UNIT 15 CONCEPTUALIZATION AND THE PROCESS OF NUTRITION EDUCATION

Structure

15.1 INTRODUCTION

In this unit and the next three Units 16, 17 and 18, we will study about the concept, scope, need importance and process of nutrition education. You might be having various questions related to nutrition education in your mind, like what is nutrition education? How well or poorly does nutrition education work? Does it deal better with some nutritional problems compared to others? You can probably get the answers to some of these questions as you read through these units.

In this unit, we will learn about the basic concepts related to nutrition education. We will learn about the potential challenges and constraints of nutrition education and various theories of nutrition education. The process of nutrition education consists of four phases. These are: conceptualization, formulation, implementation and evaluation. In this unit, we will study in detail about conceptualization and briefly introduce you to the other three phases.

Objectives

After studying this unit, you will be able to:

- describe the need and scope of nutrition education,
- discuss the importance of nutrition education,

enumerate the challenges and the constraints of nutrition education,

describe the various theories of nutrition education, and

explain the overall process of nutrition education.

15.2 UNDERSTANDING THE NEED AND SCOPE OF NUTRITION EDUCATION

We will start this section by learning about the history of nutrition education and by exploring how the need for nutrition education evolved over time. We will then discuss some definitions of nutrition education and explain the scope. So let us begin our study on the topic by looking at the history of nutrition education.

The beginning of modern nutrition education may be traced to the early attempts to prevent protein energy malnutrition (PEM) in infants and children, primarily due to faulty weaning. The need for nutrition education evolved about half a century ago, when in 1950, the first report of the Joint Food and Agriculture Organization/ World Health Organization (FAO/WHO Expert Committee on Nutrition), recognized the need for nutrition education in developing countries. This report brought this need to international attention and emphasized the importance of nutrition education in the health sector. By 1958, the same committee reported, "Education in nutrition is a necessary part of practical programmes to improve human nutrition…" and recommended the channels for nutrition education such as schools, maternal child health (MCH) centers, community development and related programmes. We can thus see that, nutrition education, as an interventionx came into prominence with the realization that malnutrition to a large extent is not only due to inadequate food availability but also due to faulty food habits, some of them based on food prejudices, superstitions or taboos, and importantly, lack of awareness of the right food choices. Therefore, nutrition education was accepted as an important measure for the promotion of nutrition and well being, and was placed at a level of priority equal to that of other interventions.

So then what is nutrition education? Nutrition education has been viewed *as the process of persuading people to act in their own best interest for attaining nutritional well being*. It has long been established in an informal unstructured way, often being embedded in traditional folklore.

Let us get to know more about this process by looking at some important definitions of nutrition education, as proposed by some experts.

"According to WHO, the focus of health and nutrition education is on people and action. In general, its aims are to persuade people to adopt and sustain improved/ desirable nutrition and health practices and to take their own decisions, both individually and collectively to improve their nutritional and health status, and environment."

"Nutrition education can be defined as any set of learning experiences designed to facilitate the voluntary adoption of eating and other nutrition-related behaviour conductive to health and well being.

"Nutrition education is the process of applying a knowledge of nutrition related scientific information and social and behavioural sciences in ways designed to influence individuals and groups to eat the kinds and amounts of foods that will make a maximum contribution to health and social satisfaction."

"Nutrition education may be defined as a group of communication activities aimed to bring about a voluntary change in practices, which have an effect on nutritional status of a population. The ultimate goal of nutrition education is to improve nutritional status."

"The term "nutrition education" applies to any communication system that teaches people to make better use of available food resources with the ultimate goal of improving nutritional status."

So, you can note that there are many definitions of nutrition education. Having gone through these definitions, in your opinion, what is the basic concept highlighted in these definitions. Yes, the concept highlighted is that *nutrition education essentially involves communication for behaviour change*. As a worker in public nutrition, you will come across terms like Communication for Behaviour Change (CBC) and Information, Education, Communication (IEC) or Nutrition Education (NE). What are these terms? Are these interchangeable? Let us see first how they are defined.

"Communication for Behaviour Change (CBC) is a multi-level tool for promoting and sustaining risk-reducing behaviour change in individuals and communities by distributing tailored health messages in a variety of communication channels".

"Information, Education, Communication (IEC) combines strategies, approaches and methods that enable individuals, families, groups, organizations and communities to play active roles in achieving, protecting and sustaining their own health. Objectives of IEC are to identify and promote desirable behaviours".

We can note that CBC, IEC and nutrition education are, in fact, interchangeable, since they all aim at creating awareness, motivating people to change behaviours and result in necessary action.

Sometimes it is customary to use the term Nutrition Education communication (NEC) in place of nutrition education. You have read in the Unit 1, Section 1.5 that nutrition is a determinant of health status, therefore, nutrition education communication falls under the broad area of health communication. Let us then try to understand what is health communication? "Health communication can be broadly defined as the *systematic attempt to influence positively health practices, using principles, instructional design, social marketing, behaviour analysis, and medical anthropology."* The primary goal of health communication is to facilitate change in health-related practices and, in turn, health status.

You should know here that Nutrition Education Communication (NEC) strategy is within the reach of most programmes. It can teach people beneficial facts about nutrition and food, can help them develop necessary skills, and can communicate in a manner that motivates them to make life style changes on a sustained basis. So, we can conclude here that nutrition education involves a set of communication activities and falls under the umbrella of health communication. Let us study about the role and importance of nutrition education in some more detail in the next section.

15.3 IMPORTANCE OF NUTRITION EDUCATION

Now, that we know what nutrition education is, can you visualize the importance of this important activity. Yes, nutrition education can play a vital role in improving nutritional status of all the individuals within a family or community, if they adopt positive nutrition behaviours. Nutrition education also has a vital role to play for policy makers as it helps mainstreaming nutrition into various projects and programmes.

The following points tell us why nutrition education is important and essential:

1) Nutrition education reinforces knowledge and corrects faulty concepts about nutrition.

2) It allows the individual to evaluate the nutrition information he or she receives.

3) It promotes the best use of an individual's limited economic resources.

4) It promotes the concept of "health' as a valued community asset.

5) Nutrition education equips the individuals with the ability to make judicious food choices for health and well being. Nutritionally aware parents can pass on appropriate eating habits to their children. If importance of good nutrition is ignored, undesirable eating patterns may develop from early childhood causing eating problems leading to malnutrition (both under nutrition and overweight / obesity). Thus, members with different physiological needs in a family can benefit from nutrition education as follows:

   If families learn the importance of child nutrition, they can promote optimal development of their children. Mental development is almost complete by the second year of life and nutrition is crucial for brain development.

   School children and adolescents, who are nutritionally aware of healthy foods, can adopt practices, which will help them in normal growth and development and will enable them to avail of maximum benefits from education.

   Adolescent girls by understanding the importance of nutrition and healthy food choices facilitate their own optimal growth during adolescence and ensure safe motherhood in future.

   Pregnant women, by making the right food choices, increase their chances of a healthy pregnancy and a normal birth weight newborn.

The following points summarize why nutrition education is important for policy makers and programme planners.

1) Nutrition education is vital for policy makers and programme planners, simply, because they should be educated about extent, magnitude and distribution of various nutritional problems in the country. They should also be educated about causes and consequences of these problems. Nutritionists have the essential role of advocating and impressing on the government officials about the need for a good food and nutrition policy to be included in the economic planning.

2) Nutrition education helps policy makers and programme planners in formulating policies for other sectors like agriculture, rural development and education etc.. Since, causes of malnutrition are at multi sectoral level, contribution of other sectors to improved nutrition can very well be recognized if the policy makers themselves are educated about nutrition.

3) Commonly nutrition education acts as a conserving force maintaining the validity of the culture and as an innovative force facilitating adjustment to contemporary problems and conditions. In general public, there is a tremendous gap between current nutrition knowledge and the dissemination and application of such knowledge. People do not instinctively choose what is best for them and so nutrition education becomes an essential activity. Initially the community may resist attempts at change and it would be useful to pay attention to what they see as their priority areas.

Thus, it must be clear that nutrition education to population groups and policy makers has a potential to improved nutritional status. Now the next question, which comes to our mind is, whether nutrition education can really contribute to, improved nutritional status or not? Nutrition education has been a part of various programmes for many years. If this is so, then we would have seen remarkable changes in the nutrition situation of the people. However, this issue is not as simple as it sounds. Let us find out more about this complex issue in the coming section.

15.4 POTENTIAL CHALLENGES AND CONSTRAINTS OF NUTRITION EDUCATION

We face a big challenge when we plan to change behaviours of people through nutrition education. Also "how much of an improvement in nutritional status can be expected to be achieved through nutrition education?" is a frequently asked question. Nutrition education is considered unique and at the same time difficult because improved nutrition requires sustained and repeated individual behaviour. There are other reasons why nutrition education is challenging. The reason why people eat what they eat is complex and it involves both cultural and psychological aspects. Changes in food consumption patterns require shifts in deeply ingrained food habits established since childhood.

Further, in very poor communities nutrition education cannot be effective without simultaneous increase in real income. Nutrition education teaches better use of resources, which are already available to the family. When these resources fall below a certain level, redistributing them does not help, as this would not meet the actual requirements. Therefore, it is not surprising that nutrition education for nutritional status improvement in food insecure communities is often viewed with skepticism because malnutrition is largely believed to be a reflection of poverty. However, there is also a view that, NEC does have the potential to make a difference even in communities having poor resources. Thus, at a given level of income, NEC can:

- favourably influence practices like food purchase, preparation and storage and a more equitable intra-household food distribution, which meets the need of both male and female members,
- inform families on how to add important nutrients like micronutrient and rich foods through dietary diversification, particularly for vulnerable groups like infants;
- counter harmful traditional beliefs and practices related to dietary intake of women and infants.

You will learn more about nutrition education communication in later sections. Here we would like to emphasize that NEC, if designed, implemented and evaluated properly by committed personnel, there indeed are positive and significant impacts seen on nutrition behaviour and nutritional status of vulnerable groups, even in resource deprived communities.

The documented literature indicates that NEC does lead to behaviour change. One area where success in behaviour change has been achieved is in the projects on "Breast feeding and complementary feeding practices". This is mainly because behaviours related to breast feeding and complementary feeding are influenced more by cultural beliefs and traditions than resources.

In fact nutrition educators have come up with various theories to understand how and why people change their behaviour. This brings us to the next section, i.e. theories in nutrition education. We will now look at some theories of nutrition education.

15.5 THEORIES OF NUTRITION EDUCATION

Nutrition educators have become increasingly aware of the importance of understanding the audience they want to influence. The field of communication offers nutrition educators practical theories for understanding people, their knowledge, attitudes and behaviour regarding nutrition. We will discuss here five main theories of NEC. These theories are: cognitive – gestaltist theory, behaviourist theory, the

communication approach theory, diffusion and the social marketing approach theory. We will discuss each of these theories in detail. Let us start with cognitive – gestaltist theory.

15.5.1 Cognitive – Gestaltist Theory

According to the cognitive-gestaltist theory, education is seen as a process of self-development, whereby, the individual takes control of his/her environment. When this theory is used as a basis for nutrition education, it assumes that individuals are basically rational, they are able to make free choices and when provided with relevant information, they will adopt behaviours that are healthy and self-actualizing. Therefore, the goal is to disseminate relevant information.

Let us go over to the next theory i.e. behaviourist theory

15.5.2 Behaviourist Theory

Behaviourist theory is based on the premise that the inner cognitive experience is not the only determinant of behaviour. Behaviour is considered determined by the environment, which may consist of competing forces to provoke and reinforce unhealthy behaviours. It is argued that people are not free to make decisions as long as these environmental stimuli continue to be there. It is assumed that sufficiently strong stimuli and reinforcement will have to be set up for the learners. In all practical interventions, elements from both theories are used.

Let us next go to the communication approach theory.

15.5.3 The Communication Approach Theory

The communication approach theory states that the receiver is selective in his response to the communication, the factors responsible for this selectivity being the individual's psychological orientation. This is known as the "communication effects" perspective. According to this theory, different people react differently to the same message.

In addition, each individual also has a stored experience of beliefs and values. These beliefs and values influence the way the receiver interprets the message. This 'individual differences' perspective postulates that people with similar beliefs and values will respond similarly to a given message and in a predictable manner. Further it is also seen that people of the same age and sex and who have same level of education and wealth tend to select communication content of a similar nature and respond to it in a similar fashion. This is called the 'social categories' perspective. Both the individual differences perspective and the social categories perspective are considered important in their ability to predict response of the audience to communication.

These theoretical perspectives have led to some conclusions:

Communication through the interpersonal channel is considered more influential than mass media in effecting behaviour change.

Individual factors such as educational level and social categories influence responses.

If change occurs, it is likely to be in small increments and in the direction of previous inclinations.

Changes occur only after a lot of effort.

It is very important that while formulating communication material and in interpreting the response to communication, both individual differences and social factors are considered.

Let us learn about diffusion theory next.

15.5.4 Diffusion – The Special Type of Communication

Diffusion is described as a special type of communication, whereby, innovations spread to the members of a social system. While the term communication encompasses all messages, the term diffusion is concerned with messages that are new to the audience that receives it. In a free choice situation, diffusion of innovations occurs more effectively when the sender and the receiver are alike in personal and social characteristics.

The key elements of diffusion process are:

- full diffusion of most major innovations requires considerable time.
- innovations are more rapidly accepted if they offer advantage over existing practices, are compatible with other current practices, are easy to understand and use, and if their benefits are quickly and clearly demonstrable.

You would have experienced that it is not easy to accept new ideas. It is true with most individuals. How do people go through a series of steps in accepting a new idea? What are these steps? Let us review them one by one.

Awareness – this is the first stage in the adoption process, when people will know about an idea or product and become aware or conscious of it.

Interest – once they know, it may arouse their interest or curiosity: what is it? How does it work? How could it work for me?

Evaluation – with more information about the idea, the person compares the new idea with the existing one and might ask: how can I use it? Is it more effective than what I am doing now?

Trial – people by nature are active and want to get involved and try something new. Hence they try the new concept.

Adoption – the final stage is complete acceptance and use of the idea or product.

Adoption-diffusion research shows that although individuals may be persuaded to change, they are usually resistant to change and change occurs only slowly.

Lastly, let us learn about social marketing approach theory.

15.5.5 The Social Marketing Approach Theory

Social marketing of nutrition health concepts and practices has developed over the past few decades. It is defined as a process or strategy to make people aware of the goods and services available to them and how to make use of these. It is believed that social marketing, like consumer marketing, should be responsive to consumer needs, preferences and priorities. The similarities between social marketing and consumer marketing should not however distract us from some of the important dissimilarities between the two. Thus, dissimilarities between consumer marketing and social marketing are:

Consumer marketing (CM) promotes the sale of goods or services for a profit while social marketing (SM) has the objective to promote welfare of the people.

CM tries to sell brands or products while SM tries to sell concepts and practices.

The major concern of SM is with the poorer segments of the population, although this might not always be so.

While CM is concerned mostly about user, SM has to worry about the influences of providers as well.

The major contribution of the SM perspective appears to be the development of the resistance resolution model for designing the message. This model postulates that a message is divided into a number of elements. The audience receives successive elements and reacts to them. If each element of the message is understood and accepted by the audience, then each successive element reinforces the foregoing element so that at the end of the message, the audience is persuaded to accept the message and practice it. Frequency of exposure is an important factor and it is admitted that several exposures are needed before the message leads to the adoption of the desired behaviour.

You should, however, remember that, if any of the elements in a message is not understood or accepted due to reasons of traditional beliefs or customs, it triggers off conflict and distracts the audience. Such a distraction is referred to as *internal dialogue/dissonance*. Successive elements may produce more internal dialogue until eventually the audience may cease to listen at all and reject the whole idea. The message design strategy of SM attempts to eliminate the internal dialogue by uncovering resistance points and designing strategies to overcome them.

It is important to note that the process of interaction between the communicator and the receiver (audience) can deal with dissonance in the course of interpersonal communication. However, in the case of mass media, this is not possible and therefore message design to overcome resistance is a very important consideration while using the mass media.

We studied about various theories of nutrition education. Before we move on to the next section, let us recapitulate what we have learnt so far, by answering the questions given in check your progress exercise 1

Check Your Progress Exercise 1

1. "Nutrition education aims to change behaviour". Justify the statement giving appropriate examples.

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2. What are the potential challenges and constraints of nutrition education?

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3. Enumerate various theories of nutrition education.

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4. Read the following statements carefully and indicate if true or false. Correct the false statement.

   a. Social categories perspective states that similar people react differently to the same message.

   b. Diffusion is described as an act of transmitting new ideas or innovations.

   c. Social marketing is same as consumer marketing.

d. Communication through the interpersonal channel is considered more influential than mass media in affecting behaviour change.

e. Nutrition education if designed, implemented and evaluated properly by committed personnel can have positive effects on the behaviour of people.

We have studied so for what nutrition education is all about. We also learnt about the scope and importance of nutrition education. We will now study about how we plan and conduct a nutrition education programme i.e. the process of nutrition education programme.

15.6 PROCESS OF NUTRITION EDUCATION COMMUNICATION

You must be curious to know as to how do we go about actually conducting a nutrition education programme? Well, there are many steps involved in the process of conducting a nutrition education programme. During this process, we have to identify the problem and analyze the causes of the problem. We should also know what message to give and methodology to use to communicate to the people so that they are able to improve their nutrition and health behaviours. We will now introduce you to the process of nutrition education. You may recall that in the beginning of this unit we learnt that nutrition education involves many communication activities.

So, before we discuss the process of nutrition education communication, let us first understand what we mean by communication. Communication simply defined, *is the act of transmitting information, ideas and attitudes from one person to another such that intended goals are met*. There are four basic components of the communication process. These are *sender* or *communicator*, *message*, *receiver* and the *feedback*. Figure 15.1 illustrates the communication process.

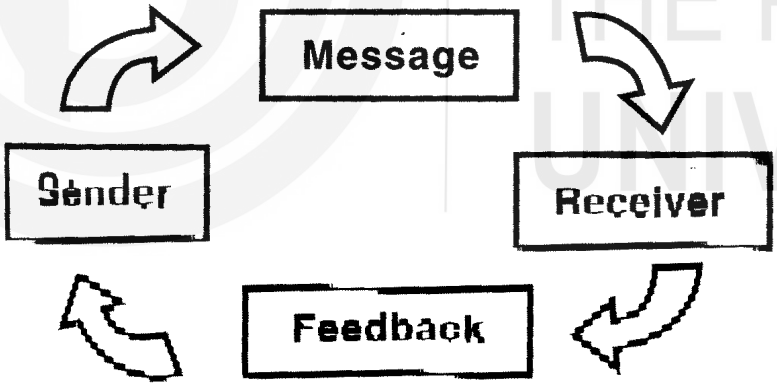

Figure 15.1: Components of communication process

You can note from Figure 15.1 that the communication process is simple. The *sender or* the *communicator* wants to communicate something and decides to speak, write, send nonverbal or visual signals known as *message.* The *receiver* wants to understand the sender's meaning and therefore listens, reads or observes non-verbal information or visual information and sends verbal or non-verbal *feedback* to the sender.

Let us learn about each of these components in detail.

The sender or communicator (source): People are exposed to communications from many different sources and more likely to believe a communication from a source they trust, that is, has high credibility. The reason why the same individual responds differently to different communications also resides in sender-controlled characteristics of communication i.e. the communicator's attributes.

The message: The message consists of what is actually communicated including the appeals, words, pictures and sounds that we use to get our ideas across, for motivation or practice change. A well designed message addresses itself clearly to the problem to be dealt with. It recommends a solution or action after taking into account the resistance points to the desired action and has a motivational element.

The presence of a *channel* is very important for delivery of message. This is also sometimes referred to as the communication method. It is same as the medium, which is the delivery system or channel of communication for a message. This medium can be a person and/or an audio visual aid like radio or a television.

The receiver (audience): The first step in planning any communication is to consider the intended audience. A method that will be effective with one audience may not succeed with another. Different individuals respond differently to the same message, with the significant causes being present in attributes of the receivers themselves.

The feedback: Feedback is defined as the response or information provided as a result of an event, the event in this case being the transmission of information. Feedback occurs when the receiver receives the message from a source through a medium/channel. The receiver listens, reads, or observes non-verbal signals or visual information and sends verbal or non-verbal feedback to the communicator/source who can modify the messages to make it more persuasive to the receiver.

Thus, communication is effective if all these elements are present.

We can now look at the process of nutrition education communication. Nutrition education communication involves a carefully planned and thought out process to achieve the objectives of improved health and nutritional behaviours in the vulnerable population. The scheme for planning a nutrition education is based on a theoretical framework and consists of four phases namely: Conceptualization, Formulation, Implementation and Evaluation as illustrated in Figure 15.2.

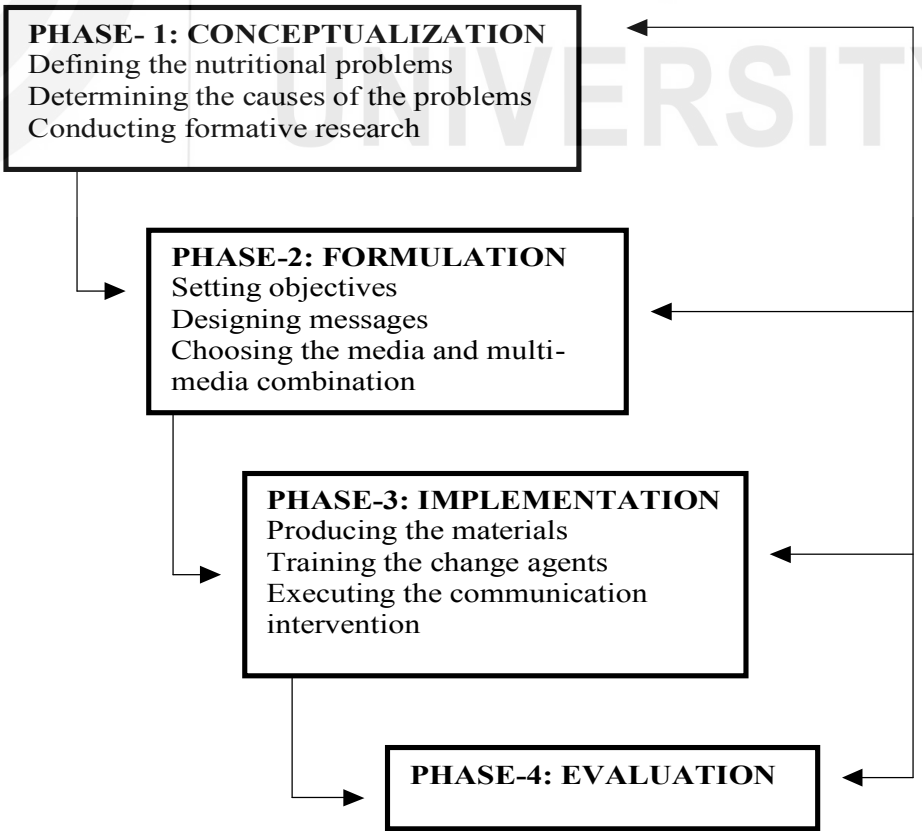

Figure 15.2: Process of nutrition education - phases

You can see in Figure 15.2 that each of these phases has different elements, for example, conceptualization phase consists of identifying nutrition problems, analyzing the causes of the problems and conducting formative research. All the elements in each of the 4 phases contribute in a specific manner to the final outcome of the educational intervention. We will briefly review these phases here and then enumerate key elements involved in the intervention design for behaviour change. Let us begin with conceptualization phase:

A. *Conceptualization phase*

The first phase in designing / planning a nutrition education programme is conceptualization. In the conceptualization phase, we determine the type and extent of nutritional problems, identify the population groups at risk and analyze the causes of nutritional problems. It is very important to analyze the causes of the problems as it helps to identify the factors which influence these problems. Therefore, problem analysis is the first step in conceptualization. Problem analysis is conducted by a method called *causal analysis*. This method has proven very useful in nutritional diagnosis. It involves drawing up a network of factors known or presumed to affect nutritional status in a given context. Since, there can be several factors which can contribute to nutritional problems, we would like to understand the factors specific to the community for which interventions are designed. We will learn in greater details about causal analysis later in sub-section 15.7.2. For conducting causal analysis specific to a community, we conduct formative research. *Formative research is, in fact a term which describes investigations conducted for programme design and planning*. Formative research helps us to understand the context, need and characteristics of a community before we plan a nutrition education communication programme. It helps to understand specific human actions and behaviours and the cultural, social, economic, environmental and political factors that influence these human actions and food behaviours as highlighted in Figure 15.3.

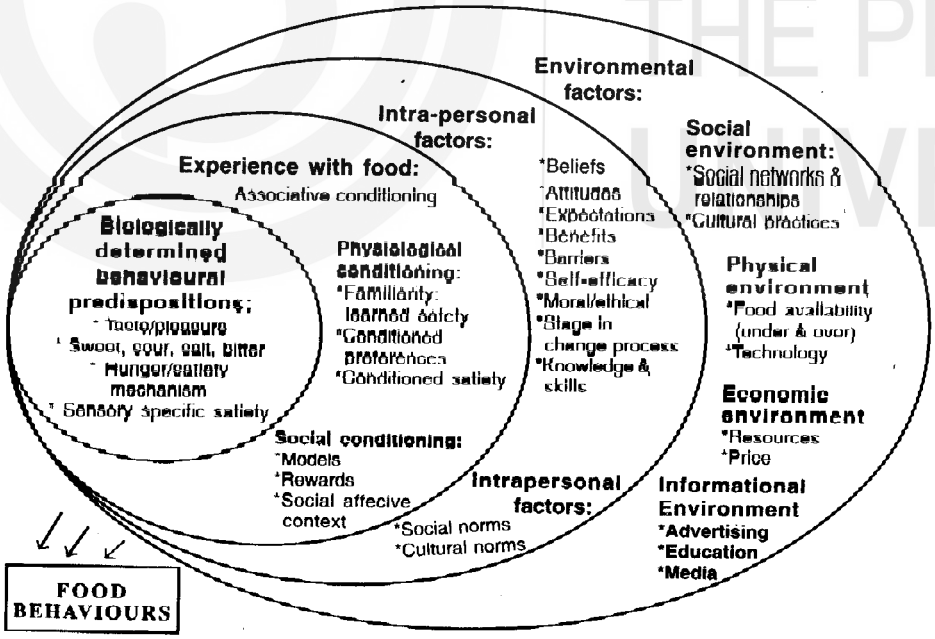

Figure 15.3: Factors influencing food behaviours

You can note from Figure 15.3 that food behaviours are affected by environmental factors such as social, physical, economic and informational environment and interpersonal factors. They are also influenced by experiences which an individual might have had with the food and some biological factors. The findings of formative research show the undesirable behaviours and factors affecting these behaviours.

We can thus identify behaviours which should be adopted by the target group and the actions which must be taken in order to modify the behaviours in question.

Once the programme has been conceptualized, we move on to the formulation phase.

B. *Formulation phase*

In the formulation phase, we give shape and structure to the elements we conceptualized in the conceptualization phase. The first step in formulation phase is to define the clear objectives for the NEC programme. These objectives should be specific, measurable and time bound. We also identify the audience who will be targeted for behaviour change. For example, we may identify the mothers of children below the age of 6 years, especially children below 2 years and pregnant and lactating mothers for nutrition education.

We discussed above that from findings of the formative research, we determine the current behaviours and the factors affecting these behaviours. This process facilitates the development of messages. So, we develop messages during formulation phase. Again the findings of the formative research can identify the popular channels of communication or media in the community. We develop a choice of media mix in order to develop optimum synergy between the channels. After we identify the media mix, we can decide on the support materials to be developed for the programme. Support materials are those on which messages are transmitted for example, posters, radio programme. The next step in the formulation phase is to formulate a communication strategy in which all the communication activities as discussed in the previous are integrated with each other. We will discuss the formulation phase in detail in Unit 16.

We will now briefly discuss the implementation phase.

C. *Implementation phase*

Implementation means carrying out the activities in the field. You are familiar with the term "implementation" as you read about implementation of public nutrition programme in Unit 14. Implementation of NEC programme basically includes being ready with the *software* (the people or the nutrition educators) and the *hardware* (the messages, material and communication strategies). Implementation phase has three aspects. *production of support materials*, *training* and *executing* the communication intervention. In the formulation phase we identified messages and media mix and decided on the support materials. Thus, during the implementation phase we produce the support materials. You should realize that support materials should always be used, whatever the scope of the project, as they serve to reinforce person-to-person communication. You should also know that prior to implementation, the nutrition educators should be trained appropriately in all aspects of NEC, particularly counselling and communication methods, monitoring and evaluation of the programme and learning from the experiences. We need to ensure that all persons involved in various communication activities carry out adequately their roles in their respective sectors. We involve a multidisciplinary team in training for the NEC programme. They should very well understand and know the messages content as well as the technique to effectively communicate these messages. There are different methods of communication which can be used to disseminate messages to the community. It is also important during implementation that the health system and health nutrition services are geared to meet the increased expectations and demands for quality services from audiences who have been exposed to NEC. We will cover implementation of NEC in detail in Unit 17 later in this course.

After we have implemented activities in the field, we would like to assess how we are doing. For this we conduct evaluation. Let us study this last phase briefly.

D. *Evaluation phase*

Evaluation is the measurement and assessment of the success of a communication programme in reaching its goals. Evaluation must be considered as a necessary support activity, an instrument for refining or restructuring communication activities. We should try to make evaluation a participatory process, which will involve the educators, service providers, planners and the community. The evaluation must respond to two fundamental questions. These are: 1) Have the objectives been met? 2) Has the implementation process satisfied the various persons involved in the intervention and above all the population concerned. You are already familiar with the evaluation process as you read about the evaluation of public nutrition programme in Unit 14. An evaluation plan would guide us about what, how, where and when we will evaluate the nutrition education programme. While nutrition education activity is common, the assessment of nutrition education, especially the whole process is not. The great majority of nutrition education programmes are not evaluated and apparently assumed to be ineffective. Therefore, it is very important to evaluate any nutrition education programme.

Having gone through the discussion above, it must be clear that the process of nutrition education includes conceptualization, formulation, implementation and evaluation. Figure 15.4 summarizes the key elements discussed above in the intervention design for behaviour change.

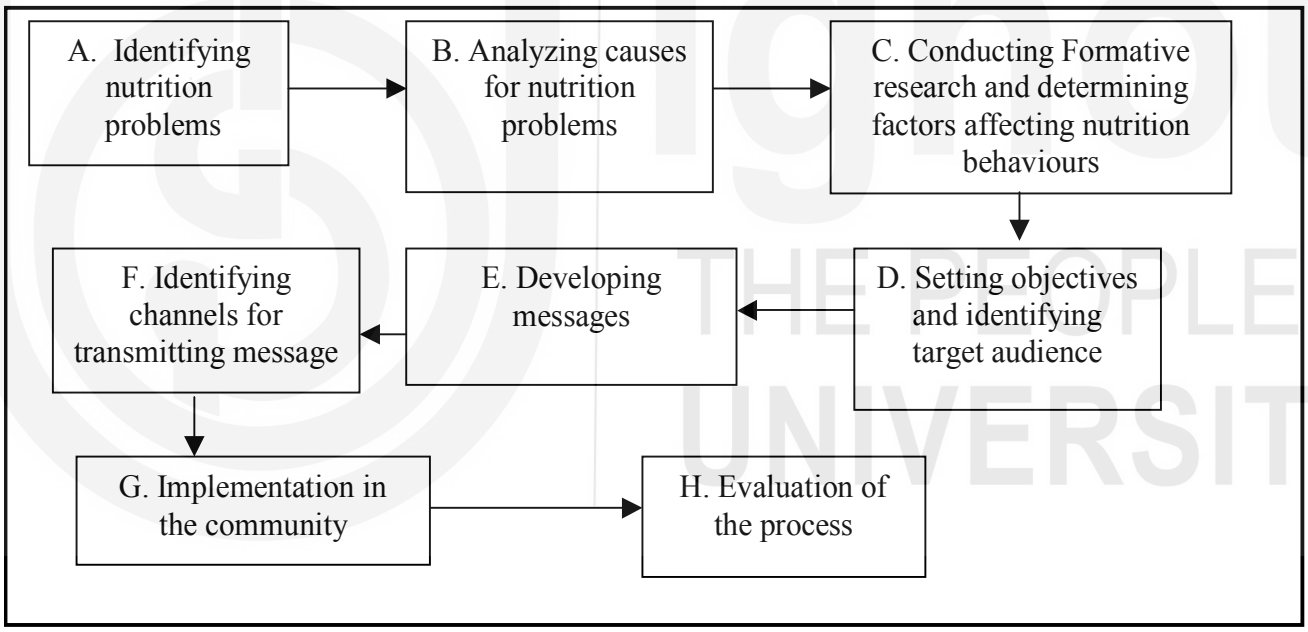

Figure 15.4: Key elements in the intervention design for behaviour change

Identifying the nutrition problems, analyzing causes of the problems, conducting formative research to identify factors affecting the behaviours are all part of the conceptualization phase. Setting objectives, message design and identifying channels for transmitting messages fall under the formulation phase. The implementation stage includes development and production of support materials, pretesting these materials, training of educators and disseminating messages to the community through various communication methods. In the evaluation phase, we develop an evaluation plan which will guide us to assess if the objectives have been met and if the implementation process satisfied the various persons involved in the intervention and above all the population concerned. As discussed earlier, we will study about conceptual phase in detail now. The subsequent units 16,17 and 18 will have detailed discussions on formulation, implementation and evaluation phases. But before you move on to the next section do answer the questions given in check your progress exercise 2.

Check Your Progress Exercise 2

1. Enumerate the components of communication process.

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2. What are the four phases of the process of nutrition education?

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Now, let us study about the conceptual phase in greater details.

15.7 THE CONCEPTUAL PHASE

In this section, we will study about various elements involved in the conceptual phase. The conceptualization phase, as highlighted in Figure 15.2, focuses on identifying the type and extent of nutritional problems, identifying the population groups at risk and analyzing the causes of nutritional problems. Let us study each of these elements in greater details:

15.7.1 Identify the Nutrition Problems and the Population at Risk

The first step in conceptualization of NEC programme is to identify the type and extent of nutrition problems and the population at risk. Nutrition educators generally have to address nutritional problems of two types of population – the undernourished who are susceptible to infections and, the well nourished who are susceptible to degenerative diseases. The general consensus appears to be to tackle problems for which affordable solutions exist and defer the others.

For identifying the nutritional problems, we can ask certain questions to ourselves, for example:

What is this problem? How is it manifested?

What population is affected?

What is its impact on the social, economic and cultural life of the population concerned?

Is it a priority public health problem?

Finding answers to these questions would help us to conceptualize the issues related to the problems prevalent in the community. We can identify the nature, extent and the magnitude of the problem, groups affected, its socioeconomic importance and prioritization by conducting nutritional assessment of the community. You might recall that we learnt about assessment of nutritional status in earlier Unit 7 and 8. We also learnt about different nutritional problems prevalent in our country. To recall the principal nutritional problems in our country, these are protein energy malnutrition (PEM), vitamin A deficiency disorders, anaemia and iodine deficiency disorders. Suppose we conduct assessment of nutritional status in a community and we may come up with many nutritional problems. For example, about 50% children 0-3 years of age in that community are low weight for age, only 20% children exclusively

breast fed for first six months of life, only 25% of 6-9 months old children, have been introduced to complementary foods in addition to breast milk and so on. So, we can see that the nutritional problems can be many in a given situation. So what do we do? We would be required to prioritize the problems to be addressed in consultation with the community. The next step after we prioritize the problems is analyzing the cause of each and every prioritized problem. Let us review this next.

15.7.2 Analyzing the Causes of the Problems

After we identify the problems and prioritize them, the next step is to analyze the causes of the nutritional problems. We identify list of factors known or presumed to contribute to the nutritional problems. This is known as *causal analysis*. It is known that casual analysis is absolutely necessary for the successful design and implementation of nutrition education programme. Why is it so? This is because nutritional problems are the results of an interaction between complex and multiple socioeconomic, biological and environmental factors. We can take one of the problems identified earlier and conduct casual analysis. For example, 50% children 0-3 years of age in that community are malnourished or low weight for age. What are the problems contributing to this condition? We have already discussed about causes of malnutrition in Unit 2 and Unit 3 earlier. Some of these are, as you know, poor infant and child feeding practices, lack of awareness, low socioeconomic status, poor household food security, low accessibility to health services and poor environmental conditions. You may recall reading in Unit 2, Figure 2.1 about the conceptual framework portraying the causal factors and their interaction, leading to malnutrition. These were at three levels - *immediate* causes, *underlying* causes and basic causes. Further, according to this framework, the immediate causes of poor nutritional status/malnutrition are poor dietary intake and disease. You can note in Figure 15.5 that for casual analysis, we have further analyzed the factors which contribute to poor food intake. Let us take the cause - poor food intake and study the various factors contributing to inadequate food intake.

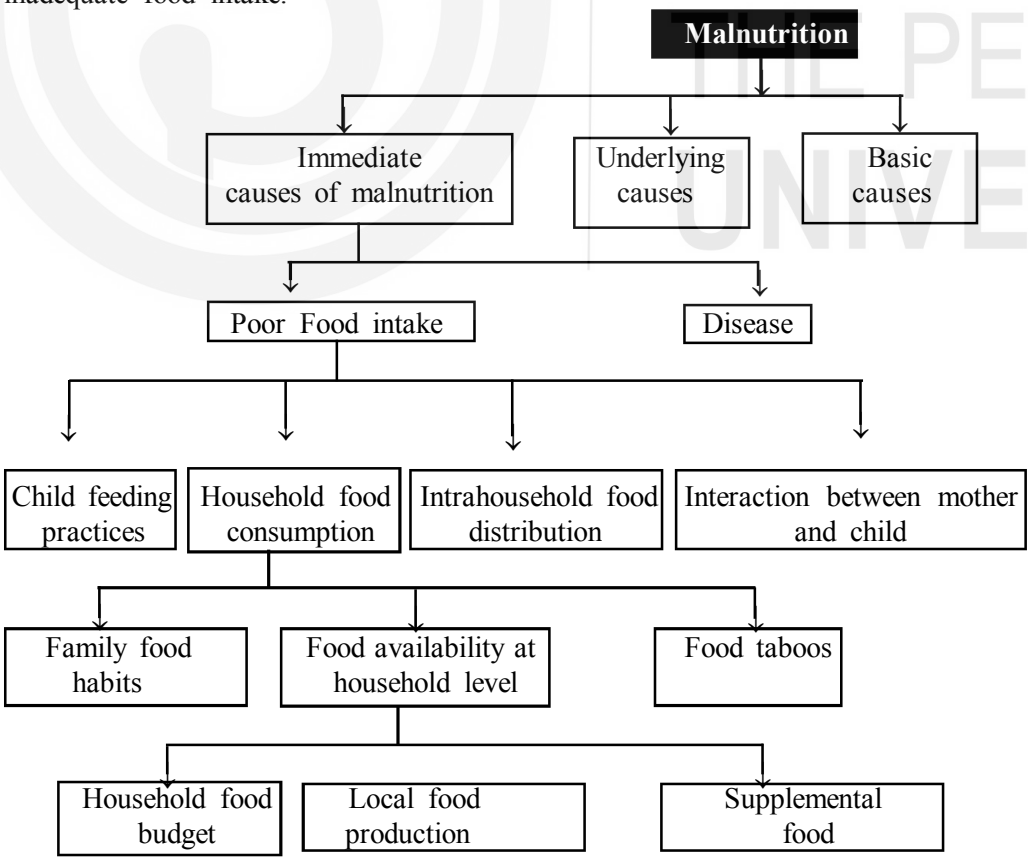

Figure 15.5: Casual analysis for malnutrition

These are, for example poor child feeding practices, inadequate household food consumption, intrahousehold distribution etc. We can take one of the factors such as

inadequate household food consumption and further identify its cause such as family food habits, taboos etc. Thus, we identify factors contributing to each cause at successive levels. Like this we can construct a chain of causality with linkages formed progressively and organized into a hierarchy. With the result we get a network of factors affecting nutritional status. We then identify the factors which are linked to human behaviours. Only these factors are most likely to be amenable to nutrition education. For example, you may note from Figure 15.5 that the child may not be consuming enough food because the mother has poor awareness about what all food to give to the child. Mother may also have certain misconceptions about what to feed the infant. These are the factors which are amenable to nutrition education communication because mothers can gain knowledge about what to feed the baby and remove the misconceptions about feeding through education. Like this we need to take each and every problem identified during assessment of nutritional status, conduct casual analysis and identify factors most likely to be changed through educational approach. Eventually, we will get a list of behaviours linked to these factors which can be addressed during the education programme.

In our discussion so far we have discussed about causal analysis and the different factors known or presumed to be contributing to malnutrition. However, when we actually plan to conduct a nutrition education communication programme, we need to learn from the community about various factors which affect the nutrition and health behaviours of the population. Once we understand the context of the community, we can plan a programme which will meet the specific needs of the community. For this we conduct a type of research known as formative research. Let us study about formative research in detail, next:

15.7.3 Formative Research

As discussed earlier, formative research describes investigations conducted for programme design and planning. It helps to understand the context, need and characteristics of a community. Formative research is done on a representative sample of a target audience to understand the cultural, social, economic and political factors as highlighted in Figure 15.3, that influence human actions and behaviours. Thus formative research helps to:

- understand motivators and barriers to optimal practices,
- create messages and materials specific to the needs of the community, and
- ensure messages and programmes are appropriate, acceptable and feasible to beneficiaries.

The results of formative research aid the programme planners in establishing measurable objectives and realistic strategies for the programme. Before conducting formative research, you would realize that it will be useful to develop certain research questions. These are as follows:

- What are the behaviours and how can we describe them?
- What influences human behaviour?
- What is the role of culture, social change and economic factors in determining behaviours?
- How do we use an understanding of behaviour, and plan nutrition-health education and nutrition-health promotion programmes?

Finding answers to these questions can help us to identify current behaviours (which may or may not be optimum), factors affecting these behaviours and the barriers which prevent adoption of optimum behaviors.

We can use certain methods in formative research to answer some of the questions mentioned above. Let us now learn about these methods.

Method used in formative research

Formative research methods help us understand the cultural, social, economic and political factors that influence human actions and behaviours. We can use either a single method or a combination of methods. Some of the commonly used methods used in formative research are: focus group discussions, individual in-depth interviews, participant observations, direct observation, informal conversions and ethnographic studies. We will briefly review each of these methods now.

Focus group interviews: The focus group interview method brings together eight to ten respondents typical of the intended target audience. A trained interviewer uses a prepared list of probing questions to collect information on vocabulary, attitudes and concepts related to the selected nutrition problem. Here, the group atmosphere may stimulate more in-depth discussion than individual interviews do. The insights into the commonly held beliefs can also be obtained relatively quickly.

Individual in-depth interviews: The individual in-depth interviews build on information gathered during other research efforts, to probe deeper into individual attitudes and concerns. They are useful when sensitive topics are addressed, when issues must be probed deeply, when individual rather than group responses are needed, or when it will prove difficult to gather respondents for a group meeting.

Participant observation: In the participant observation method, the educator/ programme implementer participates in the daily life of the community she or he is studying - observing what is happening, listening to what people talk about, asking questions in various ways over a period of time.

Direct observation: Unlike the participant observation method, in direct observation method, the educator/programme implementer observes, but does not participate in an event. They usually have a checklist of behaviours to be observed and a recording format for the observations which may be unstructured or structured.

Informal conversations: In the informal conversation method, the educator/ programme implementer takes advantage of any opportunity to converse informally either individually or in small groups with the members of the community being studied.

Ethnographic studies: They combine anthropological techniques to analyze how specific nutrition practices relate to the larger cultural context. An ethnographic study may employ several qualitative methods in a complementary manner to get a holistic picture of the nutritional problem.

Besides the methods enumerated above are other important method used in formative research is trials for improved practices. What is this method? Let us find out.

Trials for improved practices: Trials for improved practices is an important method used in formative research. We use this method after we have analyzed and consolidated findings from rest of the other methods and made recommendations regarding desirable behaviours. Sometimes we would like to test the recommended behaviours in people's homes to see whether the suggested behaviours are feasible and acceptable by the families or not. This is known as *Trials for Improved Practices* (TIPS) and it is a core method of formative research.

In TIPS mothers or primary caregivers are given a choice of recommendations for action, questioned about their reasons for that choice and then followed up to see what actually happened after a trial period. In this way the proposed recommendations are tested in a real environment and information is gathered on their acceptability. This information helps programme planners to set priorities among the many seemingly

important nutrition practices and messages. TIPs is conducted before the suggested practices are finalized and recommended as a part of the nutrition education communication strategy. TIPS thus follows formative research in which the behaviours to be targeted for change have been decided and counseling is done for each type of behaviour.

There are some basic steps involved in carrying out TIPS. These are:

training field personnel in the methodology of TIPS,

recruiting participants from the community for TIPS,

an initial visit to gather information, conduct dietary or other assessment as needed,

feed back and discussion with teams to analyze dietary information, prepare for counseling,

counseling visit to present options for various behaviours, get reactions, negotiate trial practices; note the practices which family has agreed to try out,

debriefing to discuss reactions to recommendations and options selected,

follow-up visits to learn about the reactions to the new practices after a trial period of two to three weeks. Note the practices which were followed and those not followed during the trial period from among those selected by the respondent, and why, and

analysis, summary and application of results - designing more effective materials and strategies based on TIPS findings.

Thus, TIPS helps us to fine tune our recommendations, test their feasibility and acceptability and help develop appropriate messages and materials.

From our discussions above, it is clear that there are a variety of formative research methods. Interestingly you would realize that, we can use any or combination of methods to answer the research questions highlighted above. The findings from these methods are analyzed and consolidated to understand various factors affecting the behaviour and design materials and strategies. Thus, we can determine the current behaviours (which may or may not be desirable behaviours) and reasons for those behaviours by target audience. We also make recommendations regarding what the desirable behaviour should be. For example, during formative research, we may find that "*Mothers feed their 6-9month old children, only a small piece of chappati once a day"*.

Based on this observation, we may make two recommendations for optimum behaviours as: *"Feed the child ½ katori of mashed up family foods (cereals/dals/ vegetables) 3-4 times a day"*.

" Feed ½ katori mashed green leafy vegetables or yellow fruits/vegetables once a day"

Now, we would like to test whether the recommended behaviours are acceptable and feasible for people to follow in their own environment. For this TIPS will be conducted. To continue with the same example as above, we may ask mothers to try these behaviours as follows:

"Feed the child ½ katori of mashed up family foods (cereals/dals/ vegetables) 3-4 times a day".

" Feed ½ katori mashed green leafy vegetables or yellow fruits/vegetables once a day"

After trying these behaviours in their homes, the mother's might come up and say that only the first behaviour is acceptable and feasible for them but the second one is not. So, you will have to consider only the first behaviour as part of your communication strategy.

We may identify certain factors or barriers which prevent adoption of desirable behaviours. These factors can be lack of awareness about what, when and how much to feed the baby and food taboos. Our communication strategy while developing messages, choice of media and materials would have to take into account all these factors in order to bring about a lasting change in current behaviours.

We would like to explain that it is very important to list the expected behaviours in detail. This goal has to be clearly defined, practical and feasible to achieve. We need to ask ourselves certain questions before we define the expected behaviour. Let us elaborate on some of these questions now for defining an expected behaviour.

15.7.4 Defining the Behaviour

We should define the expected behaviour in as much detail as possible. This involves specifying not only what the behaviour should be, but who is to carry it out and when. We can begin to make judgments about the feasibility of changing a behaviour once we have considered the following questions:

Frequency of behaviour: How often should it be performed - daily, every few days, occasionally, only once? For example, hygiene behaviours such as cleaning children and washing hands have to be done every day. They will be more difficult to promote than a behaviour such as giving mega vitamin A doses that have to be given only twice in a year.

Easy or difficult : How complicated is it to carry out - is it very simple or does it require learning new skills? For example, breastfeeding is simpler than complementary feeding.

Similarity with existing practices: How similar or compatible it is to existing practices - is it completely new, or does it show some similarities? For example, making a rice gruel may be more compatible with existing practices than making Oral Rehydration Solution (ORS). Also, not giving water to an infant before 6 months of age may be incompatible with existing practices.

Resources available: How much does it cost, in time, money or resources to carry out the behaviour? Complementary feeding involves time and resources, which are not easily available.

Felt need of the community : Does the behaviour fit in with a felt need of the community? For example, taking iron folic acid tablets (IFA) in pregnancy may not be the felt need of the community.

Impact on nutritional status: How much impact will the behaviour have on nutritional status - a great deal or very little? For example, deworming may show visible impact while change in dietary behaviours may show impact over time.

Long or short term outcomes: Will beneficial effects be observed in the short or long term - within a few weeks, months or years? For example, weekly IFA supplementation to anaemic adolescent girls may show improvement in haemoglobin levels within a few months. While impact of NEC to mothers towards improved complementary feeding behaviours in terms of improved nutritional status of infants, may take longer duration.

Remember, we need to pay attention to these minute details of a behaviour otherwise it will be difficult to set clear goals for expected behaviours and bring about a change in the behaviours.

So we studied how formative research would help us understand various factors influencing behaviour. It would also help to create appropriate messages and materials for the nutrition education programme. Results of TIPS would help us to know whether the suggested behaviors are feasible and acceptable to the community or no. This takes us to the next step of formulation of the nutrition education programme i.e. developing objectives and messages and identifying channels of communication for the targeted audience. We will read about these in the next unit.

Check Your Progress Exercise 3

1. What is the importance of formative research?

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2. List all the methods you would use in formative research.

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3. What kind of questions will you keep in mind while deciding on the expected behaviour for the families?

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15.8 LET US SUM UP

We leant in this unit that nutrition education, as an intervention, came into prominence with the realization that malnutrition to a large extent is not only due to inadequate food availability but also due to faulty food habits, some of them based on food prejudices, superstitions or taboos, and importantly, lack of awareness of the right food choices. Thus, nutrition education can make a difference in people's life by helping them to make right behaviour changes for healthy living. We also learnt that nutrition education is vital for policy makers and programme planners. They should be educated about extent, magnitude and distribution of various nutritional problems in their community and causes and consequences of these problems. This helps them to make decisions on programme priorities and allocation of funds. Nutrition education is unique and at the same time difficult because improved nutrition requires sustained and repeated individual behaviour. Nutrition educators have come up with various theories which help in understanding people, their knowledge, attitudes and behaviours regarding nutrition. The process of nutrition education communication programme consists of four phases- these are: conceptualization, formulation, implementation and evaluation. Each of these phases have key elements which are critical in designing nutrition interventions. We discussed the conceptualization phase in detail which consists of identifying nutritional problems, analyzing causes and conducting formative research to understand the context and characteristics of the community.

15.9 GLOSSARY

Education : implementation of appropriate methods for ensuring the training and development of an individual.

Medical anthropology : branch of anthropological research studying the factors that cause, maintain or contribute to disease or illness, and the strategies and practices that different human communities have developed in order to respond to disease and illness.

Quantitative methods : research methods such as surveys that use structured questionnaires or measurements to quantify conditions and estimate prevalences.

Qualitative methods : research methods based on anthropological, psychological, and market research techniques, that use open ended and unstructured question guides to probe rationale behind current norms and practices.

15.10 ANSWERS TO CHECK YOUR PROGRESS EXCERCISES

Check Your Progress Exercise 1

1. Inadequate nutrition is not only due to inadequate food availability but also due to faulty food habits, some of them based on food prejudices, superstitions or taboos, and importantly, lack of awareness of the right food choices. Therefore, change in behaviour ensures better food choices and healthy nutrition. For example, a pregnant woman may avoid certain foods not because they are not available, but it may be due to food taboos.

2. Nutrition education is considered challenging because improved nutrition requires sustained and repeated individual behaviour. The reason why people eat what they eat is complex and it involves both cultural and psychological aspects. Changes in food consumption patterns require shifts in deeply ingrained food habits established since childhood. Also, in very poor communities nutrition education cannot be effective without simultaneous increase in real income

3. Various theories of nutrition education are: cognitive – Gestaltist theory, behaviourist theory, the communication approach theory, diffusion and the social marketing approach theory. According to the cognitive-gestaltist theory, education is seen as a process of self-development whereby the individual takes control of his/her environment. Behaviourist theory is based on the premise that the inner cognitive experience is not the only determinant of behaviour. Behaviour is determined by the environment, which may consist of competing forces to provoke and reinforce unhealthy behaviours. The communication approach theory states that the receiver is selective in his response to the communication, the factors responsible for this selectivity being the individual's psychological orientation. Diffusion is described as a special type of communication whereby innovations spread to the members of a social system. In a free choice situation, diffusion of innovations occur more effectively when the sender and the receiver are alike in personal and social characteristics. Social marketing approach theory is based on the application of commercial marketing principles to social cause.

4. a. False. As people with same level of education, age, sex respond to same message in a similar fashion.

   b. True

   c. False. Social marketing deals with social causes while consumer marketing deals wih servies for profit.

d. True

e. True

Check Your Progress Exercise 2

1. The basic components of communication process are: receiver, communicator, message and the feedback. The receiver receives the message and wants to understand the message. The communicator communicates the message verbally, in writing or through non verbal signals. Message consists of what is actually communicated. The person who receives the message provides feedback.

2. The process of nutrition education consists of conceptualization, formulation, implementation and evaluation. In the conceptualization phase, we determine the type and extent of nutritional problems, identify the population groups at risk and analyze the causes of nutritional problems. In the formulation phase, we give shape and structure to the elements we conceptualized in the conceptualization phase. In the implementation phase we actually carry out activities in the field with the community. Evaluation is the measurement and assessment of the success of a communication program in reaching its goals.

Check Your Progress Exercise 3

1. Formative research helps to understand the role of culture, social change and economic factors in determining behaviours. The results of formative research aid programme planners in formulating measurable objectives and realistic strategies for the communication programme.

2. Different methods which can be used in formative research include Focus group discussions, observation, Informal conversation, ethnographic studies, in depth interviews and trials for improved practices.

3. The kind of questions that we will keep in mind while deciding on the expected behaviour for the families cover various aspects such as: *frequency of behaviour* indicating how often should it be performed. *easy or difficult* showing how complicated or simple is it to carry out the behaviour, *similarity with existing practices* in terms of how similar or compatible it is to existing practices, *resources available* indicating how much does it cost in terms of time, money or resources to carry out the behaviour etc.