range of healthcare interventions, including health promotion, disease prevention, and treatment. It also involves management and administration of care. Community health workers (CHWs) are often frontline health professionals with knowledge of specific characteristics and developments of the community. They are often members of the community themselves and play an important role in the functioning of community care.

Community nutrition: Community nutrition is the process of helping individuals and groups develop healthy eating habits in order to promote wellness and preventdisease.

Community nutrition (public health nutrition) requires a population approach. The community rather than the individual is the focus of interest. This area of nutrition focuses on the promotion of good health and the primary prevention of diet-related illness. The emphasis is on maintenance of health in the whole population, although it will also include working with high-risk groups and other subgroups within the population. Community nutrition includes nutritional surveillance; epidemiological studies of diet; and also the development, implementation, and evaluation of dietary recommendations and goals.

The goal of community nutrition is to educate individuals and groups so that they adopt healthy eating habits. Dieticians and nutritionists work with many other health care professionals in promoting improved community nutrition. Their efforts emphasize a preventive approach in educating individuals in how a change in dietary habits will reduce the risk of illness. Community nutrition focuses on all age groups. The groups targeted range from babies to pregnant women to older adults. For example, a young pregnant woman may not realize how poor eating habits affect her developing foetus or she may be unaware of the importance of breastfeeding. Older adults may lose interest in eating due to loneliness, inability to prepare meals, or a physical condition such as difficulty chewing. Individuals with diabetes may not understand the need to control their blood glucose levels through diet as well as medication.

Nutritional Surveillance is another term which can be substituted for community nutrition. It could be said to describe the process of attempting to estimate the number of individuals in a population who are either suffering from inadequate nutrition in terms of type and degree. It should further be concerned with identifying the reasons for any malnutrition which may be discovered, and which individuals in a community are most vulnerable to its effects. Corrective and preventive measures can then be determined and steps taken to implement suitable action plans.

Nutritional surveillance or community nutrition consists of three distinct components. They are:

(1) Community Diagnosis: According to WHO definition, it is "a quantitative and qualitative description of the health of citizens and the factors which influence their health. It identifies problems, proposes areas for improvement and stimulates action". The practical relevance of community diagnosis in HCP includes:

- to act as a data reference for the district
- to provide an overall picture of the local community and the residents' concerns
- to suggest priority areas for intervention and the feasible solutions
- to indicate the resource allocation and the direction of work plans
- to create opportunities for intersectoral collaboration and media involvement
- to form basis of setting indicators for HCP evaluation

An individual must concentrate upon the identification of factors which causenutrition and health problems to occur. It is important to remember that food, nutritionand health problems are combined to diagnose the causative factors. These threeproblems are interlinked and the root causative factors may be common and interrelated with one another. Let us understand this with an example. If diarrhoea presently occursamong a group of children in a community due to improper source of drinking water itmight lead to malabsorption of nutrients in the body. As a result, any nutritionaldeficiency like anaemia or night blindness might set in. Poor dietary situation mightfurther aggravate the condition. Thus the-problem is initially health and then lead tonutritional later. The root causative factor may be common to more than one of thethree problems.

It is important to realise that Community Diagnosis not a one-off project, but is part of a dynamic process leading to health promotion in the community. Therefore, community diagnosis should be conducted at regular intervals to allow the HCP be continuously improved.

Some of the causative factors are educational, social, 'economic, cultural, agricultural, health, etc.

- **Educational:** Lack of' awareness among people about foods and nutrition, child care, hygiene and sanitation and their relation to nutritional health status.
- **Social:** Living conditions are unhygienic, overcrowded and insanitary. Mothers and children overburdened with work in the farm and at home.
- **Economic:** Poor agricultural yield and low economic conditions.
- **Cultural:** Undesirable traditions or religious beliefs which affect diet, attitudes towards practices such as child spacing and so on.
- **Agricultural:** No availability of certain foods.
- **Health:** Lack of awareness about safe drinking water source, common illness, malnutrition.

(2) Developing an action plan: Developing an action plan can help change makers turn their visions into reality, and increase efficiency and accountability within an organization. An action plan describes the way your organization will meet its objectives through detailed action steps that describe how and when these steps will be taken. This section provides a guide for developing and utilizing your group's action plan.

A community action plan is a road map for implementing community change by identifying and specifying WHAT will be done, who will do it and HOW it will be done. In other words, the action plan describes what the community wants to accomplish, what activities are required during a specified timeline and what resources (money, people and materials) are needed to be successful. The community action plan shall become a framework for implementing sustainable sanitation and water management activities that are decided by the community itself. It is important to emphasise that the community members should be the main actors in preparing their own community action plan regarding sanitation and water management.

Information collected with the help of community will help to identify chief problemsand suggest causes for the problem. Thus, it helps us understand some of the problemsand needs of the people in the community and help to plan suitable actions to overcomethese problems.

The chief problems like food shortages, malnutrition and anaemia and the factorsinvolved, can be identified through this process. After collecting this information, wecould meet with the people and discuss it. Meeting and discussions with individuals orgroups are useful for helping people look closely at the reasons for problems. They needto understand why problems do or do not occur so that they will be able to choose thebest actions to take to solve their problems. People in the community, other community workers and health staff at clinics/health centre/hospitals are examples of some of these people with whom we will discuss the problems.

The aim of these discussions is to learn as much as possible about the problems howthey are regarded by each group, the number of people who have these problems, thebehaviour that causes the problems, possible reasons for this behaviour, other causes of the problems, what solutions are possible, what are the best solutions, how thesesolutions will fit into people's lives, the advantages and disadvantages of each solutionand so on.

Suggesting causes for food and nutrition problems: There are many reasons why food and nutrition problems occur and it is important totry and identify the most important causes, some of which may be:

- Not enough food for everyone but especially for young children
- Too little money to buy food
- No jobs
- Not enough education
- Bad roads and no transportation to take crops to the market
- Not enough clean, safe water
- Infections and diseases in children
- Poor families with ton many children.

You would notice often nutrition problems arecaused by bad practices such as:

- Poor handling and storage of food
- Unsanitary disposal of rubbish and human waste
- Improper weaning practices

Developing a plan of action: It is evident that problems often have several causes. Hence, the community must decideon different actions to take in solving them. Deciding on which actions to take willdepend on the kind of problem, its causes and the reasons behind the behaviours whichcause it Working out an action plan will involve:

- understanding and stating clearly what you want toachieve
- deciding on the activities and materials you willneed
- identifying the people, you will need
- giving jobs or tasks **to** people
- Putting the whole plan into a time frame which shows when the activities will startand end.

(3) Evaluation of Action: Evaluation should be based on the views of every one who was involved in planning and in carrying out the activities. We may carry out evaluation either verbally or in writing. However, we should write down the results carefully so that we have a record of what happened. Our notes will also help us plan and carry out future programmes more effectively.

Take a little time to think about what exactly you really want to know about the initiative. Your evaluation system should address simple questions that are important to your community, your staff, and (last but never least!) your funding partners. Try to think about financial and practical considerations when asking yourself what sort of questions you want answered. The best way to insure that you have the most productive evaluation possible is to come up with an evaluation plan.

Evaluation isn't something you should wait to think about until after everything else has been done. To get an accurate, clear picture of what your group has been doing and how well you've been doing it, it's important to start paying attention to evaluation from the very start. If you're already part of the way into your initiative, however, don't scraps the idea of evaluation altogether--even if you start late, you can still gather information that could prove very useful to you in improving your initiative.

There are four main steps to developing an evaluation plan

- Clarifying program objectives and goals
- Developing evaluation questions
- Developing evaluation methods
- Setting up a timeline for evaluation activities

Q. List the major determinants of community health.

Ans. Many factors combine together to affect the health of individuals and communities. Whether people are healthy or not, is determined by their circumstances and environment. To a large extent, factors such as where we live, the state of our environment, genetics, our income and education level, and our relationships with friends and family all have considerable impacts on health, whereas the more commonly considered factors such as access and use of health care services often have less of an impact.

The Four major interrelated determinants are:

- **Genetics**: Inheritance plays a part in determining lifespan, healthiness and the likelihood of developing certain illnesses. Personal behaviour and coping skills like balanced eating, keeping active, smoking, drinking and how we deal with life's stresses and challenges all affect health.

  Certain individuals are born with specific genetic abnormalities. Which give rise to a particular nutritional problem. **For example:**Milk intolerance is a recent problem of infants. Some of the parents are aware of this problem. Here fundamental alteration in a diet is needed. Cereal-based diets in place of milk are suggested to

such infants. It is well known that diabetes shows a familial tendency. Certainly, the children of two diabetic parents have about a one in four chance of developing the disease at some stage of their lives. If only one parent is affected, the chances are reduced to about one in eight.

- **Health services:** Access and use of services that prevent and treat disease influences health.Provision of health services will affect health status. For example, if no nutrition and health education is available, then people are not able to seek help with nutritional problems. It is likely that nutritional problems like vitamin A deficiency and non-deficiency continue to exist and the nutritional status of the community will be deteriorated. The nature of services whether preventive or curative is also important, otherwise mortality and morbidity rates among vulnerable segments of the community will be on the increasingplane.
  Health service delivery systems that are safe, accessible, high quality, people-centred, and integrated are critical for moving towards universal health coverage. Service delivery systems are responsible for providing health services for patients, persons, families, communities and populations in general, and not only care for patients. While patient-centred care is commonly understood as focusing on the individual seeking care (the patient), people-centred care encompasses these clinical encounters and also includes attention to the health of people in their communities and their crucial role in shaping health policy and health services.
- **Environment:** Safe water and clean air, healthy workplaces, safe houses, communities and roads all contribute to good health. Employment and working conditions – people in employment are healthier, particularly those who have more control over their workingconditions.
  Both physical and social environment are important in their effects on health. Environmental improvements such as better sanitation and education, availability ofgood food, lead to better health and a large proportion of the decline in mortality andmorbidity of the country may be attributed to this. In some instances, environmentalinfluences have been directly or indirectly detrimental to nutritional status. Greater support from families, friends and communities is linked to better health. Culture - customs and traditions, and the beliefs of the family and community all affect health.
- **Personal health behaviour**: Individual behaviour also plays a role in health outcomes. For example, if an individual quits smoking, his or her risk of developing heart disease is greatly reduced.
  Many public health and health care interventions focus on changing individual behaviours such as substance abuse, diet, and physical activity. Positive changes in individual behaviour can reduce the rates of chronic disease in this country.
  Examples of personal healthbehaviour determinants of health include:
  - Diet
  - Physical activity
  - Alcohol, cigarette, and another druguse
  - Hand washing

Q. What are the specific determinants of food behaviour?

Ans. Diet choice is a complex area because there are a number of factors that affect the population's and an individual's choice of food.Personal health behaviour is the ultimate arbiter of food choice. However, this choice will be limited by a number of factors which operate at different stages during the choice process. Some of the hierarchy of determinants of food behaviourare:

(1) Biological determinants such as hunger, appetite, andtaste

- **Hunger and satiety:** Humans need energy and nutrients in order to survive (see 'Principles of nutrition') and will respond to feelings of hunger and satiety. Different macronutrients have different effects on satiety. For example, fat is the least satiating, followed by carbohydrates then protein. In addition, low energy density diets have greater satiety than high energy density (e.g. high fat and/or high sugar) diets.
- **Taste/Palatability:** Palatability increases as the pleasure an individual experience from eating a food increase. The taste, smell, texture and appearance of a food all impact on the palatability of a food. For example, sweet foods have a high sensory appeal andhave higher palatability meaning that the food may be consumed for pleasure rather than as a source of energy and nutrients. It is reported that the higher the palatability of a food, the higher the consumption.
  There is some evidence so show that preferences for flavours can be acquired through breast milk as flavours from maternal diets pass into breast milk.

(2) Economic determinants such as cost andincome

- **Cost and income:** The cost of food and the ability of an individual to afford specific foods (related to income) are primary determinants of food choice. Low-income groups are reported to consume unbalanced diets and low

intakes of fruit and vegetables. Increasing the amount of available income for food choices, however, does not necessarily mean that individuals will consume a more balanced and healthy diet. In addition, individuals may resist buying new foods for fear that the food made be wasted as the Family may reject the food.

(3) Physical determinants such as access, education, skills and time

- **Accessibility and availability:** Accessibility to shops and the availability of foods within shops influence food choice. This is associated with transport links and geographical locations. For example, 'food deserts' are areas of resistance with few or no shopping facilities. Improving access does not necessarily mean that individuals will change their food choice.
- **Education and knowledge, and skills:** Individuals that are educated and knowledgeable about 'healthy eating' are more likely to opt for healthy dietary choices. This, however, depends on whether the individual is able to apply their knowledge. Educating the population requires accurate and consistent messages. Education on how to increase fruit and vegetable consumption in an affordable way such that no further expense, in money or effort, is incurred may be beneficial for influencing food choices. In addition, a lack of knowledge and the loss of cooking skills can also inhibit buying and preparing meals from basic ingredients.
- **Time constraints:** Time constraints will prevent individuals from adopting healthy choices especially the young and those that live alone who choose convenience foods. The demand has been met with the introduction of more ready-to-cook meals and pre-packed fruits and vegetables (instead of loose). Although the convenience foods are more expensive, customers are willing to pay for them.

(4) Social determinants such as social class, culture, and social context

- **Social class/socioeconomic:** There are differences in food choices in different social classes which lead to both under- and over-nutrition. For example, people within the higher social class groups tend to have healthier diets (e.g. higher intakes of fruit, lean meat, oily fish, wholemeal products, and raw vegetables) compared with manual workers. It is thought that higher socioeconomic groups have healthier diets because they may have higher educational levels and may be more health conscious and have healthier lifestyles. Social class differences in diet are of particular concern with respect to health inequalities.
- **Cultural influences:** Cultural influences impact on diet choices and food preparation – evidence has shown that traditions, beliefs and values are among the main factors influencing preference, mode of food preparation, and nutritional status. Cultural habits,
  However, have been shown to change, for example, when individuals move to a new country and adopt the food habits of the local culture. For example, South Asian females migrating to Scotland showed increased fat intakes and this was associatedwith an increased body mass index, and incidence of heart disease and type 2 diabetes.
- **Social Context:** Social context includes both the people who have an impact on an individual's eating behaviour and the setting in which an individual consumes their dietary choice. People influence an individual's food choices directly and indirectly: buying food on behalf of an individual is a direct impact whilst learning from a peer's behaviour (conscious or subconscious) has an indirect impact. Social support (e.g. families) can have a beneficial effect on individual's food choice by encouraging and supporting healthy eating practices. The setting for food consumption (e.g. home, school, work, and restaurants) will affect food choice by the availability of food options.

(5) Psychological determinants such as mood, stress and guilt: The evidence supporting psychological determinants and food choice is limited and proposed mechanisms for the relationship are complex.

- **Stress:** Stress can trigger changes in human behaviours that affect health; the effect of stress on food choice is complex and individualistic: some people consume more food and make unhealthy food choices and others consume less food. It is believed that stress induced changes may be due to changes in motivation (e.g. reduced concern for weight control), physiological (reduced appetite), changes in eating opportunities, food availability and meal preparation.
- **Mood:** Food can change an individual's temperament and mood and influences food choice. Individuals report food cravings (especially among women during the premenstrual phase) and the relationship with food for dieters mean that people may feel guilty after indulging in food or attempting to restrict food and increasing the desire for the food.

(6) Attitudes, beliefs and knowledge about food, and optimistic bias

- **Attitudes and beliefs:** Consumer attitudes and beliefs vary by individual, within groups of a population and across countries. The Pan-European Survey of Consumer Attitudes to Food, Nutrition and Health found that the top five influences on food choice were 'quality/freshness' (74%), 'price' (43%), 'taste' (38%), 'trying to eat healthy' (32%) and 'what my family wants to eat' (29%). These were average figures

for 15 countries but results differed significantly between countries. Females, older subjects, and more educated subjects considered 'health aspects' more important than other factors whilst males rated 'taste' and 'habit' as the main determinants of food choice.

Optimistic bias: There are a high percentage of individuals who perceive their diets to be healthy and do not believe that they need to make dietary changes. People therefore believe that they are at less risk from a hazard compared to others e.g. people overestimate their consumption of fruit and vegetables. An individual who considers their diet to already be healthy is less likely to adopt additional healthy eating practices.

Q. List any five messages you would like to convey to mothers regarding good infant feeding practices.

Ans. Messages that I would like to convey to the mothers are:

- Exclusive breastfeeding during the first six months (exclusive breastfeeding is defined as giving only breast milk and no other food or fluid including water except medication)
- Start optimal complementary feeding at six months with continuation of breastfeeding for the first two years or beyond (complementary feeding means giving solid or semisolid food to a child in addition to breast milk)
- **The mother initiates breastfeeding within one hour of birth:** Initiating breastfeeding within one hour protects the infant from disease by providing the thick, yellowish first milk (colostrum) which is the equivalent to the infant's first vaccine. It also helps to expel the placenta more rapidly and reduces blood loss by the mother. It also helps expel meconium (the infant's first stool), stimulates further breastmilk production and keeps the newborn warm through skin-to-skin contact.
- **The mother breastfeeds frequently, day and night:** The mother should allow the infant to breastfeed on demand (as often as the infant wants) This means feeding every two to three hours (8–12 times per 24 hours) or more frequently if needed, especially in the early months. The mother needs to breastfeed frequently to stimulate milk production. Breastmilk is perfectly adapted to the infant's small stomach size because it is quickly and easily digested.
- **The mother should eat more than usual:** As breastfeeding increases the nutritional requirements of the mother, she needs to have two additional meals (about 500 kcal) every day. Her diet should also be varied (for example by adding vegetables and fruits).

(d) Identify and list any five opinion leaders from the community.

Ans. Teachers, business leaders, attorneys, policymakers, neighbourhood leaders, students, and media professionals

(e) List any five teaching aids you will design for use in nutrition and health education.

Ans. Teaching aids that I would like to design for use in nutrition and health education are:

(1) Visual aids - Charts, posters, photos, pho to graphs, slides, pictures, films.

(2) Audio aids - Radio, tape-recorder.

(3) Audio-visual aid - Flash cards, flip-book, T.V., film strips with sound, demonstration, pup pets, field trips.

Select any five

(f) List advantages and disadvantages (two each) of using machine operated media in a community.

Ans. Advantages: The following points highlight the advantages:

(1) Speedy transmission: It requires only a few seconds to communicate through electronic media because it supports quick transmission.

(2) Wide coverage: World has become a global village and communication around the globe requires a second only.

(3) Low cost: Machine operated media saves time and money. For example, Text SMS is cheaper than the traditional letter.

(4) Exchange of feedback: Machine operated media allows the instant exchange of feedback. So communication becomes perfect using electronic media.

(5) Managing global operation: Due to the advancement of electronic media, business managers can easily control operation across the globe. Video or teleconferencing e-mail and mobile communication are helping managers in this regard.

Disadvantages: Machine operated media is not free from the below limitations:

(1) The volume of data: The volume of telecommunication information is increasing at such a fast rate that business people are unable to absorb it within the relevant time limit.

(2) The cost of development: Machine operated media requires huge investment for infrastructural development. Frequent change in technology also demands further investment.

(3) Legal status: Data or information, if faxed, may be distorted and will cause zero value in the eye of law.

(4) Undelivered data: Data may not be retrieved due to system error or fault with the technology. Hence required service will be delayed

(5) Dependency: Technology is changing every day and therefore poor countries face the problem as they cannot afford the new or advanced technology. Therefore poor countries need to be dependent towards developed countries for sharing global network.

Q. What are the three components of community nutrition? Describe them briefly.

Ans. Three components of community nutrition are:

Nutritional Services: The Nutrition Services department is made up of a team of food and nutrition professionals that are dedicated to students' health, well-being and their ability to learn. We support learning by promoting healthy habits for lifelong nutrition and fitness practices.

Meals, foods and beverages sold and served on campus meet state and federal requirements which are based on the USDA Dietary Guidelines. We provide students with access to a variety of affordable and delicious foods that meet the health and nutrition needs of students.

Health services: Health services consist of medical professionals, organizations, and ancillary health care workers who provide medical care to those in need. Health services serve patients, families, communities, and populations. They cover emergency, preventative, rehabilitative, long-term, hospital, diagnostic, primary, palliative, and home care. These services are centred around making health care accessible, high quality, and patient-centred. Many different types of care and providers are necessary in order to offer successful health services.

Communication: Every communication involves (at least) one sender, a message and a recipient. This may sound simple, but communication is actually a very complex subject.

The transmission of the message from sender to recipient can be affected by a huge range of things. These include our emotions, the cultural situation, the medium used to communicate, and even our location. The complexity is why good communication skills are considered so desirable by employers around the world: accurate, effective and unambiguous communication is actually extremely hard.

DNHE-003: NUTRITION AND HEALTH EDUCATION
Guess Paper-II

Q. Give two messages that you would communicate to prevent anaemia in young children.
Ans. The messages I would like to give are:

- **Exclusive breastfeeding** of infants up to 6 months of age should be protected, promoted and supported. Benefits to the mother are significant- in terms of a longer amenorrhea, and increased birth spacing. Breast milk is an important source of iron for young children and is highly bioavailable.
- **Improving complementary feeding** is vital. Regional data reflects inadequate complementary feeding practices in most countries, with the proportion of young children who receive a minimum acceptable diet being low. Scientific assessment of nutritional quality of complementary food through linear programming would help identify if iron or other micronutrients are deficient in diets and provide evidence based recommendations to alter/adjust complementary foods.

Q. What do you understand by the term opinion leader in context of community nutrition? Give examples of an opinion leader.
Ans. Opinion leaders are influential members of a community, group, or society who others turn to for advice, opinions, and views.
As you can see, opinion leadership is the degree to which an individual can influence other people's attitudes or behaviour in a nuanced way in order to incite a certain action in people. An opinion leader influences the actions or attitudes of other people who are looking for an expert opinion.
For example: - A people you can trust and who are a part of your group and community. They are the ones you count on to give you some insight on nutritional and health related programme in which other people of the community are not very familiar with. They are the opinion leaders in some regards. The people in your immediate circle or second- or third-degree connections who are your acquaintances can have an influence in your purchasing choices. Opinion leaders do play a vital role in community nutrition programme.

Q. Briefly discuss some of the modern approaches you will use in nutrition and health education.
Ans. Modern approaches like analytical, dialogue, persuasive and games. Modern approaches are participatory in nature which emphasise the involvement of the learners in the process of learning.
1. Analytical Approach: The objective of the analytical approach is to stimulate analytical thinking wherein learners/participants are encouraged to analyse a particular situation and react to it. The varied reactions of the group usually provoke discussions which could be guided by the facilitator towards a meaningful solution of the problem at hand through a series of steps. These steps are –

- Observation
- Reasoning
- Classification
- Comparison
- Discussion
- Decision making

While using the analytical approach to educate people you should follow the steps as described –

- Identify the issues and problems that confront the target group through observation.
- Reason out the factors responsible for the genesis of the problems identified.
- Group or classify the factors responsible for the problems.
- Discuss the possible and appropriate solutions to the problems identified through the process of questioning.
- Arrive at solutions which are most applicable to their own situations through comparison and decision making.
- Act or decide upon these solutions within the available local resources in the communities to which they belong.

2. Dialogue approach: A major expectation of participants in the participatory approaches is not only to learn and evaluate, but also to 'share". There is much of the spirit of sharing both in informal and formal situations. The approach, which provides more opportunities for sharing of knowledge, skill and experiences, is known as "Dialogue". The dialogue approach is essentially an intensive sharing of ideas, skills and experiences with regard to

a particular topic between two individuals. Of the two individuals, one is facilitator and the other is a learner. The dialogue approach is of two types –

- Structured: it will held essentially between two individuals – one is the facilitator and other is the learner. It is a planned process. The conversation will be guided by putting some probing questions in order to achieve the objectives. Number of topics dealt with through this approach may be limited, but the topics can be of our choice.
- Unstructured: It is a spontaneous dialogue within the group. There is no restriction on the number of people to be involved, but the smaller the group, the more effective the dialogue. The small group facilitates ample discussion in order to go into depth and talk about the topic selected. Since it is a free dialogue one cannot have the topic selected before. The issues or topics must be picked from the dialogue and analysed after the dialogue.

3. Persuasive approach: Nutrition and health education is concerned with persuading people to act in their own interests. Any form of nutrition and health education should provide facts, so that the individual has a rational basis for making his own decisions. However, we would agree with us that mere provision of information is no guarantee that behaviour change will follow. It is important to put the learners through a positive process of decision making in order to prepare them for later, vital decisions regarding their food behaviour. Persuasive communication continues like this. If the intended learner reaches the stage of action, there will be convergence of ideas of the facilitator and the learner. In this process, the many related factors – viz, communicator, message and communicate influence the outcome of the communication. Factors related to the communicator are credibility, trustworthiness, sincerity etc. similarly knowledge, social background and concerns of the communicate are factors which influence persuasive communication.

4 Educational games: Educational games can be entertaining as well as informative. This approach is appropriate to bring about change in knowledge and practices through self-effort of the participants. With creativity and imagination, common games can be adopted to teach nutrition and health concepts. Innovative games can be invented incorporating nutrition and health messages in the form of board games, card games, puzzles, action games etc. The educational games should extend to learning and application of messages of nutrition and health to improve nutrition and health behaviour.

Q. What is community?Elaborate the mean to organise community change.

Ans. A community is a social unit (a group of living things) with commonality such as norms, religion, values, customs, or identity. Communities may share a sense of place situated in a given geographical area (e.g. a country, village, town, or neighbourhood) or in virtual space through communication platforms. Durable relations that extend beyond immediate genealogical ties also define a sense of community, important to their identity, practice, and roles in social institutions such as family, home, work, government, society, or humanity at large Although communities are usually small relative to personal social ties, "community" may also refer to large group affiliations such as national communities, international communities, and virtual communities.

We can say that community is a stable, small, autonomous and self-contained unit such as colonies of pioneer settlers, primitive tribes, villages and immigrant areas. The same term has been used to refer large complex, interdependent urban areas like Colaba in Bombay, Safdarjung Enclave in Delhi and Park Circus in Calcutta. We also find towns called communities and also cities as communities. Sometimes wide, diverse, small, temporary units like gypsy camps are also referred to as communities on wheels.

Human communities may share intent, belief, resources, preferences, needs, and risks in common, affecting the identity of the participants and their degree of cohesiveness. Every city has its share of exclusive residential areas such as suburbs, ghettos, slums etc. These Clusters are called "Natural areas" as they have been the result of social forces and natural groupings rather than designed. Therefore, the terms community and natural areas are used interchangeably.

Types of communities:

- **Location-based Communities:** range from the local neighbourhood, suburb, village, town or city, region, nation or even the planet as a whole. These are also called communities of place.
- **Identity-based Communities:** range from the local clique, sub-culture, ethnic group, religious, multicultural or pluralistic civilization, or the global community cultures of today. They may be included as communities of need or identity, such as disabled persons, or frail aged people.
- **Organizationally based Communities:** range from communities organized informally around family or network-based guilds and associations to more formal incorporated associations, political decision-making structures, economic enterprises, or professional associations at a small, national or international scale.

Community organizing is the process by which people come together to identify common problems or goals, mobilize resources, and, in other ways, develop and implement strategies for reaching the objectives they want to accomplish.

- **Gaining an understanding of the community:** The first key step is learning what the community is like, and what is important to its residents.
- **Generating and using power:** There are many types of power; depending on the nature of your organization and your long-term goals, your organization may have (or need) different types. Different kinds of power include:
- **Political or legislative power:** For example, you could work to pass laws to make it more difficult for young people to get hold of alcohol or tobacco
- **Consumer power:** Your organization might organize a boycott against a company whose policies are environmentally unsound
- **Legal regulatory power:** Your organization might take a delinquent landlord to court
- **Disruptive power:** employees of an organization might go on strike as part of a demand for better working conditions
- **Articulating issues:** A crucial part of effective organizing is being very clear about what people find important, and what you feel should be done about it.
- **Planning purposeful action:** Action planning is central to effective community organization.
- **Involving other people:** Community organizing works in large part because of the strength that exists in numbers. The idea that "what we can't do alone, we can often accomplish together" is what community organization is all about.
- **Generating and using other resources:** While involving many people is at the heart of any community organizing effort, a group will need to obtain other resources as well. These may include cash, gifts in kind, and other forms of donations or support.
- **Communicating with your community:** There are many ways to effectively get the word out and let the community at large in on what you are doing, why you are doing it, and why they should be a part of it.

An important point to remember is that community organization is fundamentally a grassroots process. It's not about an outside "expert" telling a community what it should work on. Instead, it's about community members getting excited about something, and using that energy to create change. In short, community organization is all about empowering people to improve their lives;however, that might be best done.

Q. Why should you engage in community organization?

Ans. Organizing members of a community no matter what your goals might be has some general advantages that will occur if the work is well done. These advantages include:

- A greater ability to bring about the changes you want to see: The collective voice of many people working together on a problem is usually much more powerful than a single voice.
- Empowerment: Involving people (especially those who haven't traditionally had much power) in improving the conditions which shape their lives can increase people's sense of their own worth and capabilities, helping them to live more fulfilling lives.
- Increased self-sufficiency among community members: Organizing people to bring about change helps maintain a high level of ownership by people for their own destinies. Ultimately, this reduces the amount of outside help that will be needed.
- Increased social support: By bringing together diverse groups of people who are working for the same cause, people get the chance to talk and learn with others they may not have met otherwise. Both professionally and socially, community organization offers ample opportunity for growth and enjoyment among those who come together.
- Greater equity in the society: When people gain control over the forces that shape their lives, it changes the balance of power in the community, spreading it more broadly and distributing it more nearly equally. That, in turn, changes for the better the circumstances of those with the least power, making for a more just society.

Q. Give important reasons for working with other agencies in the community?

Ans. There are many problems in which we are suffered by the people in the community. Basically, one agency can't solve the entire problem on their own they need help from other agency at that time. Differentagencies function in a community. These are health workers, agricultural extensionworkers. Community development workers, school teachers etc. both communities have to corporate with each other and work together for the effective solution of that particular problem.

Reasons for working with other agencies: Each agencyindependentlycarriesout food and nutrition activityin the community and, as a result, the achievements are discouraging. If community workerscooperate with colleagues who are running other programmes, they will be able to:

- combine resources
- combine ideas
- save on expenses
- be a member of a group with common goals
- share information about the community and on plans andprojects
- plan together to avoid conflict, and
- Discuss problems and opportunities with others doing similar jobs.

There are some situations that happen when there is no communication and cooperation between the community workers.

- A community development worker starts a campaign to persuade mothers to burn or burry all their household waste to improve hygiene. At the same time, the agricultural extension worker advises farmers to keep their household waste to make compost for their fields.

A coordinate group of community workers can be far more effective than workers ontheir own. Workers can share transportation on field visits, record information in a waythat others can use and work towards common goals decided upon between the localcommunity and themselves.

In order to achieve benefits, one should make a deliberate effort to work with otherorganizations, combining programmes wherever possible. This is called 'coordination'. The following situations illustrate what happens when coordination is lacking.

- A field worker successfully persuades all the mothers in a village to ‘give their' children suffering from diarrhoea a nutritious diet. The children continue to suffer from diarrhoea. Because the local water supply remains polluted.

The above example shows that the action was carried out in isolation. The group involved did, not combine or integrate their approaches to the problem. This caused the peopleconcerned to become frustrated and confused. From the example, it is evident thatcommunity groups which work well together can achieve more than each group workingon its own.

Some advantages are there in working with other community workers. Buildingrelation and cooperate with other agencies. When people work together, they gain the confidence of the localcommunity and they save scarce resources by combining their efforts. They get supportand encouragement from their colleagues and share problems with them. The effort of all workers makes the work effortless because each and every person in the agency gives their best to solve the problem and achieve the effective result.

Q. How does community identify and solve their problem effectively?

Ans. Analysing community problems is a way of thinking carefully about a problem or issue before acting on a solution. It first involves identifying reasons a problem exists, and then (and only then) identifying possible solutions and a plan for improvement. The techniques for analysing community problems require simple logic, and sometimes the collection of evidence. The following steps are:

(1) Identification of nutrition and health problems: Initially there is a need to collect information for identifying problems in the community. Nutritional status in the community and reviews the literature related to this subject. The first problem is one of terminology, since a logical first step before assessment is screening, which identifies characteristics known to be associated with dietary or nutritional problems. Its purpose is to differentiate individuals who are at high nutritional risk or have poor nutritional status. There are certain factors which should alert the primary health care team to the fact that nutritional intake may be reduced and that risk of malnutrition is increased. These include disease condition, functional disabilities, inadequate or inappropriate food intake, poor dentition or difficulty swallowing, polypharmacy, alcoholism, depression, poor social circumstances or recent discharge from hospital. Patients suffering from these factors need to be identified so that screening becomes a routine part of their medical treatment. At-risk groups include the elderly, the chronically ill, those with cancer and neurological disorders, post-surgical patients and children with developmental disabilities. In the community, practice and community nurses see the majority of at-risk patients and should carry out screening. A number of screening tools have been developed for community use. Most are aimed at the elderly population, but there are others designed to assess nutritional risk in children with developmental disabilities and the general population.

(2) Analyse the root causes of the problem: The real cause of a problem may not be immediately apparent. It may be a function of a social or political system, or may be rooted in a behaviour or situation that may at first glance

seem unrelated to it. In order to find the underlying cause, you may have to use one or more analytical methods, including critical thinking and the technique.

The difference between recognizing a problem and finding its root cause is similar to the difference between a doctor's treating the symptoms of a disease and actually curing the disease. Once a disease is understood well enough to cure, it is often also understood well enough to prevent or eliminate. Similarly, once you understand the root causes of a community problem, you may be able not only to solve it, but to establish systems or policies that prevent its return.

Root causes are the basic reasons behind the problem or issue you are seeing in the community. Trying to figure out why the problem has developed is an essential part of the "problem solving process" in order to guarantee the right responses and also to help citizens "own" the problems.

For example, it could help us determine why a certain neighbourhood seems to have a higher rate of a specific problem. These social causes divide into three main sub-groups:

- Cultural factors, such as customs, beliefs, and values;
- Economic factors, such as money, land, and resources;
- Political factors, such as decision-making power.

(3) Developing a Plan of Action: In some ways, an action plan is a "heroic" act: it helps us turn our dreams into a reality. An action plan is a way to make sure your organization's vision is made concrete. It describes the way your group will use its strategies to meet its objectives. An action plan consists of a number of action steps or changes to be brought about in your community. A plan for taking action involves:

- Understanding and stating clearly what you want to achieve
- Deciding on the activities and materials you will need
- Identifying the people, you will need
- Giving jobs or tasks to people
- Putting the whole plan into a time-frame which shows when the activities will start and end.

(4) Evaluation of the action: Our next step in the problem-solving process is to evaluate the certain action plan. The action we select should assess whether the goal and action plan correct the problem. In addition, a well-designed action plan will help the team to determine when the action plan needs to be improved.

A community of professional's worker should not spend much time going over numerous data sets. They should have simple spread sheets or graphs that tell how well the action plan is working and move on to bigger problems. Most community worker need a short list of key parameters related to goals that they follow each meeting. An extensive list of production items is provided in the Resource/Special Tools section for ideas. Many workers track summary data from accounting reports, inventories of resources, or other items critical to monitoring action plans.

For example, if we wanted to see fewer children becoming malnourished. We need to know at the beginning what are the bad practices which help malnutrition occur, also other causes. The plan of action to be followed will be aimed at changing these practices and correcting the other causes.

Evaluating the results will show whether the bad practices which because malnutrition are fewer and if there are more of the right behaviours which keep people healthy. Remember, it may take some time for the results of an activity to show, depending on the kind of health or nutrition problem which is being dealt with.

Evaluation is also important to find out:

- Why did they go well?
- What new behaviours have been learnt?
- How can they use these behaviours to solve other problems?

These answers will help us and the community evaluate and learn from a plan oractivity. If the results were not what we expected, we should try to find questionslike these will help:

- Were there any problems in carrying out the activity?
- Did each person involved know what to do?
- Could each person do what he had p do?
- Did each person do what he had to do?
- How did he do it?
- Were the right kinds of activities chosen?

This will help you and the community to plan better activities andprogrammes for the future.

Q. Why does the need for nutrients increase during pregnancy? Critically examine the nutritional needs for pregnant and lactating mothers.

Ans. Nutrients are the building blocks of the body. Important nutrients include proteins, carbohydrates, and fats. When you're pregnant, you not only need to maintain your own body with nutrients, you also need to support the growth of your baby. Getting enough nutrients during pregnancy safeguards your own health and contributes to your baby's normal development. Pregnancy is the period during which the foetus grows inside the mother's body. The maternal tissues are also king formed to support this foetus,these rapid changes taking place necessitate increase in food intake. Increased amounts of nutrients are required to nourish the growing foetus as well as to meet the needs of the mother.

Your body goes through numerous physical and hormonal changes during pregnancy. The way you nourish your body during this time will affect your health and your baby's. You must eat a healthful, balanced diet to help ensure you stay healthy throughout your pregnancy. The food you eat is your baby's main source of nourishment, so it's critical to consume foods that are rich in nutrients. Proper nutrition can help promote your baby's growth and development.

Your body has increased nutritional needs during pregnancy. Although the old adage of "eating for two" isn't entirely correct, you do require more micronutrients and macronutrients to support you and your baby. Micronutrients are dietary components, such as vitamins and minerals that are only required in small amounts. Macronutrients are nutrients that provide calories, or energy. These include carbohydrates, proteins, and fats. You need to consume more of each type of nutrient during pregnancy.

Nutrient	Daily requirements for pregnant women
calories	additional 300, in second and third trimesters
calcium	1200 milligrams
folate	600–800 micrograms
iron	27 milligrams

Most pregnant women can meet these increased nutritional needs by choosing a diet that includes a variety of healthy foods. A simple way to ensure you're getting all the necessary nutrients is to eat different foods from each of the food groups every day. In fact, all meals should include at least three different food groups.

Pregnancy and lactation are two stages of life when an adult women's need are increased. She has the responsibility of supporting the growth of foetus internally during nine months of pregnancy and later externally by nursing the infant. Since the growth need at the commencement of life are crucial, good nutrition is a must for the expectant and nursing mother.

A woman eats and drinks during pregnancy is her baby's main source of nourishment. Mother's diet should include a variety of healthy foods and beverages to provide the important nutrients a baby needs for growth and development. Special food preparations are energy protein rich snacks made of cereals/pulse/fats/nuts/special herbs. In addition to calories and proteins they provide sufficient amounts of other essential nutrients like calcium or iron or vitamin A. Usually these food preparations are served in - between meals and together with the meals they help meet the increased needs during pregnancy.

- To overcome morning sickness, one should provide carbohydrate-rich foods/food preparations like biscuits, rusks, bread etc. to the woman early in the morning (preferably with bed tea). Foods which have a strong odour and flavour or those which leave a taste long after being eaten should be avoided.
- To overcome heartburn or the feeling of heaviness/fullness, one should restrict eating fatty or fried foods. One would also benefit by not eating much at one time rather one should eat small frequent meals.

The dietary modification that needs to be changed is: -

- Increase the number of meals consumed in a day.
- Avoid fatty, spicy or strongly flavoured foods.
- Include adequate roughage in the diet to avoid constipation.
- Provide plenty of water.
- Include more of cereals, pulses, milk, green leafy vegetables in the diet of the pregnant women.
- Include nutritious snacks/foods preparations in-between meals.

- Serve carbohydrate-rich food items early in the morning to prevent morning sickness.

Nutritional Requirements of Lactating Mother: The nutritional requirement of nursing mother suggested by ICMR group is discussed below.

- **Energy:** The lactating mother needs an additional amount of 550 cals. During the first six months of lactating and for the next six months, she requires an additional 400 cals. This extra amount can be supplied by whole grain cereals, pulses, milk, curd and its products, fruit juices, soups, vegetables etc.
- **Protein:** The requirement is at its highest when lactation reaches its maximum, but it is a need which should be anticipated and planned during pregnancy. The nursing mother needs about 20-30 g of protein over and above her normal requirements. This extra protein can be obtained by including protein rich foods like milk and milk products, egg, meat, fish, poultry and cereal pulse combination.
- **Minerals:** The I.C.M.R. Nutrition Expert Committee recommended an additional 0.6 g of calcium, i.e. a total of 1g calcium during lactation. This can be provided by extra milk and milk products, cereals and green leafy vegetables. If calcium and protein are adequate in the diet, phosphorus is also bound to be adequate. Some amount of iron is secreted in milk, but otherwise milk is a poor dietary source of iron. No additional requirements have been advised by I.C.M.R. Nutrition Expert Group. Because of lactational amenorrhea, 1 mg. of iron which would have otherwise been lost, is saved and this would compensate for the iron secreted in milk.
- **Vitamins:** Additional need of vitamin A during lactation is calculated on the basis of vitamin A secreted in milk, which is 350 mcg of retinol per day. Vitamin D requirements may be higher during lactation but in the absence of any experimental data, no definite additional intake has been suggested. The additional need of 40 mg vitamin C has been calculated on the basis of vitamin C secreted in milk in an average yield of 850 ml/day in a well-nourished mother. The additional need of thiamine, riboflavin and nicotinic acid is based on the additional energy intake. Additional intake of vitamin B6' folic acid and vitamin B12 are recommended to the tune of 0.5mg, 50mcg, 0.5mcg respectively.

Following are the foods can be given to lactating woman: -

- A mixture of cereals (i.e. wheat, rice, bajra, millets, jawar, ragi or any other staple commonly used) pulses and meat, fish, egg, if acceptable
- Milk and milk products (like curd, cottage cheese, khoa etc.)
- Green leafy vegetables (like amaranth leaves, mustard, fenugreek leaves, colocasia leaves etc.)
- Other vegetables (especially yellow or orange coloured vegetables like carrots, pumpkin etc.)
- seasonal fruits (like citrus fruits like oranges. lemons. limes, and others like guava, pineapple, mango, papaya etc.) and
- Nuts oil (groundnuts. gingelly seeds. coconut etc.)

Q. Why pregnant women are vulnerable? Analyse the importance of weight gain during pregnancy.

Ans. The phenomenon of fetal programming refers to changes in the environment in utero during specific critical or sensitive periods and the long-term effect on the child. Original interest focused specifically on the consequences of the mother's physical health (e.g. nutritional state) in terms of the occurrence of later cardiovascular and related diseases in the child and adult. More recent research has highlighted the role of the mother's psychosocial wellbeing during pregnancy in terms of the physical development of the fetus (e.g. birth weight for gestational age, earlier delivery and pregnancy induced hypertension) and later psychopathology (e.g. stress regulation; emotional and behavioural problems).

As a consequence of fetal programming the fetus is vulnerable to adversity that arises both as a consequence of factors that have a direct impact on the fetus/unborn baby and factors that have an impact via more indirect pathways. In terms of direct pathways, for example, women who are experiencing stress have a high cortisol level, which may then cross the placental barrier and adversely affect the fetal developing central nervous system (CNS) via its impact on neurotransmitters (e.g. norepinephrine, serotonin, dopamine); vasoconstriction and fetal hypoxemia. Alcohol (and other substances) is teratogens that also have a direct impact on the fetal developing CNS. For example, moderate alcohol consumption during pregnancy can cause fetal alcohol spectrum disorder (FASD), which is now recognised to be one of the largest preventable set of birth defects.

The fetus can also be affected by factors that have an impact through more indirect pathways. For example, stress and the consumption of teratogens are strongly associated with a range of psychiatric problems. These include: post-traumatic stress disorder (PTSD) and personality disorder, and with the occurrence of domestic abuse (around one-third of which begins in pregnancy). They are also associated with a reduced capacity to think about the developing baby (known as low reflective functioning), and an increased likelihood of having 'disengaged' or 'distorted' mental

images of the baby. Research suggests that these factors (e.g. mental health problems, domestic abuse. substance use etc.) can impact the fetus and newly born baby. This is because they not only result in poorer physical health behaviours in pregnancy, but because they are associated with a poorer level of involvement with the unborn baby and a poorer capacity to care for the baby when he or she is born. Infants under one represent over a tenth (i.e. 11.3%) of children who are the subject of a child protection plan,4 with neglect (49%) and emotional abuse accounting for nearly three-quarters of these.

- **The prevalence of vulnerability in the perinatal period:** A significant proportion of women experience problems in pregnancy and the immediate postnatal period that makes them vulnerable. For example, between 12% and 20% of women experience anxiety or stress in pregnancy, around 4.4% of women use illicit substances in pregnancy, and one-in-nine women are affected by domestic abuse during pregnancy or after giving birth.

  However, the majority of vulnerable women will have more than just one of these sources of adversity present, with the most vulnerable group experiencing as many as five or more adverse factors that represent a risk both to their own wellbeing and that of their unborn/new-born baby. Many of these women will be experiencing social adversity (e.g. poverty and/or housing problems etc.), in addition to the psychological problems discussed previously.
- **Outcomes for the infant and child:** Research shows that exposure of women in pregnancy to anxiety, depression and stress from a range of sources (e.g. bereavement, relationship problems, external disasters and war), is associated not only with physical problems (e.g. congenital malformations, reduced birth weight and gestational age), but also with a range of neurodevelopmental, cognitive, and emotional and behavioural (e.g. ADHD, conduct disorder) problems. The magnitude is significant with the attributable risk of childhood behaviour problems due to prenatal stress being between 10% and 15%, and the variance in cognitive development due to prenatal stress being around17%.10

  The consumption in pregnancy of teratogens such as alcohol and other substances are also associated with low and very low birth weight, neonatal abstinence syndrome (NAS) (e.g. irritability, severe tremors, hyperacusis, excessive crying, vasomotor instability, diarrhoea, restlessness, increased tone, hyperphagia, vomiting, and disturbed sleep), neurobehavioral problems (e.g. poorer state regulation, difficulty being calmed, increased physiological arousal etc, socioemotional problems - attachment and behavioural problems, and cognitive problems (e.g. reduced functioning on a range of measures of development and learning including IQ).
- **Identification of vulnerable women in pregnancy and post-delivery:** Midwives are one of the key primary care practitioners with both the skills and opportunity to identify women who are 'vulnerable' in pregnancy and the immediate postnatal period. Booked-in visits are the first opportunity to do this, but subsequent midwife appointments should also be used to identify sources of vulnerability or risk factors that do not emerge during the early visits.

  There is increasing recognition that one of the key factors facilitating the disclosure of sensitive issues that make the woman vulnerable is the level of trust that is established with the midwife. Vulnerable women require continuity in terms of ensuring they receive care from the same midwife, and skillful questioning and conversations on the part of the midwife to provide the opportunities for the disclosure of vulnerabilities.

  Effective identification also requires the midwife to work closely with colleagues in health (health visitors, GPs, mental health, substance abuse and domestic violence workers) and in children's social care (e.g. social workers), to enable effective sharing of information. Such sharing of information may involve informal discussion that alerts colleagues who also have statutory involvement with the family to be aware of potential risk factors, or more formal referral onto health or social care practitioners to ensure the safety of the woman and her baby.
- **Working effectively with vulnerable pregnant women and new mothers:** High prevalence of psychosocial vulnerability in pregnancy and the potential impact onthe fetus and infant point to the importance of working effectively in pregnancy with this group of women. Indeed, pregnancy and the postnatal period have been defined as being key periods in terms of the opportunity that they provide to equalise the life-chances of all children.

  Universal methods of working in pregnancy include the antenatal promotional interview (as mentioned previously), consists of an hour long semi-structured interview that explores with the woman issues related to her pregnancy and wider life that are going well, or that are causing her problems. It can be used to support all women in addition to identifying those in need of additional support in terms of universal plus or partnership level intervention.

Gaining the right amount of weight during pregnancy can help protect your health and the health of your baby. If you gain too little weight during pregnancy, you're more likely than other women to have a premature baby or a baby with low birth weight.

Gaining less than the recommended amount of weight in pregnancy is associated with delivering a baby who is too small. Some babies born too small may have difficulty starting breastfeeding, may be at increased risk for illness, and may experience developmental delays (not meeting the milestones for his or her age).

Gaining more than the recommended amount of weight in pregnancy is associated with having a baby who is born too large, which can lead to delivery complications, cesarean delivery, and obesity during childhood. Gaining more than the recommended amount of weight can also increase the amount of weight you hold on to after pregnancy, which can lead to obesity.

Pregnancy can lead to changes in many of your daily routines and habits, including what you eat and how much exercise you get. But most of all: Women's bodies change during pregnancy to ensure that their unborn children get enough food and other things that they need. These changes already start happening in early pregnancy, and become more and more noticeable as time goes on. Women gain more weight in the final months of pregnancy than they do in the first few months. This isn't only due to the weight of the growing baby. Much of the weight gained is extra fluid (water) in the body. This is needed for things like the baby's circulation, the placenta and the amniotic fluid.

Medical guidelines used to be quite strict, with recommendations limiting weight gain to a few kilograms. But there is no standard recommended amount of weight gain that applies to every pregnant woman. The recommendations are now based on women's pre-pregnancy weight. Petite, underweight women should put on more weight than women who were overweight before they became pregnant.

Body weight before and during pregnancy

- For women who are underweight before pregnancy (BMI of less than 18.5): between 12.5 and 18 kilograms of weight gain during pregnancy.
- For women who are of normal weight before pregnancy (BMI of between 18.5 and 24.9): between 11.5 and 16 kilograms of weight gain during pregnancy.
- For women who are overweight before pregnancy (BMI of between 25 and 29.9): between 7 and 11.5 kilograms of weight gain during pregnancy.
- For women who are obese before pregnancy (BMI greater than 30): between 5 and 9 kilograms of weight gain during pregnancy.

A pregnant woman's weight alone is not a good indicator of how well her baby is doing – and not even of how fast her baby is growing. That depends on a lot of factors. It is not possible to say for sure how much the baby will weigh at the end of pregnancy. Ultrasound scans and other tests can only give us a rough idea of how the baby is developing and how much he or she might weigh at birth.

Q. List some Common Problems which affect Nutritional Status during Pregnancy. Also highlight the nutritional problems among pregnant women.

Ans. Common Problems which affect Nutritional Status during Pregnancy are:

- **Mild nausea and vomiting:** During the first trimester, the physiological and bio-chemical balances are often disturbed, possibly because of excessive hormone production. Gastro-intestinal upsets, including loss of appetite, nausea and vomiting are relatively frequent, loss of weight occasionally takes place because of inability to take sufficient food. Mild early morning nausea may usually be overcome by the use of high carbohydrate foods, such as rusk dry toast, hard candy parched grains, eaten before rising may be of help. Small frequent, meals rather than large ones are preferable. Fluids should be taken between meals, rather than at meal time. Fatty foods, such as fried foods, deserts, sweets, excessive seasoning, coffee and strongly flavoured vegetables may be restricted or eliminated if nausea persists.
- **Constipation:** The occurrence of constipation, especially during the later half of pregnancy is common. The contributing factors may be the amount of pressure exerted by the developing foetus on the digestive tract, the limitation of exercise and insufficient bulk. Restrictions of physical activity is not advisable as exercise not only helps elimination, but also keeps the body fit.
- **Heart Burn/ Gastric Pressure:** Sometimes pregnant women complain about a 'feeling of fullness' or 'heart burn'. Such complaints or discomforts are generally felt after meals. These are usually due to pressure of the enlarging uterus crowding the stomach, therefore causing difficulty after eating. Food mixtures may sometimes be pushed back to the lower oesophagus, causing a burning sensation due to gastric acid mixed with the food mass. Evidently, this complaint has nothing to do with the heart itself.

This feeling is only due to closeness of lower oesophagus to the heart. The feeling can be avoided by taking small frequent meals.

- **Toxemia:** The term toxemia means a combination of symptoms including hypertension, oedema and albuminuria. Preclampsia is the appearance of hypertension, oedema of the face and hands, and/or albuminuria about the twentieth week of pregnancy. It should be suspected when there is a sudden gain in weight, including fluid retention, rather than tissue building. Eclampsia is the end result of preclampsia and it includes earlier symptoms, but may culminate in convulsions. Protein and calorie restriction are no longer recommended, and sodium restriction should be used with caution.

Common nutritional problems among pregnant women are:

- **Iron Deficiency Anaemia:** Iron deficiency anaemia is one of the main public health problems among pregnant women. Using haemoglobin level less than Hg/dl, the prevalence of anaemia ranged from 30% to 54% in these women. The requirements for iron during the first trimester are relatively small, but rise considerably during the second and third trimester. A study showed that the prevalence of anaemia was 21% during the first trimester, increasing to 38% and 45% during the second and third trimester, respectively.

  Iron deficiency anaemia can be caused by nutritional deficiencies, diseases, inadequate intake of usable iron and excessive blood loss. The intake of food that inhibits iron absorption may also play a role in the prevalence of this anaemia. It is well documented that the consumption of tea inhibits the absorption of iron. The low consumption of food rich in vitamin C is another contributingfactor, as this vitamin enhances the absorption of iron. Increase in the awareness of mothers towards the right food to be taken during pregnancy and lactation, fortification of some staple foods with iron, as well as iron supplementation, are the main activities to decrease the prevalence of iron deficiency anaemia.
- **Obesity:** Obesity among women is considered a new problem associated with affluence. Epidemiological studies have indicated that obesity is a risk factor for several chronic diseases such as hypertension, diabetes, heart diseases and some types of cancer.

  The increased prevalence of overweight and obesity among some women has brought concern about the possible influence of these changes on pregnancy outcomes. During the past decade, the incidence of macrosomia (large infants weighing 4.0 kg or more at birth) has increased in some region like Gulf countries. Maternal obesity may contribute to this incidence of high birth weight babies. Maternal obesity and over nutritionset up the cascading events of increased blood glucose that stimulates increased fetal insulin, resulting in abnormally increased lipogenesis and excessive adipose tissue deposit. Obese mothers as much as 150% overweight are at risk themselves for developing gestational diabetes, elevated blood pressure, and increased blood lipids.
- **Underweight:** Although underweight is a less common problem in the developed countries, it does occur in a small percentage. The underweight pregnant women present special weight related problems and needs, especially of inadequate total weight gain during pregnancy and the pattern of the gain. Gestational weight gain, especially during the second and third trimesters is an important determinant of adequate fetal growth. For women who were underweight prior to pregnancy the greater the gain during pregnancy, the lower the neonatal mortality rate. Underweight and low intakes of essential nutrients are the main causes of low birth-weight (LBW) infants. The incidence of LBW in the GCC countries varies from country to country, with a range of 7% to 15%.
- **Gestational Diabetes Mellitus:** Gestational diabetes appears during pregnancy in women who have no previous history of diabetes. It is well documented that gestational diabetes is associated with significant pregnancy complications such as macrosomia, perinatal mortality and prematurity

DNHE-003: NUTRITION AND HEALTH EDUCATION
Guess Paper-III

Q. What advice can be given to mothers on breast feeding successfully? Examine some of the specific problems in lactation.

Ans. A woman's body starts preparing for breastfeeding when she is pregnant. Every woman produces breast milk after their baby is born. Most women can make all the milk their baby needs, including a mother with twins. For breastfeeding mothers, every time the baby feeds or you express milk, you release more hormones and produce more milk.

Breastfeeding for the first time: Breastfeeding is natural, but mothers and babies need help to learn how to breastfeed successfully. Your midwife or health visitor can help you start breastfeeding your baby.

Skin to skin contact: It is important to hold your baby in skin to skin contact immediately after birth. Your midwife usually gives you the baby to hold in skin to skin contact.

During skin to skin contact:

- the midwife places your baby on your tummy so their head is near your breast
- you gently caress your baby
- your baby can see your face
- there is no interruption as you get to know your baby

You should keep this contact for an hour after birth or until your baby finishes their first feed. This contact helps:

- keep your baby warm and calm
- regulate your baby's breathing and heartbeat
- you give the first breastfeed

You and your baby can enjoy skin to skin contact at ant time in those first few days and when your baby is older. The hormone oxytocin is released during skin to skin contact and it helps to calm both you and your baby and really helps with breastfeeding.

Staying with your baby: In the first six months, it's best if your baby stays with you all the time, including at night. Place your baby in a cot to sleep in your bedroom. The safest place for your baby to sleep is in a cot at your bedside. By staying with your baby, you learn about your baby and become a more confident mother. It also helps establish successful breastfeeding more quickly.

Many women choose to breastfeed their baby while lying in bed. It's very important that you do this as safely as possible. Never sleep with your baby on a sofa or armchair. Sharing a bed with your baby increases the risk of sudden infant death syndrome (SIDS).

Attaching your baby to breastfeed: The way you attach your baby to your breast is important so that feeding is comfortable and your baby gets milk.

Responsive breastfeeding: Babies usually want to feed between eight and 12 times in 24 hours and will generally breastfeed for between five and 40 minutes before coming off the breast themselves. You can't overfeed a breastfed baby and you can offer to breastfeed for many reasons other than hunger, such as for calming and comforting you and your baby. If in doubt, it is always appropriate to offer a breastfeed. Feeding your baby often helps you to keep up a good milk supply.

Responsive feeding is a term used by midwives and health visitors. It simply means responding to your baby's early feeding cues and not waiting until your baby is crying and upset before offering a breastfeed.

Babies can ask to be fed by displaying feeding cues such as;

- stretching and moving their bodies
- smacking their lips and sticking their tongue out
- sucking their fingers and hands

Some of the most common problems in lactation are:

Breast engorgement: The three basic components of breast engorgement are: congestion/increased vascularization, accumulation of milk and edema caused by the congestion and obstruction of lymphatic drainage. In 1951, the sequence of events implicated in breast engorgement was published: milk retention in the alveoli->alveolar distension->duct compression->milk flow obstruction ->deterioration of alveolar distension->increased obstruction. Later on, there is edema due to vascular and lymphatic stasis. If no relief is obtained, milk production is interrupted; with later reabsorption of the residual milk. The increase in intraductal pressure causes the residual milk to undergo an intermolecular transformation, and to become thicker.

It is important to distinguish between physiological and pathological engorgement. The former is discrete and is a positive sign that milk is "coming in." It requires no intervention. In pathological engorgement, there is excessive tissue distension, causing great discomfort, sometimes accompanied by fever and malaise. The breast is bigger, painful, with diffuse shiny reddish areas, and edema. Nipples become flat, hampering proper latch-on, and milk sometimes does not flow normally. This type of engorgement often occurs around the third to fifth day after delivery and usually is associated with one of the following factors: late initiation of breastfeeding, infrequent breastfeeding, restriction on the duration and frequency of breastfeeding, use of complementary foods, and babies with poor suck. Engorgement may affect only the areola (areolar engorgement) or the main body of the breast (peripheral engorgement) or both. In case of areolar engorgement, latch-on may be hindered, preventing the proper emptying of the breast, which increases engorgement and pain.

Prevention: The following recommendations are useful for the prevention of breast engorgement:

- start nursing as soon as possible;
- breastfeed on demand;
- use a proper breastfeeding technique;
- Avoid the use of supplements.

Treatment: Once breast engorgement is established, the following measures are recommended:

- if the areola is engorged, manually express some milk before breastfeeding, so that the areola gets soft enough for the baby to grasp it properly;
- Breastfeed on demand on a regular basis.
- massage the breasts gently – this is important to fluidify the viscous milk and to stimulate the let-down reflex;
- use systemic analgesics/anti-inflammatory drugs. Ibuprofen is regarded as most efficient, and it also helps to reduce inflammation and edema. Paracetamol can be used as an alternative

If the baby is not sucking, the milk must be manually expressed or pumped. The emptying of the breast is essential for maternal relief, to reduce mechanical pressure on the alveoli, remove the hindrance to the drainage of the lymphatic system and edema, and minimize the risk of insufficient milk production and, especially, the risk of mastitis.

Sore nipples/nipple trauma: At the beginning of breastfeeding, most women feel a mild pain or discomfort, and this may be considered to be normal. However, too sore or damaged nipples, albeit very common, are not normal. Nipple trauma includes erythema, edema, fissures, blisters, white "spots," yellow or dark spots and ecchymosis.

The most common cause of pain during breastfeeding is due to nipple trauma caused by improper positioning and inappropriate latch-on. Other causes include short/flat or inverted nipples, oral dysfunctions in the infant, excessively short frenulum, prolonged non-nutritive sucking, improper use of milk pumps, not breaking suction before taking the infant off of the breast, use of creams and oils that cause allergic reactions on the nipples, use of nipple shields and prolonged exposure to wet nursing pads. The myth that fair-skinned women are more vulnerable to nipple trauma than dark-skinned women have never been confirmed.

Prevention

- Pain on breastfeeding is an important cause of weaning and, therefore, its prevention is essential. Preventive measures include the following:
- use a proper breastfeeding technique;
- keep the nipples dry by exposing them to air or sunlight and change the nursing pads used to prevent milk flow, on a regular basis;
- avoid products that remove the natural protection of nipples, such as soaps, alcohol or any drying agent;
- breastfeed on demand – infants who are put to the breast as soon as they show they want to feed feel less hungry and tend not to suck vigorously on the breast;
- manually express milk from the areola before breastfeeding if it is engorged, since this increases flexibility and allows for a proper latch-on;
- if a feeding has to be discontinued, slip the index or little finger into the infant's mouth between his/her gums to break suction before the infant is taken off of the breast;
- Avoid the use of nipple shields.

Treatment: Once established, nipple trauma is extremely painful and often serves as a portal of entry for bacteria. Therefore, besides treating the problem that is causing nipple pain (inappropriate latch-on, in most cases), an intervention is necessary to alleviate the pain and help lesions to heal as fast as possible.

First of all, the following measures, aimed at minimizing the stimulation of pain receptors located on the skin of the nipple and areola, are recommended:

- offer the least affected breast first;
- express enough milk before breastfeeding to stimulate the let-down reflex, thus preventing the infant from sucking too vigorously on the breast;
- alternate between different positions, reducing the pressure on sore areas or on damaged tissues;
- Use "breast shells" (an alternative is to use a small plastic strainer, with no handle) between feedings, eliminating the friction of the sore area against the mother's clothes. However, this device favours spontaneous milk drainage, which makes the tissue more vulnerable to maceration. Therefore, this recommendation should be assessed on a case-by-case basis, weighing its benefits and risks;
- Use oral systemic analgesics, if necessary.

Q. Explain what kind of nutrition a child needs during infancy and in preschool age. Also analyse some nutritional problems during pre-school age.

Ans.A young baby is unable to communicate to us what it is it wants and what its body needs, so it is up to us as adults to take on the responsibility of providing them with a healthy and balanced diet - which should stand them in good stead for the future.

A. Feeding young children (Infants): Generally, an infant depends completely on mother's milk for the first few months. Thus, adequate nutrition is essential for the lactating mother, as already discussed, if adequate nutrition is maintained during lactation, there will be proper milk production not only in terms of quantity, but also in terms of quality. Thus, the mother's milk will contain all the nutrients particularly the vitamins and minerals in adequate amounts which will be able to meet the needs of the child.

Breast milk alone cannot supply the nutritional needs beyond 6 months of infant's life and therefore, supplementary foods are needed It is generally seen than till 6 months the infants thrives well on mother's milk and it is only after that if adequate supplements are not fed, the infant shows signs of inferior growth development, and symptoms of under-nutrition.

Foods to Feed: Once weaning has begun, it is important to introduce new foods in the diet as soon as possible. The best foods for children who are being weaned are:

- **High energy foods**: Young children need energy. Staple cereals are good sources ofenergy. Fat, oil and sugar are also good sources of energy but should be used inlimited quantities.
- **Foods rich in protein, vitamin A, vitamin C, iron and calcium**: These are keynutrients in the baby's diet. Vitamin C and iron are not provided by milk in enoughamounts so we mustconcentrate on these.
- **Easy to digest**: The first new foods babies eat should be very soft and easy to digest for example idli, Pongal, khichri etc. Later as teeth grow and as the digestive system develops, more solid foods should be added gradually.
- **Pure and clean**: Baby's food should be as fresh as possible. In homes where foods cannot be kept could very easily, baby's food must be cooked before eachmeal.
- **Inexpensive and easy to prepare**: Many families do not have much money to spend on food. Taking out baby's share of food from the meal cooked for the family before adding spices does not cost more or take more time.
- **Variety of foods**: Increasing variety in the diet of the young child leads to a well-balanced diet as well as stimulates the acceptance of new foods. Keeping the infant on a monotonous single grain diet has been shown to cause growth retardation and a loss of interest in food. Enough of combinations of foods like more than one cereal and pulse, more than one pulse in a recipe, will provide the nutrients the young child needs for proper growth anddevelopment.

B. Supplementary Feeding for Young Children (Infants): There is a need to educate the mother to make better use of available resources. Thissolution has obvious attractions. In most areas' combinations like two cereals/pulses, cereal and pulse, cereal with vegetable, pulse with vegetable, two or three vegetablesetc. would ensure more nutritious and balanced supplementary foods.

By the age of **3-4 months**, well-mashed fruits like banana, ripe papaya, ripe and sweet mango, and ripe tomato can be given. If needs be, the mashed pulp should be passed through a sieve to obtain a puree which is free from lumps and fibres, other fruits like apple, apricot, pears can be given, after stewing and making into puree. Fresh juice of orange or coconut water can be given to very young infants.

Cereal can be given in gruel form. First cereals are well cooked to a soft texture and passed through a sieve to give a smooth consistency. Milk can be added to form gruel. Starting 1-2 teaspoon, it can be increased gradually to 50g or ½ cup by 3-4 weeks. Fruit puree can be added to cereal gruel and fed, Rice conjee, dalia, suji, ragi are common suggested cereal gruels. Sago is a pure starch food, hence not very suitable.

For, those, who can afford ready to eat cereals like Farex, Nestum, Balamul, and others, can purchase them from the market. Direction for their use is on the container.

By the age of **5-6 months**, seasonal vegetables can be introduced. Potato is available throughout the year and is a common dietary item. It can be boiled, mashed, and softened with milk, Carrot, peas, spinach, yellow pumpkin are boiled with enough water, (vegetable juice should not be discarded) and puree is prepared. Just a pinch of salt is added. It should be started with 1-2 teaspoon and gradually increased to 50g (1/2cup). Soups of vegetables have negligible food value. If soup is thickened with mashed potatoes or roasted cereal flour, the nutritional value is enhanced. The quantity of additional foods started, can be increased gradually.

By the time the infant is **7-8 months** of age, variety of home cooked food can be offered combinations; rice and dal (parboiled rice or home pounded rice is preferred), strained cereal gruels with Milk, bread, Rusk, biscuits, soaked in milk, washed green gram dal khichri, khirsuji, halwa, boiled sweet potatoes mashed in milk. Others fruits in mashed form. In families belonging to higher income group or every middle class, custard and simple pudding can occasionally form the diet of the infant; parched grains have high acceptability and digestibility. Puffed rice is commonly used as weaning food. Parched grain is combination of cereal be made into powder form, and stored for few days. This "ready mixture" can be made into gruel with water or milk and fed. Buttermilk or dal water and jiggery can also be incorporate in form of the gruel.

Fermented foods such as idli, dhokla, are very common in South India and Gujarat, respectively (Both foods are made from rice and dal). Fermentation increases the digestibility and improves on nutritional quality. Sprouting increasesdigestively and nutritional value. Both starch and protein are broken down to simpler products. Some of the bound iron is converted to more readily available form. Green gram, Bengal gram, and other legumes are sprouted and ground to paste and strained. This can be mixed to roasted cereal flour and cooked to a gruel consistency. If chapattis are made with the paste in combination with flour. These can be soaked in milk. Curd or soups should be added to suit the chewing ability of the infant. By this time the infant is sitting and likes to nibble on biscuit, rusk, crisp, chapatti, piece, or, a stick of carrot.

When the infant **is 9-12 months of age**, all the above-mentioned food can be given in well-cooked form, and the amount is gradually and slowly increased. Finely ground soft cooked meat and fish can be given in non-vegetarian households. By the end of the year, boiled, poached or scrambled whole egg can also be started.

C. Feeding the Young Child (Infants) When Sick: It is seen that, during illness a child may be too weak to eat, have trouble swallowing, or find it difficult to breastfeed because of a cough or blocked nose. Inefficient absorption of nutrients, loss of energy stores, and dehydration due to vomiting or diarrhoea must be overcome. Even during a short illness, child growth often falters.

Repeated bouts of common illnesses such as diarrhoea, respiratory infections, malaria, or measles undermine the overall nutritional status of infants and young children, which in turn undermines their immunity.

Deficiencies in key micronutrients such as vitamin A and zinc weaken the body's protective mechanisms against infection. In a single year the average child under 5 years old may be sick with diarrhoea five times and experience acute respiratory infections (ARI) more than six times.

- **During illness**
- Continue feeding and increase fluids
- For a child under 6 months old: Breastfeed more frequently and longer at each feed
- For a child 6–24 months old:
- Breastfeed more frequently and longer at each feed, increase fluid intake, and offer food.
- Give frequent, small feeds.
- Give nutrient-dense foods that are soft, varied, and the child's favourite foods.
- Give mashed or soft foods if the child has trouble swallowing (do not dilute foods or milk)
- Feed the child slowly and patiently encourage the child to eat but do not force.
- **During recovery**
- Increase the amount of food after illness until the child regains weight and is growing well.
- Continue to feed frequently: give an extra meal every day or snacks be responsive to the recovering child's increased hunger.

D. Feeding during Preschool Age-A Critical Period: Nutrition during preschool years is important for kids' growth and learning and to provide energy for high activity levels. Your pre-schooler is now able to feed him- or herself and is able to try a wide variety of foods. Always offer different choices for your child to eat. Offer new textures, colours, and tastes. Make food appealing and fun for your child. Your child should be eating from each of the food groups: grains, vegetables, fruits, milk, and meat.

Your job is to decide what foods are offered and when and where they are eaten. Let your child decide which of the foods offered he or she will eat, and how much to eat. Day-to-day and meal-to-meal appetite changes are normal. It is important that you don't make your child clean his or her plate.

Following are the list of diet that pre-schoolers must need:

Grain Group - at least 6 servings each day

- 1 slice of bread
- 4-6 crackers
- ½ cup cooked rice, pasta, or cereal
- ½ bun, muffin, or bagel

Fruit and Vegetable Group - at least 5 servings each day

- ½ cup cooked, canned, or chopped raw
- ½ - 1 small fruit/vegetable
- ½ cup juice

Milk Group - at least 3 servings each day

- ¾ cup milk or yogurt
- ¾ ounce of cheese

Meat Group - 2 servings each day

- 1-3 tablespoons lean meat, chicken, fish
- 4-5 tablespoons dry beans and peas
- 1 egg

Fat Group - 3-4 servings each day

- 1 teaspoon margarine, butter, oils

It is important to be careful with foods that may cause choking:

- Slippery foods such as whole grapes; large pieces of meats, poultry, and hot dogs; candy and cough drops.
- Small, hard foods such as nuts, seeds, popcorn, chips, pretzels, raw carrots, and raisins.
- Sticky foods such as peanut butter and marshmallows.

E. Good Nutrition for Pre-schoolers: The child needs energy for his growth and activity. The need may vary widely depend upon the level of growth and activity. Adequate calories must be supplied, if growth is to occur. When the calorie intake is below the requirement, proteins foods are used for energy instead of tissue building. As the body weight increases, the calories per kg of body weight also increases. Therefore, the calorie intake is based on age and growth; for 1-3 years it is 1240 calories and for 4-6 years, it is 1690 calories daily.

Vitamins are essential for normal growth. Although the requirement is very little, they play an important role in the metabolism of several nutrients. Indians take their Vitamin A mainly in the form of b-carotene. Since the body only utilizes Vitamin A, a factor 0.25 has been used for conversion of b-carotene to Vitamin A. Therefore, the requirement for retinol (Vitamin A) is four times less than that of cartone.

A great majority of Indian children do not consume foods containing Vitamin D and in spite of this very few have signs of vitamin D deficiency. This shows that much of the vitamin D requirements are met from sunlight and the dietary requirements are probably very small.

Vitamin Cin Indian diets is contributed in a very large extent from cooked vegetables and very small portion from raw vegetables. Considering losses in cooking and storage, the requirement has to be doubled. The recommended dietary intake of nutrients serves as a guide in planning and evaluating satisfactory food intake by children.

F. Growth Monitoring: Growth monitoring consists of routine measurements to detect abnormal growth, combined with some action when this is detected. It aims to improve nutrition, reduce the risk of death or inadequate nutrition, help educate carers, and lead to early referral for conditions manifest by growth disorders. As primary care workers world-wide invest time in this activity, evidence for its benefits and harms was sort.

To check whether the child is growing properly or not, watch the direction of the growth line (curve). Emphasis is always on the direction of the child's growth curve.

- If it is going up parallel and close to the lines for normal children this is alright.
- If the curve is flattened, the child is not growing (danger).
- If the curve is going down parallel to the lines the child is losing weight (very dangerous).

Common Nutritional Problems in Pre-schoolers: Children's dietary and nutritional requirements differ from those of adults because they are still growing. Nutrients that are essential for growth become more important in children. However, making sure your child receives the proper nutrition on a daily basis can become a challenge, given factors such as allergies and the children's basic likes and dislikes, for instance. Common nutritional problems

associated with children include failure to thrive, refusal of foods, allergies and intolerances, iron deficiency anaemia, and vitamin D deficiency.

- **Failure to Thrive:** Failure to thrive is a term that refers to a child whose weight or weight gain is not in line with children of the same age. Children may appear much shorter or smaller than others, and normal development, such as puberty, may be delayed. While failure to thrive can be a symptom of medical conditions such as chromosome abnormalities, chronic infections and low birth weight, poor nutrition can also play a role. To treat failure to thrive that is due to a poor diet, it is essential to encourage a balanced diet including fruits, vegetables and proteins.
- **Food Refusal:** Food refusal is a big contributor to poor nutrition in children. Whether it is a dislike of certain colours or textures, some children are just picky. When a child refuses to eat a variety of foods and limits herself to only one food or food group, the National Institutes of Health refers to this as a food jag. Making a rule that the child must at least taste each food on her plate is a good way to work around this. Food habits will change with time and, eventually, your child will begin to try other foods.
- **Allergy and Intolerance:** Food allergies can be common in children, with the most typical allergies being eggs, milk and peanuts. Gluten and lactose intolerances can also be a factor. If your child has an allergy, this can affect his ability to get certain nutrients. For example, milk allergy or lactose intolerance can affect the calcium intake of your child. If he has an allergy, talk to your physician about possible nutrient supplements that may be necessary.
- **Iron Deficiency Anaemia:** Anaemia is a condition in which the body does not have enough healthy red blood cells. A diet lacking in iron is the most common cause of anaemia, and it often occurs in young children, usually between the ages of 9 and 24 months, whose diet consists of a lot of milk and not a lot of iron-rich foods. Cow's milk reduces the body's ability to absorb iron and can cause the intestines to lose a small amount of blood, which further reduces the red blood cells. Foods rich in iron include meats; fish, poultry, egg yolks, legumes, whole grain breads and raisins, but many paediatricians will prescribe an iron supplement.

Q. Describe the kind of nutrition is needed by school age children, adolescence, adulthood and old age people?

Ans. Our nutritional needs change with different life stages. To be fit and healthy, it is important to take into account the extra demands placed on your body by these changes.

1. School Children

- **Growth Pattern in School Children**

  A healthy child will follow an individual growth curve. However, the nutrient intake may be different for each child. Provide a diet with a wide variety of foods that is suited to the child's age.

  Physical changes

  - Your child may be 43 inches tall and weigh about 43 pounds at the start of the school age years. As puberty starts, your child's height and weight will increase quickly. Your child may reach 59 inches and weigh about 90 pounds by age 12.
  - Your child's bones, muscles, and fat continue to grow during this time. These changes may happen faster as your child approaches puberty. Puberty may start as early as 7 years of age in girls and 9 years of age in boys.
  - Your child's strength, balance, and coordination improve. Your child may start to participate in sports.

There is a close relation of sound nutrition and child learning. Breakfast is particularly important for a school child. It breaks the fast of the sleep hours and prepares the child for attention in the learning hours at school. Further, likes and dislikes of foods are common among children of this age. In this situation, if the children do not eat properly, they will not be healthy and will not grow and develop as they should. School children who don't get enough food or enough of the right kinds of food cannot pay attention in school. Hungry children get bored easily and do not do their lessons well. They may fall sick quite often. As a result, they may not be regular at school as they may have neither the energy nor the interest to go to school. This may be an early symptom of iron deficiency anaemia in school children. The majority of school children do suffer from different degrees of anaemia.

- **Planning Meals for and Feeding School Children:** School-age children (ages 6 to 12) need healthy foods and nutritious snacks. They have a steady but slow rate of growth and usually eat 4 to 5 times a day (with snacks). Many food habits, likes, and dislikes are set during this time. Family, friends, and the media (chiefly TV) affect their food choices and eating habits. School-age children are often willing to eat a wider variety of foods than their younger siblings. Eating healthy after-school snacks is important, too, as these snacks may

contribute up to one-fourth of the total calorie intake for the day. School-age children can also help with meal prep.

i. **Breakfast:** Always serve breakfast, even if it has to be "on the run." Some ideas for a quick, healthy breakfast include:

a) Fruit
b) Milk
c) Bagel
d) Cheese toast
e) Cereal
f) Peanut butter sandwich

Take advantage of big appetites after school by serving healthy snacks, such as:

a) Fruit
b) Vegetables and dip
c) Yogurt
d) Turkey or chicken sandwich
e) Cheese and crackers
f) Milk and cereal

ii. **Lunch:** Generally, school children carry a lunch which is usually packed. There should be enough food provided to make the child satisfied. There shouldnot be too many items because the child has to carry his lunch. It should also beappetizing. At the same time food requirements have to be met.

In order to meet all these conditions, it is better to plan and prepare mixed diets. Thus,the lunch will have a smaller number of items and will be nutritious, colourful and easy tocarry and eat.

a) Mixed rice (rice + dal + vegetable)
b) Crispy items (chips with potato/yam/banana)
c) Curd rice (rice + curd + greens carrots)
d) Fruit/sweet dish.

iii. **Dinner**: This is the only meal which children can eat without rushing. Mothersshould encourage the child toeat. They should pay full attention to eating, so thereshould be no distractions around. Like other meals, dinner should be based on good nourishing mixtures of foods from the three food groups. An example of a good dinner is:

a) 1chapatti/lime rice
b) dal/fish, egg or meat preparation
c) vegetable preparation especially y green leafy vegetables
d) seasonal fruit
e) curd (if possible)

- **Some Nutritional Problems and Management in School Children**

Nutritional problems that are observed in school children include anaemia (Iron deficiency), riboflavin deficiency. Sometimes vitamin C deficiency is also observed.

i. **Iron deficiency anaemia:** A condition in which blood lacks adequate healthy red blood cells. Red blood cells carry oxygen to the body's tissues.This is often present but symptoms may not appear. Parents must become alert and feed the children with foods rich in iron. You must be able to recognize the deficiency in children easily and treat them.

ii. **Riboflavin deficiency**: Riboflavin deficiency (also called ariboflavinosis) results in stomatitis including painful red tongue with sore throat, chapped and fissured lips (cheilosis), and inflammation of the corners of the mouth (angular stomatitis). This can be observed in children belonging to low and middle income groups. The common symptoms of the deficiency are cheilosis, glossitis, angular stomatitis, fissures and ulcers in the tongue and mouth.

The diets of these children are generally lacking in animal foods and milk. But it can also be managed by providing whole grain cereals and whole pulses and milk in the diets of vegetarians. Animal foods like meat; fish etc. are not a must in the diet to overcome riboflavin deficiency. Snacks like 'sundal' with whole pulses can be prepared and served to the children. Germinated whole grains(cereals) can also be included in the diet in whatever form it is relished by people. Here's an example of a snack from South India made from Bengal gram (chana).

2. Adolescence

- **Growth Pattern in Adolescence**

a) Early Adolescence (Ages 10-14)

Early Adolescence occurs between ages 10-14. During this developmental period, adolescents experience the beginning stages of puberty. Both sexes experience significant physical growth and increased sexual interest. Cognitively, adolescents in this stage have a limited capacity for abstract thought but intellectual interests expand and become more important. Although adolescents in this stage have limited interest in the future, they develop deeper moral thinking during the early adolescence stage.

b) Middle Adolescence (Ages 15-17)

During the middle adolescence stage, puberty is completed for males and females. Physical growth slows for females but continues for males. Adolescents in this stage continue to experience a growing capacity for abstract thought. During this stage, adolescents begin to set long-term goals and become interested in the meaning of life and moral reasoning. Adolescents in this stage of development experience numerous social and emotional changes including increased self-involvement and an increased drive for independence.

c) Late Adolescence/Young Adulthood (Ages 18-24)

Adolescents in the late adolescence/young adulthood phase typically experience fewer physical developments and more cognitive developments. Adolescents gain the ability to think about ideas rationally, delay gratification, plan for the future, and gain a firm sense of identity. During this last phase of adolescent development, young people also experience increased emotional stability and independence.

- **Good meal and eating habits for adolescents**

Both sexes ofAdolescents should have three regular meals based on a variety of foods. Use the three food groups as a guide to select foods. This is the only sure way they can get all the necessary nourishment each day. Good mixtures of foods should be eaten at breakfast, lunch and dinner.

i. **Breakfast:** This could be bread/idli/dosa/chapati~upma+coconut/groundnut chutney + milk + seasonal fruit. A good breakfast will help the adolescent to do well at lessons and sports/games at school.

ii. **Lunch:** If an adolescent is in school, a good lunch should be provided every day. It should include a good mixture of foods following the principle of a balanced diet. A well planned packed lunch is cheaper, clean and more nourishing than the snack foods sold at school. A good cooked lunch for an adolescent could consist of rice/chapati/ mixed rice + dal with green leafy vegetable /meat/fish curry + vegetable either cooked or raw + curd + fruit, seasonal.

iii. **Dinner:** The pattern can be the same as for lunch. Curd can be substituted for milk. Special care should be taken to include foods with plenty of iron and calcium.

iv. **Snack:** Nourishing snacks are groundnuts, gingelly seeds or groundnut and jiggery sweet, mixture, muruku (rice + dal deep frieditem), fruit salad, fruit custard, pakoda, samosa etc. Popular snacks can easily be modified to make them more nutritious. These

Snacks should be eaten between not instead of regular meals.

- **Adolescents Who Need Special Attention**

i. **Adolescent who does not consume milk:** Calcium is a mineral that helps build strong bones. Calcium is also necessary for many of your body's functions, such as blood clotting and nerve and muscle function. During the teenage years (particularly ages 11-15), your bones are developing quickly and are storing calcium so that your skeleton will be strong later in life. Nearly half of all bone is formed during these years. It's important that you get plenty of calcium in your diet because if the rest of the body doesn't get the calcium it needs, it takes calcium from the only source that it has: your bones. This can lead to brittle bones later in life and broken bones or stress fractures at any time. Unfortunately, most teen girls actually do not get enough calcium in their diet.

There are different types of vegetarian diets. A very strict vegetarian diet in low income families may include no foods from animals including milk and milk products. Adolescents from the low-income group, who follow such a limited vegetarian diet may become malnourished if their diets do not include careful blends of pulses, groundnuts, cereals, fruits and vegetables. Hot teal coffee taken shortly before taking foods rich in iron interferes with iron and calcium absorption.

Children and teenagers between the ages of 9 and 18 should aim for 1,300 milligrams per day, which is about 4 servings of high-calcium food or drinks. Each 8-ounce glass of milk (whether 1%, 2%, or whole) and each cup of yogurt has about 300 milligrams of calcium. Adults 19 to 50 years of age should aim for 1,000 milligrams per day.

ii. **Pregnant Adolescent:** An adolescent girl who becomes pregnant needs plenty of extra nourishment. This is because she is still growing and is at the same time nourishing a growing baby. Pregnant adolescents who do not eat properly will have babies who weigh very little at birth or may die soon after they are born. These mothers may have a difficult time during pregnancy and delivery. They may not be able to breast-feed properly. Special attention should be paid to the very young pregnant adolescent She is still a child

herself and at the same time has a child growing inside her who needs nourishment to develop properly. She should get plenty of nourishing foods for herself and her growing baby.

iii. **An adolescent with a disease related to nutrition:** Adolescents with diabetes, hypertension or heart disease in their family must watch their diets carefully. Those who are suffering from these diseases should follow their special diet. Snacks should be nourishing and eaten in small portions. Foods which are highly salted and are high in sugar and fat should be avoided.

3. Old age people

- **Nutritional needs of old age person:** Eating right and staying fit are important no matter what your age. As we get older our bodies have different needs, so certain nutrients become especially important for good health.
  - **i) Calcium and Vitamin D**: Older adults need more calcium and vitamin D to help maintain bone health. Have three servings of calcium-rich foods and beverages each day. This includes fortified cereals and fruit juices, dark green leafy vegetables, canned fish with soft bones, milk and fortified plant beverages. If you take a calcium supplement or multivitamin, choose one that contains vitamin D.
  - **ii) Vitamin B12**: Many people who are older than 50 do not get enough vitamin B12. Fortified cereal, lean meat and some fish and seafood are sources of vitamin B12. Ask your doctor or a registered dietician nutritionist if you need a vitamin B12 supplement.
  - **iii) Fibre**: Eat more fibre-rich foods to stay regular. Fibre also can help lower your risk for heart disease and prevent Type 2 diabetes. Eat whole-grain breads and cereals, and more beans and peas — along with fruits and vegetables which also provide fibre.
  - **iv) Potassium**: Increasing potassium along with reducing sodium (salt) may lower your risk of high blood pressure. Fruits, vegetables and beans are good sources of potassium. Also, select and prepare foods with little or no added salt. Add flavour to food with herbs and spices.
- **Problems Which Affect Dietary Intake in Old Age:** As an older adult, your nutrition is affected by many factors. Even though it becomes increasingly important to get more calcium, fibre, protein and other nutrients, it can be more difficult to do so. Nutrition in older adults is affected by a variety of medical, psychological, social and lifestyle factors. Therefore, when people get older, they still have special needs for nourishing food.
- **Nutritional Problems During Old Age:** The elderly is at risk of poor nutrition due to economic pressure, poor dentition, aging tissues and inadequate diet, which may be compounded with the incidence of chronic disease. The commonly prevalent nutrition related problems among the aged include;

i. **Osteoporosis:** Osteoporosis is characterized by decreasing bone mass and density. As a result, the bones become porous, light and fragile becoming more vulnerable to fractures. The incidence of osteoporosis is more common in women after menopause.

ii. **Obesity:** Many of the elderly are obese. They fail to make adjustments in their energy intake corresponding to decreased energy needs.

iii. **Anaemia:** Anaemia characterized by feeling of fatigue, anxiety, lack of energy is common. Iron inadequacy is caused by low dietary intake, decreased absorption or lack of haem iron, vitamin C or blood loss.

Pernicious anaemia due to vitamin B12 deficiency is common among elderly women. The diet for elderly should include foods rich in haem iron and vitamin B12.

iv. **Malnutrition:** The causes of malnutrition during old age are

- economic constraints
- physical inactivity
- cumulative effect of chronic disease and medication
- social isolation

Lack of knowledge in preparing meals adequate to meet their needs

v. **Constipation:** Aging disturbs the natural rhythmic contraction of colon due to

- loss of tone
- stress
- Medications
- lack of exercise
- low fibre diet
- Insufficient fluid intake.

These result in constipation. Excess use of laxatives or enemas may also cause constipation.

vi. **Diabetes Mellitus:** The incidence of Non-Insulin Dependent Diabetes Mellitus (NIDDM) is increased due to impaired glucose tolerance and decreased sensitivity of cells to insulin.

vii. **Cardiovascular disease:** The incidence of hypertension and other cardiovascular diseases like atherosclerosis, acute myocardial infarction, angina pectoris, and congestive heart failure is high due to changes in cardio vascular function. These may impose dietary restrictions, change in texture of diet and use of diuretics and hypotensive. These interns may affect the dietary intake and health of the individual.

Q. Describe group communication in brief.

Ans. Group communication is an extension of interpersonal communication where more than two individuals are involved in exchange of ideas, skills and interests. A group is a number of people with a common goal who interact with one another to accomplish their goals, recognize one another's existence and see themselves as part of the group. Groups provide an opportunity for people to come together to discuss and exchange views of common interest. There could be many different groups for as many different reasons. For instance, casually formed groups with friends over a drink, coffee break, games, dances or religious gatherings have a different purpose than that of groups attending a meeting or seminar to help fight AIDS or interacting with committee members to draft a proposal.

Persons involved with nutrition and health education must havethe skills to educatebut also *to* evaluate the education, research information and popular claims. They alsomust have the communication expertise to translate information into forms appropriatefor the community so that behaviour may be affected in a positive manner. A unique synthesis of skills neither widely available nor utilized in the past is required.

Communication programmes have evolved from a one-way flow of communication, that is, a mere dissemination of information to persuade target groups to change food beliefs, attitudes, and habits. A two-way process of sharing is preferred, where participants in a nutrition programme can freely exchange knowledge, values, and practices on nutrition, food, and related areas. This view of nutrition education as a mechanism for interaction ensures the active involvement of those who could and should take part in decision making, and in motivating and providing users with easy access to nutrition-related information, resources, and services.

Much of the present work in group communication is now viewed from a broader framework as a process, that is, a mechanism for interaction among participants, and as a resource, applying a co-ordinated, multi-sectoral and interdisciplinary effort, toward improving and sustaining the nutritional status of the most vulnerable groups, children and women. Several approaches to nutrition education have been developed and effectively applied over the years. These include: social marketing, social mobilisation, and development-support communication. These approaches have basic commonalties:

- The ultimate goal is to improve the quality of life of people through a participatory process of communication,
- There is a demand to establish a dynamic relationship among the participants of the programme: the subjects of the nutrition education intervention, the policy makers, the planners, and the implementers, as well as the evaluators,
- Information, education and communication strategies are built into the process, and
- The core elements of the process are: formative research, assessment and analysis; capacity building; development of a multi-channel communication strategy; community organising; networking, alliance-building, and co-ordination with linkage and support systems; design, pre-testing, and development of messages and materials; and monitoring and evaluation.

Q. Classify group communication methods based on their main objectives.

Ans. Group communication methods can be classified into twocategories.

1. Information-centred method: Provision of information is the main objective of information-centred method of group communication. This should ensure assuring that knowledge leads to change in attitude and practices. Lecture, discussion and variations of them are some of the examples of information-centred methods. These methods involve one-way communication. Each one has got its own merit and demerits. Wherever the information needs to be emphasized the lecture methods need to be selected. This is more appropriate to either to the group which is completely ignorant about the message to be given or to a group used to this kind of instruction.

Sub methods of Information-centred method are:

a) **Lecture Method:** Lecture method is the oldest method of teaching. It is based on the philosophy of idealism. This method refers to the explanation of the topic to the learner. The emphasis is on the presentation of the content. The teacher clarifies the content matter to the learner by using gestures, simple devices, by changing voice, change in position and facial expressions. Teachers are more active and learners are passive but the teacher also asks questions to keep the learner attentive.

A certain amount of informal lecturing is inherent in the conduct of any course, to see out the course objectives, motivate trainees, provide explanation and analysis relevant to study exercises.

Limitations ofLecture Method

- does not demand the active involvement of learners
- is unsuited to the teaching of skills which require practice
- is not appropriate to promote changes in attitudes
- does not convince people since emphasis is mostly on talking
- Does not elicit feedback unless the instructor is very sensitive.

Since the lecture method is mostly treated as one-way communication, several disadvantages are experienced. However, since the lecture is an important information-centred method it cannot be avoided in spite of its limitations. It can be improved by following certain cues.

Cues to improve the instructional value of lecture

- Study the nature of audience.
- Adopt the topic to their interests and level of understanding.
- Organize the material for effective presentation.
- Use aids at appropriate times.
- Plan for variation in the presentation, for example, lectures cum discussion or demonstration, illustrative lectures.
- Spare some time for questioning.
- Get a feedback from the learners.

b) Discussion Method: Discussion methods are a variety of forums for open-ended, collaborative exchange of ideas among a group for the purpose of furthering people thinking, learning, problem solving, understanding, or literary appreciation. Participants present multiple points of view, respond to the ideas of others, and reflect on their own ideas in an effort to build their knowledge, understanding, or interpretation of the matter at hand.

The ideal group usually consists of eight-ten participants. If the number of participants is more than that, then there is a tendency for some of the members to be passive listeners and avoid participation. Similarly, if the number of participants is less than six, the discussion suffers from a lack of diversity in opinions. The time allotted for the discussion is normally twenty-thirty minutes. There are various forms of discussion:

- Group discussion
- Circular discussion
- Panel discussion
- Buzz session
- Symposium
- Seminar
- Debate
- Forum
- Committee
- Workshop

Purpose: The purpose of the discussion is to interpret and describe the significance of your findings in light of what was already known about the research problem being investigated and to explain any new understanding or insights that emerged as a result of your study of the problem. The discussion will always connect to the introduction by way of the research questions or hypotheses you posed and the literature you reviewed, but the discussion does not simply repeat or rearrange the first parts of your paper; the discussion clearly explain how your study advanced the reader's understanding of the research problem from where you left them at the end of your review of prior research.

Successful discussion methods:

- The first and the foremost tip for an individual to perform well in a GD is to learn the art of participation. Don't expect others to force you to speak. Take the initiative, participate in the discussion and share your ideas with others. Never shout in a group discussion and always wait for your turn to speak. Remember it's a discussion, not a fighting ground. Be polite but firm.
- **Try to take the initiative.** Don't wait for the others to start the discussion. Always volunteer yourself and start the discussions in an extremely confident manner. Introduce yourself and your team members and then start with the topic but one thing to remember here is that one must initiate the Group Discussion only when he or she is well versed with the topic. Don't take the risk if you yourself are not very clear about your thoughts.
- A leader is the one who actually gives the group discussion a direction and guides other team members when they seem to be lost or confused. Like a true leader, an individual must try his level best to refrain

from personal favours. Don't only ask your acquaintance to speak, give equal opportunity to other participants as well. As the leader of the group, he must ensure that the discussion does not end up in fighting and reaches a conclusion.

- **One must speak only if he is well prepared with the topic.** Don't just speak for the sake of points or marks; speak only when you are absolutely sure about what you are speaking. Never depend on guess works in group discussions as it sometimes can seriously go against you. Avoid using slangs or crack jokes in between the discussions as it is considered highly unprofessional.
- **Never be rigid in group discussions.** Always keep in mind that the other person is also as learned as you. Always listen to what he is saying and then only respond. Be a good and a patient listener. Don't just simply draw conclusions as there is always a room for discussions. Debate logically and sensibly and try to take everyone along with you.
- **Read a lot and always keep your eyes and ears open**. Always begin your day with the newspaper and know what is happening around you. An individual must be aware of the current events to succeed well in a group discussion.
- **Be alert always.** A participant usually gets around 15 minutes to think about the topic. You need to think fast and cover as much as you can. Always take care of your words. The content has to be sensible, crisp and well supported with examples or real life situations. Don't adopt a laidback attitude or yawn in between group discussions.
- **Take care of your dressing as well.** Don't wear flashy clothes while going for a group discussion or interview. Female candidates should also avoid cakey makeup or flaunt heavy jewellery. The clattering sounds of bangles sometimes act as a disturbing element in formal discussions. Be in professional attire and avoid loud colours.
- An individual must keep in his mind that group discussion is meant for bringing out the managerial skills of an individual. The organizer of the group discussion will never appreciate you or give you the credit if you shout or fight in group discussions. Be calm, composed, confident and neutral to create an impression in the discussion and win over others**.**

2. Behaviour-centred methods: Nutrition and health education research reflects a clanging emphasis from disseminating information alone to that of influencing food behaviour. Methods provedto be effective in changing the food behaviour seem to be discussion-decision, problem-solving, role-playing, enquiry-discovery, demonstration etc. One of the essential features of these methods is the size of the group. It should be comparatively smaller than the groups involved in order methods. An ideal small group size is around eight, but it can vary from 2 to 18**.**

a) Discussion-Decision Method: It is different from group discussion method as it requires the teacher who is competent in discussion leading to discussion for action in any field of applied science. The group-discussion may or may not lead to decision.

However, discussion-decision method in field of nutrition stimulates people to try new foods, to select better ways of preparing food and to make better food choices, in all the occasions. The method may be the first step to get people to recognise their own nutritional problems and to provide the stimulation needed to seek solutions to such problems. This method is more effective than the lecture method in that it directs people's attention to do something—individual or collective action—in solving problems.

Methods to conduct discussion-Decision

- Discussing and recognizing the nutritional problems of any specific group in the community.
- Deciding on the chiefproblems.
- Discussing the solutions to the nutritionalproblems recognised.
- Deciding on an appropriate solution to the chief problems identified.
- Developing a plan of action involving the solutions arrived at.
- Acting accordingly.

b) Problem-Solving Method: Problem solving methods are the steps we use to find solutions to problems and issues. Humans are naturally quite good at problem solving, and we often use sophisticated methods that we don't even know we're using to try to get to the answer. Learning about the methods will enable you to recognize the approaches you already use and identify other approaches that could be useful for you. Then, you will have several tools to help you strategize solutions to difficult problems.

Problem-Solving Method is an effective way to influence what people do about their dietary intakes and their food supply. Numerous surveys have indicated that poor food habitsand nutrition problems exist in many countries.

Nutritionists and nutrition educatorsare of the opinion that they cannot solve these problems for other people-peoplemust learn to solve the problems themselves. The challenge, therefore, is.to createlearning situations in which people will recognize their nutrition problems. Then, nutrition educators must lead the people step-by-step through the active process ofproblem-solving.

Lead the group with the following steps in a sequential order:

- Sense and identify. the problem
- Get the scientific information (facts) relevant to theproblem
- Use information in making decisions
- Relate facts to real-life situations
- Share information and express and clarify ideas
- Develop trial solutions
- Test and evaluate those solutions
- Think critically, and
- Re-plan and test other solutions until the problem is solved.

c) Role play method: The people in each of these scenarios would benefit from a little practice with role playing. Role playing is a way of working through a situation, a scenario, or a problem by assuming roles and practicing what to say and do in a safe setting. This kind of learning experience has several benefits and advantages when it's implemented skilfully by a good trainer or teacher. Instructors can supplement their teaching methods with role playing in any context where it seems relevant. Even rehearsals of personal situations through role playing with a trusted friend can provide beneficial learning opportunities.

Role-play may or may not be planned ahead. Role-play depicts the characters of a situation well and explains lie situation clearly with a tinge of reality. When feelings and emotions are expressed, the other person is understood better. This method can be used as a part of a process to get a whole community of people thinking and moving themto action to meet their needs.

Process of role-play includes:

- Select the problem (nutrition/health) situation.
- Define the situation and the roles.
- Choose participants for the various roles.
- Setthe stage and present the situation.
- Act out the situation, and
- Follow-up discussionevaluates the presentation.

d) Enquiry-Discovery Method

There are two types in this method-

1) One-way System: Teacher attempts tostimulate the discovery process in the Leaner in this method. A problem is posed by the teacher and he then proceed tosolve it, but in doing so he acts out the steps of discovering the solution it is clear from theprocess that the method is demonstrated try the teacher where involvementof theteacher is minimum. It requires lot of preparation on the part of the teacherand excellentpresentation.

2) Two-way System: This method involves the audience in answering the questionsposed by the teacher. In this system learners make discoveries and the teacher guides them in the right direction. Excellent skills are required on the pan of the teacherto provide correct amount and kind/type of guidance.

Process of enquiry-discovery method.

- Present opportunities to act and observe the consequences of one's actions.
- Test for understanding of the cause-effect relationship. This may be done by questioning or simply by observation of the reactions of the learner. Present further opportunities to act, if this proves necessary.
- Either by questioning or by observing further activity, test for the formation ofthe general principle underlying the cases presented. Present further cases until the general principle has been lamed.
- Present opportunities for the application of the newly learned method to realsituations and problems.

The great advantage of Enquiry-Discovery method is hat full freedom andopportunity is given to the learners to learn through their own actions andobservations.

e) Demonstration: The word demonstration means to give demos or to perform the particular activity or concept. In demonstration method, the teaching-learning process is carried in a systematic way. Demonstration often occurs when students have a hard time connecting theories to actual practice or when students are unable to understand applications of theories. In order to make a success of demonstration method, three things are necessary.

- The object being displayed during demonstration should not be so small.
- During the demonstration, the clear language should be used so that pupils may understand concept easily.
- The pupils should be able to question teachers in order to remove their difficulties.

Now for the actual demonstration! The following hints should be helpful in insuring that the Demonstration runs smoothly:

- Setting up for the demonstration should be done as quickly as possible
- Check posters before beginning for proper order
- As equipment and supplies are used, move them out of the way
- Keep the space in front of clear and uncluttered so as not to obstruct the view
- Work quietly
- Avoid long, unnatural pauses during demonstration
- If a team demonstration, both partners should take turns talking and demonstrating. Aperson holding your posters or equipment is not a team demonstration
- Method demonstrations are usually more interesting if it is done without notes. It showsthat the individual has practiced and has a good understanding of the materials.
- Do not talk with your back to the judge
- Present all materials and steps where judges can see. Pretend that you are Vanna Whiteand showing off a prize at the game show
- Don't forget to ask if there is any question.

Q. Describe the concept and purpose of mass communication.

Ans. Mass communication can also be defined as 'a process whereby mass-produced messages are transmitted to large, anonymous and heterogeneous masses of receivers. By 'mass produced' we mean putting the content or message of mass communication in a form suitable to be distributed to large masses of people. Heterogeneous means that the individual members of the mass are from a wide variety of classes of the society. 'Anonymous' means the individuals in the mass do not know each other.

The source or sender of message in mass communication does not know the individual members of the mass. Also, the receivers in mass communication are physically separated from each other and share no physical proximity. Finally, the individual members forming a mass are not united. They have no social organization and no customs and traditions, no established sets of rules, no structure or status role and no established leadership

Mass communication media written, spoken, and audio-visualcarry information from sources to receivers. Themedia may be used effectively in dealing with all sections of people everywhere. They are especially important not just for news transmission, but also deal willknowledge of different kinds and attitude or frame of mind of the communicator. It is experimentallyproved that mass media helps' to be aware of' and 'interested in' thenew idea presented. It is also proved that mass media need to be coupled willinterpersonal methods in order to reach the stage 'adoption of new practices' through evaluation and trial.

Some of the main purpose are:

1. Inform People.
2. Build Public Opinion.
3. Persuade.
4. Circulate Government Policies.
5. Disseminate Health and Education Programs.
6. Provide Pleasure and Entertainment.
7. Establish Social Contact and Linkage.
8. Help in Facing Disaster and Calamity.
9. Highlight Diplomatic Role.
10. Promote Political Ideologies.

Q. What are the classifications of mass communication media?

Ans. Media simply refer to a vehicle or means of messages delivery system to carry an ad message to a targeted audience. The classification is like this written, spoken and audio-visual.

1. **Printed Written Media:** The print media includes newspapers, magazines, brochures, newsletters, books and even leaflets and pamphlets. Visual media like photography can also be mentioned under this sub-head, since photography is an important mass media, which communicates via visual representations. Although, it is said that the electronic or new media have replaced the print media, there exists a majority of audiences who prefer

the print media for various communication purposes. Public speaking and event organizing can also be considered as a form of mass media.

- **Leaflet**: A paper advertisement or a folded brochure is called a leaflet. A leaflet is usually a single sheet of printed matter, sometimes folded. It gives you accurate or specific information on a particular topic. It is suitable to provide information about the method of preparation of different nutritious recipes and symptoms, treatment of various nutritious deficiency diseases, etc.
- **Circular Letter:** A circular letter is a written document that is addressed for circulation to a group of people. It is usually formal and official. It may be for a closed group or general distribution. Circular Letter circulates the message, in the form of a letter, among the intended group of receivers. Hence the name circular letter was signalled to this medium. Circular letter has an intimate, personal approach to the message receivers. Receiving letter is an important event in the life of any person. Using the letter form is an effective method to convey information of common interest to a large number of people at one time.
- **Folder:** It is a single piece of paper folded once a twice. When opened, material is presented in sequence, make sure this sequence appears in the finished folder, if not, the reader may get confused Folder are normally printed on thick paper. They may be made more attractive by using photographs; line drawings and various colours of inks and paper. A four-inch by tight-inch folder 'is quite attractive. A width-to-length ratio 1: 1 l/2 (one: one and a half) may be more suitable when paper size permits, without waste. However, there are m set de for size. The basic consideration is that publication size fits the paper stock, thus eliminating excessive trimming. Folders are economical. For examples, folder can be prepared to educate the mother about the importance of supplementary diet to children or about vitamin A deficiency disease.
- **Banner:** A banner displays a prominent message and related optional actions. Banner is ancient and well-known information visual in India You need only to walk down a busy street in urban areas, to find a banner flying advertising everything from sports meets to sweetmeat shops. Nutrition and health educators seldom use them. Banners arc rather costly and require considerable time and skill. As with all other information materials, they must be attractive with a brief, clearly presented message. Height and length of a banner should be of pleasing proportions, approximately 1:1. Firmly affixed pictures increase "attention-getting" qualities of banners.
- **Calendar:** A calendar is a system of organizing days for social, religious, commercial or administrative purposes. This is done by giving names to periods of time, typically days, weeks, months and years. A date is the designation of a single, specific day within such a system. A calendar is also a physical record (often paper) of such a system. A calendar can also mean a list of planned events, such as a court calendar or a partly or fully chronological list of documents, such as a calendar of wills. Calendar is distributed in most countries of the world as an advertising tool. They can be utilized for nutrition and health education. For example, it can be used to give messages related to 'infant feeding ' or information about the Immunization schedule during the first year of child's life.

2. **Spoken Media:** The radio belongs to the spoken media. The medium is transient and fleeting and its impression is quick and hint. It is a one-way communication. Therefore, message has to be simple and clear so that people can understand it message**.**

Every radio station, in our country, is broadcasting several varieties of useful programmes in different languages to categories of people with different objectives. Often extension and subject matter experts are asked to conduct programmes in the fields of Home Science Health, Agriculture, Animal Husbandry, etc., for different types of community people. While some programs appear very interesting and suitable to the group concerned, certain others are felt dull and drab while the defects may be related to script writing, talking or listening. Good script writing mainly contributes to the success of theprogramme.

Example:

Radio: The radio belongs to the spoken media. The medium is transient and fleeting and its impression is quick and hint. It is a once-way communication. Therefore messages has to be simple and clear so that people can understand it and act if need be.

Box 8.1 Advantages/Limitations of Radio

Advantages	Limitations
• Radio is relatively cheap.	• Time assigned for educational programmes is short
• Maintenance of radio is easy.	• No scope for immediate feedback.
• Some good programmes are available in the areas such as nutrition and health.	• All listeners cannot be involved in the preparation of broadcasting.
• It reaches illiterate and literate audiences.	• Entertainment programmes compete with the educational programmes.
• It can build enthusiasm and maintain interest.	• Limited coordination between the transmitting authority and receiving ends like classroom. Free times of the nonformal groups are not in tune with the broadcasting timings of related programmes.

3. Audio-Visuals: When attempting to relay a message or idea, it's usually easier and more effective to do so face-to-face than on paper or via email. That's because written or audio communication alone has certain limitations that could muddle your message or result in misunderstanding. Audio-visual communication breaks down the traditional barriers of written communication to ensure that your audience understands the message easily, resulting in better discussion and collaboration in business, education and personal applications.

Examples of Audio-Visuals include:

a) Film: It is the most fascinating medium of this country. The films are of different types. They are 8 mm, 16 mm, super. Which are used for educational purpose. The cost of film production is very high and the cost of each film print is also relatively high. 16 mm film projectors are a bit costly for a small institution to own and maintain. Each one costs about Rs.10.000. However, its impact over the viewers is effective due w its audio visuals effects together unlike in radio. The film compels greater attention and impress the mind more' than the non-projected aids. It is-the most popular having the widest appeal among all classes of people irrespective of age. A good film can increase factual knowledge and teaching skill, develop favourable attitudes and can even change opinions.

Advantages	Limitations
• Enable the instructor to recreate events, actions, places and time.	• Higher cost of the film projector.
• Provide real experience which can be shared by the instructor and the learner,	• Non-availability of electricity in the required places and appropriate timings.
• Overcome physical limitations, elements of time, size of the object and distance.	• Technical skill handling a projector.
• Compel attention because of the illuminated screen in semi-darkness.	• Scarcity of appropriate films for specific purposes.
• Provide common experiences and continuity of action for learning experiences.	• Difficulty in transporting and maintaining projector and films.

b) Television: Television (TV), sometimes shortened to tele or telly, is a telecommunication medium used for transmitting moving images in monochrome (black and white), or in colour, and in two or three dimensions and sound. The term can refer to a television set, a television program ("TV show"), or the medium of television transmission. Television is a mass medium for advertising, entertainment and news.

Merits :

Television is going to be the most important mass medium not only because of its vast coverage but also because of the largest visual impact. It has established itself as an effective medium of information transfer. It has got its unique potential to communicate to the two most important sense organs. It can also meet the new challenge of quick transfer of changing concepts in nutrition, health etc.

Limitations :

T.V. sets are being manufactured by a large number of companies in India. By and large they are expensive (ranging from Rs. 2,000 to about Rs. 14,000) for a common man to posses. The software of the programme transmitted by the T.V. authorities may be considered of moderate quality. Maintenance of the set certainly poses lot of problems. Like radio, there is added problem of coordination of the programmes being transmitted with the leisure times of the different non-formal and formal groups of audience. Feedback is also not yet built into the T.V. communication.

Q. Elaborate various traditional approaches of communication.

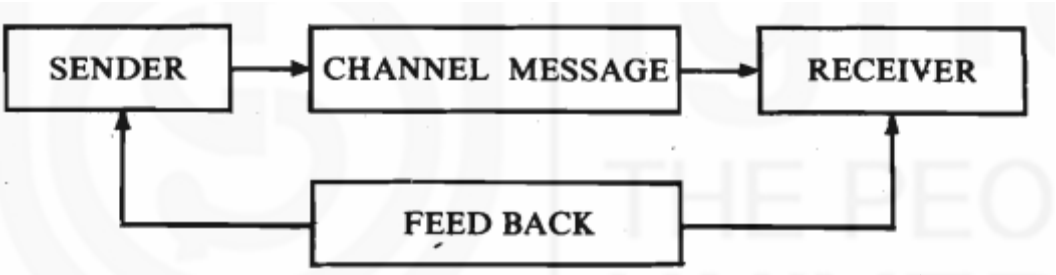
Ans. Various traditional approaches of communication are:

1. Instructional Approach: This is the most common and the oldest approach used in the entire educational sphere as well as in nutrition and health education. In this approach message are predetermined and conveyed by the instructor to mass audience. This approach is also known as directive approach and used to communicate with general public and transmit the information or develop the basic skills.In the instructional approach the message is in-built or coded into the media (methods and aids) and activity used for teaching.

The instructional approach is an extremely useful approach especially when technical information is to be imparted. If the people are receptive and ready for action, this is perhaps one of the most effective and efficient approaches. However, if people do not perceive the problem as it exists; or if they do not accept it as their responsibility or if they are doubtful of the consequences of change, then the need for some other approach like the "participatory" approach may arise. The participatory approaches may be required to prepare the ground before an instructional approach is applied. Participatory approach means involving the learner at all stages of instruction. In other words, it means not only working for people but also working with people.

The impact of nutrition and health education in programmes like the Integrated Child Development Services and the Applied Nutrition Programme using the instructional approach generated the following ideas:

- Nutrition information does not itself assure the practice of good food habits.
- Food habit does not improve by having the knowledge of good food, motivation for changing food behaviour is also necessary to be provided.
- Homemaker's knowledge of nutrition has little effect upon the provision of food for her family.
- When instruction is based on the nutritional need of the audience thesubstantial growth was found in both nutrition information and improved dietary practices.



COMMUNICATION PROCESS

2. Folk Approaches: Traditional folk media generally include the presentation of different types of programmes like folk song & music, folk dance,yatra, drama & theatres, puppetry and street theatre etc.All programmes have the individual criteria's and attraction as well, that can render distinctive taste and flavour to the audiences well.

India is a land of rich cultural heritage, which is enriched by myriad forms of folk arts as well. These folk art forms are an embodiment of the diverse cultures within the country and each one is different and unique from the rest. Every Indian state has its own folk art form, which are all beautiful and breath-taking. However, these art forms have been on the decline, some time back, but thanks to rising interest of people again in local arts, they have been thriving.

Traditional folk-media is a good wealth in effective communication. There are some aspects in traditional folk-media related to the communication for rural community development. They are the closeness to rural life, credibility, utilization of familiar signs and symbols, community participation, collective presentation, utilization of past experience, plot and the subjects from their own life and the minimum media literacy for folk-media. They can be used to prepare a good communication model in rural community development programme in Sri Lanka. Traditional folk media can be seen in every part of the Sri Lanka with regional specifications. This is a most benefit aspect for the various development programmes for various types of development communication implementation in development sector. Communicating a message through entertainment was the practices of this model. Folk songs, ritual performances, drumming and all other folk communication were used creatively. Interactive communication was between performances and the audience at the crucial moments. Finally we can analysis the effect or the influence of the communication using two methods as the live observation analysis and later impact analysis.

In India folk art mostly use for moral, religious and for socio-political political practices. Folk art is not only used to entertain the audience it is also used for educational purpose. The basic aim of the folk approach is to give the education about nutrition and health. In contrast to the modern mass media, the traditionalmedia are personal, familiar and more credible forms with which the majority of literateand illiterate individuals identify easily. There is a mixture of dialogue, dance, song, clowning, moralising and prayer in India folk to educate the masses.

Several advantages of folk approaches can be listed.

Traditional folk-media have particular aspects in effective Communication which is different to the mainstream Mass Media.

- Folk-media has created from the rural surrounding. So they denote the rural sociocultural milieu other than the Mass Media. Folk-media express the needs and the socio-economic dimension of the same society. Folk-media has the proximity with the community in both structure and content of the folk-media. This proximity would be more needed in preparing the receiver's place for aprofound communication.
- The signs and the symbols of the folk-media have not been alienated from their village. They are very closer to the rural community. This helps to understand the media and its process correctly. On the other hand the signs and the symbols denote the mass consciousness of the same society. The indigenous knowledge and the traditional wisdom pass through that of signs and symbols from one generation to another future generation
- Folk-media needs only fewer media Literacy to understand it well than the mainstream Mass Media. This is very important in use of the traditional folk media. The community can maintain better participation with folk-media as a result of this situation. There are some characteristics in folk-media literacy. They are the simplicity, devotion, religious worship, respectfulness, and use for a many years, loyalty or commitment, familiar signs and symbols. These aspects have caused to understand the traditional folk-media very perspicuously.
- The proximity between the community and the traditional folk-media. There is a critical issue regarding that the mainstream Mass Media express only urban centred ideas, thought, opinions, and social needs. And do not

consider the rural community and their social situation well. In contrary to this critique folk-media always involves with the rural community and its positions. As an example when it happens to a disease to a rural member they convert it into as a devil's donation or to any other superficial creature.

- Folk-media having with Interactive Communication skills. They are the participation, cooperativeness, enthusiasms, Interactive activities. These things caused to put it into a small-group working together rather than that of single activities. Even the presentation shows the small-group works. Folk-Media helps to re-establish those skills such as community participation, group working, encouragement, enthusiasms, working unity, in order to log on the development process well. As for example, there are some occasions which denote the same situations such as Attama, Kaiya, Pinkama and Funeraloccasions.
- Changeable, creativity and liveliness of the traditional folk-media. Folk-media has not distanced with the community. It can be interactive communicated with signs, symbols, verbs, gestures, postures…. It consists of several procedures of reactions, responses and feedback. This caused to edit the message with good feedback in the same time. This would be treated to produce a most creative way of communication.

However, you should remember that a few precautions have to be kept in mind whileusing folk approaches.

- Folk approaches need to be used with understanding andsensitivity
- You should not distort the folk forms otherwise it could easily alienate the masses
- You should avoid using folk forms which are alien to the idea of communication oncontemporary topics like nutrition and health.
- Folk forms are language and community specific (their values, norms and religiousassociations need to be taken into account).
- You should avoid vulgarisation of the rural folk form
- You should use the traditional folk forms to convey nutrition and health messagesskilfully.

There are a variety of folk forms. As already mentioned, they are community and language specific. Utilisation of these folkforms in educational communication is madeonly in certain parts of the country. You will be exposed to such experiences in the following sub-sections.

a) Folk Music: Folk music is a type of traditional and generally rural music that originally was passed down through families and other small social groups. The Nutrition Health Education and Environmental Sanitation (NHEES) project launched by UNICEF in different states(A.P., Gujarat, Tamil Nadu etc.) has developed quite a few nutrition and health songsbased on the folk style. Typically, folk music, like folk literature, lives in oral tradition; it is learned through hearing rather than reading. It is functional in the sense that it is associated with other activities, and it is primarily rural in origin. The usefulness of the concept varies from culture to culture;thefollowing observations were made while using them in the field for nutrition and healtheducation.

- They served as entertainment
- Songs are repetitively sung by the children and a fewmothers
- Measurable improvement was seen in the knowledge gain in the case of bothchildren and mothers.
- Retention of knowledge was more than in the instructional approach where lecturealone was-used.
- They involved and often invited audience participation.

b) Ballad Form of Folk Approach: Aside from their characteristically slower tempos, though, there's not much in common between these songs and their traditional predecessors, folk ballads. These orally transmitted tales told through song have been around for millennia and represent some of the earliest examples of vocal music.

Like the epic poems of the ancient Mediterranean (i.e. The Odyssey), folk ballads are a type of folk song that heavily depended on myths and other stories that were circulated orally by pre-literate societies. In these typically rural cultures, families and other small groups of people found it easy to pass on their stories in the form of songs set to the customary meters and music of the area.

Folk ballads took the musical element a step farther than epics or many other folk songs, though. Derived from the Latin word ballare ('to dance'), 'ballads' were poetic tales intended not only to be accompanied by music, but also to themselves accompany the area's favourite dances.

Common Indian ballad styles are: Burrakatha (Andhra Pradesh), Villupattu (Tamil'Nadu), Alha (Uttar Pradesh), Jugani and Vaar (Punjab), Powada (Maharashtra) and manyothers. In Burrakatha presentation, the theme will be presented in many ways: Musical questioning and answering, clarifying the issues with exclamatory and emotional expression on the face and action etc. It attracts the attention and involvement of the learners. This will result in better reception of messages by the learners.

The behaviour changes aimed at through these presentations are:

- Awareness of the existing nutritional problems of children and mothers
- Knowledge of the symptoms of various nutritional problems
- Knowledge of both curative and preventive measures for different types of nutritional problems.

Some of the themes suitable for Burrakathaare:

- Common nutritional and health problems present in the community
- Identification of specific nutritional problems in the community
- Curative measures for different nutritional and health problems
- Preventive measures for different nutritional and health problems.

c) Puppetry: It is one of the most popular as well as adored folk medium that can attract the children and adults equally. In India puppetry can be seen in four types or forms.Puppetry is widely seen in Orissa, Karnataka, Tamil-nadu,Andhra Pradesh, Rajasthan and West Bengal. There are four types of puppetrynamely Sutradharika ,Rod Puppetry,Shadow puppetry and Hand Puppetry.

Puppetry has played an important role in disseminating knowledge in most parts of the world. Puppetry imbibes elements of all art forms such as literature, painting, sculpture, music, dance, drama and enables students to develop their creative abilities. Puppetry has been used traditionally in India as a popular and an inexpensive medium to transmit knowledge about Indian myths and legends.

Since Puppetry is a dynamic art form that appeals to all age groups, this medium of communication has been selected to serve as an aid for imparting education in schools. The Centre for Cultural Resources and Training (CCRT) provides a comprehensive and an integrated training in the preparation, manipulation and production of such puppet programmes which may be used in a variety of formal and non-formal teaching situation.

Role of Puppetry in Education aims at the following:

- To introduce Puppetry as an aid to education;
- To teach preparation and manipulation of glove, shadow, rod, string and other puppets;
- To prepare educational scripts and programmes for teaching curriculum subjects through puppetry and to study the impact of training for evaluation;
- To enable teachers to acquire knowledge about traditional puppet theatre forms of India and to provide them with an opportunity to interact with traditional puppeteers;
- To encourage teachers to improvise inexpensive teaching aids and to make creative activities for students, an integral part of classroom teaching.

Q. What are the different types of puppets?

Ans. Following are some of the different types of puppets:

- **Hand Puppets:** These puppets are most popular in Orissa, Kerala and Tamil Nadu. Thefree use of the puppeteer's hand lends a rare strength and vitality to the movements of apuppet's head and arms and the wrist lends flexibility and power to a puppet's body.
- **Marionettes or String Puppets:** A marionette is a puppet controlled from above using wires or strings depending on regional variations. A marionette's puppeteer is called a marionettist.
- **Shadow puppets:** Shadow puppets are figures that are placed between a light and a screen. Moving them creates the illusion of moving images on the screen. An experienced puppeteer can make figures appear to walk, talk, fight and dance. Shadow puppetry is a popular form of entertainment in countries all over the world.
- **Rod Puppets:** Glove puppets are a variation of hand puppets. Rod puppets require one of the puppeteer's hands inside the puppet glove holding a rod which controls the head, and the puppet's body then hangs over most or the entire forearm of the puppeteer, and possibly extends further.

Q3. Analyse the operation of instructional approach.

Ans. Operation of instructional method of communication is fixed in the fabric of our education system. It is an easiest way of getting a vast amount of information across to mass of the audience in the least time. A good lecture is an amplified conversation. Self-motivated learner develops their interest in lesson by kindling their creativethinking. Clarity and coherence of thought should be evident in all the explanationsgiven. Involving the learners in the discussions, demonstrations etc. gives themrecognition. Frequent checking of the learning that is taking place is essential sinceproceeding further without making the previous point clear will be of no use. Keepthese points in mind and follow them while instructing.

An individual should practice teaching to improve their teaching skills. If an individual gets an opportunity tolead discussions they should start leading the discussion with fellow instructors, groups of children, adolescents or parents. This serves as a good opportunity and can help an individual to prepare for instructing the groups for practice teaching.

During training, an individual can develop teaching skills in the following manner: Presentation ofTraditional Approaches

- Observe the community educators conducting a class in the community. If notpossible, observe a classroom situation in a school/college.
- Analyse teaching objectives and methods.
- After the class, review the class raising similar questions provided here-
  - Did the message get across clearly?
  - Did the learners have an active or passive role in theclass?
  - Were visuals used effectively?
  - How many of the learners fell asleep before the end of theclass?
- Practice task analysis to make sure that you cover all keypoints,
  - Analyse a particular activity or task; it is helpful to divide it into stages. Note,if the different stages consist of actions, decisions or communications.
- Discuss and make as well as use appropriate teaching aids.
- Take turns in leading discussion.
- Begin teaching with community groups.

Q. What are the Role of Community workers in Child-to-child activities? How to Implement Child-to-child strategy in the Communities?

Ans. The roles and activities of community health workers (CHWs) are tailored to meet the needs of the children. A CHWs' role depends on the development of the growing children. Anybody who like working for child nutrition can conduct the child-to-child activities to develop their skill and educate them. But mostly this activity is conduct by community worker, teacher or the parents of the children. CHW's play a very crucial role in conducting and organizing the child-to-child activity for the development of children.

Community health workers can conduct Child-to-child activities in the following ways:

- With the help of the teacher and children community health worker can conduct the child-to-child activities for pre and elementary school children.
- If the community workers have trust on school teacher they can handover their duty to conduct the child-to-child activities easily to them.
- Community worker educated the sick children about the child-to-child activities at the primary health centre.
- They can work with children through school clubs and organisations (for example, Girl guides or Boy Scouts).

Implementation of Child-to-child strategy in the Communities: Through this strategy, apart from information on health and nutrition, value-based education like respect for elders, sharing and caring can go a long way in the creation of a positive impact on the lives of children. Child-to-child strategy has been tested in the field (school as well as rural area) and experimentally proved to be effective in handling some of the problems of nutrition and health in the community. Most of the parents are enthusiastic about the Child-to-child programme, even though some of the new ways of doing things seem strange to them. The reason for accepting the programme by the community is that the community likes the children's involvement in many useful activities. Otherwise, the children may get involved in unwanted activities and waste theirenergies.

Apart from measurableresults, cooperation, concern and fun resulting among children out of this Child-to-child activity, made it enormously worthwhile. What final effect it may have on the children when they grow up and become parents and perhaps leaders in their communities. However, the impact may be surely on the positive direction.

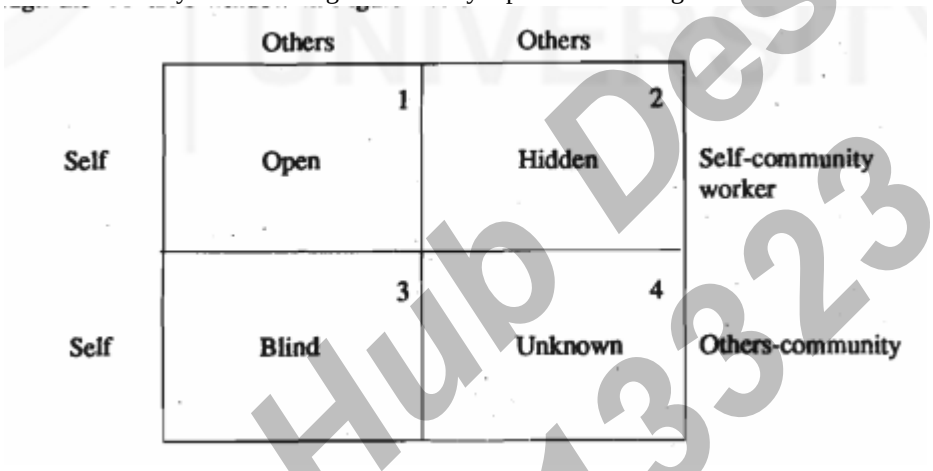
Q. Define community contact.What are the steps involved in itsprocess?

Ans. Community worker plays a very important role to establish good contact with the community. For establishing good contact with the community, the community worker introduces themselves to the villagers or other people who live in the community to gain their trust and establishes their rapport with them. For maintaining their rapport in the community, a worker has to emphasize community practice. Community contact is not about discussion or role play;

it's about how a community worker builds their rapport with the people who live in the community. It is the duty of the worker to visit in the communities and to take the initiative for promoting and educating the public about the nutrition and health-related program.

Community contact, as a strategy follows the given five steps in its Implementation:

1. **Establishing Rapport in the Community:** Rapport forms the basis of meaningful, close and harmonious relationships between people. It's the sense of connection that you get when you meet someone you like and trust, and whose point of view you understand. It's the bond that forms when you discover that you share one another's values and priorities in life.The primary and essential step in any educational program is getting to know the community and the problem at hand. It is important that the community worker familiarise herself/himself with the knowledge, attitudes and practices prevalent in the community. Once she/he is acquainted with this background information, the chances of them being accepted as a part of the community are definitely enhanced. In the context of nutrition and health education, this process helps (as community educators) to know the way in which dietary behaviour is changing. The nature of communication between the worker and the community has been diagrammatically represented through the 'Johari's window.



- The first window depicts as 'open' two-way exchange of ideas between the Communityworker nutrition educator and the community. The community worker(Facilitator) is aware of the problems, needs and biases of the community (others) as they feel and they inturn have accepted her/him.
- The second window represents a communication situation where in some of the values/attitudes biases of the community are'hidden' to the worker i.e. she/he isunaware of these values and biases, etc. In such a case, the worker's ideas maynot be totally acceptable to the community since these may not be in Line/coordination with the hidden biases/values. Hence, there is a need to get appraised about the community, and she community appraised about the worker.
- The window in the third place show a situation where the worker perceives a problem in the community but the community is 'blind' to the problem viz. They do not perceive the problem for themselves. Here the worker's first step should be to help the community recognise their problems by themselves. Once the problem is perceived the desire to solve the problem becomes the felt need of the community and not that of the worker alone.
- The last window represents an "unknown" situation where both the facilitator and the community are unaware of the community's values/biases/attitudes. This is a difficult situation to deal for any worker. Effort is required from both sides to study the community.

2. **Learning 'from' and 'with' the Community:** A community diagnosis is a self-analysis by a community of the problems that concern people most. To conduct self-analysis by the community he change agent can adopt the following mode of operation:
    - **Go to people's home and get to know them:** Information learned through friendly casual visits is often truer and more useful. Focus on he needs and feelings of the people first by the following actions.
    - **Gather information**: While gathering information, try to find out what problems (related to health and nutrition) people feel are of importance. What problems they want to solve first? What ideas they have for solving them?

- **Ask only for information that makes sense:** Be sure, you and the people understand, "why" the information is needed? For example, be sure parents understand" why you want information about what the child is being fed?"
- **Involve local people** (those who want to take the lead or responsibility) in gathering the information. Be sure studies are not of the people, but by the people.
- **Try to avoid taking along written questionnaire**: Avoid writing notes while person is talking to you.
- **Look for way of making the survey a learning, exploring** experience for those being questioned. Try to ask questions that help people to think and look at things in new ways. For example, instead of simply asking "what are some of the diseases with which the children suffer in your community? Follow up by asking "why & they suffer like that?" Does the hospital here help you in any way? Do you take home cape in such situations? If so, what is it?
- **Learn to look and listen:** Observe people carefully. You can find out as much as you can by watching the way people act and & things.
- **Go slowly when giving advice to people, especially when it concerns their attitudes** and habits. It is often better to describe a case, for instance, how a family solved a similar problem by adopting a new practice. Set a good example yourself. Also try to find for such models in the community, who you can quote and also you can give some responsibility.

3. **Assessment of Community's (readiness for change) Participation:** The attitudes of the people may range from a total negative set of attitudes towards a more positive approach. Each of these categories of people implies the need for a different educational approach in order to reach the education objective. This concept is explained by various examples here:
   - The most negative response is given by a person very confidently. The person is quite satisfied with the way the things are performed by him. For instance, the lady who is restricting water to the child suffering from diarrhoea will confidently say drat it is foolish to give more water to child who is already suffering with diarrhoea. This is because she believes that giving more water will still aggravate the problem. That is where our education begins to create an awareness about the scientific basis behind the practice we advocate. The first task here would be to create an awareness of the problem.
   - The person recognises that a problem exists, but, feels that it is the responsibility of somebody else to solve the problem. Here the task is to create a sense of responsibility for finding a solution by himself/herself.
   - The person recognises the problem but she/he may have doubts about the ways and means suggested to solve the problems about:
     - The change agent's capability to solve the problem,
     - Her/his own capability to solve the problem, and
     - The community's capacity. In such case, the change agent must try to create trust and build up confidence in her/his own self, in the community and in the change agent.
   - The person is fearful of being the first to try out an unproven technology. Her/his fear could be based on economic or social considerations. In this context, it is important to carefully propose suitable technologies or practices to solve the problem. For instance, mother belongs to this category takes a risk (for example mother giving water to a suffering child from diarrhoea unlike the usual practice) and as a result suffers a severe setback (since feeding plenty of unclean water aggravates the condition). The problem here is with the unclean water, but not with feeding plenty of water to the child suffering from diarrhoea. However, the mother attributes this to the new practice introduced ad will not try any new practice in future. If such incidents occur in the community, the process of development may be greatly hampered.

4. **Enhancing Community Participation:** Community participation can be loosely defined as the involvement of people in a community in projects to solve their own problems. People cannot be forced to 'participate' in projects which affect their lives but should be given the opportunity where possible. This is held to be a basic human right and a fundamental principle of democracy. Community participation is especially important in emergency sanitation programmes where people may be unaccustomed to their surroundings and new sanitation facilities.
   Community participation is controlled mostly by the people: -
   - Who takes the lead?
   - Who is a credible communicator?
   - Who acts an ideal model person?

   Therefore, it is very essential to have a look at the community leadership which help to enhance community participation.

5. **Introducing a New Concept/Practice:** The introduction of a new idea and practice must be based on the community's need as well as its resistance/readiness to accept new ideas. Where the community presents a positive attitude towards solving a problem at hand, the educator's task is much ' simpler. In cases where the community is not likely to react favourably to the educational messages, the educator has to work much harder.
Given here are some clues for educations:
   - An able educator must familiarise himself/herself with local beliefs and practices.
   - An able educator often manages to become a part of the community before launching any educational programme.

An educator who takes pains to establish contacts with the community prim to imparting the message is much more likely to be successful than one who neglects this aspect. An open two-way communication and peer relationship between the change agent and the local leaders, community itself is the basis of a sound participatory approach**.**

Q5. What do you mean by the 'Rural school system'?

Ans. Ultimately, the technical definition of a rural school corresponds to our general understanding of rural areas; they are characterized by geographic isolation and small population size. All schools are categorized into four locales by their size, population density and location. Rural schools offering primary education to rural children. Rural schools are also all classified as high need schools.

Role of the Education System: Education builds students' knowledge, skills, and positive attitudes about nutrition and health. Education system teaches about physical, mental, emotional and social health. It motivates students to improve and maintain their health, prevent disease, and reduce risky behaviours.

Education curricula and instruction help students learn skills they will use to make healthy choices throughout their lifetime. Effective curricula result in positive changes in behaviour that lower student risks around:

Alcohol, tobacco, and other drugs, injury prevention, mental and emotional health, nutrition, physical activity, prevention of diseases and sexuality and family life.

Education promotes learning in other subjects. One study showed that reading and math scores of third and fourth grade students who received comprehensive nutrition and health education were significantly higher than those who did not. In general, healthy students learn better. Numerous studies have shown that healthier students tend to do better in school. They have higher attendance, have better grades, and perform better on tests.

Merits of the Rural School System: The success of child survival programmes and the greater efforts by many governments and communities to expand basic education coverage have resulted both in a greater number of school-aged children, and in a greater proportion of these children attending school. In many countries, targeted education programmes have ensured that many of these new entrants are girls for whom good health is especially important. Thus, the rural school is now a key setting where the health and education sectors can jointly take action to improve and sustain the health, nutrition and education of children previously beyond reach.

School health programmes help link the resources of the health, education, nutrition, and sanitation sectors in an infrastructure – the rural school – that is already in place, is pervasive and is sustained. While the rural school system is rarely universal, coverage is often superior to health systems and has an extensive skilled workforce that already works closely with the community. The accessibility of school health programmes to a large proportion of each nation's population, including staff as well as students, contributes to the low cost of programmes. The high effectiveness of these programmes is a consequence of the synergy between the health benefit and the educational benefit. The effectiveness is measurable in terms not only of improved health and nutrition, but also of improved educational outcomes, reduced wastage, less repetition and generally enhanced returns on education investments.

Q. Which is the project, that is utilising the rural school system and community contact to the fullest of their potential? Write its objectives in your own words.

Ans.In recognition of this enormous potential of the rural school system, the government of India launched the NHEES project in 1975. The project seeks to realise at least, partially some of the vast potential offered by the rural schools. This project is being coordinated by the national Council of Educational Research and Training (NCERT), New Delhi and funded by the UNICEF. It is being implemented utilising the rural school system as a strategy.

It is not as if health/nutrition education was not part of the curriculum of primary education earlier. What the NHEES Project has attempted is to provide a moreintensive focus and a more purposeful direction to the health/nutrition component inthe primary education system. Perhaps the more daring and innovative part of theNHEES programme is the attempt to reach the community through the rural schoolsystem.

The objective of the project is:

- To develop and promote desirable nutrition/ health environmental sanitation/personalhygiene practices among the pupils and among the communities fromwhich the pupils aredrawn.

- To enable children and their parents to understand the importance-of adequate nutrition for good physical and mental development.
- To educate children on 'the practical ways of achieving adequate nutrition withintheir means through appropriate choice, preservation and preparation of foodsavailable for their daily use in the villages, and
- To help children and their parents become aware of health services and health facilities (immunisation, etc.) Offed to them (by the State).

Q. What are the practical points/tips for trying out Woman-to-woman strategy? Explain

Ans. Tips for trying woman-to-women strategy effectively are: -

- Take initiative and start group with 8 women.
- For effective presentation choose those women on whom people trust in the community.
- Allow enough time, 'so that you study the felt needs and problems of the women by involving them in discussion.
- Don't use technical terms in the presentation because most of the people in the community cannot understand the technical term, use the local terms instead of technical for effective results.
- Start with the little introduction for the effective result and avoid giving too much information in starting.
- After the activity is introduced discuss with the follower women.
- Critically evaluate the activity along with the women involved.

Possibilities to Practice Woman-to-woman Strategy

Woman-to-woman strategy is centredaround the principle of sharing of knowledge, skill and confidence amongst women. It is not prescriptive, but participative in its process. The strategy can be practiced as under:

- Community worker (woman) can lead activities with the women in rural and slum areas.
- Key-women in the communities can lead activities with their woman-followers in the communities.
- Key-women individually or in group can report on any one of their successful experiences in modifying the nutrition/health behaviour of the people.
- Community workers (change agent) can discuss with the key-women, how to implement the activities effectively.

Food problem that must be faced by every village and community is studied and analysed carefully and make an effective nutrition plan for them.

Q. Mention few hints to implement Child-to-child strategy. What are the possibilities of Child-to-child strategy?

Ans. Some of the guidelines to conduct Child-to-child activities are given below: -

- Avoid choosing noisy places.
- 20 children are enough for starting.
- Take your time and be calm.
- Arrange all the necessary material like activity sheets, activities etc. so, each and every child do participate in the activities.
- Avoid using difficult words, use simple words according to the children. So, they can easily understand the whole idea.
- At starting just prepare a one activity sheet which contain enough idea.
- Speak with the teacher or any head of the school and try to understand their interest and cooperate with them. This should be done before starting activities in a school.
- Also discuss the activities with parents, so-they will be more accepting of the children's new ideas. Perhaps some parents will want to help or give support.

Possibilities to Practices Child-to-child Activity

Some of the situations where Child-to-child activities can be undertaken:

- Older children can lead activities with young children in the school. (Supervision of personal hygiene).
- School children can lead activities with preschool and non-school children.
- Children can report back tothe group about the ways in which they haveused their new knowledge at home and with younger children.
- Children's surveys can be repeated tocheck for improvements.
- Children canput on public skits. puppet shows. Ordemonstrations.
- Children from one school or village can introduce Child-to-child tochildrenin another nearby school or village.

- Teachers can discuss how they canapply Child-to-child principles to the restof their teaching soas to make schooling relate more to children's lives.

Child-to-child strategy is centred around the principle of guiding the older children for caring the younger children better. Caring younger ones is done mostly by the older children, which is our traditional culture. Thus Child-to-child activities are related to our culture and hence they are very well accepted by the parents in the community.

Q. Elaborate the operation of community contact in detail.

Ans. For planning and implementing the comprehensive programme to develop the community the contact of the community worker should be strong with the people who live in community. Trust factor is also play very crucial role in this situation; people should trust on the community worker who work for the development of the society.

One component of the Community Contact strategy enhancing community participation is selected to illustrate in detail for your practical purpose.

Community participation is controlled mostly by the people who takes initiative and leads others in the community. Therefore, it is essential for you to look at the community leadership.

Enhancing Community Participation

1) To identify theleaders/key people in the community

This process can be started by having a group of ladies including both leaders and followers in the community. Try to lead the discussion by putting the following questions:

- Before adopting any new practice do you consult any of your relative, friend, neighbour or any other person of your choice?
- What is the nature of opinion you seek out of them?
- What is the cause of seeking opinion at various occasions?

Selection of leaders can be based on the response obtained-"who is chosen most for what occasions". For example, if the issue is health and nutrition education, "who is chosen most often for consulting issues related to health or nutrition by the people".

2) How to involve the community more?

After you identify a group of leader's/key persons in the community, you are required to work closely with them to deal with the nutrition and health problems of the community. Have a look at the different learning situations illustrated below. You can see a great range of community involvement/participation.

Now, you start the discussion with the leaders by putting the following questions:

you can get an idea of the degree to which participation is controlled by those in the left scenes or by those in the right scene by looking at the programme's community-level participants. Answer the questions like

- Who is taking the lead?
- In what ways does that person look similar to or different from the remaining people?
- Are the people taking part actively or passively?
- How do they share the materials among themselves?

Practising the Community Contact

Some of the idea for practicing community contact are given below: -

- Look for actual presentation or presentation of activities on 'community' contactand observe.
- Follow the activity and try to learn the skills in identifying the woman opinionleaders and in enhancing the community participation, etc.
- Take an initiative to arrange community contact on your own. So, the people can easily adopt the desirable practices related to nutrition and health.

Q. Write some methods for practising the 'Rural School System Strategy'?

Ans. Some methods for practising 'Rural School System Strategy' are:

- Find an old presentation on child-to-child activity and just grow through it. Presentation of child-to-child activity could be available in a form of video presentation.A video cassette entitles child-to-child programme in the municipal corporation schools, Delhi is prepared by the department of preschool and elementary education, NCERT. Watch this programme and lean from their experience.
- Watch the video carefully and observe the activity and mode of operation of child-to-child activity critically.
- Select a particular topic on nutrition and health and take an initiative to organize the child- to-child programme in rural school.

Q. Discuss the genesis of nutrition programmes.

Ans. Genesis R&D® Food Formulation & Labelling Software enables users to easily create government-compliant Nutrition Facts panels, virtually formulate foods, analyse the nutritional content of your recipes, and adjust ingredients over and over without sending your formula to the lab each time you make a change. And, Genesis helps you conform to the ever-changing government regulations.

Malnutrition is not a new health problem in India. As far back as 1946, when the Bhore Committee reviewed the health status of the Indian Population, diet surveys had already been done. These surveys showed that about 30 per cent of the families surveyed consumed inadequate amounts of food to provide the necessary nutritional requirements.

At that time, it was also known that an inadequate diet contributed to the high mortality and morbidity in the general population particularly in infants and pregnant women.

In spite of all this information, it was only after. 1960, that efforts were made to deal with the problem of malnutrition. Since then, three major strategies have been adopted by the Government:

- Nutrition programmes
- Increasing food production and purchasing power of people
- Population control

Q. Define the concept of nutritional programme?

Ans. Rapid improvements in health and nutrition in developing countries may be ascribed to specific, deliberate, health- and nutrition-related interventions and to changes in the underlying social, economic, and health environments. Health and nutrition program is concerned with the contribution of specific interventions, while recognizing that improved living standards in the long run provide the essential basis for improved health. Consideration of the environment as the context for interventions is crucial in determining their initiation and in modifying their effect, and it must be taken into account when assessing this effect.

Undoubtedly much change has stemmed from scientific advances, immunization being a prominent case. However, the organizational aspects of health and nutrition protection are equally critical. In the past several decades, people's contact with trained workers has been instrumental in improving health in developing countries. This factor applies particularly to poor people in poor countries but is relevant everywhere; indeed, it is a reason that social services have essentially eliminated almost all occurrences of child malnutrition in India (where, when malnourished children are seen, it is caused by neglect).

In community-based programs, workers—often volunteers and part-time workers—interact with households to protect their health and nutrition and to facilitate access to treatment of sickness. Mothers and children are the primary focus, but others in the household should participate. Commonly, people go regularly to a central point in their community—for example, for growth monitoring and promotion—or are visited at home by a health and nutrition worker. The existence, training, support, and supervision of the community worker—based in the community or operating from a nearby health facility—are indispensable features of these programs. Thus community organizations are a key aspect of community-based health and nutrition programs (CHNPs).

Q. Evaluate the term 'Applied Nutrition Programme (ANP)'.

Ans. The Applied Nutrition Programme (ANP) was introduced as a pilot scheme in Orissa in 1963 which later on extended to Tamil Nadu and Uttar Pradesh with the objectives of:

- Promoting production of protective food such as vegetables and fruits and
- Ensure their consumption by pregnant and nursing mothers and children.

During 1973, it was extended to all the state of the country. The nutritional Education was the main focus and efforts were directed to teach rural communities through demonstration how to produce food for their consumption through their own efforts. The beneficiaries are children between 2-6 years and pregnant and lactating mothers. Nutrition worth of 25 paisa per child per day and 50 paisa per woman per day are provided for 52 days in a year. No definite nutrient content has been specified. The idea is to provide better seeds and encourage kitchen gardens, poultry farming, beehive keeping, etc., but this programme does not produce any impact. The community kitchens and school gardens could not function properly due to lack of suitable land, irrigation facilities, and low financial investment.

Expectations from the ANP: The ANP was expected to utilize the services of youth for food production.Byinvolving them in the production component of the ANP. The ANP was meant toencourage learning by growing, utilizing and sharing protective foods. Through theANP, villagers were encouragedto grow more vegetables and fruits, rear poultry and do fish farming. Withthis strategy it was assumed that these expensive foods wouldbecome part of their daily diet. This would help achieve better nutrition. Thus, theANP promoted the nutritional status of the vulnerable groups through self-help andlearning. Youth needed to be taught the importance

of nutrition so that they could organize and guide school children in maintaining the ANP school gardens and usethe produce in their school lunch. They could save as a liasion between the resourcepersonnel, namely the Block Development Officer or the MukhyaSevikaand therural families.

A Critical Look at the Programme: It is conceded that the programme did not make the expected impact in terms ofstated aims and objectives. Its demonstration effect had not been felt in most areas.Knowing about the economic constraints of poor people in the village, it is not verydifficult to see why the programme failed to have the desired impact Let us analysethe situation and find the reasons for the failure.

1)The most important need of the poor family to satisfy their hunger is food. Food gave them basic nutrition and energy to their body to avoid the sickness or illness. In villages most of the families have poultry so they could eat eggs which is produced by hen. But they can hardly eat chicken or hen because that will affect the production of egg. They can also use their egg for selling purpose to buy cheaper food for them.

2) Even if they had consumed fish, meat and eggs, these foods would not have been utilised by the body for the intended purpose. This is because the diets of the poor lack sufficient cereal and as a result these expensive foods would have bear used up by the body to provide energy but not to help body tissues to grow.

The impact of people on the ANP is limited. Government tried to evolve specificprogrammes to improve nutritional status during the plan period of fourth and fifthfive-year plans.