MODULE 4: UNDERSTANDING ADOLESCENCE

Activity 1: We Are Changing!

Learning Objectives:

To enable learners to:
• Accept that change is an inevitable part of life
• Appreciate that growth and development is a continuous process

Time required: 30 minutes

Material required: Writing board and chalk/ markers OR index cards and a soft-board

Notes to the facilitator:

• This activity can be conducted in a large group with all the learners.
• Ensure that all learners participate in this activity.
• Draw five columns on the black board with the headings – infancy, childhood, adolescence, adulthood and aged as shown in the table below. Alternately, if you are using a soft board, you could make index cards that depict the five different stages of life as shown in the table.
• Ask the learners to categorize the changes according to the stages of life when they occur, i.e. from the time that one is born till one becomes an adult and grows old. The changes could be recorded on the black board or on the index cards/ slips of paper and pinned on the soft board.

In case, learners do not respond, you could provide the following list of changes to initiate the activity: for example, growth in height, learning to talk, learning to walk, menarche, getting a beard, going to school, voice breaking, becoming shy, becoming responsible, osteoporosis (weakening of bones), being economically independent, menopause etc.

• Please note that some changes may continue through more than one stage of life (for example, being economically independent) and that all changes may not occur in all individuals (for example, boys will not get menstrual periods).
• Please stop the listing when the learners have listed approximately four to five changes in each phase of life.

<table>
<thead>
<tr>
<th>Changes During Different Phases of Life</th>
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<tbody>
<tr>
<td>Infancy</td>
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<td>---------</td>
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</tbody>
</table>
**Summing Up:**

The facilitator may sum up the discussion emphasizing the following issues:

- The world is a changing place. We may find changes exciting and good or scary and painful. Sometimes we can influence changes in our lives and at other times we have no control over them.
- Some of the changes in our lives are predictable. If we are prepared for them, we may be able to influence some of these processes and manage them better. For example, growth and maturation is a continuous process and adolescence is a stage in the continuum of growth and development across the life span.
- Adolescents need to be prepared for the physical, mental, psycho-social and emotional changes that take place during this phase of life so that they are not anxious about them and respond to these changes in positive and responsible ways.

**Activity 2: Differences in maturation process during adolescence and effect on body image**

**Learning Objectives:**

To enable learners to:

- Recognize that changes during adolescence occur at different pace and timing in every individual.
- Develop a positive acceptance of self.

**Time required:** 60 minutes

**Material required:** Copies of the case studies

**Notes for the facilitator:**

- Divide the class into groups of five-six learners each.
- Each group will work on one case study.
- Appoint a reporter in each group.
- Give the group ten minutes to read the case study and discuss it.
- Ask each group reporter to share the views of the group on the case study assigned to them based on the questions for discussion.

**Case Study 1**

Rakesh and Mihir, students of Class XI, are walking home together from school. Rakesh begins to tease Mihir, saying that he speaks in a girl’s voice. He also laughs at the fact that Mihir has got no hair on his upper lip. “Look at me”, Rakesh says, “I am a real man. My voice is strong and my face is manly - I have so much facial hair. My father calls me ‘sher.’” This really embarrasses
Mihir. He recalls that his mother still calls him ‘my sweet boy’. He decides to go home and ask his mother why he is so different from Rakesh and whether something is wrong with him.

**Discussion Questions**

1. Although they are of the same age, why do Rakesh and Mihir look so different?
2. Do you think that there is something wrong with Mihir? Why?
3. How do you think Mihir feels about himself?
4. What should Mihir’s mother tell him?

**Case Study 2**

Pushpa, Sujatha, Abida and Radha are good friends. All of them are 13 years old and love to spend time with one another. They have so much to talk about, the new film, the new dress, home work, the boys in the class and just about everything …

Yesterday, Radha seemed uncomfortable. She was having her periods and was concerned about staining her uniform. Last month, Sujatha’s family had organized a big celebration in her honor as she had started her periods. Pushpa recollected that 3 months ago, Abida had started her periods in school and had to borrow a sanitary napkin from her older cousin. Pushpa is worried. Except her, all her friends had started their periods. Was something wrong with her?

**Discussion Questions**

1. If Pushpa came to you for advice, what would you tell her as a peer?
2. In your opinion, who should be responsible for sensitizing adolescents about the fact that it is natural for different people to attain maturity at different times?
3. Do you think it is important for young people to be prepared for the changes that they are likely to face in adolescence? Why?
4. Discuss some of the reasons for celebrating menarche (starting periods)?

**Case Study 3**

Robin is in Class XI. He is the smallest boy in his class. Although he likes to play football, he is never selected for his school team. He is quite swift and skilful, but the coach always rejects him saying that he will get pushed around by the other players, who are much bigger than him. One day, on the roadside, Robin sees an advertisement outside the tent of a travelling medicine-man (quack). It shows a thin, weak looking boy in one picture and a muscular glowing man in another. The advertisement claims that a magic drug can bring about this transformation. Robin wants to try this drug, but is scared.

1. Why do you think that Robin is different from the other boys in his class?
2. Do you think that Robin can be a good football player and that the coach should give him a chance?

3. Do you think that Robin should take the magic drug which claims to make one muscular and strong? What are the possible effects of this drug?

4. If you were in Robin’s place, what would you do?

Case Study 4

Shalini and her friends in class 9 were preparing for the school’s annual function. All of them were very excited. Anita, one of Shalini’s classmates mocked at her, “You are so dark. We will need additional light to be able to see you on the stage.”

Shalini’s good friend, Madhu felt bad for Shalini and advised her to use a cream to make her complexion lighter. “You already dance so well. Can you imagine how nice you will look on the stage if you had a lighter complexion?”

Shalini smiled and said, “Thank you, Madhu. I appreciate your concern but I am happy with my complexion. My teacher and I are working hard on my dance practice and I am confident that our efforts and your good wishes will lead to a good performance.”

Discussion Questions

1. What do you think of Anita’s remark about Shalini?

2. Do you think that having a light complexion is important for being beautiful?

3. Do you think that Madhu is trying to perpetuate the stereotype that having a light complexion is an important component of being beautiful?

4. What do you think of Shalini’s response?

Summing Up:

- From the discussion on these case studies, the facilitator must elicit adolescents’ feelings about growing up
- The facilitator should emphasize that while everyone matures and goes through the changes in adolescence, this does not take place at the same time and in the same way for everyone
- Some people mature early, others mature later. Also, all changes related to adolescence (physical, psycho-social and cognitive) do not take place at the same time. As a result, two adolescents of the same age may look very different. It is also possible that physical changes may take place early, but psycho-social changes take place later in the same individual. As a result, the adolescent may look very grown up, but may continue to think and behave like a child
• Often, adolescents feel inadequate because they look different from their peers. This could be because they are maturing too fast or slower than others. This difference often becomes the focus of teasing and ridicule among peers, leading to the experience of shame and fear.
• There are a lot of myths and beliefs attached to the growing up process, which need to be discussed.
• In addition, there are a lot of harmful or ineffective products which claim to increase height and muscle mass very quickly, without any additional input of diet and exercise. Adolescents are drawn towards these products because they feel that these will enable them to hasten the growing up process. The facilitator must discuss the ill-effects of using such products.
• Similarly, advertisements for cosmetics over-emphasize physical appearance often leading to feelings of inadequacy and low self-esteem. Like in Shalini’s case, it is important to be confident about who you are and how you look.
• Adolescents’ anxiety and confusion is further compounded by adults who expect them to conduct themselves in a more mature manner without preparing them for their new role.
• Hence, adult care givers, including teachers and parents should realize that it is important to inform and prepare young people for the rapid pace of physical, emotional and psychological changes that they undergo during adolescence.
• School spaces can play a very powerful role in enabling young people to be comfortable with their changing selves, appreciate their unique identity and challenge stereotypes perpetuated by media and the larger society related to ideal physical appearance.

Activity 3: Changes during Adolescence

Learning Objectives:

To enable learners to:
• Understand the physical and psychosocial changes during adolescence

Time required: 30 minutes

Material required: Chart papers, markers OR writing board and chalk/ markers

Notes for the facilitator:

• This session should be conducted in a mixed group of boys and girls. However, if you sense discomfort in a mixed group, please feel free to conduct the session separately with girls and boys.
• Divide the learners into groups such that no group has more than 5-6 individuals.
• Give each group one of the tasks listed below.
• As there are likely to be 40-50 learners in a classroom situation, more than one group is likely to get the same task. However, there is merit in learners deliberating on the issues identified above in small groups.
• Give the groups 10 minutes to complete the task.
• Ask each group to nominate a reporter.
• Ask at least three groups to present at the plenary such that each of the three group tasks is presented
• Ask reporters from other groups to add any new information that has been missed
• The facilitator may have to add the information that is missed out by all the groups. Please refer to the fact sheet at the end of this module to get the information that has been asked in the group tasks

**Group Tasks:**

• Discuss and list the psycho social and emotional changes in girls and boys during adolescence
• Discuss and list the physical changes among girls during adolescence
• Discuss and list the physical changes among boys during adolescence
• The charts prepared by the learners on the various changes during adolescence may be put up in the training hall/classroom
• Before closing the session, the facilitator should ask the learners in the large group whether they were hesitant or shy to report certain changes

*In case learners do not respond, the facilitator could initiate the discussion by suggesting ‘if changes like menstruation, nocturnal emission etc were more difficult to report than others, for example, growth in height, facial hair etc’*

• Explore reasons for hesitation/shyness in reporting certain changes and write them on the writing board/chart.
• Ask the learners to identify different ways in which this hesitation can be overcome and write them up on the writing board/chart.

*If the learners do not respond, the facilitator may initiate the discussion by asking the learners if the following will be useful in overcoming hesitation around some of the changes during adolescence:*

• having a support group (peers or adults) that is understanding, non-judgmental and does not make fun,
• by reinforcing that all these changes are part of growing up

**Summing Up:**

The facilitator may sum up the discussion emphasizing the following issues:

• Adolescence is marked by changes that are not only physical but also psychological, social and emotional
• The changes that occur during adolescence are under the control of chemical substances known as hormones. In the boys, the hormone testosterone is released and in the girls, the hormone oestrogen is released at the onset of puberty. The production of these hormones is under the control of an endocrine gland known as the pituitary gland
• These changes prepare adolescents for adult roles and responsibilities
• Reinforce that none of the changes in our body are dirty or bad
Activity 4: Being comfortable with changes during adolescence

Learning Objectives:

To enable learners to:
- To deal effectively with the physical and psychosocial changes during adolescence

Time required: 60 minutes

Material required: Chart papers, markers, felt pens/spot pens

Notes for the facilitator:

- Divide the learners into two groups, such that one group comprises only of girls and the other only of boys
- Further subdivide the girls’ and boys’ groups into smaller groups such that no group has more than 5-6 individuals
- As there are likely to be 40-50 learners in a classroom situation, more than one group is likely to get the same task. However, there is merit in learners deliberating on the issues identified below in small groups
- Give the girls’ and boys’ groups the tasks identified below
- Give the groups 15 minutes to complete the task
- Ask each group to nominate a reporter
- Ask at least two groups to present in the larger group such that each of the two group tasks is presented
- Ask reporters from other groups to add any new information that has been missed
- The facilitator may have to add the information if it has been missed out by all the groups. Please refer to the fact sheet at the end of this module to get the information that has been asked in the group tasks

It is likely that there are members in the group who have not yet started their menstrual periods or experienced nocturnal emission. The facilitator should ensure that these members do not feel uncomfortable.

It is important that learners feel comfortable in sharing their experiences. In order to achieve this, the school may choose to conduct this activity with lady teachers in girls’ groups and male teachers in boys’ groups.
• Task for girls’ groups:

  **Sub-Group I**

  1. How did you feel when you had the menstrual period for the first time?
  2. Did you feel prepared? If yes, did it help? If not, do you think it is important to be prepared for the changes during adolescence? Why? Who all (for example, peers, parents, teachers etc) can play a role in preparing you?

Please note that there may be group members who felt prepared and the others who did not feel prepared. Hence, both perspectives should be shared in the group. In addition, there may be members in the group who have not yet started their periods. The facilitator should ensure that these members do not feel uncomfortable.

  **Sub-Group II**

  1. Did you/ your friends face any taboos, restrictions during menstruation? What were these and how did you/they respond to them?
  2. Do you think these taboos and restrictions are justified? Please explain.

  **Sub-Group III**

  1. Is it important to maintain genital hygiene especially during periods? If yes, how can this be done?
  2. What could be the effects of poor genital hygiene?

• Task for boys’ groups:

  **Sub-Group I**

  1. How did you feel when you experienced nocturnal emission for the first time?
  2. Did you feel prepared? If yes, did it help? If not, do you think it is important to be prepared? Why?

Please note that there may be group members who felt prepared and the others who did not feel prepared. Hence, both perspectives should be shared in the group.

  **Sub-Group II**

  1. What kind of information and support do you need from peers, parents and teachers to be comfortable with the changes during adolescence?

  **Sub-Group III**

  1. Is it important to maintain genital hygiene? If yes, how can this be done?
  2. What could be the effects of poor genital hygiene?
Summing Up:

The facilitator should share the following facts related to menstruation:

- Menstruation usually begins (menarche) in women between the ages of 9-16 and stops (menopause) around 45-55 years. Although not necessarily a matter of concern, if a girl does not begin her periods until the age of 16; it may be advisable to consult a qualified doctor.
- Menstrual periods are a natural change during adolescence and signify that the girl is becoming a woman and can become pregnant. There is nothing dirty or dangerous about menstrual periods.
- Menstrual cycles usually fall within a range of 21-35 days, the average being 28 days long. The duration of menstrual periods could be from 3-7 days. Sometimes a woman’s cycle may become irregular as her periods may be delayed or occur earlier than expected due to illness, mental tension etc.
- Irregularities in the menstrual cycle are quite common amongst young girls who have just begun to menstruate. These irregularities usually settle down in a few years.
- A missed period is usually one of the first signs of pregnancy in sexually active women.
- Girls and women with good nutrition status should be able to make up for the blood loss that occurs during menstruation as it is not significant. However, if a female is already malnourished or has excessive bleeding during her periods, she may need iron supplements in her diet to protect herself from harmful effects of iron deficiency.
- Sometimes, either due to sports, functions or travel, some women try to delay or hasten their periods through self-medication. This should be avoided as it may harm their body and its natural rhythm. If medication is needed to delay or hasten periods, a qualified doctor should be consulted.
- Menstrual hygiene
  - Girls and women may use sanitary napkins, or cloth
  - Always use a clean sanitary napkin that should be changed frequently (every four to six hours) to prevent bad odour, or infections
  - If a cloth is used which needs to be reused, it should be washed thoroughly and disinfected by drying in the sun
  - Good genital hygiene is particularly important during periods
  - There is no reason not to bathe or wash hair during periods

The facilitator should share the following facts related to nocturnal emission:

- Nocturnal Emission is the release of semen from the body during sleep.
- It is also known as Night Fall or Wet Dreams.
- It is not necessarily accompanied by sexual feelings or dreams.
- This starts happening around puberty.
- It is completely normal and nothing to be frightened or embarrassed about.
The facilitator should share the following facts related to maintaining good genital hygiene:
• Wash genitals daily with water. No special soaps or antiseptic are required
• While washing after defecating (passing stools), wash in a front to back motion to avoid any infection
• Change undergarment regularly (at least once a day) and avoid synthetic underwear
• Undergarment should be washed carefully so that all detergent is washed off. Dry them in the sun as sunlight is an excellent disinfectant
• To avoid excessive sweating and infection, pubic hair may be trimmed using a clean pair of scissors
• Washing genitals after urination helps in maintaining hygiene
• Among boys it is important to push back the fore skin and clean the genitals regularly to avoid infection
• Importantly, genitals should be treated like any other part of the body

Activity 5: Nutritional Needs of Adolescents

Learning objectives:
To enable learners to:
• Understand that health is not simply the absence of disease/illness
• Recognize the importance of a balanced/wholesome diet
• Recognize the negative effects of not taking/getting proper meals.
• Analyze the influence of media on our eating habits.
• Make healthy food choices for holistic development

Time required: 40 minutes

Materials required: Chart Papers, Markers, Cards, Writing Board/ Black Board

Notes for the facilitator:
• Divide the learners into small groups such that no group has more than 5 to 6 individuals.
• As there are likely to be 40-50 learners in a classroom situation, more than one group is likely to get the same task.
• Ensure that all learners get an opportunity to participate in the activity.
• Every group should appoint a reporter.
• Every group should be given 15 minutes to complete the task assigned to them.
• The reporter should present on behalf of the group.
Task for Group 1
• Prepare a menu for any one healthy meal (breakfast, lunch or dinner) and justify why the group considers it as healthy

Task for Group 2
• Develop at least 6 slogans on promoting healthy eating habits and justify why the group thinks these slogans are important

Task for Group 3
• Create an advertisement for selling health food and suggest how you can build awareness on healthy eating habits among your peers.

Task for Group 4
• How do you think media influences the eating habits of young people? Please share at least three examples.

Summing up:
The facilitator should emphasize that:
• Health is a state of complete physical, mental and social well being and not merely the absence of disease or illness
• Being a stage of rapid growth and development, adolescents need a carefully planned diet to so that they remain healthy
• Balanced diet means inclusion of proteins, carbohydrates, fats, vitamins in requisite proportions
• Every region has locally available nutritious food items. These should be identified and consumed as part of our daily meals. For example, the millet Ragi is a very rich source of calcium and is easily available across many parts of India
• Packed and junk food, though very tasty should never replace the regular meal as they do not have adequate nutritional value
• Healthy eating habits include:
  o Eating slowly, chewing properly
  o Avoiding TV viewing or reading while eating
  o Eating a balanced meal that contains different food groups in adequate proportions
  o Eating moderate proportions at proper intervals
  o Never skipping meals and not overeating
  o Drinking sufficient water (8 to 10 glasses per day)
  o Several advertisements that promote girls as being thin and boys as being tall and muscular are targeted at young people and can mislead them into making unhealthy eating choices
Drastic diet plans and slimming medication can be harmful, unless prescribed by a medical doctor for health reasons.

Activity 6: Early Marriage and Adolescent Pregnancy

THIS ACTIVITY IS ONLY FOR LEARNERS OF CLASS XI AND ABOVE

Learning Objectives:

To enable learners to:
- Understand the consequences of early marriage and pregnancy
- Make more informed decisions related to marriage and child bearing

Time required: 45 minutes

Materials required: Copies of Case Study and Discussion Questions

Notes for the facilitator:
- Divide the class into groups of five-six learners each
- Each group will work on one case study
- Appoint a reporter in each group
- Give the group ten minutes to read the case study and discuss it
- Ask each group reporter to share the views of the group on the case study assigned to them based on the questions for discussion

Case Study

Sangeeta was studying in class IX when her marriage was fixed with a person twice her age. Although she wanted to study further, she was pulled out of school because she was the eldest in the family and there were three more sisters to be married off. Soon after marriage, her husband and in-laws started pressurizing her to become pregnant as they wanted an heir to their family. Sangeeta was unhappy but she did not have a choice. Within three months of her marriage, she got pregnant. Despite not keeping well during the pregnancy, she was made to do most of the household work. In the fifth month of her pregnancy, she had a miscarriage (aborted). Rather than supporting her through this difficult experience, her in-laws blamed Sangeeta for not giving them an heir.

Questions for Group 1

1. Who all are responsible for Sangeeta’s situation?
2. If you were in Sangeeta’s situation, would you have made a different choice? How and why?
3. If Sangeeta were a boy, would things have been different for? Please explain.

Questions for Group 2
1. Why do you think girls’ education is important?
2. If girls’ education is so important, why do such large proportions of girls drop out of school and get married before the legal age of 18 years?
3. If Sangeeta were better educated, would she have more choices? Please describe.

Questions for Group 3
1. Who should be deciding about the timing and number of children in a family? What health services will help couples in making informed choices?
2. What provisions are made by the government to enable adolescents (including young couples) to access health services?

Questions for Group 4
1. What are the negative consequences of early marriage and pregnancy on an individual’s family and the larger community?
2. Who all should be sensitized on the negative consequences of these practices to decrease/eliminate this practice?

Summing Up:
The facilitator should emphasize:

- There are clear negative consequences of early marriage and pregnancy in terms of compromised opportunities for young women in terms of their education, economic productivity and socio-economic independence
- This further undermines the self-confidence, self esteem of young women
- These practices are rooted in the low status of girls and women in the society that force them to suffer discrimination throughout their lives
- Furthermore, there are serious health consequences of pregnancy for both the adolescent girl and the baby
- The legal age for marriage in India is at 18 years for girls and 21 years for boys. However, data from National Family Health Survey (NFHS)-3 (2005-06) show that 27% young women and 3% young men in the age group of 15-19 were married at the time of the survey. Furthermore, 30% women in the age group of 15-19 had a baby by the age of 19 years
- In these circumstances, the young couples particularly the young married woman is not able to express or exercise her preference in terms of child bearing
- Safe and reliable contraceptive services are not easily available
• The government is promoting the education of girl child and several other schemes for better health and well being of young people, particularly girls
• Adolescent friendly health services envisage access to accurate and reliable information and services by young people in a confidential, non-judgmental manner

**Activity 7: Clarifying myths and misconceptions**

**Learning Objectives:**

To enable learners to:
• Counter the common myths and misperceptions related to changes during adolescence
• Make informed and responsible decisions related to their reproductive and sexual health

**Time required:** 45 minutes

**Materials required:** Writing board and chalk OR index cards OR Slips of paper with one statement written on each index card or slip of paper

**Notes for the facilitator:**

• Divide the learners into small groups such that no group has more than 5-6 individuals
• As there are likely to be 40-50 learners in a classroom situation, more than one group is likely to get the same task. However, there is merit in learners deliberating on the issues identified below in small groups
• The facilitator must ensure that all learners get an opportunity to participate in this activity
• Every group should appoint a reporter
• Give each group two of the following statements to discuss and decide whether the statement is correct or not
• The group members should also provide rationale for their opinion
• Every group should be given 10 minutes to discuss the two statements allocated to their group
• Group reporter should share their group’s opinion in the larger group

**Figuring Out the Facts:**

• Adolescence is a phase filled with problems and fears
• Girls are dirty when they are menstruating
• Adolescents are irresponsible and should not be trusted
• Young people who are informed and prepared for the changes during adolescence will get distracted and not focus on their studies
• It is not possible for adolescents to get along with their parents
• A girl cannot get pregnant at her first menstruation
• Experiencing physical attraction is a part of growing up
- A girl should not engage in physical activity during menstruation
- During adolescence, girls’ bodies mature earlier than boys of their own age
- Women determine the sex of the baby

**Summing Up:**

The facilitator can sum up the activity by providing the following rationale for the statements that different groups discussed:

<table>
<thead>
<tr>
<th>Statements</th>
<th>Answers</th>
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<tbody>
<tr>
<td>1. Adolescence is a phase filled with problems and fears</td>
<td>INCORRECT - Adolescence is a phase in everyone’s life. Individuals in the age group of 10-19 are known as adolescents. Adolescents may have a lot of questions about changes that they are experiencing in their bodies and the new roles and responsibilities that their environment expects them to fulfil but it is also an age full of positive and joyful experiences. Adolescents have unlimited energy, vitality and idealism as well as a strong urge to experiment and create a better world</td>
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<tr>
<td>2. Girls are dirty when they are menstruating</td>
<td>INCORRECT - Menstruation is a completely normal phenomenon and signifies that a girl is becoming a woman and can become pregnant. It is contradictory that periods are considered dirty because having menstrual periods is symbolic of a woman’s ability to reproduce which is universally respected</td>
</tr>
<tr>
<td>3. Adolescents are irresponsible and should not be trusted</td>
<td>INCORRECT - Adolescents have their own experiences and points of view that should be respected and taken into account. It is important to trust adolescents and their sense of responsibility</td>
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<tr>
<td>4. Young people who are informed and prepared for the changes during adolescence will get distracted and not focus on their studies</td>
<td>INCORRECT- Age appropriate information will lead to fewer fears and confusions in the young people and build their confidence to respond to real-life situations in positive and responsible ways</td>
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<tr>
<td>5. It is not possible for adolescents to get along with their parents</td>
<td>INCORRECT- One of the most striking characteristics of adolescence is the strong sense of selfhood. However, this strong sense of self may not necessarily be in conflict with others. Adolescents have their own views and feelings about various issues that may not always be in agreement with their parents. Parents may find it difficult to accept these adult-like characteristics of their children where they ask questions, reason and sometimes argue rather than obeying without asking any questions. Both adolescents and their parents must respect one another, listen to each other’s opinions and put forth their views and feelings clearly. This will help in retaining/re-establishing harmony in parent-adolescent relationships</td>
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<tr>
<td>Question</td>
<td>Correct/Incorrect</td>
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<tr>
<td>6. A girl cannot get pregnant at her first menstruation</td>
<td>INCORRECT - A girl can become pregnant before her periods start because she releases an egg before her first period</td>
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<tr>
<td>7. Experiencing physical attraction is a part of growing up</td>
<td>CORRECT. Physical attraction is a part of growing up. It is natural and normal</td>
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<tr>
<td>8. A girl should not engage in physical activity during menstruation</td>
<td>INCORRECT - Menstruation is completely normal and not an illness. Girls can do anything that they normally do during periods. There is no reason to restrict any of the activities that girls normally do as long as they are comfortable. Everyone should remember that periods do not get in the way of working, having fun and enjoying life! Some girls and women may get pain and cramps during periods. Taking exercise and continuing regular activities can be helpful. However, if the pain is very severe a qualified doctor should be consulted</td>
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<tr>
<td>9. During adolescence, girls’ bodies mature earlier than boys of their own age</td>
<td>CORRECT</td>
</tr>
<tr>
<td>10. Women are responsible for determining the sex of the baby</td>
<td>INCORRECT – The determination of the sex of the baby is dependent on the male sperm and not on the female ovum. It is important to note that neither the male nor the female can control the combination of sex chromosomes that determine the sex of the baby. Nature determines the sex of the baby and women should not be held responsible for it. Please refer to the attached fact sheet at the end of this module for more information on this.</td>
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FACT SHEET

The term adolescence originates from the Latin word 'adolescere' which means 'to grow' or 'to mature.' The term taken in its purest sense could mean 'to emerge' or 'to achieve identity' which is one of the most significant characteristic of adolescence.

Adolescence is popularly understood as a phase in the teenage years of the life of a human being. It is a period of transition between childhood and adulthood: its distinctiveness is reflected in rapid physical, cognitive and socio-emotional changes.

Defining Adolescence:

WHO defines adolescence as the progression from appearance of secondary sex characteristics (puberty) to reproductive maturity, development of adult mental processes and adult identity, and transition from total socio-economic dependence to relative independence. The pace of change may vary within adolescence and chronological age is not necessarily a reliable index of development towards maturity.

The definition given by WHO defines adolescence both in terms of age (10-19 years) and in terms of a phase of life marked by special attributes. For most intents and purposes, the terms ‘adolescents’, ‘young people’ and ‘youth’ and used interchangeably (with young people defined as 10-24 years old, and youth as 15-24 years old).

<table>
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<tr>
<th>The special attributes that mark adolescence include:</th>
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<tr>
<td>• Rapid physical growth and development</td>
</tr>
<tr>
<td>• Physical, social and psychological maturity, not necessarily at the same time</td>
</tr>
<tr>
<td>• Sexual maturity and onset of sexual activity</td>
</tr>
<tr>
<td>• Experimentation</td>
</tr>
<tr>
<td>• Development of adult mental processes and adult identity</td>
</tr>
<tr>
<td>• Transition from total socio-economic dependence to relative independence</td>
</tr>
</tbody>
</table>

Physical changes during Adolescence:

Adolescence begins with the onset of puberty. Hormonal changes initiate the physical and physiological changes in the body. The female hormone, oestrogen is mainly responsible for the changes in the females and the male hormone testosterone is mainly responsible for the changes in the males. All these changes are highly correlated with sexual development, as during this period significant physical changes take place in terms of development of secondary sexual characteristics. Puberty ends when an adolescent reaches reproductive maturity. The major physical changes during adolescence are tabulated below:
**Physical changes during Adolescence** - All physical changes are influenced by hormones

<table>
<thead>
<tr>
<th>Major Changes in Males</th>
<th>Major Changes in Females</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Growth Spurt</strong></td>
<td><strong>Growth spurt</strong> among girls usually starts at about 10 years of age and peaks at 12. It ends at around 14 years of age. Any further noticeable growth in stature stops at 18. Girls also gain some weight</td>
</tr>
<tr>
<td><em>The growth related changes occur when a boy is around 12 years of age. The age for completion of this growth ranges from 12-16 years. The changes are observed in growth of arms, legs and penis. He also gains weight</em></td>
<td>Girls have a wider pelvic outlet to facilitate child birth which also involves broadening of the hips.</td>
</tr>
<tr>
<td><strong>Activation of Oil and Sweat Glands</strong></td>
<td></td>
</tr>
<tr>
<td>Increased production of androgen hormones in both sexes leads to an increase in skin thickness and stimulates the growth of sebaceous glands (small glands in the skin, which produce sebum/oil). A pore may get clogged with sebum, dead skin cells and bacteria. This can cause acne. Acne is a skin condition that includes whiteheads, blackheads, pimples and pus filled cysts. The activation of oil and sweat glands also leads to body odour.</td>
<td></td>
</tr>
<tr>
<td>Body odour and acne are common concerns for many adolescents</td>
<td></td>
</tr>
<tr>
<td>Voice</td>
<td>One of the significant developments during adolescence among boys is the deepening of the voice which results from the enlargement of the larynx, also known as voice box. The production of testosterone in boys causes the larynx to grow and the vocal cords to get longer and thicker. As the body adjusts to the enlarging larynx, the voice may “crack” or “break”. The deepening of the voice occurs relatively late in adolescence and it is often a gradual process. When the larynx grows in boys, it becomes prominent and is visible from the outside. It is known as “Adam’s Apple” and is normal</td>
</tr>
<tr>
<td>---</td>
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</tr>
<tr>
<td>Growth of Hair</td>
<td>The appearance of pubic hair around the penis and scrotum is usually an early event of puberty. The body hair generally appears a couple of years after the growth of pubic hair. The hair grows on the chest, the armpits and on the face. Growth of pubic hair precedes the first menstruation by approximately 6 months to one year. The body hair become coarser and there is growth of hair in the underarms after the growth of pubic hair.</td>
</tr>
<tr>
<td>Breasts</td>
<td>Sometimes the breast can become prominent, however this eventually will subside on its own. Breast development is one of the first signs of puberty among girls. This starts between 8 and 13 years and is completed between 13 and 18 years. Growth of breasts may be associated with tenderness in the initial phase. This development has a psychological significance to young females and hence, at times, they may worry about its size and shape. The breast size is mostly determined by heredity and the weight of the girl. It is also important to note that it is not unusual for one breast to develop faster than the other and the development process differs from person to person.</td>
</tr>
</tbody>
</table>
An adolescent girl may worry about the asymmetry, especially if she does not know that the difference is usually corrected by the time the development is completed.

| Reproductive and Sexual Organs | The onset of puberty is marked by the initial enlargement of the testes. The growth of testes and scrotum usually begins between the age 10 and 13 years. The development continues through most of puberty and is completed sometimes between the age 14 to 18 years. With the onset of puberty the testes do not contain all the sperms that are produced. They are a conglomerate of solid threadlike cords called "seminiferous tubules" without sperm. From puberty onwards, the testes continuously produce sperms generating billions in the course of an adult’s lifetime. With the generation of sperms males become capable of fathering a child. Nocturnal emission can occur.

The menstruation is a normal function of a healthy female body. The ovaries produce ovum (egg cells). Each of the two ovaries holds thousands of egg cells. During each menstrual cycle, one ovum matures and is released by the ovary. This is called ovulation that occurs around mid-cycle. The ovum travels down the fallopian tubes into the uterus. Before the ovum leaves the ovary, the uterus builds up its inner lining with extra blood and tissue. If the ovum meets with sperm, it is fertilized and conception takes place. The lining of the uterus supports the growing foetus (baby). But when the ovum is not fertilized, the uterus no longer needs the extra blood and tissue. The uterus, therefore, begins shedding its lining and blood flow starts. Menstrual flow consists of blood, mucus and fragments of lining tissues. Menstruation occurs at an average interval of 28 days +/- 3 days. It lasts for about 2-3 days and in some cases 4-5 or 7-8 days. The menstrual cycle may be irregular during the initial period (first 2-3 years) and then usually settles down into a pattern.

Menarche or the first menstrual period: Generally, the age range for menarche may vary from 9 to 14 years. It is noteworthy that this age is gradually decreasing all over the world.
Majority of the females have their periods every month or so until they are in their late 40s or early 50s when the menstrual cycle stops. It is known as *menopause*. The menstrual cycle also stops when the girl or lady gets pregnant. The menstrual cycle may not also return for a few months after the baby is born, especially if the mother is breast feeding the baby.

### Completion of the Growth of Uterus and Vagina

Although the growth and development of uterus and vagina start early, their growth is the last to be completed. At birth, the ovary is a fairly complete organ. It contains about half a million immature ova, each one capable of becoming a mature egg. The female is born with all of the eggs she will ever have (approximately 4,000,000 eggs). These follicles remain immature until puberty when ovulation begins. At puberty, the follicles start maturing into eggs in monthly cycle.

*Please refer to NCERT’s class XII biology text book for more details.*
Psychosocial and Emotional Changes during Adolescence:

Almost all physical changes are accompanied by marked psychosocial and emotional changes.

Some of the key concerns and attributes of adolescence with respect to psychosocial and emotional changes are summarized below

Concern about appearance:

During the phase of adolescence, a person goes through different phases of development. In each phase s/he witnesses change in his/her body and appearance. While everyone matures and goes through the changes in adolescence, this does not take place at the same time and in the same way for everyone. Adolescents may feel inadequate because they look different from their peers. Oftentimes, young people’s notions of their appearance are highly influenced by the prevailing social, cultural notions related to these issues. Media also plays an important role in perpetuating stereotypical images of “ideal appearance” for young people.

This impacts the ‘body image’ which is the dynamic perception of one’s body, how it looks, feels and moves. Body image is shaped by perception, emotions, physical sensations and can change in relation to mood, physical experience, and environment. Due to rapid changes in their bodies, young people are likely to experience dynamic perceptions of body image. It is strongly influenced by self-esteem and self-evaluation more so than by external evaluation by others.

Hence, it is extremely important to empower young people with appropriate information and skills to enable them to appreciate themselves for who they are. While young people should strive to consistently improve themselves, it is important that they have a positive acceptance of themselves that stems from the realization that certain attributes cannot be changed (for example, complexion). Hence, it is important that young people have strong self esteem to celebrate their uniqueness rather than blindly mimic certain images perpetuated by society and media. Externally determined standards should not negatively affect the confidence and self-image of young people.

Curiosity about sexual matters and responsible sexual behavior:

Young people may feel strong physical attraction. This is a normal process of growing up. However, all attraction cannot be categorized as sexual attraction. Adolescent boys and girls may like to talk to each other, praise one another’s intellect and beauty, share their books and notes as gestures of friendship and goodwill.

Correct, culturally relevant and age appropriate information on sexual matters can inform and prepare young people for responsible relationships in their lives that are based on equality, respect, consent and trust between partners. In the absence of reliable sources of information, young people are likely to be misguided and may either be victims or perpetrators of irresponsible and exploitative relationships.
Sexual behavior is often influenced by social norms that are largely determined by local contexts. In certain societies, premarital sexual relationships are not appreciated. This perspective may be rooted in the concern for safety and well-being of young people and guided by the notion that individuals should reach a certain level of maturity (in terms of biological age and adult thinking processes) before committing to a sexual relationship so that they are not abused or exploited. However, empowered by correct information and skills, it is up to individuals in their own contexts to reach these decisions and assume responsibility for them.

**An age of experimentation:**

Adolescents are particularly inclined to try out new ideas. Adolescence is the age of experimenting and learning new things. While this is a positive trait, lack of abilities, particularly life skills to assimilate multiple stimuli from media and peers could encourage them to experiment with risky behaviours. They could engage in smoking, substance abuse, consumption of alcohol, unprotected sex, and while these behaviours may start on an exploratory note, many young people get trapped in them for a lifetime and are not able to realize their potential.

They may engage in these behaviors for various reasons:

- Lack of reliable information on consequences of some of these behaviors
- Media glorifying a particular behavior that is actually irresponsible and harmful
- Due to peer pressure
- Mimicking adults
- To explore a new idea

Therefore, it is important to empower them with correct, culturally relevant and age appropriate information to enable them to respond to real-life situations effectively.

**Distancing from Family and Forming New Relationships:**

It is true that during adolescence, young people start extending their relationships beyond family and make a special place for peers. They develop a strong sense of selfhood and have their own views and feelings about various issues that may not always be in agreement with their parents. These attributes are important to prepare young people for independent and responsible decision making.

However, parents may find it difficult to accept these adult-like characteristics of their children where they ask questions, reason and sometimes argue rather than obeying without asking any questions. **Parents may feel that their adolescent children no longer value their opinions. This may not necessarily be true. In fact, adolescents need their parents’ time and counsel more than ever before** but it may be important to re-establish some of the core guiding principles for parent-adolescent interactions.

**Parents will find it valuable if they interact with their adolescent children as equals, listen to them, respect their opinions, trust them and provide rationale for their suggestions rather than talking down to them or expecting them to obey without asking any questions.**
Similarly, adolescents also have the responsibility to listen to their parents’ opinions, think through their suggestions carefully and then put forth their views and feelings clearly and in a respectful manner. This will help in retaining/re-establishing harmony in parent-adolescent relationships.

While growing up the adolescents want to act like adults and take independent decisions. In their effort to become independent and develop their own instinctive identity they slowly distance themselves from their parents and start taking their own decisions and start questioning others.

**Peer Group Relationships:**

As adolescents start distancing themselves from their families, they start valuing their peers (friends/acquaintances) more than before. They often look to their peer group for approval, and may even change their behavior to win that approval. While the peer influence helps them in establishing their independent identities and may be a positive influence for discovering different aspects of their personalities; peer influence can also be negative. It has been observed that a large number of those who experiment with smoking or drugs, do so under peer group pressure.

**Nutritional Needs of Adolescents:**

Adolescence is well recognized as a stage of rapid growth and development. Nutrition is an important determinant of growth and development that takes place during this stage. However, nutritional needs of adolescents are ignored, as they are considered healthy. This neglect may lead to a number of health problems related to malnutrition. Although under nutrition, particularly of girls is a more serious problem in India, over nutrition and obesity are also on the rise.

Adequate nutrition during adolescence enables young people to realize their potential. For example, appropriate nutrition helps in physical growth, attaining normal bone strength and timely reproductive and sexual maturity. Good nutrition during adolescence may also help in preventing osteoporosis (weakening of bones) later in life.

A well balanced diet, containing adequate amounts of proteins, carbohydrates, fat, vitamins and minerals is essential for every adolescent. All these nutrients are present in different types of food items like rice or chapatti, *dals* (pulses), green vegetables, milk, fruits, ground nuts, beans, cereals, fish, eggs, meat, etc., it is essential to take these items in right proportions. There are many locally available seasonal low cost food items that must not be missed out.

Under nutrition is a more serious health problem among adolescent girls due to prevailing gender discrimination. Furthermore, an undernourished adolescent girl is at the risk of developing complications during pregnancy and child birth.
Food Guide Pyramid

1st

Vegetable Fats and Oils, Sweets, and Salt
EAT SPARINGLY

Low-Fat or Non-Fat Milk, Yogurt, Fresh Cheese, and Tofu
Alternative Group
2 - 3 Servings
EAT MODERATELY

Legume, Nut, Seed, and Meat Alternative Group
2 - 3 Servings
EAT MODERATELY

Vegetable Group
3 - 6 Servings
EAT GENEROUSLY

Fruit Group
2 - 4 Servings
EAT GENEROUSLY

Whole Grain Bread, Cereal, Pasta, and Rice Group
6 - 11 Servings
EAT LIBERALLY

2nd

Fats, Oils, & Sweets
Use Sparingly

Milk, Yogurt & Cheese Group
2 - 3 Servings

Meat, Poultry, Fish, Dry Beans, Eggs, & Nuts Group
2 - 3 Servings

Vegetable Group
3 - 5 Servings

Fruit Group
2 - 4 Servings

Bread, Cereal, Rice, & Pasta Group
6 - 11 Servings
Body Mass Index (BMI):

BMI is a measure of body weight to height. BMI can be used to determine if a person is underweight, optimum weight, or over weight.

Some Common Nutritional Disorders

Nutritional Anaemia:

Anaemia is the loss of oxygen carrying capacity of the blood owing to the deficiency of haemoglobin in the red blood cells. Haemoglobin is a red pigment contained in the blood. It carries oxygen and is rich in iron. It is important to note that during adolescence the need for iron increases with the rapid growth and expansion of blood volume and muscle mass. Hence, adolescents must consume iron rich foods, green leafy vegetables, jaggery, meat, complemented with vitamin C sources like citrus fruits, oranges, lemon and Indian gooseberry (Amla).

Iron deficiency leads to anaemia which causes tiredness, lethargy and if left untreated can have long term negative consequences. Findings from National Family Health Survey (2005-6) show that 56% females and 25% males in the age group of 15 to 24 were anaemic at the time of the survey.

Bulimia Nervosa:

Adolescent with this nutritional disorder indulge in binging (periods of over eating) and later purging or removing it by vomiting or using laxatives to prevent weight gain. Eating disorders such as bulimia are often caused by anxiety, tension or worry about one’s weight.

Anorexia Nervosa:

Adolescent with anorexia have a serious fear of gaining weight and they restrict their food intake by extreme dieting, fasting and indulging in over exercise. Anorexia Nervosa is a self imposed starvation related to a severely distorted body image.

Both anorexia and Bulimia are seen due to emotional and physical changes, peer pressure, stress due to studies and pressure. In addition, hyped up body images of girls being thin and boys being tall and muscular do not help adolescents in making good nutritional choices.

Both these conditions are detrimental to health if left untreated. Some symptoms include frailness, hair loss, low blood pressure, brittle nails, anaemia, depression, lethargy and use of laxatives in excess. Anorexia and bulimia can lead to delay in onset of menstruation, and also lead to serious consequences such as convulsions, renal failure, irregular heart beat and results in osteoporosis.
Early Marriage and Adolescent Pregnancy

Legal age at marriage:

The legal age for marriage in India is at 18 years for girls and 21 years for boys. However, data from National Family Health Survey (NFHS)-3 (2005-06) show that 27% young women and 3% young men in the age group of 15-19 were married at the time of the survey. Furthermore, 30% women in the age group of 15-19 had a live birth by the age of 19 years. Data also show that young pregnant women did not have access to adequate health services in their most recent pregnancy. Rather than a 100%, only 53% of the 15-19 years old and 55% of the 20-24 years old had three or more ante natal care visits during the pregnancy for their most recent live birth.

Conception and Pregnancy:

As you would have already studied in your NCERT science text book, the physical growth and development is a maturing process which enables males and females to reproduce. Since the ability to reproduce is basic to the perpetuation and continuation of human life, the reproduction system assumes critical importance.

Conception:

New life occurs when male (sperm) and female sex cells (ovum) unite at conception. At the time of conception the genes and chromosomes from the mother and father unite to form a unique individual with particular traits and characteristics.

All cells in human body contain $2 \times 23 = 46$ chromosomes. The sperm contains 23 chromosomes and so does the ovum. One of the 23 chromosomes is a sex chromosome which is named as X or Y chromosome. The sperms have both X and Y chromosomes but the ova have only X chromosomes. The sex of the baby is determined by the way the ovum is fertilized. If the ovum which has only X chromosome is fertilized by the Y chromosome of the sperm, a male baby will be born. But if the ovum is fertilized by the sperm containing X chromosome, a female baby will be born. The determination of the sex of the baby, therefore, is dependent on the male sperm and not on the female ovum or egg. **It is important to note that chromosomes and not women determine the sex of the child.**

Pregnancy:

The human foetus lives inside the uterus of the mother for nine months. This period is termed as gestation period.

Adolescent Pregnancy:

Adolescence is a period when the sexual maturity is attained in the early years with the onset of puberty, but the reproductive maturity is reached only when adolescents are physically fully
developed. Therefore, if pregnancy and motherhood occur before the reproductive maturity is attained, it exposes adolescents to acute health risks and other problems.

In India sexual activity commences at an early age for most of the women. Unlike in many other countries, the onset of sexual activity occurs here mostly within the context of marriage. Early marriage continues to be the norm in several regions of India in spite of laws stipulating legal age at marriage as 18 for girls and 21 for boys according to the Child Marriage Restraint Act, 1978. The early marriage and the pressure on young married women to prove their fertility result in high rates of adolescent pregnancy. Adolescent pregnancy leads to great health risks to the teenage mother and her child. Biologically, she is yet to attain reproductive maturity and is more likely to suffer from anemia. There are chances of prolonged labour that can result in severe damage of the reproductive tract. The available evidence suggests that maternal deaths are considerably higher among adolescents than among older women. The babies born to adolescent mothers generally have low birth-weight. Such babies are more likely to die at birth or in infancy. Early pregnancy increases the risk of maternal and child morbidity and mortality.

Early pregnancy has serious psychological, social and economic consequences also. It continues to be an impediment to improvements in the educational, economic and social status of women and is likely to have an adverse impact on the quality of life of the family. Pregnancy outside marriage, as an outcome of even rape, sexual coercion or sex abuse bears a terrible stigma.

Pregnancy is a very special period and demands great care for the health of the mother and the baby. An adequate balanced diet is essential and the expectant mother needs emotional support from her husband and other members of the family.

Breastfeeding of the newborn is essential as it not only boosts the mother’s immune system, but helps delay a new pregnancy.

There are effective modern contraceptive (birth control) methods that provide protection against unwanted pregnancy.

Adolescents are often reluctant to visit health facilities. It is therefore important to reach out to them by providing adolescent friendly services. It is essential to have trained and sensitive staff in these health centres so that young people access services in these centers in a confidential and non-judgmental manner.

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