

Appendices

Appendix-1 Five perspectives on Human Development

Perspective	Important Theories	Basic Beliefs
Psychoanalytic	Freud's Psychosexual theory	Behavior is controlled by powerful unconscious urges.
	Erikson's Psychosocial theory	Personality is influenced by society and develops through a series of crises or critical alternatives.
Learning	Behaviorism or traditional learning theory (Pavlov, Skinner, Watson) Social learning or social cognitive theory (Bandura)	People are responders; the environment controls behaviour. People learn in a social context by observing and imitating models. Person is an active contributor to learning.
Cognitive	Piaget's cognitive stage theory	Qualitative changes in thought occur between infancy and adolescence. Person is active initiator of development.
	Information processing theory	Human beings are processors of symbols
Evolutionary / Socio-biological	Bowlby's & Ainsworth's attachment theory	Human beings have the adaptive mechanisms to survive, critical or sensitive periods are stressed, biological and evolutionary bases for behavior and predisposition towards learning are important.
Contextual	Bronfenbrenner's bio-ecological theory	Development occurs through interaction between a developing person and five surrounding, interlocking contextual system of influences, from micro-system to chronosystem.
	Vygotsky's socio-cultural theory	Socio-cultural context is central to development.

(Source : Papalia, 2004, Table 2.1, p.30)

Appendix-1.1.1 Development Stages According to Various Human Development Theories

1. Psychosexual Stages (Freud)

Oral (birth to 12-18 months) Baby's chief source of pleasure involves mouth-oriented activities (Sucking & feeding)

Anal (12-18 months to 3 years) Child derives sensual gratification from withholding and expelling feces. Zone of gratification is anal region and toilet training is important activity.

Phallic (3 to 6 years) Child becomes attached to parents of the other sex and later identifies with same-sex parent. Superego develops. Zone of gratification shift to genital region.

Latency (6 years to puberty) Time of relative calm between more turbulent stages

Genital (puberty through adulthood). Reemergence of sexual impulses of phallic stage, channeled into mature adult sexuality

2. Psychosocial Stages (Erikson)

Basic trust versus mistrust (birth to 12-18 months) Baby develops sense of whether world is a good and safe places Virtue : Hope

Autonomy versus shame and doubt (12-18 months to 3 years). Child develops a balance of independence and self-sufficiency over share and doubt. Virtue: Nil

Initiative versus guilt (3 to 6 years) Child develops initiative when trying out new activities and is not overwhelmed by guilt. Virtue: Purpose

Industry Versus Inferiority (6 years to puberty) Child must learn skills of the culture or face feeling of incompetence Virtue: Skill

Identity versus identity confusion (Puberty to young adulthood). Adolescents must determine own sense of self (who am I) or experience confusion about roles. Virtue: fidelity

Intimacy versus Isolation (young adulthood). Person seeks to make commitments to others. If unsuccessful, may suffer from isolation and self-absorption. Virtue: love

Generativity versus Stagnation (middle adulthood) Mature adult is concerned with establishing and guiding the next generation or else feels personal impoverishment. Virtue: care

Ego integrity versus despair (late adulthood). Elderly person achieves acceptance of own life, allowing acceptance of death, or lese despairs over inability to relive life. Virtue: wisdom.

3. Cognitive Stages (Piaget)

Sensor motor (birth to 2 years). Infant gradually becomes able to organize activity in relation to the environment through sensory and motor activity.

Preoperational (2 to 7 years). Child develops a representational system and uses symbols to represent people, places and events. Language and imaginative play are important manifestations of this stage. Thinking is sill not logical

Concrete operations (7 to 11 years). Child can solve problem logically if they are focused on the here and now, but cannot think abstractly.

Formal operations (11 years through adulthood) Person can think abstractly deal with hypothetical situation and think about possibilities.

Appendix 1.2.3A List of Publications and materials developed by UNFPA

The followings material published in India on adolescent issues:

- Life Skills modules for health promotion of out-of-school adolescents. IAWG P&D 2002
- Educating Adolescent girls: Opening Windows. UNFPA
- Adolescents in India: A Profile. UNFPA September 2000
- Adolescent Skills Building for Sexual and Reproductive Health: Future Directions. UNFPA May 2001
- Enabling Adolescents to Build Life Skills: Capacity building of Facilitators. Mridula Seth November-2000
- Enabling Adolescents to Build Life Skills: Needs Assessment Conceptual Framework (Part I). Mridula Seth

Appendix-1.2.3B UNFPA-Supported Projects for Adolescents During the UNFPA Fifth Country Programme (1997-2002)

- 1 Population & Development Education in Schools, Jun1998–Dec 2003, MHRD, GOI National Council of Educational Research & Training (NCERT), Sri Aurobindo Marg, Hauz Khas, New Delhi 110016, Ph: 26964083
- 2 Population & Development Education in the Higher Education system, Jan1999–Dec 2002, MHRD, GOI, UGC, 35 Ferozeshah Road, New Delhi 110002, Ph: 23381319
- 3 Population & Development Education in Post Literacy & Continuing Education, Jun1998–Dec 2002, MHRD, GOI, Dept of Adult Education (DAE), 10, Jamnagar House, Shahjahan Rd., New-Delhi-110001, Ph: 23386542
- 4 Population Education in Vocational Training, 1995 – 2002, Directorate General of Employment & Training (DGET), 2, 4 Rafi Marg, New Delhi –110001, Ph: 23001373
- 5 Integrated Population & Development Project, Maharashtra, July 2000 – December 2002, MoHFW – Govt. of Maharashtra, UNFPA, Flat No.203, Landmark Tower, Plot No. 60, Luis Wadi, Thane (West), Mumbai, Ph: 022-25836505
- 6 Integrated Population Development Project, Gujarat, June 1999 –December 2002 MoHFW – Govt. of Gujarat, UNFPA Gujarat State Office, Plot No.308 Sector 1, Gandhinagar , Gujarat 380001, Tel: 07932-44770,.
- 7 Integrated Population & Development Project, Orissa, September 2000 – December 2002, MoHFW – Govt. of Orissa UNFPA, Orissa State Office, 52 Forest Park, Bhubaneshwar 751009, Orissa Ph: 0674-533470
- 8 Integrated Population & Development Project, Rajasthan, July 2000 – December 2002, MoHFW – Govt. of Rajasthan, 29 Shri Rampura Colony, Jaipur 302005, Rajasthan, Ph: 0141-2381928

- 9 Integrated Population & Development Project, Kerala, January 2001 – December 2002, MoHFW, UNFPA, Flat No.203, Landmark Tower, Plot No. 60, Luis Wadi, Thane (West), Mumbai, Ph: 022-25836505
- 10 Integrated Population & Development Project, Madhya Pradesh, July 2001– December 2002, MoHFW – Govt. of Madhya Pradesh, E-7/647-A1, Arera Colony, Bhopal 462016, Madhya Pradesh, Phone: 0755-420028
- 11 Gender Awareness amongst Youth & Women of Urban Delhi, February 2000– January 2003, MoHFW – (NGO) Mobile Crèches, DIZ Area Raja Bazar, Sector IV Near Gole Mrkt., New Delhi 110001, Ph: 3363271/ 3347635
- 12 Adolescent Boys and Girls – Support to Gender Issues: DCT, March 2000 – February 2003, MoHFW, Deepak Charitable Trust, 9-10 Kunj Society, Alkapuri Baroda 390 007, Gujarat Ph: 0265-339410/ 331439
- 13 Adolescent Health and Development in India: An Action Approach, February– October 2000, MoHFW, Health Instt. for Mother & Child (MAMTA), 33A Saidulajaib, M. B. Road, New Delhi 110030, Ph: 26858067/ 26525466
- 14 AIDS warrants Adolescent Reproductive Health Education (AWARE) Support to Gender Issue , March 2001 – March 2003, MoHFW, Concerned Citizen for Comm. health & Dev., A-28 Govind Marg, Near Baraf Khana, Jaipur – Rajasthan, 0141-2650481/ 2615820
- 15 Gender Issue Programme, April 2001 – March 2002, MoHFW – (NGO) West Bengal Voluntary Health Association (WBVHA), West Bengal Voluntary Health Assoc., 19/A Dr. Sundari Mohan Avenue, , Kolkata 700 014, 033-2460163/ 2446754
- 16 Life line Education for the Adolescent, April 2001 – September 2002, MoHFW – (NGO) Lupin Human Welfare & Research Foundation, 160 Krishna Nagar, Bharatpur 321 001, Ph: 05644-223023/ 232440
- 17 Women Empowerment – Help them to Help themselves, March 2000 – February 2003, MoHFW – (NGO), Daudnagar Organization for Rural Development (DORD), Badi Masjid Old Town, Daudnagar, Aurangabad, Bihar 824 113, Telefax: 0612-692849
- 19 Our bodies Our lives (SEWA), November 1999 – June 2002, Self Employed Women's Association (SEWA), Mahila Sewa Trust, Opposite Victoria Garden Bhadra, Ahmedabad 380001, Ph: 079 25506477.
- 20 Development of a Comprehensive Adolescents skills building Programme: KIDAVRI September 2001 – December 2002, NGO Network in Delhi, KIDAVRI, G-1323 Lower Ground Floor, Chittaranjan Park, New Delhi 110019, Ph: 6274690/ 6270153
- 21 Haryana Integrated Women's Empowerment & Development Project, September 2002 – March 2003, HIWEDP, SCO 357-58 Sector 35B, Chandigarh, Ph: 0172-66270

22 Improved Health Care for Adolescent Girls in Urban Slums, Jabalpur, MP, January 1997–December 2002, CARE India, 27 Hauz Khas, New Delhi. Ph: 26564059/ 26969770

23 Doosra Dashak, April 2003, Foundation for Education & Development (FED), Doosra Dashak, C-275, Bhabha Marg, Tilak Nagar, Jaipur , Rajasthan 302 004
Tel:0141-2620127, 2624820

24 Curriculum for Education & Development of Adolescents and young adults, September 2001 – August 2002, Sandhan Research Centre, Foundation for Education & Development, SANDHAN Shodh Kendra, C-196 Baan Marg, Tilak Nagar, Jaipur 302004
Ph: 0141-624534

25 Peer Education as a strategy to build Life Skills among adolescents, April 2002 – December 2002, SANDHAN Shodh Kendra, C-196 Baan Marg, Tilak Nagar, Jaipur 302004,
Ph: 0141-624534

26 Peer education strategy to build life skills of adolescents for health living, July – December 2002, WOHRAC, The Maharaja Sayajirao University of Baroda, Vadodara 390002 Gujarat,
Telefax: 0265 -2792106

27 An intervention model to Integrate Reproductive Health Services, September 1998 – April 2000, NGO – Mamta, MAMTA, 33A Saidulajaib , M. B. Road, New Delhi 110030
Ph: 26858067/ 26525466

28 Life Skills Education Programme (Phase I & Phase II) Documentation and Extension of Counseling Services, Life skills: Dec 2000– June 02, URVI Vikram Charitable Trust, 2nd Floor Community Facility Complex, Vishal Enclave, Raghbir Nagar, New Delhi 110027,
Ph: 5936134

29 Joint GOI-UN System Education Programme (Janshala) , 1998 – 2003, MHRD, GOI JANSHALA, MHRD, Shastri Bhavan, New Delhi 110001, Ph: 3382604 & 3070584

30 UN Inter-Agency Working Group on Population & Development (UN IAWG P&D) – Life Skills Education Modules for Out-of-school Adolescents, 1999 – 2002, UNFPA, 55 Lodi Estate, New Delhi 110003, Ph:24649267 Extn:203

Appendix- 1.2.7 WAGGGS World Projects

WAGGGS organizes a number of worldwide projects and schemes that demonstrate Girl Guiding/Girl Scouting in action, addressing issues of concern to the movement in the 21st century through the principles and methods of Girl Guiding/Girl Scouting. The current WAGGGS Triennial Theme, Our Rights Our Responsibilities, and the two last themes, Building World Citizenship and Creating Peace Worldwide.

The Prevention of Adolescent Pregnancy :WAGGGS supports many projects to increase prevention of HIV/AIDS and to combat discrimination. Responding to figures that show that 17 million teenagers become pregnant each year, with girls aged 10 to 14 being five times more likely to die in pregnancy/childbirth than older women, WAGGGS launched an advocacy campaign in December 2000,

The Health of Adolescent Refugees Project (HARP) provided education on a range of health issues to refugee girls and young women in Uganda, Zambia and Egypt, which was an innovative health education programme that was recognized as an example of International Best Practice.

The Healthy Adolescent Project in India (HAPI) is based in West Bengal, working with Guides and Scouts both in the main city of Kolkata and in other, less urban areas in the State. Participants follow a badge curriculum covering a range of health issues and are challenged to take their learning into the local community and share it with their friends, family and neighbours.

Building Peace among Children; a new initiative with Soroptimist International, aims to create a network of Peace Ambassadors throughout countries affected by conflict in Africa.

Youth Service Teams, bringing together a group of young women who are Girl Guides/Girl Scouts from different countries, cultures and backgrounds into a cohesive team to give significant service to a targeted community.

Appendix-1.2.8. Skills For Adolescence books/topics

Entering the Teen Years – The Journey of Adolescence – Helps students get to know one another, creates a supportive classroom environment, and explores the common physical, intellectual, social, and emotional changes of adolescence.

Building Self-Confidence and Communication Skills – Students build their self-confidence by being encouraged to recognize their own strengths and those of others, develop communication skills, become more responsible, and practice making positive decisions.

Service Learning – students select and begin implementing service learning project. Providing opportunities by serving others and contributing to the community

Managing Emotions in Positive Ways – Students identify and learn ways to manage emotions. Lessons encourage students to recognize that mood swings and a variety of emotions are typical of the early adolescent years. Students also learn to approach potentially negative situations as positive challenges.

Improving Peer Relationships – Students learn ways of initiating and maintaining positive relationships. Sessions emphasize the need to resist negative peer pressure and to recognize and use positive peer pressure.

Strengthening Family Relationships – Students learn about the ways families have changed over the years and are encouraged to nurture the role of the family. The activities encourage students to respect the culture and heritage of their own families and the families of others.

Making Healthy Choices – Lessons focus on drugs and reinforces a norm of non-use. The sessions enable students to learn about the harmful effects of alcohol, tobacco, and other drugs. They use their critical thinking skills in analyzing and rejecting pro-drug messages, practice refusal skills, and learn ways to be positive role models.

Setting Goals – Students learn the value of a positive attitude and positive role models. They practice setting both short and long-term goals and develop plans to reach those goals.

Conflict resolution - Based on the premise that the best time to deal with conflict is before it happens, Lions-Quest current initiatives include lessons on anger management, conflict resolution and peace promotion.

SFA Student Work Book ‘Challenges & Changes’ includes work sheets, articles and short stories as well as assignment and program information.

SFA Parent Book ‘The Surprising Years’ offers practical tips for parenting young adolescents while informing parents of the skills and information taught in the program.

Teachers resource book, workshop book and guide to conduct parents’ meeting are well structured for SFA.

Appendix- 1.3.1.2.A NCERT : ERIC funded Projects

Educational Research and Innovations Committee (ERIC) of NCERT funds research proposals in priority areas like Value Education.

Effectiveness of Value Clarification Strategies in Value Orientation of B.Ed. Students, 1989.

Effect of Jurisprudential Strategy of Teaching on the Development of Social Consciousness and Ability to Solve Value Conflicts, 1991.

Role of Acculturation in the Development of Values among children: Maternal views, 1996.

Development of Moral Values Among Adolescents through Curriculum Planning: A Moral Action Model, 1997.

Evaluation of Curricula and Text books in Language and Social Science of Higher Secondary School Stage from the Standpoint of Peace Promotion, 1996.

Teacher Educators in Perspective: Exploration in their Social Class Origins, World-View and Professional Productivity, 1996

Value Perception on Gender Equality and Equal Participation by Children with Visual and Hearing Impairments (Small Project), 2002

A Study of the Interactive Processes in Language Teaching when used for Purpose of Value Education, 2003.

(Source: <http://www.ncert.nic.in/sites/valueeducation/ERIC-funded.htm>)

Appendix 1.3.1.2.B NCERT:Regional Resource Centres (RRCs) for Training on Education in Human Values

Seven NGOs have been identified as Resource Centres for Teachers' Training on Value Education. These resource centres are:

Prajapita Brahma Kumaris Ishwariya Vishwa Vidyalaya, Delhi

Ramakrishna Institute of Moral & Spiritual Education, Mysore

National Spiritual Assembly of Bahai' of India', Delhi

Sri Aurobindo Education Society, New Delhi-

Jeevan Vigyan Academy, New Delhi

Chinmaya Mission New Delhi

Sri Sathya Sai Institute of Higher Learning, Anantpur (A.P.)

Appendix-1.3.1.3 NCERT funded 26 research proposals on value education

- i. An Alternative Teacher Education Curriculum for Integral Education as a basis for the Development of Human Values – A Case Study of the Mirambika Teacher Education Curriculum and Programme
- ii. Case Study of Value Education Programme of Rishi Vidyalaya Gurukulam
- iii. A Study of Value Congruence between Home and School
- iv. Development of Values Through Co-Curricular Programmes in Secondary Schools
- v. Value Orientation in Secondary Teacher Education Curricula
- vi. Effectiveness of TV-Model Shadow Puppet Shows in Teaching Value Education to the Primary School Children - A Joyful Learning strategy.
- vii. A Study of Value Orientation and Patterns of Conflict Resolution

- viii. Application of Caricatures for Behaviour Modification among the Elementary School Children - A Remedial and Joyful Learning Strategy.
- ix. Application of Caricatures for Behaviour Modification among the Elementary School Children - A Remedial and Joyful Learning Strategy.
- x. Preparation of Training Materials for Value Education.
- xi. Relevance of Upanishads to Value Education.
- xii. Value Education Programme in Schools and Value Preferences of School Children: A Comparative Study.
- xiii. Designing and Implementing Co-curricular Activities to Inculcate Social Values Among B.Ed. Students
- xiv. A Case Study of Campus Diversity Initiative Programme at Savitri Girls' College, Ajmer
- xv. Values in the Indian Tradition : A Social Psychological Analysis of the Epic Mahabharatha
- xvi. Study of the Effectiveness of Value Education Programme and Residential System of Education on Acquisition of Human Values of Truth, Righteous Conduct, Peace, Love and Non-violence among Teacher Trainees
- xvii. An Experimental Study of Effectiveness of the Package of Value Education on High School Students
- xviii. Ekk;/fed Ldwyksa ds fo|kfFAZ;ksa ds 'Akjhfd ekufld] HAKoukRed rFAk lkekftd LokLF; ij ;ksx fA{Ak ds vlj dk v/;;u.
- xix. Value Education Programme for Parents.
- xx. Effectiveness of the Value based Educational Practices in Sri Sathya Sai Institute of Higher learning.
- xxi. Facilitating Mental Health Through Value Education
- xxii. Value Development in Primary School Children Promoting : Citizenship Responsibilities.
- xxiii. Field Testing of Participatory Value Education Methodologies in rural Government Schools
- xxiv. Survey of Cultural Content in School Curriculum (Standard 9-12)

Appendix 1.3.1.4 NCERT school textbooks review for adolescence education

NCERT, 2002, Science and technology, standard VI, p.161-165

Personal Hygiene

Personal hygiene includes those activities, which the individuals undertake for promoting their own health. Maintaining personal hygiene also prevents an individual from falling sick. Activities for maintaining personal hygiene may include proper habits relating to diet, sleep and exercise. Personal hygiene also includes cleanliness of both external and internal body parts.

Health is also affected by life-style. This includes an individual's health, the way of living, habits and behaviour. Nowadays, many health problems, especially in urban areas, arise due to faulty life-styles of people. Habits like smoking, drinking alcohol, overeating and drug addiction have ill effects on health. Other harmful life-styles include long hours of deskwork, excessive consumption of fast foods and soft drinks, lack of physical activities and exercise. Viewing television for long hours, instead of playing, as a means of recreation, may also affect health. However, there are other life-styles that promote good health, such as, personal hygiene, good nutrition, happy mind, sufficient physical activity and proper sleep.

It is very important to keep our body clean since bacteria and other harmful microorganisms that exist in the surroundings may cause diseases. Habits of keeping body parts clean should be developed from early childhood.

Dirty hands and long nails can carry germs. These germs may get into the body when food is eaten with dirty hands. Therefore, it is important that hands should be washed properly before and after meals. The nails should be cleaned and trimmed from time to time.

Eyes should be washed everyday with clean and cold water. Reading and writing in dim light as well as bright light could be harmful to eyes. We should protect our eyes from injury and foreign bodies. If a foreign body, such as, dust or an insect gets into the eyes; it must be washed with cold and clean water. Rubbing of eyes with hands should be avoided to prevent the injury and entry of germs into the eyes.

Matchsticks, pins and needles should never be used for removing wax from ears. This may damage the eardrum. If the eardrum gets perforated, deafness is certain. Dirt in the external or the inner ear and behind the ears may lead to serious ear problems. Therefore, external ear must be cleaned with clean water. Discharge of any type of fluid from the ears must be reported to a medical expert.

We should regularly clean our nose, as it is an important organ of the body. We should not insert any object inside the nose.

You must have seen people cleaning their mouth after each meal. The teeth should be cleaned properly in the morning and before going to bed. Massaging of gums with clean fingers helps to improve the health of teeth and gums. The teeth and gums get good exercise when hard and fibrous foods are eaten. In the absence of proper cleaning, food particles get stuck between teeth and cause tooth decay.

We usually comb our hair everyday to maintain proper hygiene. Do you know why? Combing removes the dirt sticking to hair. The comb should be cleaned regularly. To keep our hair clean, they must be washed with proper soap and water.

The dirt deposited on the skin may cause itching, prickly heat and boils. If the skin is not cleaned properly, blocking of skin pores may take place. This may not only give a bad odour but also cause serious skin diseases. Therefore, you must take bath regularly. The piece of clothe that you use for wiping your body after taking bath or washing hands should be clean and dry.

The feet should be cleaned everyday and the toe-nails should be cut regularly. Socks if worn should be clean. The shoes should be well fitting and comfortable. Walking barefooted could be dangerous because it may cause tetanus, insect bites and mechanical injuries. Hookworms can also enter the body of a person walking barefooted.

It is not advisable to wear very tight clothes as they are likely to hinder the blood circulation and free movement. Clothes, especially undergarments, should be changed everyday. The choice of clothes should be according to the season of the year.

The food that we eat should be clean. We should use clean vessels for cooking and eating. The food must be covered to protect it from flies. The flies carry germs, which spread diseases. The house and surroundings should be clean so that flies cannot breed. The waste food material from the house should be thrown in a bin, which should be covered with a lid. However, we should try not to waste any food material.

Clean and regular toilet habits are important for maintaining good health. The regular habit of bowel movements at least once a day is good for health. Clean latrines should be used for defecation. Defecating in open fields is harmful for one's own health as well as to the health of others. Sanitary pits for defecation can be easily dug wherever proper latrines are not available. Any excreta in the open must be covered with soil or sand to keep away flies and other insects. Hands and feet should be washed properly with clean water after defecation.

ORAL HYGIENE

You know that an adult person has four different types of teeth in his mouth.

They are fixed to gums and are meant for chewing. Each tooth has three parts: (a) Crown - It is the part projecting above the gums, (b) Root - It is the part embedded in the jaw, (c) Neck- It is in-between the crown and the root.

A tooth contains pulp cavity in the centre. What we see is the enamel covering, the projecting part of dentine. You must have seen yellowing of teeth in some of your friends and elders. This is due to a sticky film of food particles, saliva and bacteria, called plaque. If you eat sweets between meals, the plaque on your teeth absorbs the sugar like a sponge. Bacteria in the plaque then change this sugar into acid, which dissolves away the tooth enamel. Ultimately, this makes a hole or cavity in the tooth. Plaque is harmful for gums also. Plaque

builds up where the teeth meet the gums and makes a space between them. Bacteria that grow in this space cause the teeth to become loose and fall out.

Diet plays a vital role in maintaining dental health. Eat as much as self-cleaning foods, such as, raw vegetables, carrots, radish, spinach, cabbages, fresh fruits and other foods rich in vitamins and minerals. Avoid eating sticky foods like sweets, chocolates, toffees and ice-creams.

Enamel is the hardest material in the body-harder than, even bones! In humans, teeth grow twice. Once, when the baby is about 6-8 months old. At this age, there are 20 teeth, known as milk teeth. When they start falling, permanent teeth grow in their place. They are up to 32 in number. Being the hardest and chemically most stable tissue in the body, the teeth are selectively preserved after death and provide the best data to study ancient human or animal remains.

EYE CARE

The sense of sight is the most important of the five senses. When vision is lost we cannot see the things around us. Following are some of the suggestions to- maintain good eyesight:

- (i) Splash your eyes with plenty of cold water when you wake up in the morning.
- (ii) Protect your eyes from extreme sunlight and glare of bright lights.
- (iii) While reading, the book should be at a distance of 25-30 cm from the eyes.
- (iv) Do not watch television for long hours.
- (v) Do not read in a moving bus or while lying down. It causes strain on eyes.

Your food must be rich in vitamin, especially vitamin A, which is good for eyes. Food items, such as, spinach, milk, butter, cabbage, pumpkin, carrot, tomato and mango are rich in vitamin A. Deficiency of vitamin A in your diet may lead to a condition known as night blindness. A person suffering with this disorder can see during the day, but cannot see at night.

Many a times, we are unable to detect any defect in our vision. It is possible to know about it by a very simple test. Try to read what is written on the blackboard while sitting on a rear bench in your classroom. If you find that you cannot read clearly, tell your parents about it immediately. They will take you to an eye specialist for proper examination. This is a very common defect of the eye. It can be corrected with the use of suitable spectacles.

Conjunctivitis is a common disease of eyes. It is highly infectious. Its symptoms include redness, pain and irritation, watering, swelling of eyelids and discharge from the eyes. The disease spreads through the fingers, clothing, towels and other articles of a person already suffering from this disease. Personal cleanliness and hygiene help prevent the spread of this disease.

HAIR CARE

Hair arises from skin and each strand of hair has two parts-a root and a stem. What we see is the stem of the hair. Falling and early graying of hair reflects ill health. Blood circulates through the skin and provides nourishment to roots of hair. If due to some reason the nutrients

do not reach the hair, they start falling. Each day in the process of combing, a certain number of hair fall out and are replaced. Baldness results if the hair falls rapidly.

You may be familiar with white flakes on your hair and scalp. It is called dandruff. You can prevent dandruff by keeping your scalp clean by washing your hair regularly. Any other person should not use your comb and towel. Massage your scalp regularly. This will enhance blood circulation to the hair- roots and maintain them healthy. Take a good diet that is rich in raw vegetables. Avoid insanitary conditions to prevent lice infestation and dandruff in hair. A well nourishing, balanced diet is important for the proper growth of hair. We should avoid using hair dyes or coloring agents.

COMMUNITY HYGIENE

Community hygiene means health care of all the members of a community. It requires active involvement of the society. The ever increasing over crowding in cities and industrialization are some of the factors for unhygienic conditions prevailing in our surroundings. Primarily, it is the responsibility of the local civic agencies to maintain cleanliness and hygienic conditions in a locality. However, we must understand that keeping the environment clean is a collective responsibility. If each one of us co- operates in this effort, better results may be seen. For example, we see heaps of dirt and waste materials lying scattered in streets, all around us. If each one of us takes care in disposing of the waste materials properly and decides to keep the surroundings clean, cleanliness can be improved. Following are some of the causes of poor community hygiene and measures suggested for maintaining it.

LIVING SPACE AND HOUSING

The population of our country has been continuously rising. It has reduced availability of land for different purposes, such as, agriculture, industries, roads and housing. The population in towns is also increasing. Rural population is migrating to cities, for one or the other reasons. Over-crowding in cities has led to poor and unhygienic living conditions. Most of the houses are crowded and improper ventilation.

NCERT, 2005, Science and Technology, standard VII, p. 157-160

Sexual Reproduction in Animals

In sexual reproduction, there are two parents. The parents have sex organs, which produce sex cells. Females produce eggs while males produce sperms. Sperms are produced by sex organs, called testes. Female sex cells are called eggs or ova (singular ovum). Ova are produced by the sex organs, called ovaries. A sperm enters an egg. This is called fertilisation. A fertilised egg divides many times. The cells develop into an embryo, which later develops into an adult. In insects, reptiles, birds and mammals (including -humans), the eggs are fertilised inside the female body. This is called internal fertilization.

SEXUAL REPRODUCTION IN HUMANS

Between the age of 11 and 16, a boy goes through the following changes : his voice becomes deeper; hair begin to grow on his face and body; his muscles develop; his testes start producing sperms. These changes are caused by a hormone. Male sex organs (a pair of testes) make male sex cells (sperms).

Likewise, between the age of 10 and 15, a girl goes through the following changes: her breasts get bigger; her hips get more rounded. These changes are caused by a hormone, which is different from that in males, produced by the female ovaries. Ovaries contain developing ova. Ova are round and of about 1 mm diameter. Fallopian tubes have funnel-shaped opening which can receive ovum as it comes out of ovaries. Sperms reach the Fallopian tube and are attracted to the ovum. One sperm fuses with the ovum. The sperm nucleus and the ovum nucleus join together. This is called fertilisation. The fertilized ovum divides many times to form an embryo, which grows into a baby.

IN VITRO FERTILISATION

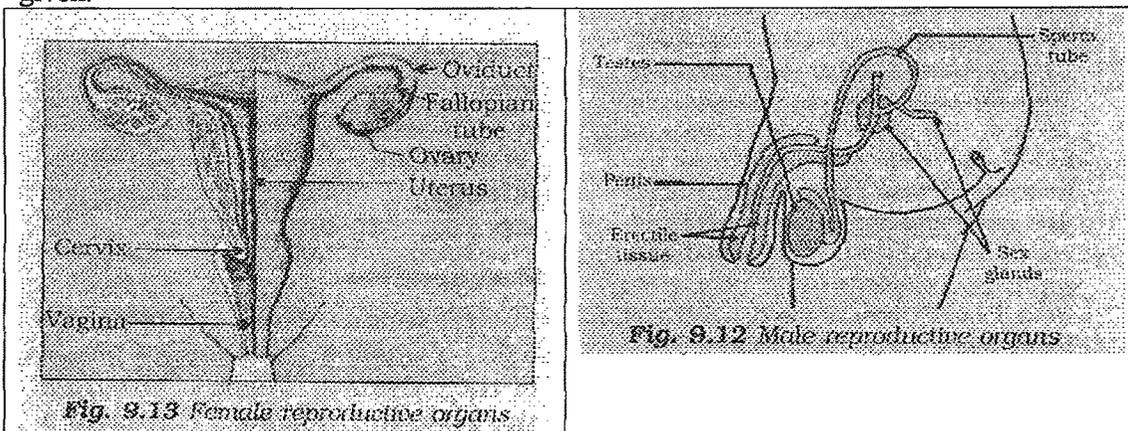
Some women are sterile because their oviducts are blocked. These women cannot produce babies because male gametes (from father) cannot fuse with female gametes in the mother's womb. In such cases, a doctor collects freshly ovulated ova from the woman and semen (sperms) from the husband. These eggs are fertilized in vitro (in glass). After about a week, one or more viable en-embryos are placed in the mother's womb (uterus). If embryo gets implanted, normal pregnancy follows and a baby is born after about 9 months. This technique was initially developed for farm animals in 1950 and later it was used successfully in humans in 1978. Now, in our country also, every year a large number of babies are born by using this technology. The success rate of such cases is only 30 to 40 per cent. Such children are also called test tube babies, which is a misnomer (wrong name). In such cases, except for a brief period (one week) of fertilization and very early development, most of the development takes place inside the womb (uterus) of the mother.

BIRTH CONTROL

Our knowledge of the working of the human reproductive system tells us that it is possible to avoid pregnancy by preventing fertilisation. The best way to prevent fertilisation is to prevent the sperm cells from meeting the ovum. A number of physical, chemical and surgical devices are available today to prevent fertilisation. Family welfare centres have been established throughout the country to give advice in this regard. The workers in this field are trying to solve the greatest problem of our country, that is, the large population. Management of population is essential for family welfare and improving upon the quality of life. Though definite methods to prevent childbirth have been well known, the desired goals have not been achieved. The following are some of the reasons for the population explosion:

- (i) Lack of Education: People are ignorant of the relationship between a large population and poverty. Therefore, they are not inclined to accept the programme of family welfare. Besides, they do not have an adequate knowledge of the functioning of the human reproductive system.
- (ii) Traditional Belief: Childbirth is associated with prosperity. It is regarded as nature's and God's gift. Therefore, no attempt is made to stop pregnancy.
- (iii) Economic Reasons: Children are considered as helping hands to increase the income of the family.
- (iv) Mortality Rate: In our country, the death rate among the infants is high. Therefore, there is a tendency in the low-income groups to have more children with the hope that at least some children may survive.

Repeated pregnancy seriously affects the health of the mother. Children in most large families are malnourished from their early childhood. You have already learnt that malnutrition affects both mental and Physical health. Family welfare programmes are meant to give health facilities to such mothers and the undernourished children. Medical and social workers advise people about the advantage of having a small family and spacing their children. In the family welfare centres, education about the various methods of birth control and safe sex is also given.



NCERT, 2005, Science and Technology, standard VII, p.252-255, 271, 273-274, 277-281

Carbohydrates

Carbohydrates are compounds of carbon, hydrogen and oxygen. Examples of the simplest carbohydrates are sugars, glucose. Molecules of most of the carbohydrates consist of a large number of carbon atoms. For example, a molecule of sugar contains 12 carbon atoms. The main carbohydrates found in our food- are in the form of starch and sugars. These are the main sources of energy for our body. The unit in which the energy given by food materials is expressed is called joule (symbol J). One gram of carbohydrate yields 16.8 kJ of energy. When carbohydrates are consumed in more than desired quantities, the unutilised or excess energy given by them is normally stored in the body in the form of fats. Some common sources of carbohydrates in our diet are rice, wheat, maize, potatoes, sugar and jaggery. Fruits, like, bananas, mangoes and melons, also, contain carbohydrates.

Fats

Fats are also a source of energy. Like carbohydrates, fats act as fuels in our body. But, the same amount of fats supplies more than double the energy that is given by carbohydrates. Fats are essential for the absorption of some vitamins in the body. Fats consumed by human beings are obtained either from animals or from plants. Fats like butter and ghee are obtained from animals. These are usually found in solid state at room temperature. Mustard oil, groundnut oil and other vegetable oils are examples of fats derived from plants. These are usually found in liquid state at room temperature. Meat, fish, eggs and all types of nut are other common sources of fats. The total requirement of fats for an adult is about 70-80 g per day.

Proteins

Proteins are made up of carbon, oxygen, hydrogen and nitrogen. Some proteins may also contain sulphur, phosphorus and iron. A molecule of a protein is made up of a large number of smaller molecules called amino acids. Our body is unable to produce some of these amino acids. It is essential that these amino acids are present in the food that we eat. These are called essential amino acids. The quality of the protein is more important than the quantity, particularly for children. The proteins could be available from two sources -vegetables and animals. Milk, fish, meat and eggs are the main sources of animal proteins. They contain sufficient quantity of essential amino acids to maintain a normal functioning of our body. Vegetable proteins are generally lacking in one or more of the essential amino acids., Pulses or dais are good sources of vegetable proteins. Daily requirement of proteins of an adult is about 50 to 60 g (approximately 1g per kilogram bodyweight). The amount of proteins needed for children is much larger than that for the adult. For that reason, children need as much proteins as the adults do, although their bodyweight could be much less. In general, protein requirement for males is higher than that for the females. However, during pregnancy and lactation period, protein requirement in females is greater than that for the males.

Vitamins

Vitamins are a special group of compounds, which are needed by our body only in very small amounts. They do not provide any energy to us. But, vitamins are an essential component of our diet as they perform specific functions in our body. For example, vitamins help in keeping our eyes, bones, teeth and gums healthy. Many chemical reactions in our body will not take place if vitamins were not present. You are likely to fall sick, if your diet lacks in vitamins. Different types of vitamins have been given specific names, like Vitamin A, Vitamin C, Vitamin D and Vitamins ' E and K. One group of vitamins together is known as vitamin B complex. Some of the vitamins are soluble in water while some others dissolve only in fats.

Let us learn about the sources of different types of vitamins and their specific role in our body. Vitamin A is a fat-soluble vitamin. Good sources of Vitamin A include fish oil, milk and milk products and carrots. Vitamin A keeps our skin healthy. Your skin could become very dry, if your diet were lacking in Vitamin A. Deficiency of Vitamin A also causes night blindness. B vitamins are water-soluble. They are found in wheat, rice, yeast extract, liver and kidney. One particular disease resulting from lack of Vitamin B is beri-beri. People suffering with beri-beri have weak muscles and very little energy to do work.

Vitamin C is a water-soluble vitamin. It is found in all citrus fruits and many fresh vegetables, including potatoes. But, Vitamin C is easily destroyed by heat during cooking. This is one reason why you should try to include fresh, uncooked fruits and vegetables in your diet. Vitamin C helps to keep skin healthy. Without it, the skin on the gums begins to crack and bleed. Wounds on the skin in other parts of the body also take a longer time to heal due to deficiency of vitamin C. This is known as scurvy. Sailors used to suffer from scurvy on long sea voyages when they had no fresh food to eat.

Vitamin D is a fat-soluble vitamin. It is found in fish oil, eggs and milk and milk products. Our skin also makes this vitamin in sunlight.

Vitamin D helps our body to use calcium for bones and teeth. The bones of a person become soft and bend due to the deficiency of Vitamin D. This is known as rickets.

Minerals .

The minerals present in our body are mainly in the form of compounds of calcium, phosphorus, sodium, potassium, chlorine, sulphur, iron, iodine and copper. Only small amounts of mineral are required in our daily diet. Each one of these minerals is necessary for a proper growth of the body and to maintain good health. The bones and teeth are made up of salts of calcium and phosphorus. Calcium is found in abundance in milk, including skimmed milk, and buttermilk, cheese and green leafy vegetables. Rice is deficient in calcium. Therefore, rice eaters should supplement their diet with some food materials rich in calcium. However, ragi contains sufficient calcium. Milk contains phosphorus in lesser amount than calcium. Cereals,

Food Selection

Expensive foods are often considered more nutritious. But, this is not true. Low-cost foods may be very rich in nutritional value. Groundnuts are as much nutritious as almonds. Sprouted seeds (moong and Bengal gram), fermented foods (south Indian foods, such as idlis) and a combination of foods, (missi roti made from cereals and pulses) provide a fairly high nutrition. Therefore, you can also eat inexpensive but wholesome food, such as banana, spinach, sattu, jaggery, soyabean, pulses, groundnut and many other such foods. Rice is one of the major basic foods. De-husked or milled rice lose their nutritional value (iron and Vitamin B)

However, parboiled rice, known as parmal, is good for health because in this process the nutrients present in the skin of rice grain penetrate into it and, therefore, they are protected against loss during milling. Vitamin C, which is water soluble, is lost when pulses and vegetables are soaked in water for a long time. Thus, very often, we eat an improper diet because of wrong food habits.

Balanced Diet

You already know that a diet that contains all the constituents of food in the right proportion is called balanced diet. For children, milk is the best food. During the period of their growth, nutritious food is needed daily in sufficient quantity.

Malnutrition

Malnutrition is a very serious problem among some rural areas and children from very poor families. The deficiency of proteins, carbohydrates and fats (energy-giving foods.) is known as protein energy malnutrition (PEM). It manifests in two forms: kwashiorkor and marasmus. If the diet of mother is deficient in proteins, the breast-fed babies will suffer from protein deficiency.

The diet may be deficient in proteins. This may lead to the disease, kwashiorkor. The main symptoms of this disease are stunted growth, swelling of face and proximal ends of limbs (especially the feet, discolouration of hair, skin diseases and diarrhoea. On the contrary, marasmus occurs due to deficiency of both protein and carbohydrates simultaneously. The child suffering from marasmus becomes very lean and thin. Its growth is completely stopped. The child cannot move due to lack of energy. These diseases occur more in rural areas where illiteracy is high. The children born in such areas are deprived of mother's milk due to close

spacing of births. Many people do not realise the importance of proteins in children's diet. The Government of India has started many programmes to supplement food for children and pregnant women and nursing mothers to control malnutrition. These programmes include Integrated Child Development Schemes (ICDS) and mid-day meals programme in schools.

Nutritional Anaemia

Nutritional anaemia is very commonly seen among women of lower economic groups. It is caused by deficiency of iron in diet, which can be controlled by taking foods rich in iron, such as jaggery, whole wheat flour and dark green vegetables (palak), etc.

Obesity

Overeating also causes diseases. You know that apart of carbohydrates and fats, which you do not burn by working (body activities), is stored in your body for future use. However, continuous accumulation of unused fat under the skin and around the abdomen makes us bulky or obese. Wrong food habits, such as eating high-energy-fat-rich foods (even when our physical work load is reduced) can be responsible for obesity. Such people may have high cholesterol content in their blood, which gets deposited in blood vessels and can cause heart problems. Lack of proper functioning of body parts may cause one or more diseases. A disease can be defined as a disorder in the physical, psychological or any other functioning of the body. Diseases can be caused by nutritional deficiency, biological infective organisms, environmental social and psychological factors. You have already learnt about some of the deficiency diseases. Let us now discuss about some of the communicable diseases.

Stress

A stress may lead to emotional shock, overwork, mad race for doing work beyond one's capacity and poor mental health, (feeling of hatred, fear, anger and jealousy) - Modern lifestyles include watching T.V. programmes, working on computers and use of Internet for various purposes for several hours everyday. Noise pollution due to rock music and blaring horns and excessive driving also causes stress. Heart is one of the most harassed organ in our body. Under the conditions of stress, it has to beat faster to cope with the stress. Excessive stress can cause a great deal of damage to our body structure by reducing the capacity of brain to function properly. If the stressful conditions continue -for longer periods, our nervous system gets overburdened. This may result in the loss of our mental alertness.

Use of Tobacco, Alcohol and Drugs

(a) Smoking : Cigarette and bidi smoking and chewing of tobacco are quite prevalent in our country. Tobacco smoke is a stimulant, but a slow poison. Some of the harmful components of tobacco chewing or smoking are nicotine, tar, carbon monoxide and some other gases. Addiction to smoking is due to the presence of nicotine in the tobacco. Nicotine can damage heart and brain. The tar is formed in the lungs, when tobacco smoke cools inside them. It may cause cancer. Some gases in tobacco smoke irritate the lungs and make the smoker cough. All these effects are injurious to health. Non-smokers, who live with smokers, can also suffer lung diseases due to left-over smoke inhaled by the neighboring non- smokers. You must remember that cigarette smoking is injurious to health. It is a statutory warning issued by the Government of India. It is printed on each packet of cigarettes.

(b) Alcohol : It is not a food but a stimulant and is a habit-forming substance. It affects nervous system and may damage the liver. It is very dangerous to drink alcohol and then drive a vehicle (car/scooter/truck). The effect of alcohol can last for several hours. Alcohol is sometimes referred to as liquor. Like cigarette smoking, consumption, of liquors is injurious to health.

(c) Drugs: Some drugs, like cannabis (ganja), cocaine and heroin (smack) have harmful effects on the brain. The users of drugs become dependent on it, or addicted to it. Since the brain is affected, there is a loss of control of the body. Drugs can cause mental disorders. Drug addicts often get confused and are prone to accidents. An overdose of drugs can result in death.

Vitamin Deficiency

Vitamins are required by body in very small amounts. They are called micro- nutrients. The vitamins do not yield energy but enable the body to use other food components effectively. Your body is sometimes unable to synthesize the vitamins. Therefore, they must be provided to your body by the food that you eat. A balanced diet supplies the vitamins needed by a healthy person. Vitamins are divided into two groups:

(a) Fat-soluble vitamins - Vitamins A, D, E and K.

(b) Water-soluble vitamins - Vitamins of B group and Vitamin C. Each vitamin has a specific function to perform in the body.

Vitamin D Deficiency Disease

(Rickets) The word 'rickets' means to twist. It is a deficiency disease of infancy and early childhood in which the bones are softened and deformed. It arises as a result of deficiency of Vitamin D. This vitamin is essential for the proper absorption of calcium and phosphorus. Poor absorption and utilization of these minerals prevent the formation of strong and healthy bones and, therefore, results in rickets. The disease often makes its appearance at the time of teething in children. It is more prevalent in the children of economically weaker classes. The major symptoms are: (a) there is a marked weakness in the bones of the child, which delays its ability to sit, crawl and walk. The weight of the child's body may bend the bones and joints and cause deformities, such as bow legs and knock knees. The chest may also be deformed due to softening of ribs. It is called pigeon breast; (b) The child's abdomen may protrude; (c) The limbs may assume an unnatural shape due to weak muscles. It may be noted that in women, Vitamin D deficiency may occur during pregnancy and lactation (milk feeding of the new-born child). In our country, the overall incidence of rickets has decreased considerably due to the proper health care system for the mother and the child. Synthesis of Vitamin D in the skin depends upon sunlight. Thus, complete lack of proper sunlight is a factor for the occurrence of this disease. Vitamin D is found only in the foods of animal origin; for example, fish liver oil, egg yolk, liver, butter and cow's milk.

Vitamin C Deficiency Disease (Scurvy)

Vitamin C (ascorbic acid) is a water- soluble vitamin. Out of all vitamins, it is the most sensitive to heat. It is essential for normal growth and maintenance of most body. tissues, especially those of the joints, bones, teeth and gums. This vitamin is found in citrus fruits, green and leafy vegetables, tomatoes and potatoes.

Scurvy is caused by the lack of Vitamin C in food. It generally occurs between 6 and 8 months of age. However, it can start much earlier in the children of those mothers who lacked nutritious food during their late stage of pregnancy. The main symptom of this disease is that the limbs become tender and painful and the child becomes irritable. The limbs adopt the characteristic frog position. Purple coloured swelling and bleeding of gums occur if teething is in progress in the child. Thus, scurvy causes weakness, anemia, bleeding gums and painful and swollen parts, slow healing of wounds, and a lower resistance to various infections. Therefore, to prevent scurvy, sufficient amounts of citrus fruits, green and leafy vegetables, tomatoes and potatoes must be taken. It is advisable to eat potatoes with skin, or after boiling them.

Scurvy is more common in those infants who are not breast-fed. Cow's milk contains less than half the Vitamin C found in breast milk. This is reduced further if the milk is boiled or processed. Thus, all children, after their birth, should be breast-fed for at least 8- 10 months. This is the best way to provide all the essential nutrients to the child during this period. Vitamin C is found in fresh fruits and vegetables, but it is largely destroyed during cooking if baking soda (sodium hydrogen carbonate) is used. As the normal diet does not contain sufficient amount of Vitamin C, it is necessary to take citrus fruits, amla or tablets of ascorbic acid daily.

Mineral Deficiency Minerals are inorganic substances present in our food. They are also called nutrients. Minerals do not provide energy to body but they are required for growth, repair and regulation of important body functions. More than 50 chemical elements are found in the human body. They have been grouped as (a) major minerals, which include calcium, phosphorus, sodium, r potassium and magnesium; (b) trace f elements, such as iron, iodine, zinc and manganese.

Calcium Deficiency The human body needs calcium more than any other mineral. A man weighing 70 kg contains about one kg of calcium. About 99 per cent of this quantity is used for building bones and teeth in the body. The remaining amount of calcium is used by the blood, muscles and nerves. Calcium performs many important functions. Without this mineral, the contractions of the heart become faulty; the blood does not clot and muscles do not contract properly, resulting in faulty limb movements. Deficiency of calcium may cause porous and fragile bones, tooth decay, loss of sleep and irritability. A large increase in dietary supply of calcium is needed for persons suffering from rickets. Calcium is found in milk and milk products, whole wheat, leafy vegetables, such as spinach and cabbage, carrots, oranges, lemons, almonds and walnuts. The requirement of calcium is larger for growing children and pregnant and lactating women.

Phosphorus Deficiency For the development of body, phosphorus is also very important. A balance between phosphorus and calcium is necessary for the proper growth of bones and teeth, and in the formation of nerve cells. This mineral is also essential for the digestion of carbohydrates and fats. Phosphorus is found in abundance in cereals (wheat, bajra and maize); pulses (urad, soyabean and moong), nuts, egg yolk, milk and green vegetables. Those deficient in phosphorus should take juice of orange and lemon. Presence of phosphorus, like calcium, in daily diet is essential. Phosphorus deficiency may bring about loss of weight,

retarded growth and general weakness. It may also result in poor development of bones and the nervous system.

Iron Deficiency

Iron is an important part of blood. It gives red colour to the blood and transmits oxygen to body. It is needed for the formation of blood cells (red blood corpuscles, RBC). The adult human body contains about 3-4 grams of iron, of which two-thirds is present in the blood. It is especially needed by women during pregnancy. Its deficiency causes anemia and other symptoms, such as fatigue, loss of appetite, pale body colour, white nails, and the swelling of hands and feet. In our country, anemia is very common in women. Therefore, their daily diet should contain adequate quantities of low-cost iron-rich foods, such as whole wheat flour, jaggery and dark green vegetables. Yellapragada, Subba Row, an Indian scientist, discovered the role of Vitamin B₁₂ in curing pernicious anemia. He also discovered medicine for filariasis.

Iodine Deficiency

Iodine is an important requirement of our body. It is a very important component of thyroxine a hormone secreted by the thyroid gland situated in the neck. Iodine deficiency can cause disorders resulting in retarded growth and mental disability. It also causes abnormal enlargement of the thyroid gland, commonly known as goitre. This condition is rare amongst people living along the sea-coast as they - normally take sufficient quantities of seafood which contains iodine. It is more common in mountainous regions where the iodine content of the soil and water is low. In many parts of our country, people are afflicted with goitre. Adding iodine salts to cooking salt or to the drinking water supply can help in the prevention of goitre.

NCERT, 2005, std. X, p. 153-156

Human reproduction is highly evolved. The structures associated with reproduction are different in male and female, thereby forming specialised male reproductive and female reproductive system. In the life of human beings reproductive system becomes functional at a definite age called puberty. Generally, male attain puberty at the age of 13 to 14 years, while females attain it at the age of 10 to 12 years.

The male gonad produces sperm and female gonad produces ovum at the age of puberty. The testis and ovary, besides producing viable gametes, also secrete hormones. These are testosterone (male hormone from testis) estrogen (female hormone from ovary). The hormones play a very important role in process of reproduction. They (i) regulate the process of gametogenesis (formation of sperm and ovum) (ii) maintain the structure and function of accessory sex organs, and (iii) develop secondary sex characters like facial, axial and pubic hair, pitch of the voice, and development of mammary glands.

Male Reproductive System

The primary male reproductive organ is a pair of testis (testes). The testis lies in small sac-like muscular structure outside the abdominal cavity called scrotum. Scrotum provides an optimal

temperature for formation of sperms. This temperature is 1-3 degree celcius lower than the normal temperature of the body. The function of testis is to produce sperms and the male hormone (testosterone). Testes form sperms throughout the reproductive life (puberty stage onwards) of man. From each of the testes arises a long tube called Vas deferens. It unites with a duct coming from the urinary bladder to form a common tube called urethra. The urethra is enclosed within a thick muscular organ, called penis, and opens to the outside through a male genital pore. There is only one common opening for the urine and sperms.

Female Reproductive System

Female reproductive system is more complex than that of male. The complexity in structure and function ensures the union of sperm and ovum inside the body of the female. In human females, paired ovaries are located in the abdominal cavity near the kidney. The ovaries perform dual function of (i) production of female gamete (ovum) and (ii) secretion of female hormones (estrogen and progesterone). Each ovary is composed of ovarian follicles. At puberty, these follicles undergo maturation to produce ova. Near the posterior end of ovary, a funnel like structure leads into a long convoluted tube called fallopian tube. The fallopian tube from both sides opens into a muscular structure, the uterus. Uterus opens into the vagina. Vagina is a tubular structure. It is also called 'birth canal', as through this canal the young one is born after completion of development inside uterus. In females, urinary opening (urethra) and vaginal openings are separate.

Sexual Cycle in Females

In human female, the ovaries start producing ovum (female gamete) at a definite age called puberty (10- 12 years). After this age, ovaries exhibit cycle of events at definite intervals. The ovarian follicles grow into mature follicle. Usually, one mature follicle develops to surround one ovum. The ovum is then released from the respective ovary by the process called ovulation. The maturing ovum is from one of the two ovaries. At the same time, cycle of events takes place in other parts of the female reproductive organs like uterus and vagina. As the ovarian follicle matures, the inner wall of uterus thickens to get prepared for receiving the developing zygote in case fertilization occurs. You know that in human beings, the embryo develops inside the uterus. In case fertilization does not take place the thickened inner wall of the uterus breaks down along with its blood vessels, and moves out of the vagina in the form of bleeding, called menstrual flow (menstruation). It lasts for about 4-7 days. The cycle of events taking place in the ovaries and uterus every twenty-eight days and marked by the menstrual flow, is called menstrual cycle (sexual cycle in human female). In a normal healthy woman, ovulation takes place in the mid of the menstrual cycle around 14th day. Menstruation occurs every 28 to 30 days. The commencement of menstruation at puberty is termed menarche, and marks the beginning of reproductive life of a woman. The cycle of events in ovary and uterus stops around the age of 50 years in a human female. It is marked by the absence of menstrual flow. The stoppage of menstrual flow and other events at this age is termed menopause. The period between menarche and menopause (12 to 50 years) is the normal reproductive life in human female. The functions of ovaries and uterus change during pregnancy. Both ovulation and menstruation stop till birth of the offspring. The functions of the ovary and other reproductive organs are controlled by hormone released from hypothalamus and pituitary and the female hormones.

Fertilization :

In human beings, fertilization is internal. The male gamete (sperm) is introduced inside the female genital tract by the process called copulation (mating). The sperms are highly active and mobile. Millions of sperms are released in the vagina, and they move up through cervix and uterus. Finally, in the fallopian tube only one sperm fertilizes the ovum. After the union of the sperm and the ovum fertilization, zygote is formed, if copulation has taken place during ovulatory period (middle of the menstrual cycle). Fertilization is marked by the absence of the menstrual flow.

The embryonic development of the zygote starts immediately in the fallopian tube and pregnancy begins. The embryo moves down to reach the uterus, and gets attached to its thickened inner wall. The close attachment of the embryo with the uterus is called implantation. After implantation, a special tissue called placenta develops between uterine wall and the embryo (foetus). Through the placenta, the developmental needs of the foetus, such as nutritional, respiratory and excretory are met from the maternal body. The development of foetus inside the uterus till birth is called gestation. On completion of gestation, the birth of the fully developed foetus is termed as parturition. The average duration of human pregnancy is about 280 days or 40 weeks and it is calculated from the first day of the last menstrual cycle. The newborn child, after 40 weeks of gestation, weighs about 3.5 kg.

Frequent pregnancies have an adverse effect on the health of a woman. They also add to our already exploding population. A number of techniques have been developed to prevent and manage pregnancy. These methods are broadly categorized as : (i) barrier (ii) chemical and (iii) surgical methods. In barrier methods, physical devices such as condom, diaphragm and cervical caps are used. They prevent the entry of sperm in the female genital tract during copulation. The chemical methods are use of specific drugs by females. There are two types of such drugs, oral pills and vaginal pills. Oral pills are mainly hormonal preparations, and are called oral contraceptives (OCs). The use of Intra Uterine Contraceptive Devices (IUCDs) is also very effective and popular. A copper-T is placed safely inside the uterus by a practicing doctor or a skilled nurse. IUCDs prevent implantation in the uterus. In the surgical methods, a small portion of vas deferens in male, and the Fallopian tube in female, is surgically removed or ligated (tied). It is called vasectomy in males and tubectomy in females. From the family planning point of view, it is always advisable to adopt any of the fertility regulation methods. The oral contraceptive (OCs) is purely hormonal preparations that inhibit the Production of gametes by the action on hypothalamus, pituitary and the ovaries. The use of contraceptives needs awareness of the side effects and regular medical advice.

REPRODUCTIVE HEALTH AND SEXUALLY TRANSMITTED DISEASES (STDs)

You have learnt earlier that health includes our physical, social and mental well-being. Reproductive health forms a crucial part of the general health. Reproductive health includes such aspects that ensure a responsible, safe and satisfying Reproductive life. Both males and females require enough awareness regarding the fertility regulation methods, the right, the freedom and choice to control childbirth, the ability to prevent and control sexually transmitted disease and to manage disorders related to the reproductive system. As you know, bacteria, viruses, protozoans and fungi cause many infectious diseases. These diseases are

spread by means of air, water and food. Similarly, certain infectious diseases are spread from an infected person to a healthy person by sexual contact. Such diseases are called sexually transmitted diseases (STDs). Common STDs are gonorrhoea, syphilis and trichomoniasis. In most cases, the symptoms of these diseases are burning sensation at urination and urethral discharge. These diseases are curable. Acquired Immuno Deficiency Syndrome (AIDS) is also sexually transmitted diseases (STDs) and most often that causes death. It has no definite cure till now. The causative agent for this disease is Human Immunodeficiency Virus (HIV).

World Health Organisation (WHO) has prepared guidelines and considered reproductive health as fundamental human right. The National Population Policy and National Health policy of India have covered these aspects under their programmes. The family planning programme of the government has taken enough steps to create awareness and provide relevant information about reproductive health. This responsibility of national importance is also being shared by Non Government Organisations (NGO) to a great extent.

Appendix-1.3.5 GBSTB school text books review for adolescence education

Male Reproductive System: The two main male reproductive organs are testicles and vas deferens. In males there are two oval bodies, which are suspended in a sac hanging from the lower wall of the abdomen, the scrotum. The male reproductive cells are called sperms. They are produced in great numbers in the testicles. One pair of ducts carrying sperms from the testis to the outside is known as Vas-deferens. One end of this tube is convoluted attached to testis, where sperms are stored. This is the epididymis. The other end as vas-deferens ultimately opens in to the urethra through the urinary duct. In a male, sperm cells come out through urinary duct so it is also known as the urinogenital duct. The innumerable sperms produced from the testis float in a liquid medium. This liquid medium with sperms in it is known as semen.

Female Reproductive System: The female reproductive organs include a pair of ovaries, a pair of oviducts (fallopian tubes) and the uterus. Ovaries are two small almonds like flattened bodies situated in the abdominal cavity of the female body. In females, the ovaries become mature and start functioning at the age of 13-14 years. Thereafter each ovary produces one ovum alternately every month. A tube known as oviduct carries the ova released from the ovary. The pair of oviducts led to the uterus. The uterus is a muscular bag like structure and is located behind the urinary bladder. The lower end of the uterus opens near urinary duct. This genital canal is known as the “Vagina”.

Ovum, which is liberated from ovary, does not exhibit any movement. When this ovum gets fertilized by sperm in the oviduct (fallopian tube), it becomes the “zygote” or “fertilized egg”. The zygote moves down to the uterus due to expansion and contraction of the muscular tissues of the oviduct. The zygote reaches the uterus, becomes implanted and develops in to an embryo. The embryo further develops and results into a baby.

The endocrine system includes glands, mainly pituitary, ovary and testicles, which are ductless. They release hormones directly into the blood stream. Hormones are secreted for definite period in definite quantity for harmonious development and working of the body (GSBST-VII, 2003, p188-189).

Reproductive Organs of a Man: Testis, scrotal sac, vas-deferens, seminal vesicle, prostate gland and penis are reproductive organs of man. A pair of testes is situated in the lower part of the abdomen, outside the body cavity and protected in the scrotal sacs. Scrotal sac is a single sac but gets divided in to two by a longitudinal septum. Hence one testis is found in each part. The testis consists of numerous convoluted seminiferous tubes. The cells of these tubules produce sperms through meiosis. From each testis a vas deferens arises which carries sperms. It joins to the seminal vesicle and forms an ejaculatory duct. This duct is muscular and it opens into the urethra. Penis is an external reproductive organ, which has the urethra. Its anterior portion is swollen which is called glans penis. It is covered by prepuce or foreskin. When the spongy erecting tissue is filled with blood then the penis gets erected. Sperms come out through this organ. Sperms remain floating in liquid medium of seminal fluid. Semen is formed by mixture of sticky, white secretion of seminal vesicle and thin liquid of prostate gland having specific odour (Science, STD-IX, p. 192-195). In the testis, testosterone hormone is produced by the interstitial cells. Due to the production of this hormone, a boy

experiences physical and mental changes like the growing of moustaches and beard. An activation of the reproductive organs in man starts from 13th to 14th year of age.

Reproductive Organs of Woman. : Ovary, fallopian tubes, uterus and vagina are reproductive organs in woman. In woman a pair of ovaries are situated near the broad, funnel shaped ends of fallopian tubes. They are as large as bean seeds. In ovary, egg follicles are produced. These follicles produce egg cells by the process of meiosis. Diameter of an egg cell or ovum is about 0.14 mm. The process of releasing ova from an ovary is called ovulation. In woman ovulation occurs after every 28 days. The fallopian tubes are hollow and consist of villi inside. It opens in the uterus. Uterus is a muscular sac. This sac is broad at the top and narrow at down. Its narrow end opens in the vagina. The vagina opens outside the body. The sperm enters the uterus through the vagina and from there they enter the fallopian tube. In woman the hormones of the ovary and the pituitary gland are associated to the process of reproduction, ovulation, implantation and menstrual cycle. Due to the activation of these hormones the sexual changes are seen in a girl during 11th-12th year of age, such as development of breast, development of uterus and vagina, beginning of ovulation and menstruation.

Menstruation : After ovulation, if an ovum does not come in contact with sperm then it is not fertilized. As a result embryo is not formed and because of this, deficiency of progesterone is found. As a result the endothelium of uterus, which is soft and highly vascular, breaks and blood flows out which is terms as menstruation. An unfertilized egg also flows out along with the blood released.

Development of Embryo : If fertilization occurs, then embryo is formed. After the formation of an embryo, menstruation stops. In the beginning the embryo gets nutrition from the wall of the uterus. Afterwards an embryo forms an umbilical cord. This umbilical cord joins the placenta of the uterus. At this junction both, the mother blood (via placenta) and Embryo blood (via umbilical cord) come in close contact and exchange materials like gases, nutrients, waste products etc. In human beings the gestation period is 270-280 days. On completion of the period child is born.

Table : Glands, Hormones and Functions		
Gland	Hormone	Function and Disorders
Pituitary	Growth Hormone (GH)	Regulation of growth
	Thyroid Stimulating Hormone (TSH)	Regulation of thyroid gland
	Ademocorticotrophic Hormone (ACTH)	Regulation of cortex of adrenal gland
	Follicle Stimulating Hormone (FSH)	Stimulate ovary to produce estrogen
	Lactotrophic Hormone (LTH)	Stimulation of mammary gland,
Ovary	Estrogen and progesterone	Ovulation, menstrual cycle and development of sexual characters in female.
Testis	Testosterone	Development of sexual characters in male

Source: GSBST, 2003, Science, Standard IX, p.196

Table Nutrients and Minerals in some common food items.

Carbohydrates	Rice, Idli, Chapati, Puri, potatoes, Jaggery, Sugar, Honey, Bread
Proteins	Eggs, Fish, Milk, Paneer, Pulses,
Lipids	Butter, Groundnut, Ghee, Vegetable oils
Minerals	
Calcium	Milk, Green Vegetable, Cereals
Iron	Meat, Dry Fruits, Leafy vegetables, jaggery
Phosphorus	Milk, Leafy Vegetables
Sulphur	Leafy vegetables
Iodine	Sea Foods, Turmeric

Source: GSBST, 2003, science, standard-X, p.32

Table : Daily recommendable (in grams) of Different Items of Food

Dietary Items	Boys (10-12 yrs)	Girls(10-12 Yrs)
Cereals	420	380
Pulses	45	45
Green leafy Vegetables	50	50
Other Vegetables	50	50
Bulb	30	30
Milk	250	250
Oils & fats	40	35
Jaggery and Sugar	45	45

Source: GSBST, 2003, science, standard-X, p.33

Sexually Transmitted Diseases : Gonorrhoea, Syphilis and AIDS (Acquired Immuno Deficiency Syndrome) are the diseases, which are transmitted to other persons through sexual contacts with those already suffering from such diseases. The former two are bacterial diseases while the third one is viral. AIDS is pathogenic condition, which leads to progressive loss of disease resisting capacity of the patients. (GSBST, 2001, X, p.70)

Public Health : It is always wiser to take preventive (prophylactic) measures rather than treating the patients after the incidence of disease. Efforts to prevent the occurrence of disease is not a problem of mere individual cleanliness and care. It is a matter of general public concern covering the whole society and only collective efforts can help to prevent the spread of diseases.

Health Education : Mass Education is an important aspect regarding social and individual responsibilities and contributions towards prevention of diseases. Through health awareness on mass scale and over all public co-operation prevention of the spread of transmittable diseases is a distinct possibility.

In humans, 23 pairs of chromosomes occur, Twenty-two pairs are autosomes and are similar in male and female. 23rd pair in female consists of two similar X sex chromosomes, while in male; one chromosome in 23rd pair is like X chromosome in female, but the second one is homologous chromosome, which is smaller in size called Y chromosome (GSBST-XI, 2003).

Sex Hormones: Apart from producing (sex cells) gametes, the sex glands, the ovaries and testes, secrete hormones; hence they are also called endocrine glands. The sex hormones, secreted by sex glands, influence production of sex cells, and are responsible for the manifestation of sexual characters and behaviour. The testes produce hormones collectively called androgens, chief among them being testosterone. The development and maturation of spermatozoa (male sex cells) in the seminiferous tubes occur due to the FSH of the pituitary gland and the testosterone of the testis. Testosterone is produced by the interstitial cells called the Leydig cells. This function of the Leydig cells is dependent on the interstitial cell-stimulating hormone (ICSH) of the pituitary gland (Science BIOLOGY, Std XII, p.212)

Testosterone is also called the male sex hormone. It stimulates the development of the male reproductive organs and accessory (dormant) sexual characters. Similarly, a strongly muscular body, facial and chest hair and other masculine features are characteristics dependent on testosterone.

The ovary is also partially endocrine gland. It secretes the female sex hormone called estrogen. The development of oviducts (Fallopian Tubes), uterus, vagina, mammary glands (breast) etc is mainly due to the influence of estrogen. Feminine gracefulness, development of breasts etc are manifestation of the action of estrogen. During womanhood (adulthood) another hormone called progesterone helps in preparing the uterus for conception and induces conditions favorable for the nurture (breast feeding) of an infant.

The development of ova in the ovary is brought about by the combined action of FSH, LH (Lutenizing hormone) and LTH. Similarly the functional development of the ovarian follicles, which produce estrogen, is dependent of FSH and LH. After ovulation (liberation of ovum) the subsequent elaboration of progesterone is facilitated by the formation of corpus luteum.

A total lack of gonads (sex glands) leads the absence of sex hormones resulted in infertility and the absence of secondary sexual characters. If sex glands are destroyed or if they undergo degeneration after puberty then appreciable change do not occur with regards to secondary sexual characters. Conversely, degeneration of glands prior to puberty results in conspicuous alteration in sexuality, sexual development and occurrence of secondary sex characters

Sex determination in man : In man, the female has chromosomal constitution of $2A+XX$ and therefore produces similar egg cells with $A + X$ chromosomal constitution, while the male has $2A+XY$ chromosomes and produces sperms of 2 types, half with $A+X$ and half with $A+Y$ chromosomes. Sex determination in man depends upon the type of sperm that fertilizes the egg cell. Therefore, in human beings sex is determined at the time of fertilization.

In human beings, during the 6th week of embryonic development, the gonads are simple, undifferentiated genital ridges with epithelial outgrowths. Primordial germ cells migrate towards these ridges and are surrounded by the epithelial outgrowths. At this stage, the gonad is bipotential. It can differentiate either into an ovary or testis. The chromosomal constitution of the embryo determines whether this primitive gonad will differentiate in to an ovary or testis.

Things Harmful for Health

In order to be free from mental tension some people take resort to harmful things, take drugs, alcohol. Some smoke or chew tobacco while some get addicted to opium. These articles are greatly injurious to our health.

Tobacco : Tobacco contains nicotine, which is very exciting and poisonous. Its effect on younger people is more harmful. The nicotine in tobacco stimulates our nerves first but then our nerves become weak due to the after effects of smoking. When we smoke cigarettes, the smoke will pass through trachea, bronchi and lungs and it harms all these organs. Consumption of tobacco may result in deadly diseases like cancer.

Alcohol or Liquor : Alcohol is also very injurious to our health. Alcohol drinking increases salivation and acidic secretion in the stomach, hence our digestive secretions go waste and digestion becomes poor, we have a vomiting sensation. The alcoholic suffers from ulcers of the stomach. Thus, alcohol is harmful to our digestive system. It decreases our resistance to diseases. It also weakens our nervous system, particularly that of the brain and the nerves.

Postures:

1. **Standing Position :** we should not get up suddenly with jerk, but should do so slowly and gradually. We should form the habit of getting out our bed by first putting our feet on the floor slowly and then get up.
2. **Sitting Position :** we should sit erect keeping our spine and back straight. In this position our neck and other organs get support from the back. The use of very soft cushions or pillows spoils the natural curve of our spine.
3. **Walking :** We should walk keeping our body upright. If we walk very fast, we get tired, so we must develop the habit of walking at proper speed. The muscles of our legs get contracted and expanded rhythmically while walking in a proper way. We should increase our walking speed gradually and should decrease it slowly before we stop walking. While walking we should protect our spine from needless jerks.
4. **Lying Down :** If we lie in a sack like bed our back bones are pressed. Babies should sleep in flat cordless and not in Ghodia. Our bed should be large enough for free turning movements on the sides when lie in a bed.

What is Yogasana ? : The word yogasana is a compound noun made of two words Yoga and asana. Asana means posture of the body. In other words, we can say that “Asana” means a posture in which the body can sit for a long time in a controllable position. Such “asana” or “posture” gives Vyayam or exercise to the internal organs and glands inside the body. There should be proper coordination of breathing while performing asanas.

Effect of Yogasanas on our body

We strengthen our body and attain good health by performing asanas.

We increase our physical efficiency and flexibility of our spinal support

We become healthy, feel light and get rid of laziness and thus become energetic.

Yogasana increase power of resistance to diseases

The whole body gets symmetrical in shape.

Yogasana provide good exercise and massage to our abdominal organs.

All our nerves get nourished

Yogasana is an internal type of exercise, which strengthens internal organs. Glands etc and makes us free from diseases

HPE STD 8

Care during Pregnancy of the mother

The mother takes in air, water and food not for herself only but for two lives herself and the foetus. Hence, naturally she needs more air, water and food than before. So the mother should take food of proper quality and should increase its quantity. The diet should include pulses, milk, green vegetables and fruits like mangoes, bananas, and papaya in substantial quantity. If the mother is non-vegetarian she can take eggs, fish and meat in sufficient quantity. Mothers do not take certain nutritious food because of wrong beliefs regarding diet. This results in adverse effect on the health of both the mother and the child. All varieties of food can be taken during pregnancy. Therefore there is no need of observing restraint in taking food.

First three months of pregnancy are very important for development of the embryo. During this period the mother should not take any medicine unless the doctor specifically prescribe it. Also X-ray examination should not be done. Violation of these principles can result in birth of Physically deformed child.

Women are often suffering from anemia. This becomes worse during pregnancy. This may result in poor development and growth of the child. The mother's health also deteriorates. For getting protection against the disease the mother should take food containing iron and proteins like jaggery, green vegetables, carrots, pulses, milk, curd eggs etc. If pulses are sprouted, they become easily digestible and tasty. After fourth month of pregnancy iron tablets may be taken according to the advice of doctor.

During pregnancy two injections of tetanus toxoid should be given to the mother in order to protect the child from tetanus.

During pregnancy the mother should get herself physically examined by the doctor. Pregnancy is not an illness. However such medical examination is necessary for maintenance of good health of the mother and child. Such check-up should be done at least four times during pregnancy. Such type of medical check up is very important for motherhood as well as childcare.

The mother need not take too much rest during pregnancy. It is beneficial for her to continue normal work. Thus the mother can be protected through measures like enough good quality nutrition, iron tablets, tetanus toxoid, injections and regular medical check-up. Moreover it takes care of child as well.

If the mother is not free of addiction during pregnancy it could produce trouble. Tobacco addiction can be in many way- bidi, cigarettes, snuff, gutkha etc. All these will result in harm to both mother as well as the child. Alcohol or any other addiction too is harmful to both

Underweight Infant

If the mother is looked after properly and she is afforded enough protection during pregnancy the child born is healthy. Normally weight of child is an indicator of its health. Ideally the weight of the newborn baby should be at least 2.5 Kg.

If the weight of newborn baby is less than 2 kg it is considered underweight. Such children are susceptible to infections and other diseases. This may result in early death.

Causes : The main reason for under weight infant is inadequate care of the mother during pregnancy.

This happens if the mother has not taken adequate nutrition during pregnancy. If she has not taken good quality nutritive diet, the infant at the time of its birth is underweight.

The body of the mother may be mal-nourished and weak right from the beginning.

The mother may have repeated pregnancy during short period.

The mother may have performed hard physical labour beyond her capacity during pregnancy.

The mother might have suffered from dysentery, respiratory diseases, tuberculosis, malaria high blood pressure etc.

If the mother has been addicted to alcohol or tobacco during – pregnancy or she is passive smoker i.e. other persons smoke in her presence it will adversely affect the weight of the child.

The mother might have suffered mental stress and strain during pregnancy such an effect to girl child is shown in the following diagram. If care is taken of all these causes during pregnancy, underweight child birth can be prevented easily:

Effect of Breast Feeding on Development and Growth of the infant.

Growth means increase in size of infant.

Development means increase in capacity of the infant.

Mother's milk is considered nectar for the child. There are all the nutrient elements in proper proportion necessary for growth and development of the child in mother's milk. Not only that but there are substances in mothers milk which give protection against diseases to infant. Mother's milk can be easily digested by the infant. Thus breast-feeding is best for the infant in all respects.

Recommendation of World Health Organisation (WHO) regarding breast-feeding.

The World Health Organisation, an international institution working on the health of the whole world has recommended the following :

The infant should be breast-fed immediately after birth

Here, immediately means within half an hour.

Mother's milk is yellowish in early days. Some people considered it unhealthy. This belief is entirely wrong. In fact this milk is very nutritious and it possesses concentrated immune bodies. If this is ignored it has adverse effect on the future of the infant.

Only mother's milk should be given in the initial six months. During this period there is no necessity of top feeding.

After six months the child should be given soft nutritious food over and above breast-feeds.

Development and Growth of Child : During different periods of our life the rate of development and growth are different. Pregnancy and childhood are such two stages that development is at maximum level and growth is speediest. Generally, physical – development and growth continue up to 20 years. Development and growth-physical, mental and reproductive organs after birth are shown with different lines in the following graph. The growth of girl is speedier than that of boys. Our physical and intellectual development and growth are maximum and speedy up to the age of 5 to 6 years. i.e. in childhood. Moreover you can see that development and growth of the reproductive organs are maximum and speedy during the period of twelve to fourteen years i.e. adolescents stage. This information leads us to the conclusion that the child should be given the best care up to the age of six years in order to that the physical and intellectual development and growth of any person reach high limits.

Child Care

1. **Adequate Nutrition :** Immediate breast-feeding after birth, only mother's milk up to six-month addition of nutritious diet afterwards and enough nutritious food after discontinuing mother's milk. Nutritious food includes milk, milk products like curds, butter milk, cheese, butter ghee, plus specially sprouted vegetables, fruits like banana, papayas, mangoes, guava, apple, orange, sweet-lime, products from grain, lemon, spices etc. For non-vegetarians nutritious food includes eggs, fish meat etc.

2. **Love and Warmth:** Mental health is preserved by receiving love and warmth from parents and near relative.

3. **Proper Weight :** Information relating to nutrition is available by measuring the weight and keeping its record. Efforts can be put in to improve the health if malnourishment is detected. Detail discussion regarding weight will be done later on.

4. **Medical Treatment :** The body recovers quickly through timely and adequate treatment of illness.

5. **Time bound Vaccination :** BCG Vaccine, triple vaccine, polio vaccine, hepatitis vaccine and typhoid vaccine protect the child from common diseases. The government has planned National Vaccination Programme. According to it free vaccinations are available at Government Dispensaries and health centers.

YOGASANA

Concentration and Attention

Concentration and attention means to keep the mind under control i.e. to make the mind steady at one place or on a particular thought. If a mind remains steady at one place often or remains stuck over a particular thought is called the concentration. But if the mind becomes steady over thought or on one point constantly is called the attention or the concentration of attention.

Relaxation:

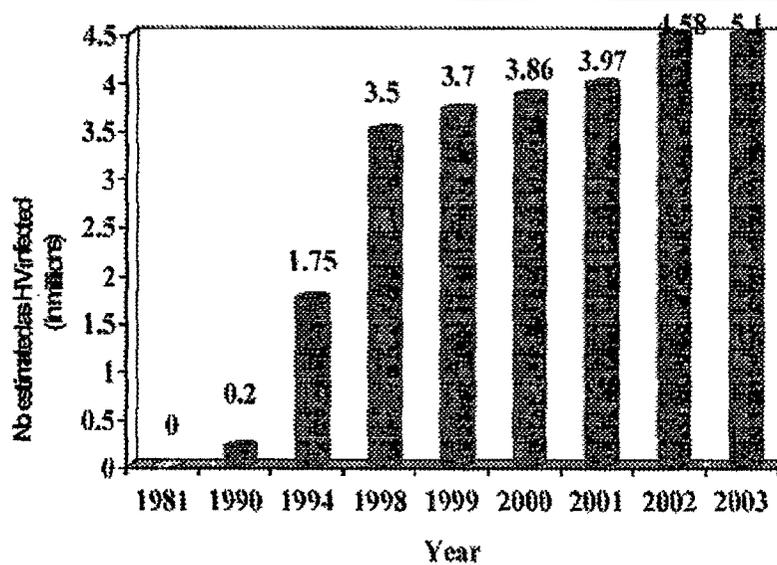
To loosen the muscular tissue of the body is relaxation. A study of loosening the body by different methods is relaxation. The persons who know this science, they neither lose their energy nor do they get tired. A study of loosening the body tissue gives rest to the body and the mind both. After having some deep breathing and taking a "Shavasana" position, the body is to be loosening completely and the tension is to be removed from all parts of the body. One has to feel and realize that the tension and the fatigue are being removed and by autosuggestion one will be able to loosen his head, shoulders, hands, thighs, legs, knees, fingers, elbow etc while loosening or relaxing the body, the mind should be peaceful and steady.

Appendix 2.6 AIDS information of India

AIDS CASES IN INDIA	Cumulative
MALES	78485
FEMALES	32371
Total	110856

RISK/TRANSMISSION CATEGORIES		
	No. of cases	Percentage
Sexual	95262	85.93
Perinatal transmission	4016	3.62
Blood and blood products	2223	2.01
Injecting Drug users	2669	2.41
Others (not specified)	6686	6.03
Total:	110856	100.00

Age group	Male	Female	Total
0 - 14 yrs.	2830	1982	4812
15 - 29 yrs.	21655	14343	35998
30 - 49 yrs.	47985	14390	62375
> 50 yrs.	6015	1656	7671
Total	78485	32371	110856



Appendix-3.4.2 The Child Marriage Restraint Act, 1929

An Act to restrain the solemnization of child marriages, whereas it is expedient to restrain the solemnization of child marriages it is hereby enacted as follows:

1. Short title, extent and commencement-

- (1) This Act may be called the Child Marriage Restraint Act, [1929]
- (2) It extends to the whole of India except the State of Jammu and Kashmir and it applies also to all citizens of India without and beyond India:
- (3) It shall come into force on the 1st day of April. 1930.

2. Definitions- In this Act, unless there is anything repugnant in the subject or context,-

- (a) "child" means a person who, if a male, has not completed twenty-one years of age, and if a female, has not completed eighteen years of age ;
- (b) "child marriage" means a marriage to which either of the contracting parties is a child;
- (c) "contracting party" to a marriage means either of the parties whose marriage is or is about to be thereby solemnised ; and
- (d) "minor" means a person of either sex who is under eighteen years of age.

Appendix 3.5 List of books on reproductive healthcare education

1. A family resource on sex and sexuality; edited by Ronald Filiberti Moglia and Jon Knowles; Planned Parenthood & Crown Pub., 1997 (ISBN: 0609801465)
2. A young man's guide to sex by Jay Gale; The Body Press, 1988
3. A young woman's guide to sex; by Jacqueline Voss and Jay Gale; The Body Press, 1988
4. Asking about sex and growing up, by Joanna Cole; Morrow, 1988
5. Beyond the birds and bees: Fostering your child's healthy sexual development; by Beverly Engel; Pocket Books, 1997 (ISBN: 0671535706)
6. Changing bodies, changing lives, A book for teens on sex and relationship; by Ruth Bell; rev ed.; Vintage Books, 1988 (ISBN: 0394755413)
7. Changing bodies, changing lives; by Ruth Bell; Vintage, 1988
8. Childhood sexuality: A guide for parents; Gail Ryan; Kempe Children's Center, 1994 (normal sexual development and how to tell when sexual behavior is a problem)
9. Facts about sex for today's youth; by Sol Gordon; Prometheus Books, 1992 (ISBN: 087975771X)
10. Getting your period : A book about menstruation; by Jean Marzollo; Dial Books,
11. Growing and changing: A handbook for preteens; by Kathy McCoy and Charles Wibbelsman; Putnam, 1986
12. Growing up : Adolescence, body changes and sex; by Susan Meredith; Usbourne, 1985
13. How to talk to your child about sex: It's best to start early, but it's never too late; by Linda Eyre and Richard M. Eyre; Golden Books Pub. Co., 1998 (ISBN: 0307440729)
14. It's perfectly normal; by Robie H. Harris; Candlewick Press, 1996 (ISBN: 1564021599)
15. Keys to your child's healthy sexuality; by Chrystal De Freitas; Barron's Educational Series, 1998 (ISBN: 0764102982)
16. Like it is: A teen sex guide; by E. James Lieberman; McFarland, 1998 (ISBN: 0786405260)
17. Love and sex in plain language; by Eric Johnson; Lippincott, 1973
18. PERIOD; by JoAnn Gardner-Loulan, Bonnie Lopez and Marian Quackenbush; Volcano Press, 1981
19. Sex and sense : a contemporary guide for teenagers; by Gary F. Kelly; Barron's Juveniles, 1993 (ISBN: 0812014464)
20. Sex is not a four-letter word!; by Patricia M. Miller; Crossroad, 1994
21. Sexual development of young children; by Virginia Lively and Edwin Lively; Delmar Publ., 1991 (ISBN: 0827341989)
22. What's happening to me? Answers to most embarrassing questions; by Peter Mayle; Stuart, 1997
23. What's happening to me? by Peter Mayle; Lyle Stuart, 1980
24. What's happening to my body? Book for boys; by Lynda Madras; New Market Press, 1987
25. What's happening to my body? Book for girls; by Lynda Madras; New Market Press, 1987
26. Where you came from, how your body changes and what sex is all about, by Ruth K. Westheimer, M.D.; Aladdin Paperbacks, 1998 (ISBN: 0689820410)

(source: MLS, medical librarian at the Family Health Library, The Children's Hospital, Denver, CO)

Appendix 4.10: Services Marketing Characteristics

Service Characteristics	Marketing Problem / Challenges	Strategic Options
Intangibility	<ul style="list-style-type: none"> - Cannot be communicated easily - Consumer suspect due to absence of concrete evidences. - Design of total service package not possible - Comparative presentation is not possible 	<ul style="list-style-type: none"> - Making the service process tangible to the maximum possible extent - Managing and Promoting word of mouth communication - Strengthening internal & external marketing. - Use of relationship marketing
Inseparability	<ul style="list-style-type: none"> - Problems of market expansion - Maintenance of service quality - <i>Compulsory presence of consumer</i> - Limited production capacity - Operation at limited capacity 	<ul style="list-style-type: none"> - Minimum of customer interaction - Innovating techniques of indirect interaction - Standardization to the maximum possible extent - Developing distribution network with quality control mechanisms
Variability	<ul style="list-style-type: none"> - Limited scope for standardization - Not possible to communicate exactly what the consumer is going to receive - Quality can be determined only after the service is consumed. 	<ul style="list-style-type: none"> - More focus on standardization - Internal marketing and employee training - Positioning variation as a strength of innovation - Promote research and innovations
Perishability	<ul style="list-style-type: none"> - Storage of services is not possible - Sales volume continuously in relation to the capacity - Time pressure in sales 	<ul style="list-style-type: none"> - Demand Management - Capacity Management - Tactical approaches - Continuous study on demand pattern and competitive parameters
Customer Participation	<ul style="list-style-type: none"> - Customer are not controllable - Production quality also depends upon customers' knowledge and ability to participate. - Customers are evaluating at very stage of service production 	<ul style="list-style-type: none"> - Effective external marketing - Customer education & Training - Effective interactive marketing - Management of movement of truth - Effective internal marketing
No Ownership	<ul style="list-style-type: none"> - Nothing remains after consumption - Very less time to the consumer to evaluate the product. - High consumer dissonance 	<ul style="list-style-type: none"> - Making communication tangible - Customer relationship marketing - Managing high level of company image

(source : K M Rama Mohana Rao, 2005, Services Marketing, Pearson Education,p11)

Appendix-5.5 Feedback of questionnaires testing at Utkarsh school, Vadodara

Parents' feedback

- Parent, teacher and teenager relationship should be more interactive type. Regular meetings should take place educating even the parents about any new development. Information about sexually transmitted diseases, information on family planning can be imparted at an appropriate age. Even on AIDS, knowledge should be provided to teenager in the normal course. Parents, like us with one child may need more information about overall upbringing of a child
- Teacher should explain the subject briefly that a child can understand it and no need to take any more help. Parents should take care of their child's development. Teenager should respect and understand and co-operate adult and others and understand relationship to help them in their better growth.
- In adolescence stage, the teacher should take the children into confidence and with love, affection and without allowing them making any fuss, should provide the basic information slowly.
- To maintain the respect between children and parents proper mannerism should be taught to a student to maintain the richness of Indian culture
- A monthly/bimonthly meeting at parents-teachers and students should be arranged to discuss the behavior/problems of students as well as parents.
- In school one period during a week should be taken for adolescence education.
- Parents should be consulted as to how to handle adolescence period of child, because education of a child is not limited to school hours. The child learns much more outside school with parents and friends. He/she picks up very fast from parents as they are ideal idols for the child.
- Emotional development plays a major role in the adolescent development. This area should be covered in a better way.
- Adolescence education is good for the parents. They could know how close they are to their children
- The questions asked to parents were good. I think questionnaire was for better understanding of parent-teenager and also teacher relationship.
- My child is still too young for the above mentioned questions.

Utkarsh School- Vadodara: Students' feedback

Students of standard VIII

- I want to know about the various developments of adolescents in this period of time.
- I want to know many developments in me during this period.
- Give separate papers for girls and boys.
- At this age we do not know fully about what changes we find in the adolescence age.
- We need to be more serious in studies than in sports, curricular activities and information.

Students of standard IX

- Self control, anger management and better communication skills should be taught and discussed among the students to prevent themselves from getting disturbed and misunderstood by their parents, teachers and colleagues.

- Some questions seem very silly and full of ignorance at this age.

Students of standard X

- Please give me suggestions to improve. Give tips for personality development. How to be effective and impressive.
- I want more information on reproductive health care, emotions, relationship, body and mind development etc. through sources like book, magazine, teacher, TV.
- This type of filling such pamphlets helps in self-analyzing.
- I want to know about Internet facilities on the subject.
- Questionnaire was long, a bit boring, but an overall good approach.
- The information is given too early. But it is somewhat useful.
- For what purpose you want to consult us with our views? Would you want to know that we are aware of all this things or not? Or familiar with our family and other relatives?

Students of standard XI

- How can I make more friends? How can I be friendlier to my parents? How can I know more about my behavior and the changes in me (for parents also) should be conducted frequently so that, an adolescent is able to understand his/her parents
- These steps are good in fact very good and should be encouraged. This is also necessary.
- The questions which are asked are good, by which we know ourselves and even know better our parents.
- I do not feel much comfortable these days so I want to know to how could I manage my body
- Such questions should not be asked in front of everybody, because it makes us feel embarrassed.
- These type of topics should not be described in this manner. Girls and boys should have different papers.

Appendix 5.9A Questionnaire for adolescent students

STUDENT: Page - 1 : Students will fill in the classroom

Name: _____ Surname _____ Std. _____ Div. _____
 Weight _____ kgs., Height _____ ft, Birth date: DD _____ MM _____ YY _____, Blood group _____
 Are you wearing braces on your teeth to make them even? No or Yes
 If you are wearing spectacles/lens: Power in: Left eye _____, Right eye _____

A. Rate the importance on 6 points scale, with respect to your thinking about your personality development: (1) least important, (2) less important, (3) Average important, (4) important, (5) Very important, (6) Very Very important.

Particulars	Least	Less	Average	Important	Very Imp	VV Imp.
Public Speaking	1	2	3	4	5	6
Event participation	1	2	3	4	5	6
Mastery in an art	1	2	3	4	5	6
Vocabulary	1	2	3	4	5	6
Decision making	1	2	3	4	5	6
Good Postures	1	2	3	4	5	6
Communication skills	1	2	3	4	5	6
Master a sport	1	2	3	4	5	6
Morning Sunlight(D)	1	2	3	4	5	6
Regular Exercise	1	2	3	4	5	6
Competitive attitude	1	2	3	4	5	6
Removal of stage fear	1	2	3	4	5	6
Friendliness	1	2	3	4	5	6
Education	1	2	3	4	5	6
Language	1	2	3	4	5	6
Balanced diet	1	2	3	4	5	6
Good Looks	1	2	3	4	5	6
Positive attitude	1	2	3	4	5	6
Love your self	1	2	3	4	5	6
Computer operations	1	2	3	4	5	6
Walking style	1	2	3	4	5	6
Reading (novel etc.)	1	2	3	4	5	6

B. Are you doing any extra efforts for your Body & Mind development during adolescence?

Efforts	Never	Sometimes	Frequently	Always
Participating in event				
Playing sports games				
Doing regular exercises				
Eating balanced diets				
Keeping positive attitude				
Doing Meditation / Yoga				
Making Own decision				
Expose to morning sunlight				
Widening friend circle				

C. How many hours on an average does your mother interact with you daily? _____ hours/day
 D. How many hours on an average does your father interact with you daily? _____ hours/day

STUDENTS - Page- 2 : Students will fill in the classroom

E. Physical puberty changes; during your development from child to adult are listed. Tick mark the nos. of sources (can be more than one) from whom /where did you get the knowledge about that change If the change has *Not Yet* happened to you and still if you have knowledge then also tick.

Physical Changes	Father	Mother	Teacher	Sis/Bro	Friend	Book	Internet	TV	Other
Under arm hair growth									
Pubic hair growth									
Pimple/Acne care									
Face & body Hair care									
Voice change									
Boy: Beard/Mustache growth									
Girl: Period / Menstruation									
Girl: Breast development									

F. Mark the level of knowledge about the teenage products, you are either already using or going to use for the first time during puberty age. These products you were not using as a child.

Teenage Products	My current level of knowledge is		
	Very Less	Average	Complete
Blade/razor(Shaving)			
Pimple cream			
Height booster			
Trimming tiny scissors			
Girl: Brassiere/Bra			
Girl: Washable pad			
Girl: Sanitary Napkin			

G. Generally with whom do you like to share Personal PROBLEMS? (can tick more than one)

Mother , Father , Brother , Sister , Uncle , Aunt , Teacher , Friend ,
Cousin , Grand Parents , School Counselor , Other

H.. Generally with whom do you like to share Personal INTERESTS? (can tick more than one)

Mother , Father , Brother , Sister , Uncle , Aunt , Teacher , Friend ,
Cousin , Grand Parents , School Counselor , Other

I. Mark your level of competence/use with average hours spent during a day in activities:

Activities	hour/s in a day	My level of competence / use		
		Low	Average	Excellent
Sports-outdoor				
Sports-indoor				
Dance/Music				
Reading Novels				
TV / Internet				

J. Write down the factors, other than heredity; which can help to increase your height.

1

2

3

STUDENTS: Page -3 : Students will fill in the classroom

K. During which Standard, did you notice the following changes for the FIRST Time?

Under arm hair: ___ std. Shaved/Trimmed them in: ___ std. or Not noticed yet:
 Pubic hair: ___ std. Shaved/Trimmed them in: ___ std. or Not noticed yet:
 Pimple /Acne: ___ std. Used cream/lotion in: ___ std. or Not noticed yet:
 Voice change: ___ std. or Not changed yet:
 Hair growth on legs & arms in : ___ std. or Not noticed yet :
 Body odour /sweat change in : ___ std. or Not noticed yet :

Girl: Period /Menarche/Menstruation started in ___ std. or Not yet started
 Girl: Breast Bud development started in ___ std. or Not yet started
 Girl: Hips/Buttocks development started in ___ std. or Not yet started

Boy: Mustache hair appeared in ___ std or Not yet appeared
 Boy: Beard hair appeared in ___ std or Not yet appeared

L. How much do you know about following topics?

	I Don't know	I know Partially	I know Fully
G&B= COMMON for GIRLS & BOYS			
G&B: Internal Anatomy of Reproduction			
G&B: Trimming & shaving of Pubic-hair			
G&B: Use of shaving blade/razor			
G&B: Acne/Pimple care & treatment			
G&B: Functions of sperms and ovary			
G&B: Child Sexual Abuse			
	I Don't know	I know Partially	I know Fully
Boy: Wet-dream effect / ejaculation			
Boy: Testicles development in Scrotum			
	I Don't know	I know Partially	I know Fully
Girl: Stages of menstruation period			
Girl: Purpose of menstruation in your life			
Girl: Personal hygiene care during period			
Girl: Urinal infections			
Girl: Use of washable pad/cloth			
Girl: Use of Sanitary Napkin			
Girl: Stages of breast development			
Girl: Selection of Bra / Bras			
Girl: Measuring of Brassiere size			

M. Name the behaviors which have undergone change during your adolescence age?

(Angry, friendly, aggressive, irritation, jealous, arguing, lovable, respect, understanding, etc.)

Relationship	Name the behaviors (can be more than one)
Mother	
Father	
Sister/Brother	
Cousins	
Uncle/Aunt	
Friend	
Teacher	

STUDENT: Page -4 : Students will fill in the classroom

N. List your preferred sources for further information on: Reproductive Healthcare, Emotions, Stress, Relationship, Body & Mind development etc.:(Book, Magazine, Internet, Teacher, Counselor, Doctor, Friend, Father, Mother, Cousin, Uncle, Aunt, TV, Advertisement, etc.)

1. _____ 2. _____ 3. _____

O. Have you experienced any such feelings during adolescence age? -

Feelings	Never	Sometimes	Frequently	Always
Loneliness among people				
No one understands me				
I am not a kid anymore				
Why, always it happens to me?				
Desire to talk to a friend				
Discuss personal matters				
Irritated & Annoyed				
Need privacy & independence				

P. Rate the importance of Good Personality required on occasions (on 6 point scale as in -A)

Occasion	Least	Less	Average	Important	Very Imp	VV Imp.
To make friends	1	2	3	4	5	6
To win competition	1	2	3	4	5	6
To impress others	1	2	3	4	5	6
To convince others	1	2	3	4	5	6
For admission interview	1	2	3	4	5	6
For job interview	1	2	3	4	5	6
For marriage interview	1	2	3	4	5	6

Q. How are you feeling with all these puberty changes? Comfortable or Uncomfortable

R. Which age period is the most suitable to develop different personality skills/traits?

7-10years . 11-14 years , 15-18 years , 19-22 years , 23-26 years

S. Which is the major change affected you the most during your adolescence age?

T. Any Questions? Or Your Feedback / Suggestions :

U. Your Email ID. _____

Appendix-5.9B Questionnaire for parents of adolescents

PARENTS: Page-1 :Father and Mother may answer jointly at their home.

A. Student's Name _____ Surname _____ Boy or Girl

B. In which school-std. or college -year, is the student's brother or sister studying?

1. Sister _____ std./year or Brother _____ std./year
 2. Sister _____ std./year or Brother _____ std./year

C. Father's Profession : Businessman , Government job , Private job
 Father's Education : Matriculate , Graduate , Post-Graduate , Doctorate

D. Mother's Profession : Housewife , Govt. Job , Private job , Own
 Mother's Education : Matriculate , Graduate , Post-graduate , Doctorate

E. Total nos. of family members staying in Joint Family : Total _____ Nos.
 Grand Parents _____ nos., Uncle/s _____ nos., Aunt/s _____ nos.,
 Elder cousins _____ nos., Younger cousins _____ nos. Other relations: _____ nos.

F. Father & Mother Combined Monthly Gross Income (Rs.): less than 5000 ,
 5000-10000 , 10000-25000 , 25000-50000 , more than 50000

G. As per your thinking , Mark the level of importance of following items in the personality development of your son/ daughter.

	Less Important	Important	Very Important
Memory power			
Listening skills			
Expertise in one art			
Regular exercise			
Balanced diet			
Public speaking			
Group discussion			
Expertise in one sport			
Reading habits			
Positive attitude			
Self confidence			

H. How many hours does FATHER INTERACT with the son/daughter daily? _____ hours/day
 How many hours does MOTHER INTERACT with the son/daughter daily? _____ hours/day

I. Which age period is the most suitable for development of different personality skills / traits?
 7-10years , 11-14 years , 15-18 years , 19-22 years , 23-26 years

J. Do you observe any remarkable change in YOUR specific behavior with your son/daughter now, which was different when he/she was a child? NO or YES
 If Yes, Describe the behavior : _____

PARENTS: Page-2 : Father and Mother may answer jointly at their home.

K. Did you discuss the following subjects with your son/daughter, which may help him/her during the development from child to adult?

Changes	Never Discussed	Partially discussed	Completely discussed
Pubic hair growth & removal			
Pimple/Acne care & treatment			
Underarm & body hair			
Girl: Breast development & Bra			
Girl: Menstruation & pads			
Boy: Beard & Mustache care			
Friendship			
Relationship-affection			
Depression / Anger			
Positive Self attitude			
Withdrawal / loneliness			
Own Decision making			
Debate & Group discussions			
Life goal planning			
Self confidence building			
Child sexual abuse			

L. Mention your most preferred 2 sources for additional help / information if it is needed :
(Book/Magazines, Internet, Teacher, Counselor, doctor, Product promotion, TV, Advt. etc.)

Subject in Brief	Preferred Sources of Information / Help	
Physical changes	1.	2.
Emotional changes	1.	2.
Social changes	1.	2.
Intellectual changes	1.	2.
	1.	2.

M. Who should initiate FIRST to provide information on reproductive health care to the adolescent boys and girls?

Mother , Father , Teacher , Doctors , NGO , Media , Others .

N. Optional: Tel. No.: _____ Email ID: _____

O. Any Suggestion / Feedback on Adolescence education which you think should be covered in future for better understanding of parent-teenager-teacher relationship.

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Appendix-5.9C Questionnaire for teachers of adolescents

QT-I. TEACHERS : for Teachers / Principal / Counselor / Administrator at the school.

Please use 1 to 6 points rating scale as under:

1 = Extremely Negative, 2 = Very Negative, 3 = Average Negative,
4 = Average Positive, 5 = Very Positive, 6 = Extremely Positive

A Do the current school curriculum provide adequate material and time for overall personality development of the students?

Material ← Inadequate 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ Adequate →
Time ← Inadequate 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ Adequate →

B. What are your observations on general health of adolescent boys and girls?

Boys ← Very Poor 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ Very Good →
Girls ← Very Poor 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ Very Good →

C What is the level of awareness about changes of puberty among boys and girls?

Specify standard ___ you are referring to:

Boys ← Very Low 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ Very High →
Girls ← Very Low 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ Very High →

D. Is the school curriculum takes care of complete information on Reproductive Healthcare?

← Very inadequate 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ Very Adequate →

E How often do you observe change in emotional behaviour among adolescents?

Boys ← Very Less 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ Very Often →
Girls ← Very Less 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ Very Often →

F. Do you feel that the teacher-adolescent students relationship is strong enough, so that the students can discuss their changes of adolescence / puberty comfortably with teachers?

Boys ← Very weak 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ Very Strong →
Girls ← Very weak -1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ Very Strong →

G What is the average % of students participate in competitive sports/arts / quiz events?

Boys ← less % 20----30----40----50----60----70----80---- More % →
Girls ← less % 20----30----40----50----60----70----80---- More % →

H How do you relate the participation in extra curricular activities and the intellectual / academic performance of the students?

1. Inverse ____, 2. Proportionate ____, 3. Irrelevant ____, 4. Can't say ____

I. Do we have adequate literature / books for parenting of teenagers in Indian culture?

In *English* :

Foreign Authors: Not at all ____, Very less ____, Average ____, Adequate ____
Indian Authors : Not at all ____, Very less ____, Average ____, Adequate ____

In *Hindi* : Not at all ____, Very less ____, Average ____, Adequate ____

In *Gujarati* : Not at all ____, Very less ____, Average ____, Adequate ____

QT-II TEACHERS : for Teachers / Principal / Counselor / Administrator at the school.

A. List the level of importance on 6 points scale (1 to 6) on the followings, with respect to overall personality development during the school life of the adolescents.

Particulars	← Less Important-----to-----Very Important →					
Stage events	1 ___	2 ___	3 ___	4 ___	5 ___	6 ___
Elocution / Debate	1 ___	2 ___	3 ___	4 ___	5 ___	6 ___
Essay writing	1 ___	2 ___	3 ___	4 ___	5 ___	6 ___
Outdoor sports	1 ___	2 ___	3 ___	4 ___	5 ___	6 ___
Scout / Guide Training	1 ___	2 ___	3 ___	4 ___	5 ___	6 ___
Outdoor Camp/trekking	1 ___	2 ___	3 ___	4 ___	5 ___	6 ___
Expertise in an art	1 ___	2 ___	3 ___	4 ___	5 ___	6 ___
Expertise in a sport	1 ___	2 ___	3 ___	4 ___	5 ___	6 ___
Vocabulary	1 ___	2 ___	3 ___	4 ___	5 ___	6 ___
Positive attitude	1 ___	2 ___	3 ___	4 ___	5 ___	6 ___
Self confidence	1 ___	2 ___	3 ___	4 ___	5 ___	6 ___
Public speaking	1 ___	2 ___	3 ___	4 ___	5 ___	6 ___
Daily exercise	1 ___	2 ___	3 ___	4 ___	5 ___	6 ___
_____	1 ___	2 ___	3 ___	4 ___	5 ___	6 ___
_____	1 ___	2 ___	3 ___	4 ___	5 ___	6 ___
_____	1 ___	2 ___	3 ___	4 ___	5 ___	6 ___

B Who should initiate first to provide information on Reproductive Health care to the adolescents?

Parents ____, Teachers ____, Doctors ____, NGO ____, Media ____, Others ____.

C. Any suggestions / feedback for adolescence education for overall personality development of the student.

Email ID: _____ Tel no./s _____

Name & designation: _____

Appendix 5.9 D Request letter to Principals for permission

M. S. PATEL INSTITUTE OF MANAGEMENT STUDIES
(FACULTY OF MANAGEMENT STUDIES)
M. S. UNIVERSITY OF BARODA

Tele. No : 22879

Ref. No. FMS/



Opp. University Main Office
Fatehgunj,
VADODARA-390 002.

Date : 10th June 2017

To,
The Respected Principal,

Sub: Your support for a research study on Adolescence Education

We are requesting your support for the research study on "Developing Marketing Strategies for Adolescence Education in western India". The objective of our study is to analyze:

- current level of awareness on changes of adolescence including reproductive healthcare, among boys and girls as well as among their parents.
- their preferred sources of information on changes of adolescence.
- the importance of development of personality traits along with academic performance.

The questionnaire(QS-I, II, III & IV) will be filled by the boys and the girls, who are in their early adolescence period, studying in standard VIII, IX, X & XI. We request you to allow us minimum one period in each standard, so that the students can fill up the questionnaires. We also request cooperation of their class teachers for coordinating and collection of the questionnaires (QP-I & II) meant for parents from students, which they will bring back after getting it filled from their parents.

Also, we have a questionnaire (QT-I & II) on the same subject to be filled by teachers/counselor and persons attached to education profession. We request you to allow participation from your teachers to fill up the questionnaire. Your support will give us better input from your school. Kindly confirm to us about the date and time for conducting the above study in your school. You may contact us on Telephone: 2394806 or Email: mdjyot@yahoo.co.in

Thanking you,

Yours sincerely,

Jyot Mohan
(Research Student)
Marketing Manager-IPCL-Baroda

Dr. Jayraj Jadeja
(Guide)
Reader-FMS-MSU of Baroda

Appendix 5.9E Request letter to parents and adolescents

Adolescence Education for Body, Mind & Personality Development

Dear students and parents,

The adolescence age is very important in the human life. Many physical, emotional, social, intellectual and spiritual changes occur and the child slowly attains adulthood within 4 to 6 years of puberty period. Every child goes through hormonal changes to develop primary and secondary reproductive organs. These changes affect their emotions, which result into change in their behavior and relationship. Proper understanding of body and mind development by parents, teachers and students may help in overall personality development of every boy and girl. Adolescents seek for their own identity, independence and peer groups.

A study is initiated to know the level of awareness among the boys and the girls as well as their parents about the changes of adolescence and their preferred sources of information. The study will serve a useful purpose to prepare modules for *Adolescence Education*. Please note that all the information provided by you will be kept confidential and used only for the analysis of this research study. Kindly read and respond to the questionnaire. Four pages questionnaire will be answered by students in their class room. While two pages questionnaire will be answered by the parents at their home. Students will bring filled Parents' questionnaire and hand it over to their class teacher along with their own filled questionnaire.

Thanking you,

Yours sincerely,

Jyot Mohanlal
Research Student-Faculty of Management Studies - MSU - Baroda
Deputy General Manager - IPCL - Baroda
Telephone:2394806 Email : mdjyot@yahoo.co.in

N.B. Students/Parents to keep this letter. Only filled questionnaire to be returned.

Appendix-6.3.14 Views of Principal/School authorities and Doctors

Principal/School authorities:

Adolescent period is a very crucial and critical phase in the life of a human being. Many changes are taking place in the physical, emotional, and intellectual's aspects of the life of a person. Therefore we should deal with their problems carefully and sympathetically. Parents and teachers should play the role of a guide, philosopher and friend.

Saji Mathai, Principal, Gujarat Refinery School, Baroda, Gujarat-India

School curriculum should include Adolescence education topics more in detail, Science at the secondary level. The parent, and the school counsellor should take more time from their daily routine and listen to the growing children for their emotional development.

Manas K Pal, Principal, Indian Petrochemicals Corporation Limited, Baroda, Gujarat-India

Adolescence education becomes all the more important in school because according to Hinduism; adolescence is considered to be the stage of 'Bhramcharya' when one learns traditional values and basic skills relevant for future role. During this phase of transition an individual experiences more rapid physiological, psychological, cognitive and socio-emotional changes and to keep the balance of all these change, it should be made compulsory in all the schools.

Ranjana Gupta, Principal, Utakarsh School, Udayan Education Society, Baroda, Gujarat-India

Most of the students are pressurised to do well in academics by parents because of competition. If this pressure is reduced students will take part in co-curricular or extra-curricular activities willingly. Grade system should be introduced. Lectures of Doctors and NGOs should be organised in the school to discuss about sex education.

Ms. Stragdhara Kothi, Supervisor, Tejas Vidyalaya, Baroda, Gujarat, India

We should provide appreciation from time to time and help them to know themselves better, so that they can change themselves. Give adolescents unconditional acceptance. If they deviate, give them support, which they actually need to change themselves.

Ms. Nilima Hazare, Principal, Mothers School, Baroda, Gujarat, India.

There is a hesitation in imparting information about puberty, reproduction etc. in our traditional society. The onus has been placed on school to provide such education through school curriculum, talks etc.. But I still feel that such delicate, sensitive issues can be discussed only in a limited way in the classroom, as students feel shy to ask questions. Therefore this has to be substantiated by parents at home. They should encourage the children to confide in them and seek their advice. It is imperative for parents to inform children in matter of health-puberty changes and healthy habits.

Ms. Shavitri Zutshi, Principal, St. Paul's school (Petrofils), Baroda, Gujarat-India.

Views on ARSH pilot project: being implemented by Gujarat state education department in 15 schools in various districts are given as under (Times of India, BT, 21-08-2005):

What is really necessary is to have a more effective feedback system from students, as they are quite embarrassed to ask questions. Sessions along with parents may create family atmosphere for more open discussion on the issues of ARSH.

Vasanthi Vishwanathan, Principal, Tejas vidyalaya, Vadodara.

The main problem that is likely to crop up is that no one will be prepared to impart the sex education. Some teachers, if not trained, will either skip over facts or distort them.

Sister Precilla, Principal, Mount Carmel School, Ahmedabad.

We need a staff that is comfortable in teaching the subject. 'Who wants to study, if there is no exams.', is the mentality of some students. Hopefully it should not become just another subject on the timetable. Rather feedback should be encouraged, through discussions and debates.

Father Durai, Principal, St. Xaviers Loyola School, Ahmedabad

'Adolescent Reproductive and Sexual Health (ARSH)' pilot project focus on its implementation. It is being introduced in 15 schools of Gujarat in various districts in 2005-06. Based on its success it will be introduced in all schools from 2006-07. As stated by V. B. Nanvati, secretary of Gujarat secondary and higher secondary board in Times of India, 20-08-2005.

V. B. Nanvati, secretary of Gujarat secondary and higher secondary board

Gujarat state education minister Anandiben patel emphasized the importance of ARSH to make the change in attitude of students and parents towards the subject and to expand the limited definition of sex.

Anandiben patel, Gujarat state education minister

Doctors:

Teenagers are concerned about their body image and complain overweight and underweight. They also are worried about academic poor performance, admission in under graduate courses and career planning. Awareness can be created through seminars in the school, distribution of handbills, exhibitions etc. Audio visual presentation to teenagers and parents on adolescence education will improve understanding. Encourage exercise and sports, along with scientific diet.

Dr. Ashwin Shah, Adolescent Medicine Specialist, Baroda , Gujarat-India.

Teenagers inquire about puberty changes and pimples. They have fear-complex to discuss their problems due to unsaid secrecy. Education program for parents to break myths and to

promote healthy discussions will help. Propagating reproductive hygiene knowledge at secondary school level with the help of teachers, parents and media will generate awareness.
Dr. Archana Dwivedi, MB . DGO, Baroda , Gujarat India.

Teenage girls do inquire about their menstrual problems and physical development. Contraceptive awareness in school with the involvement of parents may help. A balanced diet and regular exercise will strengthen their body development. Sex education in school may be introduced for correct awareness.
Dr. Vijaya Mehta, Obstetrics & Gynecology, Baroda , Gujarat-India

Teenagers approach with problems of Acne, Alopecia (hair loss), and fungal infection. They may avoid too much cosmetic use and adhere to little diet control for preventive measure. Self-medication to be avoided at any cost which are generally promoted through advertisement and OTC (Over The Counter) selling.
Dr. Ravindra Patel, Dermatologist, Baroda , Gujarat-India

Academic achievement not meeting the expectation is the major cause of stress with teenagers. They complain about depression disorder and anxiety disorder. Planned and structured daily routine will help in reducing stress. Outdoor extra curricular activities involving exercise may refresh them. Parents can give Quality Time to listen them and to talk to them. Print and electronic media will generate awareness if used properly.
Dr. Gautam Amin, MD(Psychology), Baroda , Gujarat-India.

Adolescents visit to correct Refractory Error in the eye. Eye injury while playing as well as ocular allergy (dust, heat etc.) are frequent causes for eye treatment. Malnutrition resulting into vitamin A deficiency and poor eye sight is common nowadays. Early diagnosis and treatment is very important, as refractory error can not be prevented. Media awareness and routine check up of eyes in the school to watch for signs/ symptoms of disease will help.
Dr. Mohit Mital, Ophthalmologist, Baroda , Gujarat-India.

Children have dental problems like: Malocclusion, caries and fractured anterior teeth. Regular and early check up by dentist is necessary to avoid oral habits and early preventive treatment to save the tooth. Yearly dental check up in the school should be compulsory.
Dr. Anju Shah, Dentist, BDS, Baroda , Gujarat-India.

Appendix-6.5.2 Key phrases surfed for website teensnparents.com

personality changes in teens, teenager internal body clock, teenage achievers
body changes prior menstruation, hormonal changes girls experience at puberty, how many inches do girls grow while in puberty, vagina anus vulva outer labia inner labia clitoris urethra images diagrams, psychological problems in adolescent girls during menstruation, changes in girl body in puberty, the perfect body hair eyes nails skin size height
dandruff hormones, scalp odor, picking my dandruff, nutrients for smelly scalp disorder, dandruff flaking skin, bacteria causing dandruff, bad odor from scalp
acne on face corresponding to different organ, acne dermatologist, oily smelly acne, illness causing sudden weight loss in teens
underarm girls shaving, ways to reduce underarm odor, does shaving affect hair growth?, shaving underarm moles, girl underarm sweat, viruses found in armpit sweat, underarm sweating, trimming armpit hair, double edged razors, removing underarm hairs, adolescents hygiene, under arm hair girls, hair cuts for girls, age of armpit hair growth in girls
body odor not relieved by washing, excessive body sweat buttocks crotch, , girls sweat glans, reduce excesses sweating in pubic area, , bad body odor
menarche and height, menstruation and height
pubic hair, trimming pubic hair, girls first shaving, pubic hair growth, hygiene hair public shave, blackheads in pubic area, double edged razor comb, is shaving pubic hairs bad, pubic hair hurting, girls shaving, ingrown pubic hair photograph, pubic shaving, can tight clothes irritate your pubic area, what are flakes and itching on your pubic hair, pubic sweat, shaving patterns on pubic hair, pubic hair trimming hints, girls hair surrounding panties, girls razors, girls and shaving, shaving single blade, age girls start shaving, unwanted crotch hair, hair puberty, my girls removing clothes and shaving, shaving pubic area causes pimples, pubic hairs of girls , trimming my vagina hair, smooth shaved ladies, properly shave vagina, shaving girls, pimples in pubic area, , proper grooming of pubic hair, vagina pubic hairs, should pubic hair appear before ovulation, shaving pubic hair, daughter pubic hair, trimming labia, trimmed pubis, tips for shaving vagina, normal hair shedding female teenager,
first bra, first bra young, my first bra, first bra uncomfortable, first bra size, girls first bra cup, girls first bra, bra and armpits, nipple stand proud of the breast development, pimples on areola, why do girls wear bra?, fancy bra straps, wet bra, when should girls start wearing bra, adjust bra wet, girls nipple length, foreplay breasts, breasts bras fondling, bra that does not irritate the skin, how often do you change your bra, red bumps on areola, why do females wear bras at puberty, nodules on the nipple of young girls, foods that stimulate breast growth in girls, wearing a bra under shirts, how do girls wear bra
panty stain, sanitary panties, plastic panty transparent, urinating in panties, girls panties, sweat panties, young teens panties, teens strictly panties, pubic panty hairline, females panties, puberty orgasm and panties, perspiration panties vaginal, panty stains,
vagina hair, vagina dandruff, bumps on near pubic hairs, normal vaginal bumps, removing hair in vaginal area, vagina odor, pimple in vagina, oil glands on vagina, vulva skin flaking, pimple and vagina, pubic hair pimple, pubic area acne, mons hair growth, picking at a pimple on the labia, indian vagina sizes, girls mons, normal bumps to labia vulva, girls stages of vagina development, clear up pimple on vagina, bad odor vagina, bad vagina shape, why do girls have odor vagina, young vagina changes, girls wearing female condom

preadolescent **hymen** development, girls internal organ, outer labia flaking, how can we get an agreeable genital odor, flaking itching skin on vulva, buttocks

sanitary napkin, sanitary belt, carefree napkin, difference between kotex & stayfree, menstruation pad store, how girl is adjusting menstruation pad in her underwear, related studies on sanitary napkins, unique selling proposition for sanitary napkins. model sanitary napkins, washable sanitary napkins, sanitary belt for girls, discolored skin from heating pad, used sanitary napkins, cloth sanitary napkins, girls sanitary pads, case study of sanitary napkin, sanitary pad girls, whisper sanitary, logo for whisper sanitary napkins, kotex sanitary napkin india, pads for girls, pantliners function, females wearing napkins,

menstruation cycle, growth after menstruation., short heavy irregular periods, can young girls experience frequent headaches prior to first menstrual cycle periods, can seasons change a girls period?, the beginning of menstruation menarche, dark odor discharge menstruation, menstrual odor, pink/brownish discharge in between periods? how long between menstruation when a girl first starts having periods, difference in discharge and ovulating, brown menstruation, pubic period,

pregnancy, immediate physical changes at time of fertilization, time from ejaculation to fallopian tubes, uterus thickening ova hormone,

masturbation girls, massage clitoris, mons pubis, soft mons, discolored and uneven labia, measure size of vagina opening, pink discharge in young girls, mons pubis curly skin, female pubis, incest by mons, young girl preadolescent labia,

clitoris ejaculation, clitoris growth, girls ejaculation, girls sperm,

male puberty breast bud, nipple secretion in boys, white pimple-like nipple, boys breast hurting, breast changes in boys,

trimming male **underarm hair**, bad odor under armpit,controlling armpit odor, a boy's first underarm hair, shaved and wet, underarm hair picture, mustache shave puberty razor, pimple underarm, sudden onset of underarm sweat,

puberty **underwear** male sizes facts on , photograph of underarm hair,

teenagers boys with **chest hair**,

adult sudden male **acne** face chest shoulders, lumps under arm due to acne,

puberty **beard**, puberty facial hair, boys growth stops shaving, lemon facial hair growth, boys-shaving-their facial hair growth stages boys, boys oily hair, boys-shaving-their facial hair growth stages boys,

pubic hair exposure, pubic shaving patterns, photography models removing pubic hair, in-grown hairs on scrotum, boys shaving hair, physical exam and pubic shave, lumps under the pubic, male pubic hair trimming , pubic hair for boys, number of men shaving pubic area, pubic hair colour, hormones involved in pubic hair, tips for males who shave pubic hair, importance of shaving or trimming pubic hairs. shaving male pubic hairs, pubic hair trimming proper penis, men shave under arms pubic, uses of men pubic hair, men shave pubic hair, how do in-grown hairs and pimples on the penis look like, unwanted pubic hair,

ejaculation during puberty, age boys sperms, penis odor, sweat glands on penis, hair penis bumps, plugged glans penis glands treatment, husband ejaculates outside, good erection and delayed ejaculation, first ejaculation puberty, , first ejaculation, ejaculation testosterone, how does ejaculation happen, pre ejaculation causing pregnancy, burning while urinating after ejaculation , excessive ejaculation during puberty, ?, is the vas deferens responsible for



ejaculation, clear discharge during ejaculation, ejaculation length spurt, removing ejaculation stains, average spurt during ejaculation, safe days for intercourse,

penis and scrotum shaving, estrogen body odor, smelly penis odor, how do i shave my testicle hair, scrotum acne, boys penis, sebum bumps on penis, bumps on penis during adolescence, scrotum odor, pimple on **scrotum**, extreme itching skin bumps feet nocturnal, bumps on teenagers testicle sac, shave testicles reduce body heat, school doctor boy physical exam foreskin

teenager **intercourse**, sucking breast during intercourse, is fitting penis in the vagina is called intercourse, husband and wife fantasy, how to make penis reaction longer, foreplay fantasy, anatomy of intercourse, lubricating glands for intercourse, boys kissing and sucking girls nipples, breast fondling, testicle squeezing girls, boys kissing the breast of girls, intercourse stores, sexual foreplay

masturbation acne, circumcision fantasy,

sperm and odor, how long sperms live outside the body , brown clots in sperms, what vegetable make sperm thicker, how long does sperms live out side of the body , odor after orgasm, puberty boys, how long can sperm live after ejaculation, sperm affect height, amount of sperms produce for boys, sperm vitality outside vagina, what happens if sperm gets into a girl's rectum,

sperm and toilet paper wipe and ejaculate pregnant, sperms live into testicles,

medication for the reproductive system in elders

family **molest**

hygiene teenagers, teenage son hygiene problems, proper hygiene for a teenager

shyness vitamin , shyness vitamin therapy

teenage psychology, parent and teens **relationship**, teenager relationship between teenager and parents, adolescence and relationship with parents, parents-teenagers communication, teenagers with parents relationship, parent teenager relationship, parents in relation with teenagers, daddy you have to listen to me with your eyes as well as your ears, the relationship between teenager and their parents

marketing towards teenagers, brand-name influence, teenager consumer buyer behaviour, advertisements targeted towards teenagers

importance of a **smile**,

chewing tobacco different elasticity teenager and adult

how **computer** affect the eyes? cures for night blindness

Appendix-6.5.3 Email queries on website teensnparents.com

question: Hello. I am inquiring if there is anything I can do or give my daughter for the hormone changes she is experiencing. She doesn't have any menstruation, but she has shown a huge increase in emotional problems.

question: i m a boy having breast what to do? should i wear a bra?

question: My daughter is 9. She has matured just 1 month back. Do you think that its early puberty. I am also very much afraid. She is now studying 4th standard. She does not have any knowledge about this. How can I educate her? Please suggest me.

question: What would the irritation be like? Like red and bumps or something? I am curious because since i started shaving its been different down there... I am getting worried.

question: How to increase breast size naturally?' Rite now i m doing massage regularly with olive oil n size is just 32" it doesn't pick out of my dress.

question : One more problem is, I will get severe stomach pain during that 3 days. I consulted doctor also. They have suggested some medicines. But still it's continuing. Can u suggest some specialists for this?

question: I am a 17 year old boy. I think that my puberty is almost finished up. My question is about shaving. I have already been shaving my face and that is fine. Recently though, other boys in my grade have began to shave their entire bodies because of sports. We talk about it in the locker room and it seemed easy to me the first time. I tried it first by shaving my happy trail and then my lower back and butt. The thing that is questioning to me is...how come I always get razor burn? I shave in the shower with shaving cream and clean safety razors...but I still see the burn. Am I doing anything wrong? Should I keep shaving...I eventually want to shave my legs for track...Please respond.

question: My daughter is 18 years old. She was matured 5 years back. All these days she was not wearing bra. She was always telling that it is very irritating for her. But she was wearing bra. From the past 1 year her breast is developing rapidly. She looks very boosty. Her breast size looks very abnormal when compare to other girls of her age. Now i am insisting her to wear bra. I measured her bra size. Can u tell me whether it is correct: Her measurement under the breast is 29. I added 5 for this. So her band size is 34. and at the nipples level it is 38. So she should wear 34D size bra in my opinion.

question: Is Shaving, Trimming or reducing pubic hair safe or does it take away any beneficial function of the pubic hair?

question: A detailed answer if it could be an early sign of pregnancy, or if no then what is wrong with my nipples? Why are they so red itchy, feel like they are cracking and always hard??

question: I need information on what can happen if you do not wipe after you urinate. what are the effects and how if can effects a girl i have a 11 year old daughter who doesn't want to wipe after she urinates its becoming a problem i have tried every thing hoping to get some info maybe to scare her to do it thank you for the info

question: My bra size is 36D. My Nipples gets pressed if i wear bra. I tried big bra for my nipples. but it won't fit for me. Is there any other solution. Age 18, height 5.1, waist 25 and hips measurement is 28. I am facing problem while wearing bra. Because my breast nipples are little bit longer, may be 3/4 inch. If I wear bra, my nipples gets pressed and it creates pain. What can I do for this? please suggest

question: I never knew about Bra. But in my school my teacher told me to wear Bra. I asked my friends also. One of my friend gave me her bra. but if I wear that I feel very uncomfortable. Is it compulsory to wear that. My friend told me that I have to tell my size in shop. What size I have to tell. Please suggest me

question: i used to apply lipsticks but for the past six months after using any lipstick, i have itching sensation and after that lots of small lesions appears on my lips and when i stop using lipstick for one week then my lips becomes black and it does not look nice. I think this is an allergy to the product. but I do not know which because i have used different brands of lipsticks and i am facing the same problem with all of them but earlier it was not the case. Please

question: I know that it is possible to intercourse and NOT break the hymen on the first or even the second time, so what I want to know is if my hymen is not broken can the sperm pass through my vaginal walls to my uterus?

question: Say for example I had sex a day or two before my period is supposed to start but it doesn't come that next day, can my period just be delayed due to my body going through that for the first time? Might I see it later this month or even the beginning of next month?

question: I am doing a research paper in one of my college class for Medical Assistant. I am doing my paper on the stages of puberty in girls. I would like any information on the subject that you might have. I will note all info given by you in my paper. Thank you in advance.

Question: why does my daughter grow hair on her chest? She is 16 and she is the only one out of my 4 teenagers but i don't understand because she is a girl it should not be there should it, so she shaves it off, its just not normal, what is that for is there a cure? she doesn't use oils or anything there but shaves and its starting to discoloration the area and leave little hair bumps.

Question: my client is launching a sanitary napkins to the higher bracket of the society. i.e sec a and b. what should be the positioning of the product

question : okay well you told me irritation (down there from shaving)would last about 3 days? well what if its lasted about a week and a half? what could i be doing WRONG?

question: What percentage of teenage girls shave pubic hair completely. I prefer to do this, but am afraid of being thought strange by a doctor or nurse

question: explain the procedure to wear sanitary napkins with pics

question : i have visited your site .it is very informative. i am married ,27 years old facing problem of small breasts .i married 6 months ago my husband wants big one i am really tense. if you help me i ,ll be very grateful , name of any medicine which i can get in please help me i,ll wait for your answer very anxiously

question: But can u answer this question? If u do: I started to get breast buds when i turned 10. It was shocking. I never really cared about that part. After looking at them, i looked them up. Never got a real answer. So, now i am almost 12. And my breasts has been staying the same. They didn't change after like when i was turning 11. Later then that but still, they stayed the same about 1 year and a half. Is there something wrong?

Question: My age is 19 years, >Ok please guide me..I got reply from you. Its really nice know that some one can answer my questions. >Now i understood that how to use napkins & other cares about this, >Now please can you guide me about my body line.>My breasts are too small.>Any idea to increase them . >And one thing about my vagina.>there hairs i want to remove permanently. >Please guide me.....

question: I Want to start wearing a bra I am 11 years and 5 months old. I have started to develop at least a little bit on my chest now. I would like to start wearing a bra. 2 of my friends are not any bigger than me and already have bras. How should I ask my mother for one? I am a bit embarrassed to ask and afraid she might laugh or say I do not need one yet, but I really want one. My mother did not wear a bra until she was over 16. How can I convince her that I am ready? Please reply soon. Thank you.

question: How to wear Sanitary Napkin?

question: market segment Sanitary Napkin and panty liner

question: How to soothe fear on whether heavy menstruation is normal or not?

question: Can I get some more information on sanitary napkins for my project?

question: Is early morning erection an every day thing? I get worried when sometimes I do not have any.

question: How can you make facial hair grow faster?

question:How possibly a female get pregnant?

ques: is masturbation harmful or not? i also smell panties of girls. is all this harmful or harmless?

Your question: Ive recently had sexual intercourse for the first time and we did use a condom but my conscience has me feeling i might be pregnant and a week later my breast seem to be growing and they are sensitive and tender. A couple of days after the intercourse i took a pregnancy test and it said i wasn't pregnant but im still worried. Should I take another test or am i just being paranoid

question: I want to wear deep neck blouse when I am in saree. But if I wear deep neck blouse, bra rib remains outside on my back. Because blouse neck goes below bra rib. I tried to adjust bra straps. But its not getting adjusted properly. Do I need to adjust my bra Or blouse. My bra size is 38D. It gets adjusted from front. But on my back, bra hooks rib remains outside because of deep neck. Can u suggest some solution for this

question: I am 28 years old and my weight is 62 Kgs. Presently I am wearing 38D size bra. If I wear bra, bra cups will come up. It means it will go above my breasts during walking. I am facing problem if I wear chudidhar. After walking some distance that bra will come up and my breasts becomes visible through chudidhar. What is the reason for this? Should I wear bigger bra or is it the problem of bra straps. I tried to adjust bra straps also. But its of no use. When I wear it fits properly. If I walk it becomes like that. Can u tell me some solution for this?

question: I want to know what type of bra should I wear, my breast is getting bigger but my mum says I shouldn't wear a bra till I am older. It is uncomfortable as my breast shakes every time during physical exercise. I also notice some hair near my hole down my body can I get rid of them?

question: I have recently had sexual intercourse for the first time and we did use a condom but my conscience has me feeling I might be pregnant and a week later my breast seem to be growing and they are sensitive and tender. A couple of days after the intercourse i took a pregnancy test and it said I wasn't pregnant but I am still worried. Should I take another test or am I just being paranoid

Appendix 7.2.7 Data sheet for school children(Girls) body development

Adolescent Annual Growth Chart : Girls		Year of inspection:				
Name:	Standard:	Birth Date:				
Parameter	Unit	Aug	Nov	Feb	May	Remarks
Height	cms.					
Weight	kgs.					
Shoulder	cms.					
Breast at nipple	cms.					
Breast at baseline	cms.					
Acne/Pimple						
Cheek	visual					
forehead	visual					
neck	visual					
upper breast/nipple	visual					
shoulder	visual					
Body hair						
upper lip	visual					
cheek	visual					
under arm	visual					
pelvic/pubic	visual					
hands	visual					
legs	visual					
Dandruff	visual					
Sweat-odour						
under arm	sense					
Genitals						
urinal infection	visual					
Menstruation/Menarche	visual					
First time	Date					
second time	Date					
third time	Date					
fourth time	Date					
fifth time	Date					
Regular period	No of days					
Skin stretch mark	visual					
Eye sight (right)	power					
Eye sight (left)	power					
Voice change	sense					

Appendix 7.2.7 Data sheet for school children (Boys) body development

Adolescent Annual Growth Chart : Boys		Year of inspection :				
Name:	Standard	Birth Date:				
Parameter	Unit	Aug	Nov	Feb	May	Remarks
Height	cms.					
Weight	kgs.					
Shoulder	cms.					
Biceps	cms.					
Chest-Normal	cms.					
Chest-Expanded	cms.					
Acne/Pimple						
	cheek	visual				
	forehead	visual				
	neck	visual				
	upper chest	visual				
	shoulder	visual				
Body hair						
	upper lip	visual				
	cheek	visual				
	under arm	visual				
	pelvic/pubic	visual				
	hands	visual				
	legs	visual				
Dandruff	visual					
Sweat-odour						
	under arm	sense				
Genitals						
	testicles	visual				
	scrotum	visual				
Skin stretch mark	visual					
Eye sight (right)	power					
Eye sight (left)	power					
Nocturnal emission/wet dream						
Voice change	sense					

Appendix- 7.2.13 Recommendations by Working group on adolescents:

Suggestions for the Tenth Plan:

- (i) Data should be collected on a gender, age group and region disaggregated basis.
- (ii) All agencies need to collect, collate, maintain disseminate data relating to their own programmes and their outreach on the above basis.
- (iii) Data on adolescents should be collected using a participatory approach, which besides being a learning experience is also an empowering process.
- (iv) Depending on the requirements, the documentation/research could take various forms like base line data, micro studies at local level, action research or process documentation.
- (v) Detailed documentation of the work already going on with adolescents should be undertaken.
- (vi) The Census 2001 and NSS data should be promptly analysed to obtain the latest data on adolescents.
- (vii) Existing research institutions, women study centres, departmental institutions with an empathy for adolescents could be appropriate channels for collecting and analysing data and carrying out documentation.
- (viii) Sufficient resources should be allocated in all concerned departments especially in the Ministry of Youth Affairs and Sports for research and documentation and their dissemination.

Appendix-7.2.14 Consolidated tables of analysis:

Table 1 : Importance of attributes for Personality Development								
Particulars		Least	Less	Average	Important	Very Important	Very Very Important	Total
Public Speaking	Count	94	186	475	916	876	1455	4002
	Percent	2.3	4.6	11.9	22.9	21.9	36.4	100.0
Event Participation	Count	67	192	459	975	998	1308	3999
	Percent	1.7	4.8	11.5	24.4	25.0	32.7	100.0
Mastery In An Art	Count	145	341	771	936	808	992	3993
	Percent	3.6	8.5	19.3	23.4	20.2	24.8	100.0
Vocabulary	Count	62	158	357	697	876	1840	3990
	Percent	1.6	4.0	8.9	17.5	22.0	46.1	100.0
Decision Making	Count	60	128	330	729	1043	1701	3991
	Percent	1.5	3.2	8.3	18.3	26.1	42.6	100.0
Good Postures	Count	58	137	439	817	1012	1526	3989
	Percent	1.5	3.4	11.0	20.5	25.4	38.3	100.0
Communication Skills	Count	52	119	380	715	1081	1638	3985
	Percent	1.3	3.0	9.5	17.9	27.1	41.1	100.0
Master A Sport	Count	76	192	560	851	941	1367	3987
	Percent	1.9	4.8	14.0	21.3	23.6	34.3	100.0
Morning Sunlight	Count	58	122	341	723	939	1807	3990
	Percent	1.5	3.1	8.5	18.1	23.5	45.3	100.0
Regular Exercise	Count	71	163	335	745	1062	1617	3993
	Percent	1.8	4.1	8.4	18.7	26.6	40.5	100.0
Competitive Attitude	Count	64	137	391	798	1066	1522	3978
	Percent	1.6	3.4	9.8	20.1	26.8	38.3	100.0

Table 2 : Importance of attributes for Personality Development								
Particulars		Least	Less	Average	Important	Very Important	Very Very Important	Total
Removal Of Stage Fear	Count	89	154	312	617	1055	1756	3983
	Percent	2.2	3.9	7.8	15.5	26.5	44.1	100.0
Friendliness	Count	60	87	257	638	999	1945	3986
	Percent	1.5	2.2	6.4	16.0	25.1	48.8	100.0
Education	Count	21	46	149	377	660	2732	3985
	Percent	.5	1.2	3.7	9.5	16.6	68.6	100.0
Language	Count	21	60	217	663	1152	1860	3973
	Percent	.5	1.5	5.5	16.7	29.0	46.8	100.0
Balanced Diet	Count	47	92	318	669	1144	1709	3979
	Percent	1.2	2.3	8.0	16.8	28.8	43.0	100.0
Good Looks	Count	76	158	497	830	969	1449	3979
	Percent	1.9	4.0	12.5	20.9	24.4	36.4	100.0
Positive Attitude	Count	46	66	286	621	1109	1848	3976
	Percent	1.2	1.7	7.2	15.6	27.9	46.5	100.0
Love Your Self	Count	70	107	324	693	927	1859	3980
	Percent	1.8	2.7	8.1	17.4	23.3	46.7	100.0
Computer Operations	Count	78	123	456	770	1050	1504	3981
	Percent	2.0	3.1	11.5	19.3	26.4	37.8	100.0
Walking Style	Count	101	165	474	823	1073	1341	3977
	Percent	2.5	4.1	11.9	20.7	27.0	33.7	100.0
Reading	Count	83	155	393	664	919	1752	3966
	Percent	2.1	3.9	9.9	16.7	23.2	44.2	100.0

Table 3 Effort for Body & Mind Development						
Efforts		Never	Sometimes	Frequently	Always	Total
Participating In Event	Count	301	2177	884	627	3989
	Percent	7.5	54.6	22.2	15.7	100.0
Playing Sports Games	Count	184	1060	1058	1691	3993
	Percent	4.6	26.5	26.5	42.3	100.0
Doing Regular Exercises	Count	439	1778	889	884	3990
	Percent	11.0	44.6	22.3	22.2	100.0
Eating Balanced Diets	Count	213	864	1249	1652	3978
	Percent	5.4	21.7	31.4	41.5	100.0
Keeping Positive Attitude	Count	173	926	1342	1541	3982
	Percent	4.3	23.3	33.7	38.7	100.0
Doing Meditation/Yoga	Count	964	1823	654	528	3969
	Percent	24.3	45.9	16.5	13.3	100.0
Making Own Decision	Count	200	1222	1314	1239	3975
	Percent	5.0	30.7	33.1	31.2	100.0
Expose To Morning Sunlight	Count	389	1375	1075	1130	3969
	Percent	9.8	34.6	27.1	28.5	100.0
Widening Friend Circle	Count	224	656	1018	2054	3952
	Percent	5.7	16.6	25.8	52.0	100.0

Teenage Products		Very Less	Average	Complete	Total
Blade/Razor(Shaving)	Count	2059	1182	592	3833
	Percentage	53.7	30.8	15.4	100.0
Pimple Cream	Count	1983	1265	575	3823
	Percentage	51.9	33.1	15.0	100.0
Height Booster	Count	1331	1536	918	3785
	Percentage	35.2	40.6	24.3	100.0
Trimming Tiny Scissors	Count	2268	1051	399	3718
	Percentage	61.0	28.3	10.7	100.0
Girl: Brassiere/Bra	Count	550	499	664	1713
	Percentage	32.1	29.1	38.8	100.0
Girl: Washable Pad	Count	592	417	687	1696
	Percentage	34.9	24.6	40.5	100.0
Girl: Sanitary Napkin	Count	477	461	756	1694
	Percentage	28.2	27.2	44.6	100.0

Persons	To Share Personal Problems		To Share Personal Interests	
	Count	Percentage	Count	Percentage
Mother	2763	70.9	2075	54.6
Father	1331	34.1	1576	41.5
Brother	837	21.5	1151	30.3
Sister	1232	31.6	1216	32
Uncle	120	3.1	224	5.9
Aunt	211	5.4	206	5.4
Teacher	333	8.5	367	9.7
Friend	2755	70.7	2800	73.7
Cousin	712	18.3	933	24.6
Grand Parents	424	10.9	405	10.7
School Counselor	127	3.3	153	4
Other	278	7.1	337	8.9
Total	3898		3798	
Missing	109		209	
Grand Total	4007		4007	

Activities	N	Missing	Minimum	Maximum	Mean	Median	Mode	Std. Deviation
Average Hours/Day Spent for Sports-Outdoor	3523	484	0	8	1.376	1	1	0.7332
Average Hours/Day Spent for Sports-Indoor	2130	1877	0	5	1.19	1	1	0.6974
Average Hours/Day Spent for Dance/Music	1595	2412	0	6	1.24	1	1	0.8208
Average Hours/Day Spent for Reading Novels	1966	2041	0	5	1.33	1	1	0.8568
Average Hours/Day Spent for TV/Internet	2421	1586	0	6	1.74	2	1	0.9445

Activities		Level of Competence/Use			
		Low	Average	Excellent	Total
Sports-Outdoor	Count	1180	1543	1119	3842
	Percentage	30.7	40.2	29.1	100.0
Sports-Indoor	Count	1046	1657	864	3567
	Percentage	29.3	46.5	24.2	100.0
Dance/Music	Count	1146	1129	948	3223
	Percentage	35.6	35.0	29.4	100.0
Reading Novels	Count	1040	1556	869	3465
	Percentage	30.0	44.9	25.1	100.0
TV/Internet	Count	689	1615	1410	3714
	Percentage	18.6	43.5	38.0	100.0

Factors that Helps to Increase Height	Count	Percentage
Cycling	1705	57.2
Pull-Ups	1082	36.3
Exercise	1584	53.1
Swimming	11	0.4
Diet	481	16.1
Running	184	6.2
Skipping	29	1
Jumping	338	11.3
Basket Ball	143	4.8
Hanging	154	5.2
Medicine	206	6.9
Other	34	1.1
Total	2982	

Missing	1025
Grand Total	4007

Table 9. First Notice Time of Physical Changes												
Physical Changes		Standard										
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI
First Notice Time Of Under Arm Hair	Count		6	26	87	277	868	1071	358	7	1	2701
	Percentage		2	10	3.2	10.3	32.1	39.7	13.3	3	.0	100.0
First Time Of Shave/Trim Of Under Arm Hair	Count			1	10	22	126	235	134	4	5	537
	Percentage			.2	1.9	4.1	23.5	43.8	25.0	7	9	100.0
Not Noticed Yet	Count											1037
	Percentage											27.7
First Notice Time Of Pubic Hair	Count		4	16	84	274	733	916	326	11		2364
	Percentage		2	7	3.6	11.6	31.0	38.7	13.8	5		100.0
First Time Of Shave/Trim Of Pubic Hair	Count			1	3	22	86	146	109	2	3	372
	Percentage			.3	.8	5.9	23.1	39.2	29.3	.5	8	100.0
Not Noticed Yet	Count											1285
	Percentage											35.2
First Notice Time Of Pimple/Acne	Count		3	19	50	137	349	538	279	14	3	1392
	Percentage		2	1.4	3.6	9.8	25.1	38.6	20.0	1.0	2	100.0
First Time Of Use Of Cream/Lotion	Count		5	9	30	62	147	246	133	6	3	641
	Percentage		.8	1.4	4.7	9.7	22.9	38.4	20.7	9	.5	100.0
Not Noticed Yet	Count											2004
	Percentage											56.5
First Notice Time Of Voice Change	Count		10	40	121	195	497	597	289	15	3	1767
	Percentage		.6	2.3	6.8	11.0	28.1	33.8	16.4	.8	.2	100.0
Not Changed Yet	Count											1741
	Percentage											49.6

Table 10A. First Notice Time of Physical Changes

Physical Changes	Standard											Total	
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI		
First Notice Time Of Hair Growth On Legs & Arms	Count	5	19	24	80	209	442	744	706	299	12	1	2541
	Percentage	2	7	9	31	82	174	293	278	118	5	0	100.0
Not Noticed Yet	Count												1145
	Percentage												31.1
First Notice Time Of Body Odour/Sweat Change	Count			9	24	91	206	406	548	296	11	2	1593
	Percentage			.6	1.5	5.7	12.9	25.5	34.4	18.6	.7	.1	100.0
Not Noticed Yet	Count												1916
	Percentage												54.6
First Notice Time Of Period/Menarche/Menstruation	Count					7	42	155	415	454	101	2	1176
	Percentage					.6	3.6	13.2	35.3	38.6	8.6	.2	100.0
Not Yet Started	Count												459
	Percentage												28.1
First Notice Time Of Breast Bud Development	Count					8	41	165	381	386	99	1	1081
	Percentage					.7	3.8	15.3	35.2	35.7	9.2	.1	100.0
Not Yet Started	Count												548
	Percentage												33.6
First Notice Time Of Body Curves/Buttocks Development	Count					3	16	79	240	280	86	4	708
	Percentage					.4	2.3	11.2	33.9	39.5	12.1	.6	100.0
Not Yet Started	Count												889
	Percentage												55.7
First Notice Time Of Mustache Hair Appearance	Count				3	7	49	185	382	219	20	3	868
	Percentage				.3	.8	5.6	21.3	44.0	25.2	2.3	.3	100.0
Not Yet Appeared	Count												1152
	Percentage												57.0
First Notice Time Of Bread Hair Appearance	Count					6	18	67	176	173	15	8	463
	Percentage					1.3	3.9	14.5	38.0	37.4	3.2	1.7	100.0
Not Yet Appeared	Count												1533
	Percentage												76.8

Table no. 10B First notice of physical changes		
Physical Changes	Count	Percentage
First Notice Time Of Under Arm Hair	2701	72.2
First Time Of Shave/Trim Of Under Arm Hair	537	14.3
Not Noticed Yet	1037	27.7
Total	3743	100
Missing	264	
Grand Total	4007	
First Notice Time Of Pubic Hair	2364	64.7
First Time Of Shave/Trim Of Pubic Hair	372	10.2
Not Noticed Yet	1285	35.2
Total	3655	100
Missing	352	
Grand Total	4007	
First Notice Time Of Pimple/Acne	1392	39.2
First Time Of Use Of Cream/Lotion	641	18.1
Not Noticed Yet	2004	56.5
Total	3549	100
Missing	458	
Grand Total	4007	
First Notice Time Of Voice Change	1767	50.4
Not Changed Yet	1741	49.6
Total	3508	100
Missing	499	
Grand Total	4007	
First Notice Time Of Hair Growth On Legs & Arms	2541	68.9
Not Noticed Yet	1145	31.1
Total	3686	100
Missing	321	
Grand Total	4007	
First Notice Time Of Body Odour/Sweat Change	1593	45.4
Not Noticed Yet	1916	54.6
Total	3509	100
Missing	498	
Grand Total	4007	

Table no. 10C First notice of physical changes		
Physical Changes	Count	Percentage
Girl: First Notice Time Of Period/Menarche/Menstruation	1176	71.9
Not Yet Started	459	28.1
Total	1635	100
Missing	122	
Grand Total	1757	
Girl: First Notice Time Of Breast Bud Development	1081	66.4
Not Yet Started	548	33.6
Total	1629	100
Missing	128	
Grand Total	1757	
Girl: First Notice Time Of Body Curves/Buttocks Development	708	44.3
Not Yet Started	889	55.7
Total	1597	100
Missing	160	
Grand Total	1757	
Boy: First Notice Time Of Mustache Hair Appearance	868	43.0
Not Yet Appeared	1152	57.0
Total	2020	100
Missing	230	
Grand Total	2250	
Boy: First Notice Time Of Bread Hair Appearance	463	23.2
Not Yet Appeared	1533	76.8
Total	1996	100
Missing	254	
Grand Total	2250	

Table 11A. Knowledge of common changes of puberty and teenage products					
Topics for Both Boys & Girls		I Don't Know	I Know Partially	I Know Fully	Total
Internal Anatomy Of Reproduction	Count	1922	1388	328	3638
	Percentage	52.8	38.2	9.0	100.0
Trimming & Shaving Of Pubic-Hair	Count	2333	1061	313	3707
	Percentage	62.9	28.6	8.4	100.0
Use Of Shaving Blade/Razor	Count	2077	1143	482	3702
	Percentage	56.1	30.9	13.0	100.0
Acne/Pimple Care & Treatment	Count	2059	1260	383	3702
	Percentage	55.6	34.0	10.3	100.0
Functions Of sperms And Ovary	Count	1950	1255	495	3700
	Percentage	52.7	33.9	13.4	100.0
Child Sexual Abuse	Count	2571	832	265	3668
	Percentage	70.1	22.7	7.2	100.0

Table 11B. Knowledge of changes of puberty and teenage products for boys only					
Topics for Boys		I Don't Know	I Know Partially	I Know Fully	Total
Wet-Dream Effect/Ejaculation	Count	1538	362	75	1975
	Percentage	77.9	18.3	3.8	100.0
Testicles Development In Scrotum	Count	1368	472	131	1971
	Percentage	69.4	23.9	6.6	100.0

Table 11C. Knowledge of changes of puberty and teenage products for girls only					
Topics for Girls		I Don't Know	I Know Partially	I Know Fully	Total
Stages Of Menstruation Period	Count	533	497	510	1540
	Percentage	34.6	32.3	33.1	100.0
Purpose Of Menstruation In Your Life	Count	747	466	346	1559
	Percentage	47.9	29.9	22.2	100.0
Personal Hygiene Care During Period	Count	667	423	477	1567
	Percentage	42.6	27.0	30.4	100.0
Urinal Infections	Count	1000	413	143	1556
	Percentage	64.3	26.5	9.2	100.0
Use Of Washable Pad/Cloth	Count	734	377	444	1555
	Percentage	47.2	24.2	28.6	100.0
Use Of Sanitary Napkin	Count	697	364	481	1542
	Percentage	45.2	23.6	31.2	100.0
Stages Of Breast Development	Count	798	514	239	1551
	Percentage	51.5	33.1	15.4	100.0
Selection Of Bra/Bras	Count	888	403	254	1545
	Percentage	57.5	26.1	16.4	100.0
Measuring Of Brassiere Size	Count	1040	319	176	1535
	Percentage	67.8	20.8	11.5	100.0

Table 13 Behaviors Change During Adolescence Age

Changed Behaviors	Mother		Father		Sister/Brother		Cousins		Uncle/Aunt		Friend		Teacher	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Aggressive	65	2	67	2.3	120	4.2	124	4.7	84	3.3	82	2.9	60	2.2
Angry	277	8.6	163	5.5	373	13.1	156	6	87	3.4	179	6.3	163	5.9
Arguing	253	7.8	128	4.3	286	10	136	5.2	83	3.2	155	5.4	130	4.7
Arrogantly	1246	38.6	837	28.3	1154	40.5	1206	46.2	451	17.6	1702	59.4	449	16.3
Abuse	60	1.9	56	1.9	140	4.9	126	4.8	84	3.3	74	2.6	99	3.6
Alone	18	0.6	8	0.3	169	5.9	129	4.9	55	2.1	195	6.8	33	1.2
Available	1603	49.7	1083	36.7	986	34.6	682	26.1	590	23	794	27.7	344	12.5
Respect	1058	32.8	1456	49.3	226	7.9	271	10.4	1271	49.6	134	4.7	1671	60.6
Understanding	634	19.6	508	17.2	451	15.8	311	11.9	286	11.2	569	19.9	525	19
Total	3228	100	2953	100	2850	100	2613	100	2562	100	2863	100	2757	100
Missing	779		1054		1157		1394		1445		1144		1250	
Grand Total	4007		4007		4007		4007		4007		4007		4007	

Table 14. Change in Feelings during Adolescence Age						
Feelings		Never	Sometimes	Frequently	Always	Total
Loneliness Among People	Count	1426	1988	355	145	3914
	Percentage	36.4	50.8	9.1	3.7	100.0
No One Understands Me	Count	1177	1820	588	287	3872
	Percentage	30.4	47.0	15.2	7.4	100.0
I Am Not A Kid Anymore	Count	934	1247	979	711	3871
	Percentage	24.1	32.2	25.3	18.4	100.0
Why, Always It Happens To Me?	Count	644	1720	919	589	3872
	Percentage	16.6	44.4	23.7	15.2	100.0
Urge To Talk To A Friend	Count	618	1086	918	1245	3867
	Percentage	16.0	28.1	23.7	32.2	100.0
Discuss Personal Matters	Count	525	1470	995	871	3861
	Percentage	13.6	38.1	25.8	22.6	100.0
Irritated & Annoyed	Count	987	1952	638	282	3859
	Percentage	25.6	50.6	16.5	7.3	100.0
Need Privacy & Independence	Count	953	1290	837	768	3848
	Percentage	24.8	33.5	21.8	20.0	100.0

Table 15. Preferred Sources for Further Information		
Preferred Sources	Count	Percentage
Book	1187	32.8
Magazine	396	10.9
Internet	513	14.2
Teacher	979	27
Counselor	63	1.7
Doctor	1116	30.8
Friend	1719	47.5
Father	941	26
Mother	2070	57.2
Cousin	300	8.3
Uncle	50	1.4
Aunt	121	3.3
TV	687	19
Advertisement	165	4.6
Total	3622	100
Missing	385	
Grand Total	4007	

Table 16 Rating of Importance of Good Personality								
Occasion		Least	Less	Average	Important	Very Important	Very Very Important	Total
To Make Friends	Count	41	53	247	678	1043	1840	3902
	Percentage	1.1	1.4	6.3	17.4	26.7	47.2	100.0
To Win Competition	Count	46	92	368	882	1052	1429	3869
	Percentage	1.2	2.4	9.5	22.8	27.2	36.9	100.0
To Impress Others	Count	83	174	463	839	1011	1295	3865
	Percentage	2.1	4.5	12.0	21.7	26.2	33.5	100.0
To Convince Others	Count	49	138	459	992	1202	1024	3864
	Percentage	1.3	3.6	11.9	25.7	31.1	26.5	100.0
For Admission Interview	Count	54	92	273	651	1032	1763	3865
	Percentage	1.4	2.4	7.1	16.8	26.7	45.6	100.0
For Job Interview	Count	64	81	217	550	891	2057	3860
	Percentage	1.7	2.1	5.6	14.2	23.1	53.3	100.0
For Marriage Interview	Count	270	191	494	719	847	1331	3852
	Percentage	7.0	5.0	12.8	18.7	22.0	34.6	100.0

Table 17. Importance of attributes for personality development					
		Less Important	Important	Very Important	Total
Memory Power	Count	13	250	504	767
	%	1.7	32.6	65.7	100.0
Listening Skills	Count	52	352	362	766
	%	6.8	46.0	47.3	100.0
Expertise in One Art	Count	136	421	210	767
	%	17.7	54.9	27.4	100.0
Regular Exercise	Count	71	357	338	766
	%	9.3	46.6	44.1	100.0
Balance Diet	Count	44	279	443	766
	%	5.7	36.4	57.8	100.0
Public Speaking	Count	89	353	325	767
	%	11.6	46.0	42.4	100.0
Group Discussion	Count	79	376	310	765
	%	10.3	49.2	40.5	100.0
Expertise in One Sport	Count	140	396	230	766
	%	18.3	51.7	30.0	100.0
Reading Habits	Count	37	289	439	765
	%	4.8	37.8	57.4	100.0
Positive Attitude	Count	32	193	541	766
	%	4.2	25.2	70.6	100.0
Self Confidence	Count	13	98	655	766
	%	1.7	12.8	85.5	100.0

Table 18. Sources for additional information for parents.					
Sources		Physical Changes	Emotional Changes	Social Changes	Intellectual Changes
Parents	Count	35	38	34	10
	Column %	6.01	7.25	6.71	2.12
Book/Magazines	Count	310	222	226	228
	Column %	53.26	42.37	44.58	48.41
Internet	Count	31	41	58	99
	Column %	5.33	7.82	11.44	21.02
Teacher	Count	178	206	208	213
	Column %	30.58	39.31	41.03	45.22
Counselor	Count	54	130	74	74
	Column %	9.28	24.81	14.60	15.71
Doctor	Count	290	84	40	56
	Column %	49.83	16.03	7.89	11.89
Product Promotion	Count	14	15	21	21
	Column %	2.41	2.86	4.14	4.46
TV	Count	112	163	181	106
	Column %	19.24	31.11	35.70	22.51
Advertisement	Count	22	35	58	34
	Column %	3.78	6.68	11.44	7.22
Total	Count	582	524	507	471
	Column %	100	100	100	100

Table 19 Teachers response on importance of personality development

Particulars		Less Important	2	3	4	5	Very Important	Total
Stage Events	Count		1	19	18	28	11	77
	%		1.3	24.7	23.4	36.4	14.3	100.0
Elocution/Debate	Count		3	10	16	29	19	77
	%		3.9	13.0	20.8	37.7	24.7	100.0
Essay Writing	Count		7	11	26	16	17	77
	%		9.1	14.3	33.8	20.8	22.1	100.0
Outdoor Sports	Count		2	4	24	27	19	76
	%		2.6	5.3	31.6	35.5	25.0	100.0
Scout/Guide Training	Count		1	2	10	34	20	71
	%		1.4	2.8	14.1	47.9	28.2	100.0
Outdoor Camp/Trekking	Count		1	17	23	27	9	77
	%		1.3	22.1	29.9	35.1	11.7	100.0
Expertise In An Art	Count		2	23	26	15	11	77
	%		2.6	29.9	33.8	19.5	14.3	100.0
Expertise In A Sport	Count			16	31	18	12	77
	%			20.8	40.3	23.4	15.6	100.0
Vocabulary	Count		7	6	12	28	24	77
	%		9.1	7.8	15.6	36.4	31.2	100.0
Positive Attitude	Count		1	2	9	19	46	77
	%		1.3	2.6	11.7	24.7	59.7	100.0
Self Confidence	Count			4	7	20	46	77
	%			5.2	9.1	26.0	59.7	100.0
Public Speaking	Count			6	22	24	25	77
	%			7.8	28.6	31.2	32.5	100.0
Daily Exercise	Count		5	10	13	19	30	77
	%		6.5	13.0	16.9	24.7	39.0	100.0