NURSING

HIGHER SECONDARY
SECOND YEAR

VOLUME - 2

Untouchability is a sin
Untouchability is a crime
Untouchability is inhuman

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PREFACE

Nurses play a key role in the health care delivery system. Nursing is considered to be an important profession for which a strong preparation is needed. Now the government of Tamilnadu has introduced nursing as one of the optional subjects for eleventh and twelfth standard.

This textbook is written for twelfth standard. This syllabus is framed considering the syllabus of eleventh standard and the additional requirement for education and training.

This book is written and reviewed by the experts in the field of nursing and also by teachers who are in higher secondary schools. Much emphasis is given to practical approaches as the students are expected to demonstrate skill in their practice in actual situations.

Our sincere thanks to the Managing Director - Tamilnadu Textbook Corporation, Director - Directorate of School Education, Director – Directorate of Teacher Education and Research Training (DTERT), Director – Directorate of Matriculation Schools (DMS), Joint Director – Personnel, Directorate of School Education and all the other staff members of the Directorate, from whom the continuous encouragement and support received throughout.

The acceptance, the appreciation and comments from various sources – acceptance by the students, appreciation by our colleagues and friends and comments from our well-wishers are all the inspiration for us to bring out the better in the future.

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1. COMMUNITY HEALTH NURSING - PRINCIPLES AND PRACTICES

Introduction:

In the history of public health, 19th century makes a turning point. Several reformers notably Frank (1745-84) and Edvin Chadwik (1800 –1890) in England published reports focusing the attention of government and people on the need for sanitary reforms.

A movement known as sanitary awakening started in England in the 20th century. The broad foundation of public health viz., safe drinking water, clean environment were held in all civilization.

Public health began to make rapid growth during 20th century. The role of nurse also began to expand along these lines. A remarkable development in public health was the successful control at many communicable diseases. Medicine and nursing began to link themselves to social sciences for a better understanding at these newer health problems.

On the international scenario the birth of WHO in 1946 gave impetus to the strengthening at medical and nursing services. All over the world a new era dawned signing positive health. There was shift of emphasis from the sick to the well person, from the individual to the community. Health has been recognised as a fundamental right of all human being

The term public health, preventive medicine and social medicine were found inadequate and were replaced by community health, which is much broader in the scope of public health or preventive medicine.

WHO set a goal at health for all by 2000 AD and prescribed primary health care at reasonable level and that health care to be attained by all by the year 2000 AD.

The concept of community health has also permeated into nursing and gave birth to the concept of community nursing. Community health has been integrated into basic curriculum at nursing in 1958 by the Indian Nursing Council. The recent development in the concept of primary health and the goal at health care for all by 2000 AD has attached the nursing component at the health care system in the country. It has led to restructuring the pattern at rural health services. Every nurse has her responsibility in her area of work in whatever capacity she works in relation to community health services.

1.1 Health Problems of India:

Every country has its own health problems depending upon the standard of living of its people, size of the population, geographical location of the country, etc. India is a vast country with an area of 3.2 million square kms and a population of 1027 million (2001). The health problems of such a vast country must also be large in magnitude. The health problems of India may be classified as below:

1. Communicable Disease Problems
2. Nutritional Problems
3. Environmental Sanitation Problems
4. Medical Care Problems
5. Population Problems

1.2 National Health Policy:

The Ministry of Health and Family welfare evolved a National Health Policy in 1983 in view of the national commitment to attain the goal of Health for all by the year 2000. The health strategies suggested include restructuring the health infrastructure, development of health manpower, research and health development.

The broad recommendations of health policy are:

1. to establish one health subcentre for every 5,000 rural population (3,000 in tribal and hilly areas) with one male and female health worker.
2. to establish one primary health centre for every 30,000 rural population (20,000 in hilly and tribal areas).
3. to establish Community Health Centres, each serving a population of one lakh.
4. to train village Health Guides selected by the community for every village or 1,000 rural population.
5. to train traditional birth attendants or Dais in each village.
6. Training of various categories of other staff, e.g. multipurpose workers.

These schemes are expected to ensure the availability to adequate infrastructure and medical and paramedical manpower to take us nearer the goal of universal provision of primary health care as envisaged in the National Health Policy.

The National Health Policy laid down specific goals to be achieved by 1985, 1990, 1995 and 2000 AD. The National Health Policy has given a new direction to health planning in India, making primary health care the central function and the main focus of the national health system. The goal of national health planning in India was to attain health for all by the year 2000.

Since then there has been significant changes in the determinant factors relating to the health sector, necessitating revision of the policy, and a new National Health Policy -2002 was evolved.

1.3 Health services organization:

The health services organization in the country extends from the national level to the sub-centre level in the remote rural areas. Broadly, four levels of health organization may be distinguished:

1. national
2. state
3. district
4. local.

These role played by them are described below:

1. National Level: The administration at the **Centre** consists of the Ministry of Health and Family Welfare, headed by a Minister, the Minister for Health and Family Welfare.

The Union Health Ministry has 2 main departments

- The Department of Health,
- The Department of Family Welfare.

The Secretary to the Govt. of India, in the Ministry of Health and Family Welfare is in overall charge. He is assisted by a special Secretary who1 heads the Family Welfare Department.

The Director General of Health Services (DGHS) is the chief technical adviser to the Government on all matters relating to medical care and public health.

The responsibility of the Union Health Ministry consists mainly of policy making, planning, guiding, co-ordinating and evaluating. The functions of the Union Health Ministry have been set out in the 7th Schedule of Article 246 of the Constitution of India under 2 heads

- the Union List
- the Concurrent List.

The functions specified in the Union List are

- administration of International Health
- administration of Central Institutes
- promotion of research; drugs control
- census operations
- regulation of labour and co-ordination with the States.

The functions specified in the Concurrent List are the responsibility of both the Union and State Governments. These are

- prevention of spread of communicable diseases
- prevention of food adulteration
- control of drugs and poisons
- vital statistics
- labour welfare and economics and social planning.

1.3.1 Central council of health:

The Central Council of Health was set up by a Presidential Order in 1952 to promote coordinated and concerted action between centre and the states in the implementation of health programmes and measures pertaining to health.

A similar council also exists for family welfare. In recent years, these two councils have been meeting jointly to take coordinated decisions. The Central Council of Health and Family Welfare also makes recommendations to the Central Government regarding distribution of grants-in-aid and reviews the work done through the utilization of these grants.

1.3.2 State Health Administration:

There are at present 28 States and 6 Union Territories and the national capital territory of Delhi in India. The States are independent in matters pertaining to the provision of health services to people living within their jurisdiction.

Consequently, each State has evolved its own pattern of health administration. But in each State there is a Minister of Health and Family Welfare elected by the people and Directorate of Health Services (known in some States as the Directorate of Health and Family Welfare).

The State Health Ministry is headed by a Minister of Health and a Deputy Minister of Health. In some States, the

Health Minister is also in-charge of other portfolios. The Health Secretary is usually a senior Officer of the Indian

1.3.3 Administrative Service.

The Health Directorate is headed by the Director of Health Services (or Director of Medical and Health Services as it is known in some States) who is assisted by a team of Joint Directors, Deputy Directors and Assistant Directors. The Deputy and Assistant Directors may, be of two types - regional and functional. The Regional Directors Inspect all the branches of public health within their jurisdiction irrespective of their specialty.

The Functional Directors are usually specialists in a particular branch of public health such as nursing, family planning, tuberculosis, leprosy, malaria, MCH, etc. A recent development in many States is the appointment of a Director of Medical Education. The State Health Directorate is responsible for formulating and evaluating plans; directing the execution of approved plans and programmes.

1.3.4 The District Pattern:

The District In India is the pivot of the administrative structure. In some States (e.g.. West Bengal), the district health organization is headed by a single Chief, the Chief Medical Officer of Health who is responsible for all community services in the district.

In some States (e.g.. Andhra Pradesh, Madhya Pradesh), there are 2 Chiefs - District Medical Officer (DM0) or Civil Surgeon who is in-charge of medical services and the District Health Officer or District Health and Family Welfare Officer who is in-charge of health and family welfare.

1.3.5 Municipalities :

The following types of local self- government Institutions are generally found in the urban areas

1. Town Area Committees (in areas with population ranging between 5,000 and 10,000)
2. Municipal Boards (in areas with population ranging between 10,000 and 2 lakhs).
3. Corporations , (with population above 2 lakhs). The health organization in a Corporation is headed by a Health Officer, assisted by Deputy and Assistant Health Officers, Sanitary Inspectors and an army of sanitation staff. The services provided comprise sanitation and public health, MCH, control of foods and food sanitation and collection of vital statistics.
4. The Municipal Boards are headed by elected Presidents. The services provided are usually confined to sanitation and public health because of limited financial position.

1.3.6. Decentralised state administration

The present structure of local self- government in the State is based on a three-tier structure, known as the Panchayat Raj. The three levels are:

- **Village level :** Gram Sabha, Gram or village Panchayatraj and Nyaya Panchayat
- **Block level :** Panchayat Samiti
- **District level:** ZillaParishad..

1.3.6. A Village Level:

Gram sabha is the basic unit of the system of Panchayati Raj, It is an assembly of all the adults of the village. The meetings of the Sabha are held twice a year.

Gram panchayat is the executive organ of the Gram Sabha. It is headed by a President known as Sarpanct or Mukhiya and the members comprise 10 to 30. Members of the Panchayat an elected by the adults of the Gram Sabha and they hold office for a period of 3 to / years.

The functions of the Panchaya cover the entire field of civil administration. e.g., sanitation, street lighting, control o disease, adult literacy, youth clubs Mahila Samitis, etc. The Panchaya Secretary helps the Panchayat in it; various activities,

Nyaya panchayat is the judicial organ of the Gram Sabha There is one Nyaya Panchayat for a group of 5 village Panchayats. The Nyay; Panchayats try civil cases and mino criminal offences. They are empowered to impose fines up to Rs. 100/-.

Village level

There are two health functionaries at the village level, namely (a) the Health Guides, and (b) trained Dais.

Health Guides:

In India, about 72.2 per cent of the population live in rural areas. They are hardly covered by health services. It is now realised that a wide range of illnesses can be treated or prevented at the village level by a person with a relatively simple training or preparation. He has been called a village Health Guide (formerly known as community health worker or community health volunteer).

The scheme to train village health guides was initiated in the country on 2nd October 1977. These are voluntary health workers selected by the local community and trained locally for, 3 months at the primary health centre and subcentre.

After training, they are given a Manual which gives them detailed instructions of what they should do and a medical kit containing medicines worth Rs.600 a year. The Health Guides (now mostly women) provide the first contact between the community and the official health system. It is proposed to train one health guide for every 1000 rural population.

During the year 1981 the scheme was made 100 per cent centrally sponsored under family welfare programme. Now, since April 2002 the scheme is state sponsored. At present 3.23

Lakh village health guides are working in the country. Each VHG is paid an honorarium ofRs.50 per month.

Functions:

The village health guides perform vaccinations. They give advice on simple health education measures. They give advice on the construction of latrines, garbage disposal and disinfection of water supplies. They refer cases to the nearest primary health centre where and when necessary.

They provide primary health care services with greater emphasis on child survival and MCH programme. Their work is supervised by the Community Health Nurses and Health Assistants.

Evaluation reports indicate that the health guides' scheme has been accepted and welcomed by the community. and co-operation, two social education organizers, an overseer with a public health bias, 10 village level workers and some auxcillary staff.

1.3.7 Integrated rural development:

During 1977-78, the Government of India took up what is known as "Integrated Rural Development" to strengthen community development. A sum of Rs.5 lakhs has been provided for each block.

It is a target-oriented programme, the target groups being the weaker sections of the community viz. poor farmers below the poverty line and craftsmen. The objective is to provide full employment within the next l0 y ears.

Block Level:

The Block consists of about 100 villages and a population of about 80,000 and is provided with ; Panchayat Samiti. This Samiti consists of all Sarpanches (heads) of the village panchayats in the Block; MLAs, MPs residing in the Block area, representative; of scheduled castes and tribes. The Block Development Officer is the ex-officer (secretary of the

Panchayat Samiti. The Panchayat Samiti supervises and give; technical assistance and guidance to the village Panchayats engaged in development work. The Samiti also acts as an agent of the State Government, which provides money for developmental projects.

District Level :

The instrument of local self-government at the District level is the Zilla Parishad. The members of the Zilla Parishad include all heads of the Panchayat Samitis in the district, MPs., MLAs, representatives of scheduled castes and tribes and co-operative societies. The Collector is a non-voting member. The Zilla Parishad is a supervisory and co-ordinating body. Its functions and powers vary from State to State. In Gujarat. control of primary health centres is exercised by the Zilla Parishads through the District Health Officer.

Rural health services The Govt. of India in 1977 launched a scheme known as "Rural Health Service" - on the principle of "placing people's health in people's hands". It is based on the recommendations of the Shrivastav Committee in 1975 (see page 312). One of the main recommendations of the committee is to create a band of voluntary workers (e.g., community health workers) who will function as an interface between the local community and the national health system at the peripheral level.

The rural health scheme was subsequently modified in the light of the National Health Policy, which was approved by Parliament in 1983 to achieve the goal of “Health for All by the year 2000”. The rural health infrastructure to deliver the rural health care, as it exists today.

The Tenth Five Year Plan, covering the period 2002 to 2007, represents another step in the evolution of development planning in India. There is a visible shift in the focus of development planning from the mere expansion of services to planning of enhancement of human well being.

1.3.8 Primary health Centre:

The Primary health Centre plays an important role in the health care delivery system (PHC). It is an institution for providing comprehensive health care which includes preventive, promotive and curative services under one roof. Medical officer or the health officer governs the functions of the primary health centre.

Primary health centers in India:

The programme of establishing primary health centers and subcentres with 4 to 6 beds at each PHC in a community development block having a population of 60,000 to 80,000 was launched as an integral part of the community development programme in the year 1952. Since then 5499 PHC and 49300 subcentres have been established until 1980.

The population coverage of PHC has been increased up to 1 lakh and more. The population coverage of sub-centre is about 10,000. PHC are upgraded with 32 to 40 bed hospitals during the sixth five-year plan. The primary health centre and sub-centre provide an infrastructure for the delivery health services in the rural areas of the country.

Functions of the Primary Health Centre:

1. Medical care
2. MCH and family planning
3. RCH
4. Environment sanitation.
5. School health services.
6. Control of communicable diseases.
7. Collection of vital statistics
8. Health education.

Nursing services in the Primary health centre

1. Health services for the mother
    - Antenatal care

- Delivery care
- Postnatal care

2. Child health services
    - Under five clinics
    - Adequate nutrition
    - Immunization
    - Health teaching
3. Family planning

1.4 National planning:

Planning is a concept of recent origin. The object of national planning is to give a social and economic content to political freedom. Health planning which is a new term in health vocabulary is an important part of national planning. Heath planning is based on the health needs and health demands of the population.

The goal of health planning is the achievement of the optimal level of health. Nurses have their own contribution to make to health planning, because they are responsible for implementing many aspects of the health programme.

1.4.1 Planning Commission:

In March 1950, the Government of India had set up a Planning Commission to promote a rapid rise in the standard of living of the people by efficient exploitation of the resources of the country, increasing production and offering opportunities to all for employment in the service of community.

Health, being an important contributory factor to national development, the Planning Commission gave due importance to health and established a separate Division in the Planning Commission for the formulation of the health programmes to be included in the nations Five Year Plans. A Bureau of Planning was also constituted in 1965 in the Union Health Ministry to secure better coordination between the

Centre and State Governments. For purposes of planning, the health sector has been divided into the following sub-sectors:

1. Control of communicable diseases
2. Medical education, training and research.
3. Medical care including hospitals,
4. dispensaries and primary health centres.
5. Public health services.
6. Family Planning Indigenous system of medicine.

All the above sub-sectors have been given due consideration in the nation's Five Year Plans. However, the emphasis has changed from Plan to Plan depending upon the felt-needs of the people and technical considerations. The Health Plan is implemented at various levels - national, state, district, block and village.

1.5.1 Achievements:

As a result of the five year plans, considerable improvement has taken place in the field of health. A brief account of the achievements, has laid down specific goals to be achieved by year 2005, 2007, 2010 and 2015. These are given In the table below the steps are already under way to Implement the policy.

Tables National Health Policy- 2002 goals to be achieved by 2015

Eradicate Polio and Yaws	2005
Eliminate Leprosy	2005
Eliminate Kala Azar	2010
Eliminate Lymphatic Filariasis	2015
Achieves zero level growth of HIV/AIDS	2007
Reduce mortality by 50 % on account of TB, Malaria and other vector and waterborne disease	2010
Reduce prevalence of blindness to 0.5%	2010

Reduce IMR to 30/100 and MMR to 100/Lakh	2010
Increase utilization of public health facilities from current level of < 20% to > 75%	2010
Establish an Integrated system of surveillance. National Health Accounts and Health Statistics	2005
Increase health expenditure by Government as a % of GDP from the existing 0.9% to 2%	2010
Increase share of central grants to constitute at least 25% of total health spending	2010
Increase state sector health spending from 5.5% to 7% of the budget	2010
Further Increase to 8% of the budget	2010

1.6 Five Year Plans:

'The investment in different plan periods under the family welfare programme is shown in the following Table. Plan-wise outlays under the Family Welfare Programme. The Tenth Five Year Plan, covering the period 2002 to 2007, represents another step in the evolution of development planning in India.

There is a visible shift in the focus of development planning from the mere expansion of services to planning of enhancement of human well-being.

Period (Years)	Outlays
First plan (1951-56)	0.65
Second plan (1956-61)	5.00
Third plan (1962-66)	27.00
Annual plans ((1966-69)	82.90
Fourth plan (1969-74)	285.80
Fifth plan (1974-78)	285.60
Annual plans (1978-80)	228.00
Sixth plan (1980-85)	1309.00

Seventh plan (1985-90)	2868.00
Annual plans (1990-92)	1424.00
Eighth plan (1992-97)	6195.00
Ninth plan (1997-2002)	14170.00
Tenth plan (2002-07)	27125.00
Annual plan (2002-03)	4930.00

The targets of Tenth Five-year plan for the plan period and beyond are: Reduction in the decadal rate of population growth between 2001 to 2011 to 16.2 percent

1. Reduction in infant mortality rate to 45 per thousand live births by 2007 and 28 by 2012.
2. Reduction in maternal mortality ratio to 2 per thousand live births by 2007 and 1 by 2012.

1.7 Social Welfare Services

Social welfare services are intended to cater to the weaker sections of the population. These include women, children, handicapped, aged, scheduled castes and tribes.

1.7.1 Ministry of Welfare:

The Ministry of Welfare. Govt. of India, has been formed by pooling subjects related to welfare of the disabled, programmes of social defense, welfare of the scheduled castes and tribes and minorities.

The welfare of women and child development is looked after by a separate Department of Women and Child Development set up in the Ministry of Human Resources Development.

1.7.2 Welfare Programme:

1. Welfare of the disabled: The number of disabled persons in the country has been estimated to be around 120 lakhs. The Ministry of Welfare is implementing programmes for the early detection, treatment, education and

rehabilitation of disabled persons, namely the blind, the deaf, the orthopaedically handicapped, the mentally retarded, spastics and the leprosy cured patients.

2. Social defence: Problems of family and social disorganization are manifest in the form of delinquency, juvenile vagrancy, drug addiction, alcoholism and crimes of various types.

   In order to control these problems, programmes of social defence have been launched by the Government, mainly within the framework of specific legislation and allied measures.

3. Women and child development: The Department of Women and Child Development in the Ministry of Human Resource Development has two bureaux : (i) Nutrition and child development, and (ii) Women's welfare and development.

   The Central Social Welfare Board and the National Institute of Public Cooperation and Child Development assist the Department in its functions.

4. Central Social Welfare Board: The Central Social Welfare Board was set up in 1953. It surveys the needs and requirements of social welfare organizations in the country.

   All welfare schemes sponsored by the Board are implemented through voluntary agencies such as Mahila Mandals. The Mahila Mandals receive grants up to the extent of 75 per cent for approved activities. Some of these activities are:

   (i) Nutrition Programmes. These are feeding programmes to children in the age group 0-6 years, nursing and expectant mothers.

   (ii) ICDS Project: In the Fifth Five Year Plan highest priority had been accorded to child welfare

programmes. The most important scheme in this field was the Integrated Child Development Services (ICDS) for children in the age group 0-6 years, nursing and expectant mothers, etc.

Under the scheme, a package of services consisting of supplementary nutrition, immunization, health check- up, referral services, nutrition and health education and non-formal pre-school education was delivered.

There are now 4131 ICDS projects operating in selected blocks in the country. A Child Development Project Officer is directly in-charge of each ICDS project. The focal point for delivery of services is an anganwadi.

(iii) Other Activities: Numerous other- services are rendered such as organizing Working Women's Hostels, Foster Care Homes, services to physically handicapped persons, welfare services for the Aged and socio-economic projects.

1.7.3 Voluntary Organizations:

Besides the Central and State Governments, more than 10,000 voluntary organizations are also, engaged in social welfare activities. Important organizations are:

1. The Indian Red Cross Society
2. Bharat Sevak Samaj.
3. The Kasturba Memorial Fund.
4. Lions Club.
5. Ramakrishna mission
6. The Hindu Kusht Nivaran Sangh.
7. Tuberculosis Association of India.
8. Indian Council for Child Welfare.
9. Family Planning Association of India.
10. All India Women's Conference.
11. The All India Blind Relief Society.

1.7.4 Special community health services

1. Industrial nursing:

The care of healthy people is the principal function of an occupational health service. This is quite unlike the care of sick people in a hospital setting. Doctors and nurses who are accustomed to the background of illness-oriented or curative medicine may not be quite successful in an occupational setting unless they are oriented to work in the care of healthy groups.

The aim of occupational health service is to keep the people at work healthy and to prevent them from falling ill. The whole emphasis is on prevention of ill-health and promotion of health.

Basic functions of an occupational health service:

It is useful to consider at this juncture the basic functions of an occupational health service:

1. To identify occupational hazards.
2. To advise on the control of occupational hazards.
3. It Is not the role of an occupational health service to become deeply involved in routine medical treatment (except to give initial treatment for injuries and illnesses of sudden onset).
4. To recognize at an early stage occupational or other disease and to screen vulnerable groups if advisable.
5. To give advice about the placement of people in suitable work.
6. To provide general advice and supervision .of conditions at work which may influence health such as general and food sanitation.
7. To undertake health education.
8. It will be seen from the above list that most of the functions are preventive.

1.7.5 Role of Nurses in occupational health services:

Nurses will have to function within the framework of the above listed functions, which are mostly preventive in nature. Accordingly the role of nurses will include the following:

1. she will assist the medical officer at examination of employees.
2. she will take an intelligent interest to protect and improve the physical and mental health of all workers.
3. she will attend to daily treatment of minor injuries, and assist the doctor when necessary.
4. she must have good knowledge of first aid
5. she must be able to identify, assess and advise management on the control of any health hazards affecting employees
6. she may have to run an immunization clinic, antenatal clinic or school health clinic
7. she has to conduct health education in all situations
8. she may undertake home visiting and propagate the ideas of health and family welfare.

The occupational health nurse must have a strong bias towards preventive medicine. One nurse can deal with between 500 to 2000 work people. She should attend refresher in-service training courses from time to time.

1.8 Communicable disease problems

Communicable diseases, continue to be a major problem in India, whereas they have been largely controlled in the developed countries such as USA and UK. It has been estimated that nearly 54 per cent of deaths in India are due to communicable diseases.

1. Malaria:

Till 1950, malaria was considered to be a major health problem of India. An estimate of the disease in 1953 showed an

annual incidence of 75 million cases, and 8 lakhs deaths. The National Malaria Control and Eradication Programmes launched in 1953 and 3958 respectively gave a deathblow to malaria; by 1971, the incidence of malaria declined to just over one million cases and no deaths.

The disease, which was on its way to eradication reappeared. In 1976, the incidence of malaria arore to a peak of 6.47 million cases (of which 7, 42, 247 were falciparum cases) with 59 deaths. The Govt. of India introduced a modified plan of operation from 1977 to tackle the situation effectively. Efforts are now being made to contain the disease.

By 1984 the incidence of malaria was brought down to 2.1 million cases, since then the epidemiologlcal situation has not shown any great improvement. It seems to have reached a plateau, which is causing concern. By the end of 2001, about 2.05 million cases of malaria (with about 1 million cases of falclparum malaria) and 1015 deaths were reported from different states.

2. Tuberculosis:

Tuberculosis may be said to be leading communicable disease of India today. Four people per 1.000 populations have bacteriologically confirmed disease. It has been estimated that there are at least 14 million cases of pulmonary tuberculosis in the country, of which at least 3.5 million are sputum positive.

The number of deaths from tuberculosis is often quoted as 500,000 each year. About 2 to 2.5 million cases of pulmonary tuberculosis are added every year.

3. Diarrhoeal diseases:

Diarrhoeal diseases constitute one of the major causes of morbidity and mortality, especially in children below 5 years of age. They are responsible for about 6.27 lakh deaths each year. Outbreaks of diarrhoeal diseases (including cholera) continue to occur in India due to poor environmental conditions. The type

of cholera that is now widely prevalent in India is "El Tor Cholera". It is milder infection as compared to older "classical cholera".

4. Acute Respiratory Infections:

Acute respiratory diseases are one of the major causes of mortality and morbidity in children below 5 years of age. It is estimated that about JL3.6,. per. cent hospital admissions and 13 percent in patient deaths in paediatric wards are due to ARI

5. Leprosy:

Leprosy is widely prevalent in India. With 5.59 million estimated cases India accounts for about 64 per cent of the global burden (0.9 million) of the disease and 87 per cent of the Region's registered cases. At present the reported prevalence rate is about 3.73 per 10,000 population.

Out of these cases about 18.5 per cent are children below the age of 15 years. The proportion of multibacillary cases among total cases is about 33.9 percent. The deformity rate among total active cases is approximately 2.7 per cent. Presently all the districts in the country provide free Mulit dract treatment (MDT) services.

6. Filaria:

Filariasis is another communicable disease problem of India. Although widespread in the country, the disease is heavily concentrated all along the east coast parts of Madhya Pradesh and Uttar- Pradesh. Surveys indicate that 454 million people are living in filarial areas. There are 2 types of filarial Infection in the country - W. bancrofti, and B. malayi.

Filariasis due to W. bancroftiis the more widely prevalent infection that due to B. malayi is restricted to certain areas in Kerala. Assam, Orissa, Madhya Pradesh, Chhattisgarh and West Bengal.

7. STD (Sexually Transmitted disease):

Syphilis and gonorrhoea constitute the major problem. The exact population at a risk is not known.

8. AIDS:

The problem of AIDS is increasing in magnitude every year. Since AIDS was first detected in the year 1986, the cumulative number has risen to 8220 by the end of July 1999. About 87.3 thousand cases are seropositive for HIV in the count

9. Others:

Enteric fever, helminthic infestations, viral hepatitis, kala-azar, meningitis and Japanese encephalitis are among the other important communicable disease problems in India. The tragedy is that most of these diseases can be either easily prevented or treated with minimum input of resources.

1.8.1 Malaria:

The 1994 resurgence of malaria compelled the Government of India to appoint an Expert Committee on Malaria to identify the problem areas and to suggest specific measures against the different paradigms of malaria. Thus the Malaria Action Programme (MAP) was evolved and is being implemented.

The objectives of this new Malaria Action Programme are :

1. Management of serious and complicated malaria cases.
2. Prevention of mortality with particular reference to high risk groups
3. Reduction of morbidity
4. Control of outbreaks and epidemics
5. Reduction of falctparum
6. Incidence and containment resistance malaria
7. Maintenance of low incidence status.

8. The recent resurgence of malaria in many parts of the country necessitated the need to strengthen the health promotion component of the programme.
9. It has been decided to observe Anti Malaria Month before the onset of monsoon ie. month of June every year.

1.8.2 National Filaria Control Programme:

A National Filaria Control Programme was launched in 1955. To begin with, 22 filaria survey units and 13 control units were set up 'in different parts of the country to get a correct picture of the extent of filariasis in the country. As a result of these surveys, it is now estimated that about 412 million people are living in filarial areas.

The main activities under the N.F.C.P are :

1. Anti-mosquito and anti-larval measures in endemic area
2. establishment of filaria clinics for the detection and treatment of positive microfilaria cases and
3. provision of underground drainage in hyperendemic cities and towns.

Achievements:

1. Since June 1978, the operational component of the NFCP has been merged with the urban malaria scheme, but research and activities continue to be with the Director, National Institute of Communicable Diseases, Delhi.
2. At present 206 filaria control units are functioning in the country. 199 filaria clinics are functioning in the rural areas.
3. Besides, 12 Headquarters Bureaux and 3 Regional filaria training and research centres are also functioning in the country.
4. During the Eighth Five Year Plan, it was envisaged to distribute anti-filarial drugs through primary health care delivery system in the rural areas of endemic states.

5. As a consequence of continued research, it is now known that the Annual Single dose mass drug Therapy with antifilarial drug helps in reducing transmission to a very significant level.
6. Accordingly the Directorate of NMEP developed a Pilot Project for introduction of this strategy in 13 endemic districts in 7 states namely Andhra Pradesh,. Bihar, Kerala, Orissa, Tamil Nadu, Uttar Pradesh and West Bengal for 5 years to cover 40 million population.
7. Initially it was introduced in south arcot vallali district in Tamilnadu in 1996. In Kerala, Orissa UP and West Bengal, the strategy has been introduced in 1997
8. The strategy is being well received by community. The operational modalities include door-to- door drug delivery in Tamilnadu and Kerala through booth system in otherstates. The day mass drug therapy is given is called Filaria Day.

The national Tuberculosis Control Programme is a centrally sponsored programme. The activities of N.T.C.P. comprise:

1. Early detection and domiciliary treatment of T.B. cases.
2. BCG vaccination of infants and children.
3. Isolation facilities, especially for those who require surgery or emergency treatment.
4. Training and Demonstration.
5. Rehabilitation
6. Research.

A District Tuberculosis Control Programme was evolved in 1962 as a new approach to the community control of Tuberculosis. Early detection of T.B. cases by all primary health centres in the district and other hospitals and agencies, domiciliary treatment of all sputum positive cases and B.C.G. vaccination of all those below 20 years of age are the main

concern of the District T.B. Control Programme. National T.B. Control Programme has been accorded high priority by the government with the inclusion of NTCP in the 20-point programme, there is expansion of essential activities under the programme.

Short-term chemotherapy has been introduced in 292 districts and is being introduced in more districts in a phased manner. Revised National Tuberculosis Control Programme has been introduced in the country as a Pilot Project since 1993 covering 2.35 million population.

The second phase was expanded to 17 more places covering about 13.85 million population. At present it is in third phase covering about 450 million population.

The objective of this strategy is to achieve at least 85 percent cure rate of infectious cases through DOTS to detect at least 75 per cent estimated cases through quality sputum microscopy; and involvement of NGOs in information, education and communication activities.

DOTS is given by peripheral health staff such as MPWs or through voluntary workers such as teachers, anganwadi workers, dais, ex-patients, social workers etc. They are known as DOT agent.

1.8.3 Oral Rehydration Therapy :

Diarrhoea is one of the leading cause of child mortality. Oral Rehydration Therapy started in 1986-87 is being implemented through RCH programme. Supplies of ORS packets to the states are being organized by central Government. Twice a year 150 packet of drugs are provided as part of drug kit supplied to all sub-centres in the country.

The programme emphasises the rational use of drugs for the management of diarrhoea. Adequate nutritional care of the child with diarrhoea and proper advice to mothers on feeding are two important areas of this programme.

1.8.4 Acute respiratory disease control:

The standard case management of ARI and prevention of death due to pneumonia is now an integral part of RCH programme. Peripheral health workers are being trained to recognize and treat pneumonia. Cotrimoxazole is being supplied to the health workers through the CSSM drug kit.

Prevention and control of vitamin A deficiency in children is estimated that a large number of children suffer from sub- clinical deficiency of vitamin A. Under the programme, 5 doses of Vitamin A are given to all children under three years of age. The first dose (1 lac units) is given at nine months of age along with measles vaccination. The second dose (2 lac units) is given along with DPT/OPV booster dose. subsequent three doses (2 lac units per dose) are given at six months intervals.

1.8.5 National Leprosy Eradication Programme:

The main objective of the programme is early detection of leprosy cases and their treatment (domiciliary) with multi-drug therapy to control-the spread of leprosy. There are two kinds of units functioning in the country -

1. National Leprosy Control Units and
2. Survey, Education and Treatment (SET) Centres.

Leprosy control units are established in highly endemic areas in other areas, SET Centres are established. The SET Centres are attached to the primary health centres. A Leprosy Control Unit covers a population of 4 lakhs and is headed by a medical officer under whom 20 para-medical workers (PMWs) work, at the rate of one PMW for 20.000 population, two non-medical supervisors for 10 PMWs.

The SET centre covers a population of 25,000 and is looked after by a PMW who works under the guidance of the medical officer of the primary health centre. Mobile Leprosy Treatment Units provide services to leprosy patients in the non-endemic districts. Each MLTU consists of one medical officer,

one non-medical officer, one non-medical supervisor, two para medical workers and a driver.

At present the existing infrastructure is as follows. Leprosy Control Unit or Modified Leprosy Control Units (LCU/ MLCU) 778. Urban Leprosy Centre (ULC) 907. SET Centres 5744, Temporary Hospitalization Ward (THW) 290, Reconstructive Surgery Unit (RSU) 75, Sample Survey cum Assessment Unit (SSAU) 40.

Mobile Leprosy Treatment Unit (MLTU) 350. During 1997 the government of India decided to implement Modified Leprosy Elimination Campaign (MLEC) in all the states/UTs. Till the end of May 1998. 22 States/UTs have implemented MLEC.

The strategy comprise short orientation training in leprosy to health staff including medical officers, health workers and volunteers; creating public awareness about leprosy; and house to house search for a period of six days for suspected cases of leprosy.

1.8.6 National AIDS Control Programme :

National AIDS Control Programme was Launched in India in the year l987. The Ministry of Health and Family Welfare has set up National AIDS Control Organization (NACO) as a separate wing to implement and closely monitor the various components of the programme, The aim of the programme is to prevent further transmission of HIV, to decrease morbidity and mortality associated with HIV infection and to minimize the socio- economic Impact resulting from HIV infection.

The national strategy has the following components:

1. establishment of surveillance centres to cover the whole country;
2. identification of high risk group and their screening;

3. issuing specific guidelines for management of detected cases and their follow-up
4. formulating guidelines for blood bank, blood product manufacturers, blood donors and dialysis units
5. information education and communication activities by involving mass media and research for reduction of personal and social impact of the disease
6. control of sexually transmitted disease; and condom programme.

1.8.7 Blood Safety Programme :

National and State/UTs level Blood Transfusion Councils have been set-up in the country. Professional blood donation has been prohibited in the country since 1st January 1998. Only licensed blood banks are permitted to operate, and voluntary blood donation is encouraged.

The strategy is to ensure safe collection, processing, storage and distribution of blood and blood products. Zonal blood testing centres have been established to provide linkage with other blood banks affiliated to public, private and voluntary sector.

As per national blood safety policy, testing of every unit of blood is mandatory for detecting infections like HIV, hepatitis B. malaria and syphilis.

In the country 1233 blood banks have been licensed to supply blood. 815 blood banks have been modernized with provision of adequate facilities of equipment and development of appropriate manpower, 40 blood component separation units have been established.

Besides district level and small blood banks with independent HIV testing facilities, 154 zonal blood-testing centres and 9 HIV Reference Centres are functioning in the country. HIV Test Kits are supplied upto district level blood banks.

1.8.8 STD Control Programme :

STD control is linked to HIV / AIDS control, as behaviours resulting in transmission of STD and HIV are same. HIV is transmitted more easily in the presence of another STD. Hence, early diagnosis and treatment of STD is now recognized as one of the major strategies to control spread of HIV infection.

STD control programme has been in operation in India since 1946. The programme is based on specialized facilities offering clinical services for diagnosis and treatment of STD and relies on the health seeking behaviour of individuals with STD. Patients with STD form a special group for health education and individual counselling.

The facilities currently providing STD control are - 5 Regional STD Reference centres, skin leprosy STD clinics in medical colleges and 504 STD clinics usually located at district hospitals.

1.8.9 Condom Programming :

Among the probable source of HIV infection in India, heterosexual promiscuity constitute the major route. About 75 percent of the infections occur due to unprotected and multipartner sexual contacts. This type of transmission can be prevented by consistent use of good quality condoms.

While the use of condom is easy making a programme to cover the whole country need careful planning on certain issues. These issues are mainly related to following questions :

1. how to sensitize people for using condoms not only as a family planning method, but also as a protective step against HIV and STD.
2. how to convince the commercial sex workers and their clients about the importance of use of condom as a means for preventing HIV and STD transmission and
3. how to make available low cost and good quality condoms for people at the time and place when they need it most.

The three major areas in which NACO has made significant progress in condom programming are quality control of condoms, social marketing of condoms and involvement of NGOs and private voluntary organizations in the programme. NACO has brought in the quality control parameters as specified by WHO.

The unlubricated condoms NIRODH has already been phased put and manufacturers have started adhering to the new specifications.

1.8.10 HIV surveillance:

In the year 1985 ICMR started screening of blood from high risk groups at National Institute of Virology, Pune and Christian Medical College, Vellor to determine if HIV was presented in India.

As the first case of HIV was detected in 1986 at Chennai, the surveillance activity was extended by establishing 62 surveillance centres and 9 referral centres in the country for identification of geographic spread of HIV and determination of major modes of transmission.

During 1993 a sentinel surveillance system was introduced with objective to identify trends in seropositivity in different groups. Initially 55 sentinel centres were established in 26 states / UTs. Later on in the year 1997, 115 additional sentinel sites were established to carry out first sentinel survey in the country during February - March 1998, with second round in the month of September - October 1998. The objective of the sentinel surveillance is to monitor the trends of the infection by annual cross-sectional survey of the risk groups in the same place over few years of unlinked anonymous serological testing procedures.

In this HIV testing is carried out without identification of name of sample collected for other purposes e.g. VDRL in STD

clinics. In this way the positive person is not identified. At present 180 Sentinel Sites have been established to provide

1. information.
2. education,
3. communication
4. social mobilization.

This component includes activities aimed at the generation of awareness about HIV/AIDS and bringing about positive changes

In the behaviour, removing many misconceptions and ignorance through well-designed communication system can effectively carry out educating the public. This Includes mass media campaigns, social mobilization targeted interventions for high-risk behaviours, inter-sectoral collaboration, involvement of NGOs, training and research.

1.9 Reproductive and Child Health Programme (RCH):

Reproductive and child health approach has been defined as "people having the ability to reproduce and regulate their fertility". Women are able to go through pregnancy and child birth safely. The outcome of pregnancies is successful in terms of maternal and Infant Survival and well-being and couples are able to have sexual relations free of fear of pregnancy and of contracting diseases.

This concept is in keeping with the evolution of an integrated approach to the programmes aimed at improving the health status of young women and children, namely, National Family Welfare Programme, Universal Immunization Programme. Oral Rehydration Therapy, Child Survival and Safe, Motherhood (CSSM) Programme.

The RCH programme incorporates the components relating to CSSM and includes two addition components, one relating to sexually transmitted diseases (STD) and other relating to reproductive tract infections (RTI).

The Universal Immunization Programme (UIP) became a part of CSSM programme in 1992 and RCH programme in 1997. It will continue to provide vaccines for polio, tetanus, DPT, DT, measles and tuberculosis. The cold chain established so far will be maintained and additional items will be provided to new health facilities,

1.9.1 The CSSM Programme:

The CSSM Programme envisage the following maternal care:

1. Immunization
2. At least three antenatal check-ups
3. Prevention and treatment of anaemia
4. Early identification of maternal complications
5. Promotion of institutional deliveries
6. Management of obstetric emergencies
7. Birth spacing
8. Diagnosis and treatment of RTIs and STDs.

1.9.2 Essentials of newborn care :

The primary goal of essential newborn care is to reduce prenatal and neonatal mortality.

The main components of essential newborn care are

1. resuscitation of newborn with asphyxia
2. prevention of hypothermia
3. exclusive breast feeding and referral of sick newborn.
4. prevention of infection
5. exclusive breast-feeding and reference of the low birth weight and sick newborn.
6. Immunization
7. Appropriate management of diarrhoea
8. Appropriate management of ART
9. Vitamin A prophylaxis.

The strategies are to train medical and other health personnel in essential newborn care, provide basic facilities for care of low birth weight and sick newborn in FRU and district hospitals etc.

1.9.3 Obstetric care:

Essential obstetric care intends to provide the basic maternity I services to all pregnant women through

1. early registration of pregnancy (within 12-16 weeks),
2. provision of minimum three antenatal check ups by ANM or medical officer to monitor progress of the pregnancy and to detect any risk/complication so that appropriate care Including referral could be taken in time,
3. provision of safe delivery at home or in an institution,
4. provision of three postnatal check ups to monitor the postnatal recovery and to detect complications.

This component of RCH programme is more relevant for Assam, Bihar, Jharkhand, Rajasthan. Orissa, Uttar Pradesh, Uttaranchal, Madhya Pradesh and Chhattisgarh as most of the deliveries in these states are conducted at home in unclean environment causing high maternal morbidity and mortality.

Emergency obstetric care:

Under the RCH programme the FRUs will be strengthened through supply of emergency obstetric kit, equipment kit and provision of skilled manpower on contract basis.

1.9.4 24-Hour delivery services at PHCs / CHCs:

1. To promote institutional deliveries, provision has been made to give additional honorarium to the staff
2. to encourage round the clock delivery facilities at health centres

3. Control of reproductive tract infection RTI)
4. sexually transmitted disease (STD),

Under the RCH programme, the component of RTI/STD control is linked to HIV and AIDS control. It has been planned and implemented in close collaboration with National AIDs Control Organization (NACO). NACO provides assistance for setting up RTI/STD clinics upto the district level. The assistance from the Central Government is in the form of training of the manpower and drug kits including disposable equipment. Each district will be assisted by two laboratory technicians on contract basis to test blood, urine and RTI/STD tests,

RCH camps:

In order to make the services of specialists like gynaecologists and paediatricians available to people living in remote areas, a scheme of holding camps has been Initiated in 102 districts covering 17 states from January, 2001. Camps are being organized in Haryana, Madhya Pradesh, Rajasthan. Arunachal Pradesh, Uttar Pradesh and Meghalaya.

RCH out-reach scheme

During 2000-2001, an RCH out-reach scheme was initiated to strengthen the delivery of Immunization and other maternal and child health services In remote and comparatively weaker districts and urban slums in Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar. Assam, Orissa, Gujarat and West Bengal.

The RCH programme implementation is based on differential approach. Inputs in all districts have not been kept uniform because efficient delivery will depend on the capability of the health system in the district. Hence, basic facilities are proposed to be strengthened and streamlined in the weaker districts.

More sophisticated facilities are proposed for the relatively advanced districts. All the districts have been divided

in to three categories on the basis of crude birth rate and female literacy rate. Category A having 58 districts. Category B having 184 districts and Category C having 265 districts. All the districts will be covered in a phased manner over a period of three years. The programme was formally launched on 15th October 1997.

1.10 National Programme for Prevention of Blindness:

The Government of India launched a mass programme for the prevention of blindness in November, 1976. Under this programme children between 1-5 years are being given an oral dose of 200,000 i.u. of vitamin A once in 6 months.

The National Trachoma Control Programme which was launched in 1963 for the control of blindness due to trachoma has been integrated with the national programme for prevention of blindness. The primary health centres, taluka and district hospitals are being strengthened to provide comprehensive eye health care services.

The ultimate goal of the national programme was to reduce blindness in the country from 1.4 per cent to 0.3 per cent by the year 2000 AD.

A National Institute of Ophthalmology has been created at New Delhi (Dr. Rajendra Prasad Centre for Ophthalmic Sciences) to monitor and guide the Programme. To train ophthalmic assistants, 37 training schools have been established. Each PHC and district hospital is to be provided with one ophthalmic assistant.

There are approximately 12 million cases of blindness in the country. It has been estimated that there is an annual incidence of 2 million cataract induced blindness in India. At the rate of 1.6 million cataract operations every year we are adding to the backlog.

Since cataract cases constitute about 80 per cent of the total blindness, targets have been laid down for each state for cataract operations. To strengthen the programme it was decided

to establish District Blindness Control Societies (DBCS) under the chairmanship of the District Collector.

So far 456 DBCSs have been established. DANIDA had taken up 5 pilot districts for implementation of the programme through the formatlon of DBCSs. Later on the entire state of Karnataka was taken up by DANIDA for replication of the model developed in the pilot areas.

The voluntary organizations such as Lions International and its branches, Rotary International and its branches, NSPB India etc. are encouraged to organize eye-camps for cataract surgery in remote rural and urban areas as per guidelines with the permission from the state authorities. They have been active in providing eye health education, preventive, rehabilitative and surgical services for control of blindness.

1.11 Universal Immunization Programme:

The Universal Immunization Programme (UIP) was taken up in the year l985-86 and was given a status of National Technology Mission in 1986. The programme became operational in all the districts, of the country by the year 1989-90 and became part of CSSM programme in 1992 and RCH programme in 1997.

Under the immunization programme, vaccination to infants are given for control of vaccine preventable diseases namely diphtheria, pertussis, childhood tuberculosis, poliomyelitis, measles and neonatal tetanus and to pregnant women against tetanus. Except for the polio vaccine, which is administered orally, all other vaccines are injectable.

The country is self sufficient in all vaccines except BCG and OPV. OPV is currently being blended from imported concentrate. The indigenous capacity of BCG is being enhanced to meet the requirements.

The immunization services are being provided through the existing health care delivery system i.e., MCH centres,

primary health centres and sub-centres, hospitals. dispensaries and ICD units. There is no separate cadre of staff for UIP. The recommended national immunization schedule gives further information.

It is generally agreed that when immunization coverage reaches a figure of 80 percent or more, then disease transmission patterns are so severely disrupted as to provide a. degree of protection even for the remaining children who have not been immunized, because of "herd immunity".

It is also important that children are immunized during the first year of life and that levels of immunization are sustained so that each new generation is protected.

The impact of the programme is already seen in declining trends of the disease incidence. For example, poliomyelitis which was reported around 38,090 cases in 1981, had declined marginally by 1987 to 28,264 cases, has shown a significant decline after OPV vaccination coverage level reached 50 to 60 percent.

During 2001 only 268 cases were reported. Intensification of immunization programme has contributed to a significant decline in infant mortality rate in the last few years. The decline is particularly pronounced after 1990 as compared to earlier years.

So far, the vaccination coverage achieved under UIP is about 80-90 percent in different parts of the country. The objective in the Ninth Plan was to reach 100 per cent coverage.

As a supplement of the UIP, the Pulse Polio Immunization campaign has been taken up for eradication of poliomyelitis. Later on, campaigns may be taken up against tetanus among pregnant women and newboms and for measles.

1.12 National Family Welfare Programme :

1.12.1 Iodine Deficiency Disorders Control Programme: A national goitre control programme was launched in 1962,

based on iodized salt. After 20 years of operation, it was found that the prevalence of goitre had remained the same. Reassessment of the problem by the ICMR showed that goitre is widely prevalent in the country, besides the traditional Himalayan belt of endemic goitre.

As a result, a major national programme - Iodine Deficiency Disorder (IDD) Control Programme was initiated in which nation- wide, rather than area-specific use of iodized salt is being promoted. It was decided as a national policy to fortify all edible salt in a phased manner by the end of 8th plan.

The essential components of a national IDD programme are use of iodized salt in place of common salt, monitoring and surveillance, manpower training and mass communication.

1.12.2 National water supply and sanitation programme:

National water supply and sanitation programme was initiated in 1954 with the object of providing safe water supply and adequate drainage arrangements for the entire rural and urban population of the country.

The Central Government is providing long-range loans to States for implementing urban water supply schemes; and outright grants equal to half of the cost for implementing the rural water supply schemes.

Minimum Need Programme:

The Minimum Need Programme (MNP) was introduced in the first year of Fifth Five Year Plan. The objective of the programme is to provide certain basic minimum needs and thereby improve the living standards of the people.

It is the expression of the commitment of the government for the “social and economic development of the community particularly the underprivileged and underserved population”.

The programme includes the following components :

1. Rural Health
2. Rural Water Supply
3. Rural Electrification
4. Elementary Education
5. Adult Education
6. Nutrition
7. Environment Improvement of Urban Slums
8. Houses for landless labourers

1.13. 20-Point Programme:

In addition to the Five Year Plans and Programmes, in 1975. the government of India Initiated a special activity. This was the 20-point Programme-described as an agenda for national action to promote social justice and economic growth. At least 8 out of 20 points are related directly or Indirectly, to health.

1.14 Qualities and functions of a public health nurse:

Nursing differs from other professions its humanitarian aspects. The nurse first has interest in people, and in understanding human behaviour , has concern over human and ability to empathize are basic qualities required of a nurse.

A good nurse has a friendly disposition, earnest, charitable, resourceful, operative and takes responsibility with native. Minimum essential skills of a nurse are observation, communication, leaving besides supportive and essential skills. She must have abilities to like interpretations, make judgments and take decisions.

Nursing calls for a pleasure of self-discipline not only of lotions but of other aspects of behaviour and action. The community nurse must be prepared to play a much wider role

than is offered by her work in hospitals. There is much greater element of decision-making. Management skills, administration of programmes, teaching and acting as a team leader, as well as a member of the health team are all important.

Perhaps the most crucial requirement is that the nurse must be prepared to learn from the people, and share leadership with them when it is necessary and to plan with them.

1.14.1 Function of a community health nurse:

The functions of a community health nurse have been classified broadly under the following heads:

1. Administration
2. Communication
3. Nursing
4. Teaching
5. Research

1.14.1. A Administration:

The nurse is responsible for the day-to-day assignment of the nursing staff and supervision of these personnel. She provides direction and leadership to those whom she supervises. She is responsible for planning, implementation and evaluation of a practical plan of nursing administration within the primary health centre and its associated subcentres.

1.14.1.B Communication:

This involves ability to maintain good working relationship with members of the health team, related agencies and the community. She is a link between the patient, the family and the doctor. She participates in the staff and community meetings.

1.14.1.C Nursing:

She provides comprehensive nursing care to individuals and families. This includes family care of the pregnant women,

before, at the time of and after delivery, care of the newborn, the premature, the infant, toddler, the school child, nutrition and family planning.

1.14.1. D Teaching:

Teaching comprises

1. Knowledge and skills of methods of individual
2. group teaching
3. preparation and use of simple teaching aids
4. training of dais and health workers;
5. participation in student training programmes.

1.14.1. E. Research:

There is probably far more research relevant to nursing than nurses realise. A good deal of knowledge derived from sociology and psychology is relevant to public health nursing, viz. infant feeding and weaning, mother and child relationship, nursing needs and practices in the community, utilization of the existing nursing services, job analysis of nursing personnel in the team, etc.

1.15 Family Health Services

The term "family health" covers a broad field. It is one of the major activities of the World Health Organization. It is divided into the following sub-areas:

1. Maternal and child health
2. Family planning
3. Nutrition
4. Health education

The broad objectives of the family health services are:

1. to reduce maternal and child mortality and morbidity rates
2. spacing of children
3. to solve the problems of malnutrition at the family level

4. to educate all members of the family In the basic requirements of healthy living)

This section studies the care of mothers and children. The other aspects of family health are considered in the following topics

1.16 Maternal And Child Health:

1.16.1 The need for MCH services:

There are four main reasons why mother and child health must be given top priority in terms of providing health services. Mothers and children below the age of 15 years make up the majority of the population in almost all countries.

In developing countries, they comprise nearly 65 per cent of the total population (in India 64 per cent). By virtue of their large numbers, their needs in terms of health care are greater Mothers and children constitute a "special risk" or vulnerable group - in terms of illnesses and deaths, connected with pregnancy and childbirth in the case of mothers; and growth and development in the case of children.

By improving the health of mothers and children, we improve the health of the family and community, and Ensuring child survival is a future Investment for the family and community.

A WHO Expert Group (1976) defined mother and child health services as the promotive, preventive, curative and rehabilitative care for mothers and children.

1.16.2 Objectives of MCH care:

The objectives of MCH care have been given below:

1. **Reduction of maternal, perinatal, health** is an important function of the primary health centres in India. There should be special clinic days and time set apart for this work. The services of specialists should be enlisted as and when necessary. That is, the school health clinic should be linked up with the PHC and higher levels of health care.

2. **Immunizations:** The school offers excellent opportunities for Immunisation for children. Immunization by 1990 was part of a global effort coordinated by the World Health Organization. The national immunization schedule is given below.
3. **School sanitation:** The school should be a model of good sanitation. There should be adequate, safe drinking water facilities preferably supplied by a tube well. Urinals and privies should be provided - one urinal for 60 students and one sanitary latrine for 100 students. Arrangements should be separate for boys and girls. Vendors other than those approved by the school health authority should not be allowed Inside school premises. A healthful school environment is necessary for the best emotional, social and personal health of the pupils.
4. **Nutritional services:** A child, who is physically weak because of poor nutrition cannot be expected to take full advantage of schooling. The community health nurse may be required to administer the following nutrition programmes : (a) Midday school meal(b) vitamin A prophylaxis programme - administration of a large dose (200,000 IU) of vitamin A orally to children every 6 months up to the age of 6 years or so.
5. **First Aid:** In every school, a fully equipped First Aid Box should be at hand. The emergencies commonly met with in schools are : (a) accidents (b) Injuries (c) medical emergencies like abdominal pain, epileptic fits, fainting, etc.
6. **Health Education:** Health education has an important role to play in the promotion of both individual and community health. Health education in schools should not be reduced merely to teach the children a set of rules of hygiene. Participation of children in community health programmes (e.g., construction of wells, latrines, vaccination

campaigns, etc) should be encouraged, whenever possible. The hygiene of skin, hair, teeth and clothing; the importance of exercise, sleep, nutrition and good habits; the need for Immunization, safe water, control of flies and other/insects are some of the topics on which health-education may be profitably-Imparted.

7. **School Health Records:** The health record of each student should be properly maintained. The record should contain
   (1) identifying data - name, date of birth and address
   (2) past health history
   (3) record of findings of physical examination and screening
   (4) record of services provided.

   These records, besides providing Information on the health aspects of school children, also serve as a useful link between the home, school and community.

1.16.3 Causes of poor health:

Poor health persists as a major problem in many developing countries, including India. The causes responsible for this situation need to be understood in effective measures are to be undertaken to improve health. The causes of poor health in India may be enumerated as below:

1. Environmental causes:
   - lack of safe drinking water
   - lack of basic sanitation
   - crowded,
   - Unsanitary living conditions
   - pollution of water, food, soil and air
2. Socio-economic causes:
   - poverty
   - illiteracy

- Ignorance
- prejudicial customs, traditions,
- beliefs and cultural patterns
- Inadequate nutrition
- lack of personal hygiene
- rapid population growth

3. Others:
    - Un-evendevelopment of health
    - care services and nursing care
    - inadequate primary health care

1.17 Home visiting:

Home visiting is the backbone of public health nursing. The purpose of home visiting is

1. to carry out simple nursing care in the home
2. for the prevention of disease
3. promotion of health of the members of the family.

1.17.1 Principles of home visiting:

1. Home visiting should be made according to the needs of the people
2. It should be part of a planned visiting programme
3. Collect background Information: regarding the family In particular an community in general - that is Information regarding the family size occupation, Income, religion resources, customs and cultures.
4. Identify the health problems of the family
5. Use safe technical skills, and nursing procedures
6. In health teaching; be sure of what you discuss, i.e., scientific soundness
7. The approach to the family should be kind and courteous with a view to gain their confidence

1.17.2 Planning and evaluation:

Planning is an art and science. The purpose of planning is to achieve definite objectives within a specified time and within the available resources.

1. First make survey and prepare a map of the area with details of topography location of villages, population, road etc. Collect all the background information of the community. Prepare family folders and Individual cards.
2. Identify the families or individuals in need of home visiting. These are usually the antenatal and postnatal cases, infants, toddlers, chronically sick and those who are unable to attend a treatment centre.
3. On the first visit, the public health nurse should introduce herself to the family and explain the purpose of the visit. The talk should be informal giving plenty of opportunity to ask questions and raise discussion.
4. Take the nursing bag. Treat minor illnesses. Advise hospitalization where necessary. Undertake immunization where necessary. Give health instruction on personal and environmental hygiene.
5. Follow up : This is' the most important part of home visiting, to find out how far the instructions given were followed; and to give credit for what they have done.
6. Evaluation Try to evaluate what has been achieved against the goals. The questions to be raised are :

   How far the visit has been useful ?

   What have been the difficulties ?

   What more needs to be done?

1.17.3 Bag technique:

The Bag:

1. The bag should be made of canvas, leather or light metal.
2. It should be such that it can be carried by the hand or on the shoulder.

3. The bag should have outside pockets for keeping a note-book, tape measure, newspaper or plastic sheet, towel, soap in a soap dish, and a nail brush.

Bag Technique:

As the same bag may have to be used in several homes, every effort should be made to keep the bag as clean as possible.

1. First spread the newspaper or plastic sheet on a flat surface in a clean area and place the bag on it. It should be kept away from children and animals.
2. Wash hands with soap and water each time before opening the bag.
3. Remove only what is needed.
4. Carry out the nursing procedure.
5. Wash and boil all the Instruments after finishing the work; wash hands, open the bag and replace them in the bag. When this is not possible, place them in a separate bag.
6. Bum the soiled dressings.
7. Fold the used newspaper with used side inside, and keep it in the outer pocket.

Equipment:

No home visit should be made without bag or kit. There are two separate kits - one for deliveries (Delivery Kit) and the other for general nursing and for prenatal and postnatal visits.

1. **Delivery Kit:** The, UNICEF kit is widely used for deliveries and is most suitable. The equipment is contained in an aluminium box.
2. **Nursing Bag:** If no separate bag is supplied, the nurse should Improvise, using a tin with an air-tight lid, or a plastic bag. As the equipment may have to be carried by hand for long distances and for long periods, the tin or bag should be as light as possible and should contain only essential articles. Unless the whole container can be

completely disinfected, a separate cotton lining should be used. The nurse must also carry separately (not in her kit) a pen or pencil, a notebook or diary in which to note down observations and enter records before leaving the patient's home. Some clean

1.18 Nutritional problems

Malnutrition is widely prevalent in India. The specific nutritional problems are :

1. **Protein-calorie malnutrition:**

   This is due to deficiency of calories and proteins in the diet. A large number of children are victims of kwashiorkor and marasmus in 'India

2. **Endemic goitre :**

   About 71 million people are estimated to be affected by endemic goitre (i.e., swelling of the thyroid gland in the neck) and other iodine deficiency disorders. This condition is due to iodine deficiency.

3. **Vitamin deficiencies :**

   Deficiency of vitamin A is an important public health problem in India especially in the age group, 3 to 5 years. About 12.000 to 14,000 children are estimated to go blind every year.

Summary:

The knowledge of the roles of community health nursing, scope and concept and health problems in India and health strategies in India is essential.

A greater emphasis is made on disease control programme, preventive medical care and five year plans and twenty point programme, emphasising health care system in the central state level and primary health care centre and sub-centre level.

QUESTIONS

I. Fill in the blanks:

1. 1950 ____ considered to be a major health problem.
2. _____ may be said to be leading communicable disease of India.
3. A.I.D.S. was first detected in the year _____.
4. Malnutrition is otherwise called _____.
5. S.T.D. is _____ , _____ and _____.
6. N.T.C.P. is _____
7. H.I.V. is _____.
8. C.S.S.M. is _____.
9. Home visiting is the _____ community health service.

II. Answer in brief:

1. Define health.
2. Define maternal child health
3. Mention the health problems of India.
4. Explain the nutritional problem.
5. Discuss the reproductive and child health programme.
6. Discuss the water supply sanitation programme.
7. Name the communicable disease
8. Enumerate the control programme.

III. Answer in detail:

1. Explain in detail the maternal child health care.
2. Explain in detail the national health problems.
3. Explain in detail the national health policies.
4. What are the functions of the public health nurse?
5. What are the functions of the primary health centers?
6. Explain the role of 20 point programme.
7. Explain in detail the management of HIV AIDS.
8. Explain in detail the MCH package.
9. Explain the importance of mid day meal programme in your school.

2. MENTAL HEALTH NURSING - PRINCIPLES AND PRACTICES

2.1 Introduction:

Effective mental health nursing involves the practice of the following principles, in realization of which the knowledge of psychology is of immense help.

1. nursing the whole patient
2. correct psychological approach to the individual patient
3. adequate sympathetic understanding of patient
4. effective health teaching
5. successful, personnel and professional adjustments

A good nurse will give consideration to these intellectual and emotional factors as well as the physical implications of the particular illness. A physical illness is accompanied by mental and emotional disturbances, which cannot and should not be ignored in scheme of effective nursing.

Jessie Williams remarks in psychology for students' nurses, it is necessary to recognise that each individual patient is a unique personality who reacts to illness, with his body, mind and emotions in his own individual way.

A child has to be operated for septic tonsils. Good nurses will not prepare the child only physically or medically for this impending operation. She will see that the child does not get terrified or frightened at the idea of impending operation.

Fears or worries if not relieved may worsen the child's physical condition or retard the process of his recovery. The right approach of the nurse will achieve a complete rapport with the patient and put him at ease in the strange set up of the ward. The nurse

1. receives the patient as if he or she is her guest. Receive him/her with warmth and kindness.

2. orients the patient to the ward, its surroundings the physical facilities available, the various people who work in and the various duties assigned to them in a sympathetic way.
3. The patient may be anxious or tensed because of his illness. He may have many doubts and as such may ask many irrelevant questions.
4. tries to answer his questions as well as she can. Always impart the correct information. Better postpones an answer rather than give incorrect information.
5. talks to the patient and his relatives sympathetically. Explain things clearly and in simple language at the level of the patient' s understanding. Sympathy means feeling with the patient, dignified kindness and consideration with out undue and sentimental concern.
6. tries to lessen the self-consciousness of over moderate patients by diverting their attention to impersonal topics.
7. listens to the patient. Let him relate to his own words exactly what is that troubles him. When he finds that he is being listened to with inherent attention, he will speak freely and without embarrassment. In short the nurse should see that nursing remains as it always used to be, the art of personal service to the sick.

2.2 Understanding of patient:

Correct psychological approach results in good rapport with the patient. A very important aspect of understanding the patient is to recognise and accept the fact of individual differences among patients. Some patients are co-operative, friendly and react in a cordial manner, while there are others who remain aloof and in some extreme cases antogonised.

Some patients are selfish and demanding asking for nurse' s attention and presence all the time. Some patients understand quickly, respond to nurse' s instructions readily, while there are others, who do not seem to follow nurse' s instructions.

No two patients are alike. They are different from one another intellectually, emotionally, socially, culturally, socio-

economically and hereditary. These factors contribute to their differences and it is these differences, which make nursing interesting.

A nurse, to whom the nursing care of infant is assigned, should realize that the infant needs security, love, affection and understanding. This has to be provided by the nurse through patting and tendering the baby. A good nurse can minimize the danger by meeting his or her needs in an adequate manner.

The following suggestions are useful.

1. See that the child' s surroundings are cheerful and pleasant.
2. The child needs to have visitors especially the members of his or her family. Meet their needs graciously.
3. Establish a cordial relationship with the young patients by talking to him at his own level by knowing his pet name and his likes and dislikes.
4. Provide him toys that can be taken to bed. Play in his natural usage.
5. Play spirit can be used in getting the plans of treatment executed and seeking the child' s co-operation. It is no use forcing him into compliance. The use of force will increase his resistance.
6. Provide love and affection that he is not able to get from his parents, who are not present.
7. Exercise patience. Do not allow oneself to be upset by whims and fancies.
8. It is desirable that the child acts independently and does not remain in dependent status too long. Encourage him to do things for himself.
9. See that the child does not remain worried, tensed, moody or upset on account of being subject to new, sudden and harsh changes.
10. The nurse needs to guard herself against becoming personally involved with a child patient. This may happen when a child has developed very short attachment to a particular nurse resulting in his rejection of all other nurses, who attend to

him. Let the nurse recognise this situation and limit the attention she gives him.

Parents of sick children need to be helped. They may not behave normally because of their acute anxiety. A good nurse should use poise, sympathy, tolerance and tactfulness when dealing with their questions of anxiety.

The adolescent patients can be helped better if his growth patterns and needs are properly understood. Adolescents are used to the boundless energy that they find difficult to slow down and take it easy. The nurse plays a role of a counselor.

The adolescent should be treated as a grown up and matured persons. He feels secured if he is treated as equal in age and experience, if difficulties are discussed with him and his opinions are respected

The adult patient may lose his usual emotional control may be bothered by the fear of the unknown and of possible death. He may find to withdraw or he may make unreasonable demands. The ward restrictions may furiate him and this may lead to non-cooperative behaviours.

The principle of good nursing care of an adult is that he should not be allowed to regret. He should be encouraged to participate in recreational activities individually and with the group.

The aged patients present their own problems. Age brings about many physical, intellectual and emotional changes in the individual, which cause the general insecurity.

Depression and feelings of loneliness often set in. The nurse should be equipped with the knowledge of old age. She should pay close attention at first to his physical hygiene and should see that the maximum physiological health is maintained through diet, rest and exercise.

The understanding of patients will be facilitated if the nurse possesses knowledge of the common effects of illness and hospitalization on their behaviour reactions.

2.3 Characteristics of mental health

Health is a state of being hale, sound or whole in body, mind or soul.

Mental health today is recognised as an important aspect of ones total health status is basic factor that contribute to the maintenance of physical health as well as social effectiveness.

In the words of John, Sutton and Webster is a positive but relative quality of life. It is a condition, which is a characteristic of the average person who needs the demands of life on the basis of his own capacities and limitations. By the word relative we imply that the degree of mental health, which an individual enjoys at a time, is continuously changing.

It is not mere absence of mental illness that constitutes mental health. On the other hand it is a positive active quality of the individual' s daily living. This quality of living is manifested in the behaviour of an individual whose body and mind are working together in the same direction. His thoughts, feelings, actions, functional harmony is oriented towards the common end.

It means the ability to balance feelings, derives ambition and ideals in ones daily living. It means the ability to face and accept realities of life. It connotes such habits of work and attitudes towards people and things that bring maximum satisfaction and happiness to the individual. But the individual gets this satisfaction and happiness without any friction with the social order or group to which he or she belongs.

From these one can conclude that mental health has two important aspects. It is both individual and social. The individual aspect connotes that the individual is informally adjusted. He is self confident, adequate and free from internal conflicts and tension or in consistencies. He is skillful enough to be able to adapt to new situations. But he achieves this internal adjustment in a social setup.

Society has certain value system, customs and traditions, by which it governs itself and promote the general welfare if its members. It is in this the social frame work that the internal adjustment has to be built up only then the individual becomes a person who is acceptable as a member of society.

It is an understandable fact that social forces are in constant flux. They are constantly moving and changing. Similarly our internal adjustment is also affecting various stresses. As such mental health is a process of adjustment, which involves compromise and adaptation, growth and continuity.

Because of the significance of individual and social aspects some psychologists have defined mental health as the ability of the individual to make personal and social adjustments.

If one can establish a satisfactory relationship between himself and his environment, between his needs, desires and those of other people or if one can meet the demands of a situation he has achieved adjustment.

Adjustment results in happiness because it implies that emotional conflicts and tensions have been resolved and relieved. Keeping this criterion in mind one can say that a mentally healthy nurse will be able to make successful adjustments that are needed by the nature of her job adjustment to her strenuous life to work and study toward duties to night duty and to a residential life away from her home.

Other definitions of mental health refer to such abilities as of making decisions, of assuming responsibilities in accordance with ones capacities, of finding satisfaction, success and happiness in the accomplishment of everyday tasks of living effectively with others of showing socially considerate behaviour.

2.4 Mental Disorders:

Various mental disorders have enabled psychiatrists and psychologists to discover some general symptoms of mental disorders. These symptoms pertain to various distinguishable aspects of the mind. They have been produced by certain needs and meaningful situations in the life of the individual. Many of these symptoms have been produced by the operation of our mental mechanism. **Neurosis and psychosis** are the two major kinds of disorders.

2.4.1 Neurosis:

Neurosis can be classified as follows:

i) psychoneuroses
ii) psycho athnic states
iii) psycho somatic disorders

2.4.1 A The psychoneuroses:

This group of mental illness includes psychassthemia, hysteria , neurasthemia, anxiety state and hypochondria. The psychoneuroses as is evident from nomenclature, implies disorders of mind and nervous systems.

Characteristics of psychoneuroses:

1. Psychoneuroses is the term used to denote mental disease of an ordinary kind, since in them fatality does not result.
2. It also does not cause much physical pain.
3. In such patients the power of speech and thoughts also remain intact and order.
4. Patients also do not suffer from delusion and hallucination.
5. The patient behaves in a normal manner, does not revolt against social custom.
6. The patient also does not evince an absence of self-control and self-dependence.
7. They are mostly caused by frustration, conflicts and mental tensions. They have their origin in psychological, cause (hereditary elements) than chemical and psychosomatic causes. These diseases can be cured by suggestion, hypnoses, psychoanalysis and re-education.

Neurotic disorders are considered to be of five kinds.

1. Neurasthenia
2. Anxiety neurosis
3. Anxiety hysteria
4. Obsessive – compulsive neurosis
5. Hysteria

Neurasthenia:

This term Neurasthenia was first used by the Americans Scientist Beard in 1880 in the sense of nervous exertion. Nowadays

it is employed to denote complaints of physical and mental exhaustion.

Symptoms of Neurasthenia:

Fatigue is a factor that every individual experiences at sometime or the other. The following differences between normal fatigue and Neurasthenia fatigue should be noticed.

1. Normal fatigue and exhaustion can be easily got rid of by rest but the fatigue of the disease does not leave the person after rest. Even when getting up in the morning the patient gets exhausted.
2. Common fatigue is a temporary state of the body but in this disease it is more permanent.
3. Normal exhaustion is normally the outcome of mental or physical effort but in this disease, fatigue remains even when no exertion has been done.
4. Normal fatigue is concerned with muscles but in this disease no connection between fatigue and muscular exertion is noticeable.

Kinds of neurasthenia:

Psychiatrists treating neurasthenia divide it into two classes, acute or secondary neurasthenia and chronic or primary neurasthenia.

Acute neurasthenia:

This can be caused by any disease of the body that undermines contribution or otherwise leaves some kind of poison or toxin in the body. It is also caused in nurses if they work for longer period without adequate rest and relaxation. This is also true of other occupations (soldier) in which work is done over long periods continuously without intermittent rest. The symptom observed is fatigue.

The patient constantly complains of insomnia and lack of appetite. He tends to irritability and finds difficult to concentrate on any ward. Even the slightest efforts leave him fixed and exhausted, debilitated and shun down.

Emotional control is often lost with the result that he tends to be conscious. His head tends to heaviness, his memory becomes weak and he does not enjoy doing anything. Besides these psychological symptoms the patient also exhibits certain physical signs of the disease.

Fatigue often accompanied by a wide fluctuation with rate of pulse from very high to very low. He tends to perspire much and heart beats at a rapid rate.

Chronic or primary neurasthenia:

In this the patient often appears disgruntled and discouraged, depressed and fatigued. Beside fatigue he complains headache, backache**,** irritability and anxiety commonly prevails. He shows signs of indigestion and easily becomes excited over the smallest incidents.

Causes of neurasthenia:

Weakness of central nervous system, haziness and inactivity, auto intoxication over work and anxiety, mental disintegration caused by abnormal fatigue and emotional experience, level of excitement and frequency of discharge of seminal fluid, emotional conflict and tension and withdrawal are some of the causes. People of introvert are prone to become neurasthenic.

Cure of neurasthenia:

Rest, nutritive food, hypnosis re-education, psychoanalysis may help benefit the patient than medication.

Anxiety neurosis:

Nature: Anxiety neurosis is a neurotic disturbance in which the patient is constantly anxious, the anxiety being different from a normal worry, because the patient is not aware of the reason for his anxiety. It can even be said to be objectless.

Characteristics of anxiety neurosis:

Physical symptoms:

The main ones are changes in heart beat, respiration, blood pressure, in the process of digestion and glandular secretion, tension in stripped muscles lack of vitality, insomnia fatigue etc.

Mental symptoms:

Irrational fear and suspicion do always prevail. Doubts related to some future or imagined accident or death in the family, but both anxiety and fear rob the patient of his sleep. With the result that he appears exhausted and restless. He tends to become introvert, selfish, irritable, unhappy and depressed and he has no enthusiasm, inherent attachment for any object or work.

Kinds of anxiety neurosis:

Acute anxiety:

The above symptoms appear in the most intense form and condition.

Chronic anxiety:

In this the symptoms are natural and to the condition neither momentary nor intense but more permanent and continuing. It takes the following two forms:

i) **Free floating anxiety:** In this the patient is completely unaware of the causes of anxiety but he continues to be worried and restless.

ii) **Bound anxiety:** In this the patient attaches his anxiety to some specific condition or circumstances.

Causes of anxiety neurosis:

1. Suppression of sexual desire: According to Freud, whenever the libido of a person becomes excited, but finds no satisfaction and is instead suppressed, it takes the form of anxiety but the cause is not known to the patient.

   Further he says that when a man or woman is sexually excited but finds no creative outlet for the libido he becomes a prey to anxiety and in this way he traces anxiety for suppression of libido. But not all psychiatrists see eye to eye with Freud in this connection.

2. Emotional conflict: According to McDougall and Gordan, the anxiety neurosis can arise as a result of conflict between any two emotions.

3. Repression of self-assertive tendency: according to Adler, man' s most important and most intense impulse is to assert himself. If the person' s ego does not develop properly and he instead develops a sense of inferiority then his self-assertive tendency is repressed and this leads to development of anxiety neurosis.
4. Frustration and mental conflict: According to O. Kelly, the root causes of anxiety neurosis are mental conflict and frustration whatever the cause of them or whatever the form they take. Not one of the above mentioned causes of anxiety neurosis could be said to explain it fully in the case of any patient.

   The truth is that in particular circumstances one or more or even all of these causes may be present at the root of the anxiety neurosis.

Cure of anxiety neurosis:

Suggestion, psychoanalysis and re-education can help the disease.

Anxiety hysteria:

Anxiety hysteria unlike anxiety neurosis is not merely phobia because there is more of anxiety in it. In anxiety hysteria the sufferer is afraid of circumstances, which do not frighten the normal person, such as dark places, height etc. A young woman always asked mother and father to accompany her wherever she went.

Symptoms:

Physical symptoms:

The main ones are shivering, high rate of heartbeat and occasionally fainting. Patient is often frightened very much. He perspires, his heartbeat increases and he even faints.

Psychological symptoms:

The most prominent psychological characteristics of anxiety hysteria are anxiety, restlessness, insomnia, projection, introjections, regression aggression, compulsion etc. In anxiety hysteria often the patient displaces the object inspiring his anxiety.

For example some people are afraid of broad or very narrow streets. Displacing the fear to the lane is an example of projection in anxiety hysteria. Otto Ferickel has mentioned the case of young man who was abnormally afraid of hens because he had projected his internal conflict on hens.

Kinds of anxiety hysteria:

Anxiety hysteria takes various forms of fear and anxiety in different individuals such as agro phobia, acrophobia, clustophobia, ochlophobia, locomotion phobia, path phobia, ero-phobia or tox-phobia, etc.

Simple concrete anxiety phobia:

In this the patient is afraid of some concrete object such as water. Fischer has mentioned the case of a young lady who was so profoundly affected by the sound of running water that she once fainted on hearing a fountain.

Symbolic concrete anxiety hysteria:

In this the case, fear and anxiety is certainly concrete but the patients fear is not for its physical shape but because it symbolises some other object of experience. In one case the young woman is afraid of knifes that she could not even touch it and she could not even sleep, fear that her mother would stab her with a knife if she slept. In this an abstract object that functions as a symbol for example, closed or wide open spaces, height and depths etc.

Causes of anxiety hysteria:

Conditioning, emotional shock, disorganization of mind or power of volition, strong feelings of incest, repression not only of the sexual drive but of any very strong desire are the causes leading to anxiety hysteria.

Cure of anxiety hysteria:

Suggestion, psychoanalysis, hypnosis are some of the methods for curing the disease.

Obsessive-compulsive neurosis:

As is evident from its name in an obsessive-compulsive neurosis the patient is compelled to repeat an illegal thought of

undesirable activity and despite his best efforts he cannot put it out of his mind.

Physical characteristics:

Bodily signs of this kind of neurosis are lack of appetite and sleep, the need to repeat some action etc.

Psychological characteristics:

In this, psychological symptoms are obsession, emotional tension, lack of attention, anxiety, irritability, the presence of conflicting emotions, feelings and thoughts, basic reaction etc.

Causes

1. **Frustration and transformation of sexual energy:** Freud has believed sexual causes to be at the root of compulsive neurosis and are the base of all other mental disorders.

   According to him, whom some sexual desire is denied, fulfillment on account of the intervention of superego, then it becomes repressed, but gives rise to internal conflict.

   In this conflict the sexual energy of the individual is transformed so that he becomes a prey to various kinds of compulsion.

2. **Introverted personality:** The fundamental cause of compulsive neurosis is an introverted personality. Since such an individual, even though intelligent is sensitive and has a sense of insecurity.

   It is due to this feeling of insecurity that an individual is compelled to do many things over and over again. For example he imagines he might lose money that he may be carrying and hence feels compelled to count it many times.

3. **Substitution:** Some psychological sign compulsive neurosis as a kind of protective reaction in which the individual develops this disorders in order to keep out painful thoughts or actions.

   Mental conflict and emotional tension influence of heredity and environment habit formations are some of the factors contributing to the disease.

Cure of Obsessive-compulsive neurosis:

Psychoanalytic method, hypnotic, suggestion and shock treatment are some of the methods of curing in addition to medication.

Fugue:

One form of hysteria is known as hysteric fugue, in which the individual is compelled by a concealed impulse to run away from home and wander about for many days.

When he recovers to normal state he returns home but forgets all occurred during his fugue condition. A stage of fugue may last for any time period from a few hours to a few months and during this period; he has no recollection of his past life.

Cause:

As in the case of other mental diseases, fugue also has its root in excessive repression. If a person suffers from some serious psychological or emotional shock, then his repressed desires finds expression in the form of fugue.

Cure:

An example, a boy who has lost identity, who had run away from home for many months secured a job in a shop. He was given alcoholic drink on the occasion of some festival. When he heard the date he suddenly shouted it' s my mother' s birthday. Immediately he recollected his thoughts on home and simultaneously forget all that had happened to him after he had run away from home. From this it is evident that shock can end a condition of fugue.

Somnambulism:

This Latin term denotes walking in ones sleep. This is often found in hysteric person. Besides the hysteric person, somnambulism is a condition that can be seen in individuals who are otherwise normal. In this condition the individual comes under the influence of some feelings, memories or concepts and act upon them, while actually asleep in the manner of purpose.

Cause:

It is a condition of mental disorganization, a condition in which the individual' s complexions or sentiments are not organized

and synthesized and do not find expressions in normal life. Hence they are expressed through abnormal behaviour. In this abnormal condition the distorted thoughts gain control over the individual' s normal personality and guide him into mechanical behaviour.

In such a condition the person' s ' normal life does not remain undisturbed and the primary mental organization becomes subordinated to the somnambulistic secondary mental organization. When the stroke of sleepwalking is over the individual returns to normalcy and forgets all that is confined to this condition.

Cure:

Hypnosis, psychoanalytic method, behaviour therapy are some of the methods of cure.

2. 5 Psychoses:

Psychoses are generally divided into two classes functional and organic. In organic psychoses, organic and physiological factors play a primary part.

On the other hand in functional psychoses, physiological factors play a lesser part than psychological causes. Clinical psychology restricts its study to functional psychoses since their causes and cure are more purely psychological.

Functional psychoses are mainly of the following there kinds.

1. Schizophrenia
2. Paranoia
3. Manic depressive psychosis.

2.5.1 Schizophrenia

Schizophrenia is the most common form of Psychosis and Blender first named it. The term itself implies mental dissociation of a functional kind. According to Pollock, this disease is commonly to be found among individuals between the ages of 15-30.

Symptoms of Schizophrenia:

The following can be said to be symptomatic conditions of Schizophrenia and they are certainly to be found in all patients.

2.5.1 A Emotional disorganization:

Patients of these diseases are found to be indifferent to all pleasure and pain because emotionally they are disorganized. This indifference is directed not only towards others but also towards oneself to one's own physical needs. Due to this patient plays no attention to his diet and continually grows weaker.

2.5.1 B Extreme introversion:

Due to his or her indifference the patient pays no attention to his surroundings or to those who occupy the surroundings. He or she does not take any interest in them.

Contradictory and disorganized emotional reactions:

The patient is capable of appearing saddened on joyous occasions and deliberately delighted on occasion demanding sorrow. In fact all his reactions to pain and pleasure are the vary contradiction of the normal people to such conditions. He can be seen crying, shouting, laughing etc without any specific cause. Blemless has even mentioned the case of a woman, who sheds tears while she was laughing.

2.5.1. C Delusion:

The patient is invariably in the grip of one or the other delusion, but when his condition improves the delusion is dispelled. Among all the delusions found in connection with this disease, the most popular is the delusion of persecution. The patient feels that the other people are criticising him and that some external force are being brought to bear upon him. Even though delusion is irrational and disjoined, he has complete faith in its actuality.

2.5.1. D Hallucination:

The patient experiences differential hallucination from time to time, the most usual of it is auditory nature. These delusions are normally of painful kind. He feels that some one is threatening him or her; he consequently takes of his clothes to prepare for physical combat. But other patients have pleasurable auditory sensation of a hallucinatory kind while some other patients have visual

hallucinations in which they are visited by God, their dead ancestors and some saint.

Some times while asleep the patient also experiences certain kinesthetic hallucination in which he often suspects that some one wants to put an end to his patient's life. Similarly olfactory and gustatory hallucinations are also known to occur.

2.5.1.E Mental depreciation:

The patient also evinces signs of decline in his mental powers and abilities such as memory, abstract thinking, motor ability, education etc. But there is no depreciation in the ability to use words.

2.5.1.F Linguistic disorganization:

The patient talks a lot and also talks well but what he says does not make much sense. There is much recollection and disorganization in it. Some patient almost become dumb due to their indifference or to their delusions and they are seen to mutter to themselves. But these patients also create new words that are meaningless, illogical and ridiculous.

2.5.1. G. Disorganisation of literal expression:

The patient lacks organization and sense, in his or her writing. The disorganization concerns, not only the sense but also grammatical contention.

2.5.1. H Disorganised thinking:

In a patient suffering from schizophrenia, the ability to think is impaired thinking is disorganised and unsystematic. As it has been pointed out earlier the patient's ability to abstract thinking is considerably damaged, hence the patient thinks in concrete terms, but even in this he reaches the most illogical and wrong conclusions.

2.5.1. I Weakness of present memory:

The patient recollects incidents of past life, but due to indifference and other causes, his memory considering incidents of

immediate life is weakened. But he himself is not conscious of this weakening of the power to recollect.

2.5.2 Physiological symptoms:

Besides these psychological characteristics, the schizophrenic also evinces certain disfigurement of his metabolism. He or she cares not about his or her diet with the result that he gradually weakens and wastes away often his or her bodily temperature seems to vary quite rapidly.

2.5.3 Kinds of Schizophrenia:

Schizophrenia has been divided into the following four classes by psychiatrists on the basis of specific symptoms or groups of symptom.

1. **Simple Schizophrenia:** This is simple in its type Its main symptoms are delusion, hallucination, personality disintegration emotional superficiality, linguistic disorganisation, indifference introversion etc.
2. **Hebephrenic Schizophrenia:** Its main symptoms are delusion, hallucination, personality disintegration, emotional superficiality, linguistic disorganization indifference, introversion etc.
3. **Catatonic Schizophrenia:** The main symptoms of this are excessive inactivity, nervous solidity, delusion, muscular rigidity, hallucination and disorganization concerning device etc.
4. **Paranoid Schizophrenia:** The main symptoms of this kind are sentimentality, self-centeredness, suspicious mind, delusion of persecution, delusion of supremacy etc.

2.5.4 Causes of Schizophrenia:

The following different causes have been offered in explanation of the phenomenon by different thinkers.

Regression of sexual drive:

Freud offers a sexual explanation of this mental disease as of all other. The main and fundamental cause of this disease is the regression of sexual energy and the ego towards the stage of infant

self love and sucking stage, because the patient suffering from it is an adult, and yet can not adjust to his social responsibilities with hetro sexual love.

Disorganisation of sex glands:

According to Keraeplin, the main cause of schizophrenia is that over secretion of the sex glands leads to creation of stimulating chemicals in the digestive system.

Heredity:

Studies of the hereditary of schizopherenic patient have led Kalimann, Stoddard and White among other psychologists to the belief that its cause is heredity. But Rosanoff believes that along with heredity another important cause is the birth trauma. Presence of hereditary elements in schizophrenia cannot be denied but it does not seem very logical or even efficacious to accept it as the sole cause.

Environment:

Pollock and Malzberq studied 175 patients of the disease and reached the conclusion environment plays a bigger part in creating this disease than does heredity and not psychologists today refuse the importance of environment in the causing of schizophrenia.

Biological causes:

Adolf Meyer has mentioned biological maladjustment towards the environment as the main cause of schizophrenia. As a result the patient becomes indifferent to the objects and individuals in his environment.

Regression of life force and repressed emotional complexes:

Jung, the psychologist has traced the cause of Schizophrenia to a repression of the life force and to repressed emotional complexes, which is caused by maladjustment with the environment.

Instinct for self-respect:

According to McDougall, when the patient is unable to find proper and desirable expression for his instinct of self-respect, he comes a prey to Schizophrenia.

Personality Type:

It is the opinion of some psychologists that only a certain personal type is susceptible to schizophrenic tendencies, primarily the introverted type of individual. But this concept of the personality type being more prone to schizophrenia was not found true by many of the psychologists.

Conflict between feminine and masculine elements:

According to the Neo-Freudian, Otto Rank, the primary cause of schizophrenia is the conflict between feminine and masculine elements. From the above account of the **causes of schizophrenia** it is apparent that it is primarily caused by the individuals inability to adjust with his environment. Besides this, all the causes mentioned above have their importance in greater or less of degree depending upon the circumstances of the patient.

2.5.5 Cure of schizophrenia:

No one definite method can be adopted in the cure of all patients of schizophrenia, because it is to be treated according to the symptoms that it exhibits. The following are the main methods of treatment.

Group and occupational psychotherapies.

These methods have succeeded in bringing relief to many patients, suffering from the disease.

Re-learning:

Re-learning has always proved valuable for schizophrenic patients.

Electric shock therapy:

In recent times this method has been employed to cure patients of their schizophrenic tendencies, but as yet there is no saying what permanent effects it can achieve.

Medicine:

The cure of schizophrenia also involves the use of insulin injection and metrazol. Fundamentally the essential for curing schizophrenic is that a basic adjustment between him and his environment should be achieved and for this different methods can

be employed, the choice being suggested by the circumstances themselves.

2.6 Paranoia

Nature of Paranoia:

In Paranoia, the patient becomes a prey to permanent delusion. According to Kreplien, the causes of delusion are internal and no hallucination is involved. Thus Kreplien's explanation has succeeded in counting both the earlier views to which that disease had been accredited. Henroth and his followers believed it to be a mental distortion, while Gresinger and fellow thinkers accepted it as an emotional deformity.

2.6.1 Symptoms of Paranoia:

In Paranoia the patient becomes a prey to a permanent delusion. It should be kept in mind that there is delusion in schizophrenia also but in that case it is not permanent or organized. In paranoia, the symptoms of delusion appear gradually and patient is sentimental, suspicious, introverted, depressed, obstinate, feelers, enthuse selfish, unsocial and bitter.

Hence his or her social and family adjustment is not desirable and while he or she has the highest ambitions, the effort that he or she is prepared to expend is correspondingly little. He does not acknowledge his own faults or failure and by sometimes accepting certain qualities as belonging to him or her, even when imaginary, he or she develops paranoia.

2.6.2 Kinds of paranoia:

The chief feature of paranoia is permanent delusion and delusion can be of many kinds. Hence kinds of paranoia have been distinguished on the basis of different kinds of delusions.

The main kinds are the following:

Persecutory paranoia:

This is the most prevalent kind. In this the patient makes himself or herself, believe that all those around him or her are his or her enemies, bent on harming him or her, even on taking his or her

life. In this delusion, people of an aggressive temperament often turn dangerous killers.

Delusion of grandeur:

In this, the patient believes himself to be a great individual and according to Blender, this delusion of grandeur accompanies the persecutory delusion.

Religious Paranoia:

In this the patient suffers from a permanent delusion of a primarily religious nature. He believes that he is the messenger of God, who has been sent to the world to propagate some religion.

Reformatory Paranoia:

In this the patient turns to considering himself a great reformer. He accordingly looks upon all those around him as suffering from a dangerous disease and believes that he is their reformer and curator.

Erotic Paranoia:

In this the patient often tends to believe that some member of the opposite sex belonging to an illustrious family wants to marry him. Such people even write love levers and thereby cause much bother to other people.

Litigious Paranoia:

In this kind of delusion, the patient takes to filing meaningless cases against other people and feels that people are linked together to bother him. Sometimes he even tries to murder.

Hypochondrieal paranoia:

In this type, the patient believes that he is suffering from all kinds of ridiculous diseases and also that some other people are to blame for his suffering.

2.6.3 Causes of paranoia:

Different psychiatrists have attributed paranoia to different causes, the main ones being the following:

Homosexual fixation:

According to Freud, the patient suffering from this disease has repressed his tendency to homosexual love to such an extent

that he develops a fixation concerning it. Freud view has been found correct in many cases, but it does not explain each and every cure of the disease.

Feeling of inferiority:

Henderson and other psychologists examined cases of paranoia to find out the truth of Freud' s contention, and during this examination they found that the main cause of paranoia is a sense of inferiority that may be caused by a variety of conditions, such as failure disgust, sense of guilt etc.

Emotional complex:

Certain psychologists have traced the causes paranoia to emotional complex. But in this connection it is necessary to point out the emotional complex that causes this disease since these are various kinds of emotional complexes and also because they are seen to be present in other mental diseases as also in normal individuals.

Personality type:

Cameron believes a certain personality type to be more susceptible to this disease, a personality that has sentimental values, jealousy, suspicious, ambition, selfishness, shyness etc. Patients of paranoia do exhibit these peculiarities of personality but on this base they cannot be said to belong to a definite personality.

Heredity:

In the opinion of Fisher, the main responsibilities of paranoia, lies fairly and squarely upon heredity although he does not deny the importance of repression and emotional complexes. The causes of paranoia are not physical because no patient exhibits any signs of physical deformity, major cause such as defects of personality, sense of inferiority, repression etc.

2.6.3 Cure of paranoia:

A cure of paranoia is very difficult and it is essential that treatment should be started immediately. Once it grows, there is no curing.

Psychoanalytic method:

Compared to other mental diseases, this disease does not respond immediately to psychoanalytic treatment, because being suspicious, the patient does not Co-operate with the Doctor. Even then, with due precaution, certain results can be achieved by employing this method.

Injections of insulin:

Some patients also respond to this treatment but this cannot be said of all.

Manic Depressive psychosis:

In this disease, as seems to be indicated by its very name, the patient exhibits mania and depression or one after the other. These type of patients are more of women than men as also more of urban that of rural. Originally excessive mania and excessive depressions were regarded as separate maladies.

It was between 1850 and 1854, that Falret and Baillarger indicated the fact that the conditions of mania and depressions were to be seen alternately in the same individual. In 1899, Kreplien pronounced the two conditions to be identical and from then to the present they have been accepted as much.

Conditions of Mania and depression:

Both mania and depression are seen together. But in both of these there are three distinct and different conditions with the result that the disease takes many forms. Mania shows the following forms:

Hypomania:

In this the patient appears to be very happy, he accepts every incident and object that he comes across with joy. He shows a distinct tendency to self-projection.

Acute Mania:

In this there is a greater excitement that in the preceding condition with the result that the patient looses his sense of thought and action. He exhibits signs of excessive joy and emotion.

Hypermania:

In this condition, the mania is even more pronounced than in the second stage so that the patient can be observed dancing, singing and laughing with the exuberance of a madman. Parallel to Mania, the depressive psychosis also takes three forms:

Simple retardation:

In this, the patient suffers from serious mental disturbance so that his physical and mental processes lose their vitality and energy.

Acute melancholia:

In this, the patient differs from greater depression and the blues than in the previous condition. The patient develops a sense of inadequacy and he or she is even sometimes lead to suicide.

Stuporous melancholia :

In this condition, the tendency towards suicide is further strengthened because the patient is now disappointed with life. His feelings for crime soon grow on him, he is seen crying: ventilating and irritated with himself or herself.

Kinds of manic depressive psychosis:

Besides the above-mentioned conditions of Mania and depression this mental disease also exhibits the following kinds.

Recurrent mania:

In this the patient experiences a recurrence of waves of mania so that conditions of excitement and peace alternate quite rapidly.

Recurrent melancholia:

In this, the patient constantly experiences a state of melancholic depression.

Alternating mania / depression:

In this the patient experiences excitement or mania then returns to his normal condition but then moves on to a state of depression. In this manner he or she oscillates between mania and depression.

Mania / depression of double form:

In this the patient exhibits both mania / depression of double form.

Circular manic depression:

In this the patient changes from mania to depression on a circular pattern.

Symptoms of manic-depressive psychoses:

Weakness of perception:

The patient's power of perception is observed to be weak; hence the patient cannot concentrate or any subject.

Indefinite and vague consciousness:

In a very severe state of the disease, the patient's consciousness of his surroundings is very vague and indefinite so much so that at time he has no consciousness of time and place.

Delusion:

The patient exhibits a persecutory delusion in depression and a grandeur delusion in a condition of mania with the result that his decisions are wrong and defective.

Hallucination and mirage:

Both in the state of depression and mania, the patient are subject to appropriate hallucinations and mirages.

Extremely emotional reactions:

The patient further shows signs of very intensively emotional reactions. In a state of manic delight he shows anger, egotism and erotic emotion, which in a state of depression, he exhibits fear. In the first condition the patient is extremely restless and active while in the other he is inactive and lethargic.

Causes of manic-depressive psychosis:

Various psychologists have offered different explanations of the causes of this psychosis. The main ones are as follows:

Heredity:

Pressen and Steecker have concluded that this disease is primarily hereditary and there is no doubt that many have the

disease on account of their heredity, but this view does not hold true in each and every case.

Environment:

Besides heredity, the environment particularly that of the home and family plays an important part in causing the disease. Rosanoff has laid considerable stress on the importance of environment.

Physical disorganization:

Some psychologists have attributed this disease to organic disturbances within the body, in particular disturbances of metabolism, digestive system, blood pressure and endocrine glands.

Personality type:

Those, who admit the concept of personality type, have believed that the patient suffering from this disease is a particular personality type. According to Jung this disease occurs mostly in individuals who are extroverts. Kretschener opines that it occurs mainly in the case of cyclothymics personality type.

Sense of inferiority:

To Adler, the main cause of this disease is repression of the individual' s urge for self-assertion. Such repression causes sense of interiority in him. To him, mania is caused by self-assertion and depression by anxiety.

Imbalance between self-assertion and self-sacrifice:

McDougall has traced disease to an imbalance between the instincts of self-assertion and self-sacrifice. In enthusiasm the instinct of self-assertion is in the ascendant and in depression, it is the instinct of self-sacrifice, which dominates, while an imbalance between the two leads to the manifestation of this particular psychosis.

Regression and discipline:

In elucidating this disease, Jung has laid much stress on the fact of regression towards the anal and oral stages as well as on discipline of the superego. This causes feelings of guilt in the individual with the result that he appears depressed.

The opposite effect of guilt causes mania. But all do not agree on this Freudian thought from the above elucidation of the various causes of this psychosis, it is apparent that heredity, environment feelings of anxiety, organic disturbances etc, all play important parts in causing it. But psychological influences are by far the more important.

Cure of manic-depressive psychosis:

The following methods help in the cure of manic-depressive psychosis.

Physical treatment:

It that the patient benefits from physical rest, comfort, nutritive food, warm baths, being employed, casual walk etc.

Sleep therapy:

Some patients also benefit by sleep therapy.

Psychoanalytic method:

As in the case of other mental diseases, the psychoanalytic method proves efficacious in this disease.

Shock therapy:

Some people also benefit by shock therapy. The successful treatment of mental disease depends to a large extent upon the personal ability, qualities of personality and experience of the psychiatrist. It will take quite some time before the symptoms, causes, and cures of each disease are actually established beyond doubt and this will need further experimentation and research.

2. 7 Epilepsy:

Epilepsy is a tendency to have recurrent seizures, which results from disturbances in the normal electrical activity of the brain.

The human brain is a unique computer, which works for all 24 hours. It is built up of billions of nerve cells called neuron. The neuron has electrical activity and this is transmitted through the axons and dendrites. These electrical impulses are transmitted from one neuron to another through the chemical messengers neurotransmitters, which are present in the synapse. If a group of

nerve cells start sending these impulses excessively, it results into epileptic attacks.

Causes:

Epilepsy is a symptom of many diseases. Just as headache, it is a symptom, which has a number of causes. Epilepsy can be caused by a number of illness in the brain.

1	Idiopathic	:	No demonstrable cause
2	Symptomatic	:	Prenatal injuries
		:	Low sugar, sodium or calcium
		:	Developmental defect of the brain
		:	Cerebral infections like meningitis, encephalitis
		:	Cerebral injuries
		:	Cerebral tumors
		:	Cerebro vascular attack
		:	Cysticercus and tuberculomas
		:	Others

Classification of seizures:

1. Partial seizures:
   i) Simple partial seizures
   ii) Complex partial seizures
2. Generalised seizures:
   i) Grandmal seizures
   ii) Petitmal seizures

Partial Seizures:

In partial seizures the abnormal electrical discharges occur in a localised area in the brain. Hence the symptoms depend upon the area of brain involved, motor or sensory.

These simple partial seizures, when associated with impairment in the consciousness they become complex partial seizures.

Generalised seizures:

In generalised seizures the abnormal electrical discharges originate from the entire cortex of the brain. This leads to loss of consciousness. In tonic clonic seizures, a common type of generalised seizures, patient falls to the ground without warning. Limbs become stiff. This is called tonic phase. This is followed by jerking movements, which is called clonic phase.

Most patients sink into a deep sleep after a seizure for half an hour to two hours. During fits patients may have pooling of saliva at mouth, bite his or her tongue, pass urine or motion.

When the patient wakes up he or she is totally unaware of what had happened. He or she may have headache or body aches due to muscular exertion. The duration of seizures can vary and usually it may last for one or two minutes.

Management of seizures disorder:

The general principles in the management of seizures are

1. Regular food and sleep habits
2. Avoid triggers
3. Regular visits to doctors.

Medical Management:

Antiepileptic drugs should always be taken under medical supervision. Following are the commonly used drugs:

- Phenobarbitone (gardinal) Phenytoin sodium (eptoin) carbamazepine (tegretal)
- Sodium valporate (valparin) clonozepam.

Psychological supports from parents, siblings, teachers colleagues and friends are needed. One's own positive will and others support substantiate the efforts.

Nursing management:

Knowledge of the disease by the nurse is very essential in the effective management of the patient.

First aid for major seizure:

Do' s

1. Keep calm, help the patient lie down, remove glasses, lose the tight clothing.
2. Clear the area of hard, sharp or hot objects, which could hurt him or her. Keep rolled up towel or pillow under his or her head.
3. Turn him or her to the side to drain the saliva from tightly held teeth.
4. After the attack, if patient is sleeping permit him or her to sleep.

Don' ts

1. Do not allow people to gather around him
2. Allow free air circulation.
3. Do not restrain the convulsive movements.
4. Do not force anything between his or her tightly held teeth.
5. Do not offer any thing to eat or drink till he or she is fully conscious.

Call for doctor only if

1. Patient is injured
2. Has repeated seizures.
3. Patient is unconscious for a long period.
4. Has difficulty in breathing
5. If it is the first seizure.

Epilepsy and mental retardation:

Epilepsy affects approximately 1 % of general population, whereas the prevalence of epilepsy in people with mental retardation is much higher. About 20 to 30 % of people with mental retardation are affected by epilepsy.

Note:

1. Repeated fits can damage the brain and can lead on to further deterioration.

2. When a child with mental retardation is learning a task, occurrences of fit can lead to difficulty in learning.
3. Explain to the family members regarding the nature and probable cause of epilepsy, the importance of the usage of recommended drug, in optimal dose, for required duration, the side effects of medications, the importance of monitoring the drug levels in blood periodically and the importance of limitations of investigation (EEG, CT scan or MRI) the risk of recurrence and relapse and the prognosis of the condition. The importance of rehabilitating the person with mental retardation and epilepsy is essential. Due care should be taken to restore the socio occupational and psychological status of the person.

2.8 Alcoholic addiction and drug abuse:

2.8.1 Introduction

During the last decade, there is a marked increase in the use of psychoactive or mind altering drugs in our society. Concurrence with their resistance has come their misuse. The misuse of drug may take a form of dependence or abuse.

In traditional usage dependence signified psychological reliance on a particular drug, while addiction was resend for psychological dependence as indicated by withdrawal symptoms, if the drug were to be discontinued. The most commonly used problem drugs are alcohol, barbiturates, amphetamines, heroin and marijuana.

Adults can purchase some of these drugs such as alcohol legally and other drugs such as barbiturates can be used legally under medical supervision. Still other drugs such as heroin are illegal.

The physical signs of abuse or addiction can be very much depending on the person and the drug. For example, some one who abuses marijuana may have a chronic cough or worsening of asthmatic conditions. The chemical in marijuana responsible for producing its effects is associated with weakening.

The immune system makes the user more vulnerable to infections such as pneumonia. Each drug has short term and long-term physical effects. Stimulants like cocaine increase heart rate and blood pressure whereas, opiods like heroin may slow the heart rate and reduce respiration. Withdrawal is the variety of symptoms that occur after use of some addictive drugs is reduced or stopped.

Length of withdrawal and symptoms vary with the type of drug. For example, withdrawal symptoms of heroin may include restlessness, muscle and bone pain, insomnia, diarrhoea, vomiting and cold flashes. These physical symptoms may last for several hours, but the general depression that often accompanies heroin withdrawal may last for weeks.

In many cases withdrawal can be easily treated with medications to ease the symptom but treating withdrawal is not the same as treating addiction.

Consumption of excessive alcohol leads to the person's impairment of reasoning and volition temporarily that destroys the brain center that controls behaviour. The mental functioning stops its work. Thereby a person's voice becomes loud and squeaky, his thinking uncontrolled and disassociated. When the quantity of alcohol in the blood increases, the individual tends to become irritable, obstinate and boastful. When walking he is in need of support, gradually he sinks into sleep caused by alcoholic stupor.

2.8.2 Kinds of alcoholic mental disorder:

Pathological intoxication:

In this the person's mental activities lose their organisation and system for periods extending from a few minutes to few hours. Sometimes the patient exhibits a tendency towards crime, murder or suicide. Motor co-ordination is retained but the person cannot speak clearly. When he or she recovers from pathological intoxication, he retains no traces of memory concerning his condition during it.

This kind of intoxication can be seen occasionally even when very small quantity of alcohol has been consumed. Normally it occurs only when more alcohol has been absorbed. Basically it

occurs only in people who posses characteristics of schizophrenia, epilepsy or hysteria or in people whose mind has suffered from injury. This disorder is sometimes seen when the amount of glucose in blood falls below normal level.

Delirium tremens:

This form of alcoholic mental disorder is seen in persons continuing drinking for many years. It also occurs temporarily when drinking is stopped suddenly. Immediately the disease begins, the patient shows signs of insomnia, anxiety, restlessness and lack of appetite. Following this there is an attack of fever, the tongue is coated and he suffers from constipation with the result that sometimes he finds difficult to take food.

Gradually the pulse rate begins to fall, the hands and feet shiver, the tongue shrubs over words and the other abnormalities occur. In order to cure the patient he should be made to be in a dark and a quiet room. Liquid diet and vitamin B should be administered. In order to control cure anxiety, warm bath, anxiolytic drugs and cathartic medicines can be administered.

Kornakoff spychosis:

This form of mental disorder is seen in men who have been drinking alcoholic stimulants over a long period. This group constitutes 10%. The symptoms of this disease resemble those of delirium tremens. The patient is incapable of making new acquisitions besides which he does not remember any thing. He fails to recognise even his own family members. Whatever he reads is immediately forgotten.

Because of this disease certain nerves are rendered weak with the result that a patient experiences pain in arms and legs and their extremities tend to bend.

The main cause for this physical symptom is lack of vitamin B in the body. In order to cure the patient of the disease, alcoholic stimulants must be completely forbidden, the patient should be given rest and food rich in vitaminB complex. Certain benefits results from the use of galvanic impulse followed by massage and exercise, while the use of vitamin B can clear away many physiological shortcomings.

There is a high rate of mortality among patient suffering from this disease.

Acute alcoholic hallucinosis:

Some 20 to 25 % of alcoholics, suffering from this mental disease falls into this category. Most of the patients exhibit schizoid characteristics, which becomes aggravated due to the use of alcohol. In acute alcoholic hallucinosis, as in delirium tremens the patient suffers from anxiety, insomnia, extreme emotionality and various kinds of hallucination.

In a state of delirium, many of the hallucination tend to be of visual nature. While in the case of acute alcoholic hallucinosis, they are of auditory origin. The patient professes to hearing a variety of voices that threaten him, abuse him and scold him, responsible for many kinds of immoral activity. Often such voice address the patient as if he were a separate individual. Some patients become so obsessed with these voices that they seek the protection of police or even commit suicide.

Most of the people suffering from this disease become introverts and those suffering from delirium tremens become extroverts, because these patients are a source of danger to others and themselves. It is necessary to have definite control over them.

The first step in curing them is to stop them from drinking alcoholic stimulants, because the patient has to be cured in relatively shorter time. But if the patient again falls into his old ways it does not take a long time for the disease to come back and in occasional cases it can even lead to schizophrenia.

Alcoholic deterioration:

When a person continues to consume alcohol in abnormally large quantities over a number of years, his personality becomes disintegrated. About 25% of the alcoholics are suffering from alcoholic deterioration.

The symptoms of alcoholic deterioration are irritability, cruelty, loss of memory, suspicious nature, deficiency of ambition and volition and indifference or hatred towards the family, indifference to personal appearance and apparel. This mental

disease also causes the following physical symptoms such as reddening of throat and nose, swelling of the face, nervous tension and deficiency of physical energy, heart disease and lack of resistance to disease.

Treatment of alcoholic disorder.

The chief cure consists in avoiding alcohol enhanced by the counselling of the patient and family members by the nurse. Treatment can be effected in hospitalisation and as well as in the home. The decision concerning this can be left to the discretion of the doctor who takes into consideration the patients circumstances.

Main methods of cure are

Complete abstinence from alcohol

Punishment such as heavy fine, imprisonment

Using medicines

Destroying the craving for use of stimulating drugs/alcohol

Meeting of alcoholic anonym

Psychotherapy - includes

Suggestion

Moral encouragement

Advice

Hypnotism etc

In psychotherapy, the main stress is on removing the fundamental causes that encourage it. The object of curing a person of alcoholism is to make his personality so strong by manifesting the concealed conflicts and putting an end to these actual causes that he can solve his own problems more rationally and permanently. With this end in view the alcoholic is encouraged to understand his problems and at the same time he is induced to take the necessary steps that will help him to get rid of this toxin latent.

2.9 Nursing care of severely retarded

Nursing care of the severely retarded is to meet the needs of the patient and to help in maintaining and improving the various functioning abilities. Keen observation of changes in the pattern of

behaviour is essential as the severely handicapped people are unable to express themselves.

Personal care:

A person needs help in carrying out hygiene measures. He should be aided in the performance of these works. A careful observation must be made of the skin, oral cavity etc. Daily note any changes. Various problems can develop if basic skin care and oral hygiene are not attended regularly.

Washing the face should be a routine for all patients first thing in the morning and before going to bed at night.

Cleanliness of skin is essential. Ideally each patient should have a bath daily. Bathing may be in bathroom if the patient is ambulatory or bed bath (sponge bath) if the person is bedridden. There should care and handle gently. Extra help may be got for turning the person. Always talk to the person though he may not take part in the conversation.

While bathing, exercise the person' s limbs and put the joints through the range of movements of which they are capable. Do this gently and systematically including shoulders, elbow, wrist, fingers, hip, knee and ankle joints and move the toes.

Care of pressure areas is another important aspect of personal care. Pressure areas are the term applied to parts of the body where the skin may be damaged because of excessive pressure, friction, or continued exposure to moisture. Extra care should be taken for the bedridden, severely handicapped person as they are unable to change their position frequently to avoid excessive pressure on anyone part of the body.

Prevention of pressure sores:

The person' s position must be changed every two hours day and night. The skin should be massaged to stimulate the circulation. The body should be placed in such a way that limbs do not press on each other.

Air cushions, pressure pads and airbeds should be used when required. The person must be attended whenever they are wet or soiled. The affected parts of the body must be washed

thoroughly and then dried wiping the skin dry of perspiration and saliva.

Carefully groomed hair, which is clean, enhances the appearances and gives a feeling of confidence. Care of the hair includes, inspecting and treating for dandruff and head lice, brushing and combing, washing and setting. Hair should be inspected routinely once a week to make sure the person is free from dandruff, head lice, scratch marks on the scalp.

Severely handicapped persons and those confined to the bed will not be able to care for their teeth. They may be cleaned by using forceps, cotton swabs and a cleaning solution (potassium permanganate solution or hydrogen peroxide solution). During temporary illness accompanied by rise of temperature, there may be loss of appetite, nausea, ulceration of mouth etc. In such cases the mouth, which should be watched for and counteracted by frequent cleaning and adequate fluid intake.

The person should be encouraged to keep their mouth closed and breath through the nose. Excessive salivation and inability to swallow salvia is found in a large number of handicapped persons. For the helpless bed ridden persons, dribbling saliva can lead to skin rashes on face and neck due to constant wetness. A protective cream should be used after carefully washing and drying the skin.

2.9.1 Nutrition:

In the bedridden person because of lack of exercise there is a decreased requirement of energy foods and an increased need for tissue building nutrients. The person should receive a balanced diet to promote optimal health.

There should be regular mealtimes to foster the development of good eating habits. Good oral hygiene is needed to promote an adequate intake of nutrient. There should be good standards of cleanliness in the preparation and serving of food to prevent infections.

The type of diet depends on the person's condition. A semisolid diet is given if there is difficulty in chewing or

swallowing. During feeding the person should be raised slightly so that it is easy to take in food. The person should be made to sit for sometime after having food to prevent regurgitation. The water intake should be adequate.

Movement and exercise:

Aims:

1. Maintenance of strength and tone in unused muscles.
2. Prevention of degeneration of muscles
3. Prevention of contractures that could hinder the mobility of joints
4. Restoration of strength and tone of muscles that are impaired.
5. Prevention of deterioration of the persons and other functional abilities as a result of limited mobility.

Exercise are of two types:

1. Active – the person does the exercise by himself.
2. Passive – when some one helps him to do the exercise and there is no involvement of the person at all.

Elimination:

A high roughage diet helps in bowel movement. Encourage regular toilet habits. Encourage intake of oral fluids. A warm glass of milk in the morning helps to stimulate.

Bowel movement:

In case of constipation, a mild laxative may be given.

Sensory stimulation:

This is the basic human need. The person requires a very stimulating environment to all the senses. Even if the person does not respond, it is essential that there is continuous stimulation of the senses.

2.10 Learning disabilities

The term learning disability describes children who have learning difficulties in specific areas such as reading, spelling, writing and mathematics. This group of children differs from those having handicaps such as mental retardation, visual or hearing impaired and emotional, behavioural disorders.

Dyslexia:

'Dys' means difficulty and 'lexia' means words. Dyslexia is a disorder that affects millions of people all over the world. It is one type of specific learning disability that affects a person's ability to read.

Dyslexia is one of the several distinct learning disabilities. It is a specific language based disorder of constitutional origin, characterised by difficulties in a simple word decoding, usually reflecting insufficient phonological processing abilities.

These difficulties in single word decoding are often unexpected in relation to age and other cognitive and academic abilities. They are not the result of generalized development disability or sensory impairment. Dyslexia is a manifest by variable, difficulty with different forms of language often including problems of reading acquiring proficiency in writing and spelling.

A dyslexic learns at his or her own level and pace, typically exercise in one or more areas. Some of their experiences include difficulties with concentration, perception, memory, verbal skills, abstract reasoning, hand eye coordination, social adjustment, (low self esteem is a commonly observed in behavioural characteristics) poor grades and under achievements.

Often people with dyslexia are considered to be lazy, rebellious, clumsy, unmotivated misfits of low intelligence. These misconceptions without understanding dyslexia lead to person's rejection, isolation and feelings of inferiority, discouragement and low self-esteem.

Dyslexia is a neurological condition, affects as much as 10% of children in India. Children have difficulty in acquiring language skills, even in environment where they do not lack comfort or stability. Thought to be genetic and hereditary some form of dyslexia can also be caused when hearing problem at an early age, affects a person's language comprehension skills.

Dyslexic children can usually succeed at the same level as others. Once they are diagnosed they should receive extra support and attention at home and school. Dyslexia also affects adults but

those who receive attention early in life often learn how to compensate for the disability by adulthood.

Dyslexic adults however find to continue to have difficulty with language skills through out their lives. But a dyslexia diagnosis is no barrier to success.

Birth trauma, use of medication like Phenobarbitone, head injuries are some of the additional factors leading to dyslexia. In 1994 the National Institute of Health (NIH) released the results of their 14-year longitudinal study and specific research projects. Some of them are:

1. Dyslexia is a visual problem. Therefore vision therapy, eye-tracking exercises and for colour lenses will solve the problem.
2. Dyslexic children see things backward
3. All children who reverse ‘ b’ s’ and d’ s or p’ s and q’ s have dyslexia.
4. If a child does not mirror write or reverse letters and numbers he or she does not have dyslexia.

Identifying the dyslexic child:

If the child is a slow learner

1. Has difficulty in concentrating, reading writing, spelling or mathematics.
2. Shows disparity between his actual reading ability and listening or comprehension ability.
3. Is unable to learn things in a sequence and communicate ideas.
4. Has a tendency to transpose word usage to read ‘ was’ as ‘ saw’ and reverse letters like ‘ p’ to ‘ q’ , ‘ b’ for ‘ d’ .
5. Has a strong preference for right or left-handedness, confusing with right and left.
6. Has a difficulty in memorizing, telling and distances and in eye-hand coordination.

Then the child needs treatment.

She or he is dyslexic:

Though as many as 20 genes may be involved in the reading process, two or three genes may account for most of the variation in reading difficulties in dyslexics. If these genes are identified then the children at risk could be screened much earlier.

Dyslexia can be better understood when different region of the brain are studied at different times, such as while resting, reading, sleeping and talking.

Dealing with dyslexia:

1. Professional testing is necessary for the accurate diagnosis of dyslexia.
2. A different examination criterion has to be chalked out.
3. The use of computers and calculators are very beneficial to these children.
4. There are children who need to be identified early and taught in way they can understand and learn which is not of the normal teaching style.
5. Since language is a problem, these children are to be exempted.
6. A dyslexic must have one to one training to first develop basic skills. This allows the student to stay focused.

Parents and teachers and the dyslexic child:

Not many parents are willing to come forward and acknowledge that there is something wrong with their child. This attitude in turn leads to problem for the child. When the child is young they brush it away saying he or she is only a child. When he or she grows up every thing will be all right and there in lies the problem.

Teachers punish a child for not being able to read or spell or do maths and this is often a physical abuse. Parents in their turn put a lot of stress on the child with their high expectations and if the child fails to meet these expectations he or she is consistently chided or abused.

In many cases a child who has been labeled as having a behavioural problem is really suffering from a learning disability. Without testing this may go unrecognized. The parents should help in following ways.

1. Manage his or her time.
2. To put things in its place
3. Help with his or her homework
4. Help him with his or her reading
5. To focus his or her attention.
6. To take right book to school
7. By giving precise clear instruction
8. By not punishing him or her for his or her childishness delay in completing his work etc.
9. By giving him or her constant positive inputs
10. By instructing him or her with more do' s than don' ts
11. By imparting social skills, like interaction, communication, giving respect to elders etc.

The teachers can try to meet the special needs of the children by identifying the areas of special interest and talents and help the child to build on strengths. They can help by:

1. Giving less written class work and home work
2. Testing them orally
3. Giving marks for consent without reducing marks for grammatical and spelling errors
4. Marking less red lines in the notebook
5. Introducing abstract ideas through pictures and objects.
6. Giving precise, clear and short instructions
7. Giving extended time to finish tests.
8. Reading the question paper during the class
9. Maintaining eye contact during the class
10. Not punishing the child for messy work and poor handwriting.
11. Emphasising on quality work rather than quantity
12. Avoiding punishments for minor misbehaviour in the class.

Co-existing conditions of dyslexia:

Attention deficit disorder with or without hyper activity:

Attention deficit disorder is a completely separate condition than dyslexia. However research has shown that at least 405 of the people with dyslexia also have Attention Deficiency and Hyperactive Disorder (ADHD). Light sensitivity is also another factor related to system.

Treatment:

Educational remediation, medication and psychological interventions are some of the therapeutic measures.

Remedial education:

Remedial education is the most effective therapy. Various types of cognitive perceptual skills training, for example sensory integration training, perceptual motor training, occupational therapy auditory memory training, vestibular stimulation, hemispheric stimulation and optometric training.

Medical approach:

Medical approaches to treating dyslexia include stimulant medication, anti-anxiety medication, motion sickness medication, vitamins and special diets. The most promising are stimulants and piracetam.

Psychological approach:

Psychological approaches to dyslexia include supportive psychotherapy, parent guidance and training, social skill training, relaxation training and behaviour modification approaches.

Dyslexia has been recently connected to an excess of neural tissue in the brain as well as certain cortical cells migrations. Those connections give character of an organic brain disease and it justifies its resistance to the treatment.

Significant strengths of people with dyslexia:

Although their unique brain architecture and unusual wiring make reading writing and spelling difficulty, most people with dyslexia has gifts in areas controlled by the right hemisphere of the brain. The right side controls

1. artistic skill
2. numerical ability
3. 3-D, visual spatial skills
4. mechanical ability
5. mind imagination.
6. athletic ability
7. Mathematical conceptualization skills
8. Creative global thinking
9. curiosity and tenacity
10. Intuition

Famous dyslexia persons are mentioned below:

Actors:

Tom Cruise , Hary Anderson Rolix Williams, Anthony Hopkins etc

Sports:

Magic Johnson, Greg Heuganis , Carl Lewis etc

Politicians:

Winston Churchill , Benjamin Franklin, Robert Kenneby

Musicians:

Beethovlin , John Lennon, etc

Scientists:

Thomas Edison, Micheal Farady, Albert Eiensten, Alexander Graham Bell, the Wright Brothers, Benjamin Franklin, Henry Ford, Galileo, Loius Pasteur, etc.

Dyslexia centre in Chennai:

In Chennai, alpha to Omega, Madras Dyslexia Association, the Saraswathi Kendra in Chennai are all doing pioneering work in creating awareness amongst schools. Quite a number of schools have learning difficulty now are identified and coached separately by special trained women and men.

Counselling to dyslexia:

Personalized training for dyslexics and Counselling to their families is of utmost importance upon completion and evaluation of initial diagnostic interview a systematic program in designed to include

1. Identifying and utilizing personal resources
2. Using community based clinical and support services
3. Developing speech and communication skills
4. A one to one academic support services
5. Tutoring and overall preparation
6. Preparing them with the techniques for career related quality in exams
7. Programs that encompasses family and group interaction and together.
8. Increasing their battered self esteem.

The frequent National conference on Learning Disabilities in Chennai, proposed a series of measures to help the learning disabled children. Helping these children is the collective responsibility of the government, parents, teachers and school management.

School managements need to recognise the enormity of the problem after all 10 % of children in each school and help them with scholastic **backward.**

- National Council of Education and Research and Training (NCERT)
- Regional Institute of Education (RIE)
- National Institute of Mental Health and Neuro Science (NIMHANS)
- National Institute of Mentally Handicapped (NIMH)
- All India Institute of Speech and Hearing Handicapped (AIISH)

Department of special education in various organisations need to take a more practical and urgent role in helping these children. Schools should obtain special provision such as exemption from learning more than one language, provision for scribes for written examination.

2.11 Attention Deficit and Hyperactive Disorder (ADHD)

Attention Deficit and Hyperactive Disorder is commonly associated with mental retardation. The cardinal features of the disorder are

1. Extreme persistent restlessness
2. Sustained and prolonged motor activity and difficulty in maintaining attention
3. Children with this disorder are often impulsive, restless and prone for accidents.
4. Others are learning difficulties, which result in part from poor attention and lack of persistence with tasks.
5. Mood fluctuates but low self-esteem and depressive mood are common.
6. Restlessness over activity and related symptoms often start before school age.
7. Sometimes the child may be over active as a baby, but more often significant problems begin, when the child begins to walk
8. He or she is consistently on the move inferring with objects and exhausting his or her parents with over activity. This will usually gradually reduce, as the child grows older, especially when it is mild and not present in every situation.

It usually ceases by puberty. Remedial teaching and behaviour modification may help to reduce the inadvertent over activity. It is best to reserve drug treatment for severe cases, which have not responded to other treatment. The common drugs used are stimulants and antipsychotics.

2.12 Conduct disorder:

The essential feature of conduct disorder is persistent abnormal conduct, which is more serious than ordinarily childhood mischief. In the preschool period, the disorder usually manifests as aggressive behaviour in the home often with over activity. In later childhood it usually first begins in the home as stealing, lying and disobedience together with verbal or physical aggression.

Later the disturbances often become evident as truanting, delinquency reckless behaviour or alcohol or drug abuse. Mild conduct disorders often subside without treatment. For severity, treatment is mainly directed to the family. It usually takes the form of social casework or family therapy.

2.13 Autism or other pervasive development disorders:

The term pervasive developmental disorder refers to a group of disorders characterised by abnormalities in communication, social interaction and restricted repetitive activities and interest. Autistic children do not respond to their parent's affectionate behaviour by smiling, cuddling.

There is little difference in their behaviour towards people and inanimate objects. The characteristic signs are gaze avoidance that is the absence of eye-to-eye contact, sameness, not in touch with reality. The ratio of male and female are 1 : 4.

Speech may develop later or never appear. If it develops serious impairments usually remain such as the misuse of pronouns, inappropriate use of words spoken by others. (echolalia).

Obsessive desire for it, which means resisting change in the routine. Repetitive and sustained odd play is noted. Sound making or spinning toys often fascinates them. Bizarre behaviour and mannerisms are common. Some autistics may engage in odd motor behaviour such as whirling round and round clapping their hands or socking.

Treatment:

Management of the abnormal behaviour is through social and educational services by the nurse. Behavioural methods, special schooling family parental training, group therapy are found useful.

2.14 Education and mental health:

The question that arises is how can mental aberration be prevented in school. It mostly happens that many students particularly children and adolescents cannot clarify their difficulties and problems so that they require guidance from their parents, teachers and psychologists.

It is for the guide to understand the adolescent and to sympathise with him or her and to offer him or her affectionate advice. Scolding or punishing them is not very effective. They should be given the opportunity of expressing their decision and mental tendencies.

2.14.1 School mental health programme:

All the schools are directed to conduct health check up programme, with the help of the near by primary health centers, with the help of government as well as non-governmental organisations.

The teachers and the principals are given health education training by the government of Tamilnadu with the help of Institute of Public Health Education at Poonamalee every year.

Mental immunity:

Of all the three aspects of mental health,

1. Preventive
2. Perspective
3. Curative

due care is given to preventive aspects by the family, school and society. Developing positive thinking, immune response for the stress related factors in life is an important factor in every day life

2.14.2 Mental health programme in India:

In India there are many problems at the national level. The solution of which depends considerably on mental hygiene. One such problem is the communal tension between Hindus and Muslims as well as other communities.

Yet another problem is the lack of discipline among students of Universities and colleges. Juvenile delinquency is primarily a matter of mental disturbance.

In problems involving human relationships there is a mental aspect into which only mental hygiene has the access. **A mentally healthy individual is one who is himself or herself satisfied, lives peacefully with his or her neighbours, makes healthy citizens of his or her children and even after performing these**

fundamental duties has enough energy left to do something beneficial to the society.

Possessing mental health, an individual can adjust properly to his environment and makes the best efforts of his or her own and family and his or her society's progress and betterment. The healthy individual can interpret any new situation and adapt it to suit him or her or adapt him or her to suit to the new situation.

He or she maintains a healthy and benevolent attitude towards life. He or she is aware of the difficulties, which with every one has in his or her life so that running away from them is cowardice. They can be solved only by squarely facing up to them with courage.

A mentally healthy person evaluates his or her limits properly, is adjustable, matured, leads a regular and systematic life, derives satisfaction from chief occupation.

2.15 Mental health Services:

There is an increasing job opportunities offered by government and non-governmental organisations in special education, para-medical and rehabilitation fields.

In Tamilnadu government, welfare societies and many Universities have been set up to impart training in this field. Degree and diploma are given by these institutions and are recognised by the Rehabilitation Council of India (RCI) under the ministry of social justice and empowerment.

1. Vijay Human Services, Chennai,
2. Maruthi Seva Trust, Chennai
3. Mitra, Chennai
4. Holy cross College, Trichy
5. Vidya Sagar - Chennai
6. Spastic Society of India, Chennai
7. Ramakrishna Mission Vidhyalaya , Coimbatore
8. Sri Ramachandra Medical College and Research Institute, Chennai

9. Vinayaga Mission College of Paramedical Science – Pondicherry
10. Christian Medical College – Vellore
11. Maduram Narayanan Centre, Chennai
12. Government Institute for Mental Health, Kilpauk, Chennai.
13. Child Guidance Clinic – Government Institute of Child Health and Hospital, Egmore, Chennai.

are few examples among many institutions.

Dyslexia Association, Chennai, Down Syndrome Association of Tamilnadu, Chennai, Institute for Remedial Intervention Services (IRIS), Chennai, Salem Institute for mentally challenged are some of the institutions, conducting guidance services and regular programme.

Special Education News, Chennai, is a monthly magazine helping in creating the awareness on the public and also in informing the guidance and counseling services, referral services of mentally challenged people throughout Tamilnadu.

Conferences, workshops and weekend programme are conducted every year and

24th May, World schizophrenia day

3rd December, World disabled day

8th December, Mentally retarded day

are observed to create the awareness in the public at state and national level.

Special Olympic competitions are held every year in the month of February. Special Olympic competition for the year 2005 is going be held at Nahona in Japan for the disabled children. Sarva Siksha Abiyan(SSA). State Council of Education, Research and Training (SCERT), Districts Primary Education Programme(DPEP), Integrated Education for Disabled Children (IEDC) programme also conduct special awareness programme every year on mental health and education. The following are the list of special schools catering to the education of physically and mentally disabled children.

Institutions	Blind	Dumb & deaf	Physically disabled	Mentally disabled	Total
Government schools	11	10	1	1	23
Government aided schools	11	19	12	12	54
Unaided recognised schools	5	39	41	78	163

For the detailed address and further information people can approach State Commissioner for disabled office at # 15/1, Model School Road, Thousand lights , Chennai –600 006.

Summary:

The state of being well and free from illness in body and mind is called the health. In human beings the extent of the individual' s continuing physical, emotional, mental and social ability to cope with his or her environment, determines ones state of physical and mental health.

The knowledge of mental health, which includes mental health guidance programme and services, is essential in the field of nursing.

Every nurse should develop the knowledge of mental disorders and modern management techniques. The practice of mental health principles and mental hygiene is very vital in the nursing profession.

QUESTIONS:

I. Say whether the following statements are true or false.

1. Correct psychological approach results in good rapport with the patients.
2. Fears or worries if not relieved may worsen the child's physical condition or retard the process of his or her recovery.
3. The mental disorder **fugue** has no root in excessive repression.
4. Treating of withdrawal symptoms is the same as the treatment of alcoholic addiction/ drug abuse.
5. Epilepsy is the symptom of many diseases.
6. Dyslexia is not a neurological condition.
7. Extreme persistent restlessness is not the symptom of attention deficit and hyperactive disorder.
8. Neurotics do not ordinarily require hospitalization.
9. The severely retarded patient's position should not be changed.
10. The neuron has electrical activity.

II. Fill in the blanks

1. The effective nursing involves the principles of _____.
2. Receive the patient with _____ and _____.
3. _____ , _____ and _____ can help curing of anxiety neurosis.
4. Lack of appetite and need to repeat same action are bodily signs of _____ neurosis.
5. The misuse of drug may take a form of _____.
6. In manic depressive psychosis, the patient exhibits _____ and ____ or one after the other.

7. In acute melancholia the patients suffers from _____ and _____.
8. In paranoia, the patient becomes a prey to _____.
9. Epilepsy is the tendency to have _____ and _____.
10. Dys means _____ and lexia means _____.

III. Match the following

	Symptoms	Disease
1	Shivering and excess sweating	Schizophrenia
2	Compelled to repeat an illegal thought or action	Anxiety neurosis
3	Walking in ones sleep	Catatonic paranoia
4	Nervous fidelity and muscular rigidity	Somnambulism
5	Mental disorganisation	Obsessive compulsive neurosis

IV. Expand the abbreviates:

1 ADHD
2 SSA
3 DPEP
4 IEDC
5 SCERT
6 NCERT
7 NIMHANS
8 NIMH
9 NIH
10 OCN

V. Answer in brief.

1. Define mental health.
2. How do we classify the mental disorders?
3. What is called the mental disorganisation?
4. What are the kinds of hallucination present in a schizophrenic patient?
5. Mention three important remedial measures of schizophrenia.
6. Describe the nature of paranoia.
7. What is called the delusion of the grandeur?
8. What are the three forms of manic depression?
9. What is called a shock therapy?
10. What are the three kinds of functional psychosis?

VI. Answer in detail.

1. An old man from a distant village is admitted in your ward in the hospital. What will be his psychological needs? How can you help see they are met?
2. One of the patients in your ward is very irritable and constantly quarrelling. She does not sleep well and has no appetite. Both mental health and physical health are poor. Which is the cause and which is the effect? Discuss what can be done to help her?
3. A nurse has reached the last year of her course. She is still very dependent on others. On the ward you find her always working with another nurse, two taking temperature together, two going on rounds together, two giving treatments. She works very hard but always lets the other nurse make up the decisions. What would you say about her mental health? How can she be helpful? Another nurse in the same class always has an opinion, which she expresses loudly, insisting she is right and anyone who differs from her is wrong. She always criticise others. What may be the reasons for these psychological adjustments? How can she be helpful?

4. What are the demands of a hospital which a students nurse has to meet? Enumerate these demands and the ways these demands should be met.
5. What are the fundamental needs? Describe the kind of home in which a child have these needs satisfied without much tension.
6. What are the two types of mental disorders? Differentiate anxiety neurosis and obsessive-compulsive neurosis.
7. Classify psychosis and explain etiology and symptoms of schizophrenia.
8. Explain the different kinds of delusions in paranoia.
9. What is manic-depressive psychosis? Illustrate the two different forms and the causes of this disease.
10. What is addiction and drug abuse? Write in detail how addiction leads to mental disorders.
11. How will you manage a child having fits in the classroom?
12. Classify epilepsy and explain the etiology of epilepsy.
13. How do you identify a hyperactive child? Relate it to learning disabilities.
14. Discuss the various causes and management of a hyperactive child.
15. Define the term dyslexia. Explain the measures taken for the slow learners.
16. How does attention deficit and hyperactive disorder associate with mental retardation?
17. How does a nurse take care of the severely retarded patient?
18. Explain the role of the family, school and society in maintaining mental health of the individuals.
19. Write in detail the mental health programme and mental health services in Tamilnadu.
20. How will you organize a mental health programme in your school?

3. MIDWIFERY – PRINCIPLES AND PRACTICES

3.1 Introduction to midwifery

The history of midwifery is a long and interesting one. Women of all ages and countries have done noble work as midwives throughout the countries. Socrates mother was a midwife and he considered it " a most respected profession".

According to Aristotle, a midwife is a most necessary and honourable office, being a helper of nature. Midwife carries a huge responsibility in helping women during childbirth.

Biblical references to midwives have always been to their honour. There are instances in the Old Testament to show that midwives play vital role.

Until the end of the sixteenth century, midwifery was practised entirely by women. Men could be severely punished for attending women in childbirth. In the seventeenth century male midwives began to take up midwifery.

By the middle of the eighteenth century the number of male midwives had increased, though there was great opposition and competition from the midwives and from the general public.

In English the word midwife means "With woman"(the person with the woman who is in labour). The midwife has a unique role in care of mothers and babies. She must be able to give the necessary supervision, care and advice to women during pregnancy, labour and the postpartum period, to conduct deliveries on her own responsibility and to care for the mother and the newborn.

The birth of a baby is a momentous occasion. Tiny details of the experiences surrounding the whole event are saved in the memory forever.

Midwives hold an important key to positive care at the time of childbirth that will contribute to a good start for the baby and parents. The midwife is able to do so only by virtue of her expert

knowledge. The education of the midwife is designed to enable her to fulfill her wide and varied role.

During the last 25 years of the nineteenth century, several hospitals began to train midwives and to issue certificates. In 1902 Midwives Act in United Kingdom entitled an act to secure better training and supervision of midwives.

In 1992, The World Health Organization defined that a "midwife is a person who, having been regularly admitted to a midwifery educational programme, duly recognized in the country in which it is located, has successfully completed the prescribed courses or studies in midwifery and has acquired the requisite qualifications to be registered and or legally licensed to practise midwifery".

3.1.1 Terminology:

Midwifery is the knowledge necessary to perform the duties of midwife.

Obstetrics is that branch of medicine, which deals with the management of pregnancy, labour and puerperium.

Gynaecology is that branch of medical science, which treats diseases of the female genital organs.

Reproduction means process by which a fully developed offspring of its kind is produced.

Pregnancy is a state of carrying fetus inside the uterus by a woman from conception to birth.

Gestation means pregnancy.

Gravidae is state of pregnancy irrespective of its duration.

Para refers to state of a woman who has given birth to a baby at or after the age of viability.

Nullipara is the woman who has not given birth before.

Primigravidae is a woman carrying first pregnancy.

Multigravidae is a woman carrying pregnancy more than once.

3.1.2 Physiology of reproduction:

The body of woman is adapted by nature for childbearing and to be a mother. To understand the process of reproduction, it becomes so essential for any one to be familiar with the anatomical features of woman.

3.1.2 A Review of anatomy of the female reproductive system:

The female reproductive system consists of the external and internal structures.

External genitalia:

The term ' vulva' denotes the external female genital organs. It consists of the following structures.

Labia majora (greater lips):

Two folds of fat and areolar tissue, covered with skin and pubic hair on the outer surface.

Labia minora (lesser lips):

Two smaller lips of delicate tissue, which lie within the labia majora.

The clitoris:

A small rudimentary organ, which is highly sensitive.

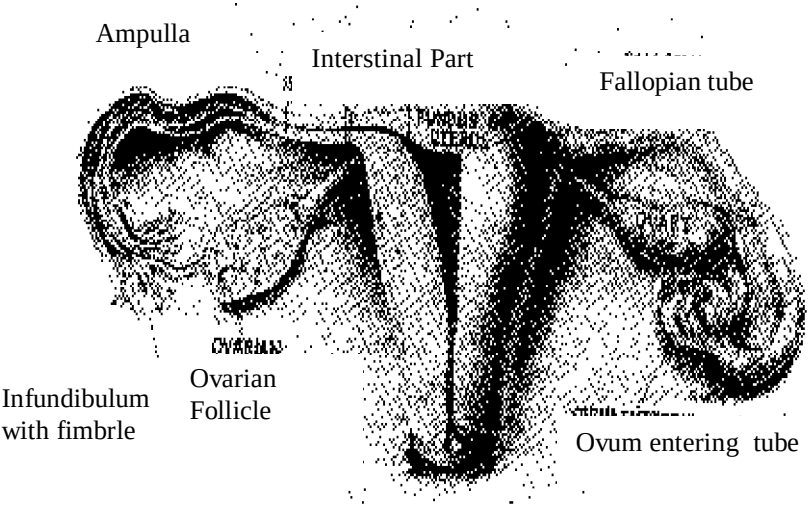


Fig. 3.1 Internal Reproductive Structure:

The urethral orifice:

External opening of the female urethra.

The vaginal orifice:

External orifice of the vagina.

Bartholins glands:

Is situated on each side of the vaginal orifice.

Internal reproductive organs:

The internal structure consists of vagina, uterus, ovaries and fallopian tubes.

Vagina:

It is a passage for the escape of menstrual flow and is the exit for the fetus during delivery. It is a canal lined with mucous membrane, which extends from the vulva to the cervix.

The uterus:

The uterus is a hollow, muscular, pear shaped organ situated in the true pelvis. It shelters the fetus during pregnancy and it expels the uterine contents at term.

The uterus consists of the following parts.

1. The body or corpus is the upper $2/3^{rd}$ of the uterus.
2. The fundus is the domed upper wall above the insertion of the fallopian tubes.
3. The cornua is the place where the fallopian tubes join the uterus.
4. The cavity is the triangular shaped potential space between anterior and posterior wall inside the uterine cavity.
5. The cervix or neck protrudes into the vagina, consists of internal OS and external OS.

Layers of the uterus:

The uterus has three layers:

1. Endometrium is the inner thin layer.
2. Myometrium is the middle thick muscular layer

3. Perimetrium is the outer layer with double serous membrane.

Fallopian tubes or uterine tubes:

The fallopian tubes propel the ovum towards the uterus, receive the spermatozoa as they travel upwards and provide a site for fertilization. It supplies nutrition to the fertilised ovum during its journey towards the uterus.

The uterine tubes extend laterally from the cornua of the uterus towards the side-walls of the pelvis, arching over the ovaries.

The ovaries:

The ovaries produce ovum and the female hormones **oestrogen and progesterone**. The cortex of the ovary is the functioning part of the ovary. It contains the ovarian follicles in different stages of development surrounded by stroma.

The breasts:

The breasts are two hemispherical organs, are also linked with the female reproductive system. They are secretary glands reaching full development in female only.

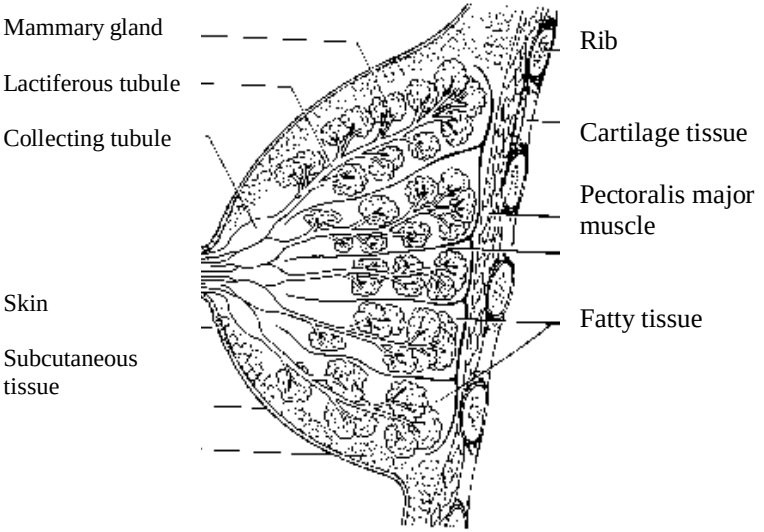


Fig 3.2 Mammary gland

They are composed mainly of glandular tissue arranged in lobes. Each lobe is divided into lobules called alveoli, which are lined with secreting cells, which produce milk. The nipple is composed of erectile tissue covered which epithelium which contains plain muscle fibres which act as sphincter to control the flow of milk. The loose skin sorrounding the nipple is called the areola.

Progesterone and oestrogen stimulate the development and secretary functions of the mammary gland. The hormone prolactin initiates the production of milk.

Female pelvis:

The female pelvis (gynaecoid pelvis) is well adapted for childbearing by nature. The gynaecoid pelvis has the characteristics giving rise to no difficulties in childbirth with a normal size baby.

The size and shape of the female pelvis is the most important factor during childbearing and childbirth. Fetal head makes certain movements during its descent through pelvis so that the smallest diameter of the fetal head is easily brought to the largest diameter of the bony pelvis.

Pelvic bones:

Pelvic is made up of four bones

1. Two innominate (nameless) bones or hipbones.
2. One sacrum.
3. One coccyx.

Innominate bones are made up of three

1. Ilium-the large flared out part.
2. Ischium–the thick lower part.
3. Pubic bone-forms the anterior part.

Sacrum is a wedge shaped bone consists of five fused vertebrae.

Coccyx is a vestigial tail consists of four fused vertebrae forming a small triangular bone. At the junction of two pubic bones, the symphysis pubis (pubic joint) is formed.

The true pelvis is the bony canal through which fetus must pass during birth. It consists of a brim, cavity and outlet.

3.1.2 B Male reproductive organs

Male reproductive organs are the following:

1. **Scrotum:** It is the hanging skin sac in between the thighs. It is formed of pigmented skin and has two compartments, in which are suspended two testes.
2. **Testes:** A pair of sex glands – two testes are suspended in the scrotum by spermatic cord. Each testes is whitish, ovoid solid gland. They are the male gonads and produce spermatozoa and testosterone. The testosterone hormone is responsible for the secondary sexual characteristics of male. It is also responsible for production of sperms, along with the follicle-stimulating hormone.

There are three layers in the testes.

- Tunica vasculosa is an inner layer of connective tissue.
- Tunica albuginea is the fibrous covering, which divides the testes in to 200-300 lobules.
- Tunica vaginalis is the outer covering, which is made up of peritoneum.

3. **Seminiferous tubules:** These are the place where spermatogenesis or the production of sperm takes place. These tubules join to form a system of channels, which lead to the epididymis.
4. **Epididymis**: It is a coiled tube traveling down to the lower pole of the testes where it leads into the vas deferens. The spermatic cord transmits the deferent duct up into the body. The function of the deferent duct or vas deferens is to carry the sperm to the ejaculatory duct.
5. **The seminal vesicles** are two pouches situated posterior to the bladder. They produce a viscous secretion to keep the sperm alive and motile.
6. **Ejaculatory ducts** are small muscular ducts to carry the spermatozoa and the seminal fluids to the urethra.

7. **Prostate gland** produces a thin lubricating fluid, which enters the urethra through ducts. Prostate glands surround the urethra at the base of the bladder lying between the rectum and the symphysis pubis.
8. **The penis:** The root lies in the perineum, from where it passes forward below the symphysis pubis. It carries the urethra for the passage of both urine and semen.

The male hormones:

Under the influence of the gonadotrophic releasing hormone from the hypothalamus, the anterior pituitary gland produces follicle stimulating hormone (FSH) and luteinising hormone (LH). FSH acts on the seminiferous tubules to bring about the production of sperm. LH acts on the interstitial cells, which produce testosterone.

Testosterone is responsible for the secondary sex characteristics such as deepening of the voice, growth of the genitalia and growth of the hair on the chest, pubis, axilla and face.

Formation of Spermatozoa:

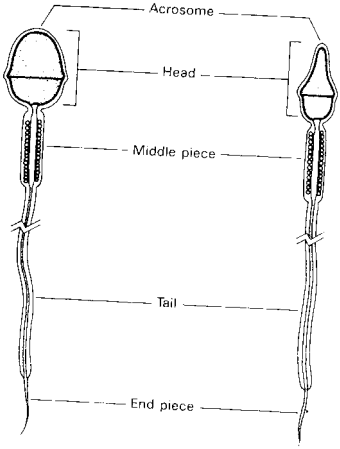


Fig. 3.3 Formation of Spermatozoa

Production of sperm begins at puberty and continues throughout adult life. Spermatogenesis takes place in the seminiferous tubules under the influence of FSH and testosterone. The matured sperms are stored in the epididymis and the vas

deferens until ejaculation. At each ejaculation, 2-4 ml of semen is deposited in the vagina. The seminal fluid contains about 100 million sperms per ml, which move at a speed of 2-3mm per minute. The individual sperm has a head, a body and a long mobile tail. The sperm has an acrosome, which contains enzymes to dissolve the covering of the ovum in order to penetrate it.

3.1.2 Function of the female reproductive system.

At puberty the ova begins to mature. At the follicular phase, an ovum matures within a cyst called "Graafian follicle" until it reaches the surface of the ovary where rupture occurs. The ovum is discharged into the peritoneal cavity. This periodic liberation of matured ovum into the peritoneal cavity is referred to as ovulation**.**

This ovum finds its way into the fimbriated end of the fallopian tube. On its way to the uterus, if it meets a spermatozoan, the male gamete and union occurs and conception or fertilisation takes place.

The empty Graafian follicle, after ovulation is called as corpus luteum (yellow body), which secretes progesterone, a hormone that prepares the uterus for receiving the fertilised ovum.

Female hormones:

The ovaries produce steroid hormones, estrogen and progesterone.

Oestrogen:

It is responsible for development and maintenance of the female reproductive organs and the secondary sexual characteristics associated with the adult female. Estrogen also plays an important role in breast development and in monthly cyclic changes (menstrual cycle) in the uterus.

Progesterone:

Progesterone regulates the changes that occur in the uterus during the menstrual cycle. It is secreted by the corpus luteum. Progesterone is important for conditioning the endometrium in preparation for implantation of the fertilised ovum. If the pregnancy occurs, progesterone is essential for maintaining a normal pregnancy. In addition, it works along with oestrogen in preparing the breast for secretion of milk.

3.1.4 Physiology of reproduction:

Menstrual cycle or uterine cycle:

It is a series of changes in the uterus resulting in the discharge of blood from the vagina each month. Menstruation can be defined as, "sloughing and discharge of the lining of the uterus if conception does not take place." This time varies in different women and also from time to time-in same woman.

The first day of the cycle is the first day when bleeding begins. The ovarian hormones control the menstrual cycle. There are three main phases and they affect the tissue structures of the endometrium. The average time of menstrual cycle is 28 days and recurs regularly from puberty to menopause except in pregnancy.

The three phases are:

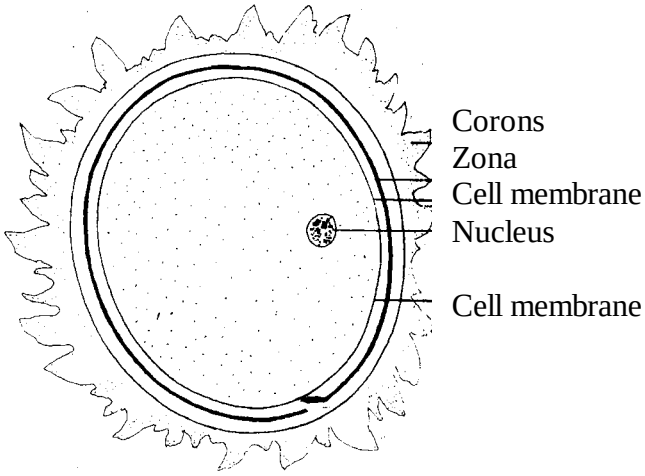
1. **Proliferative phase:** Follicular stimulating hormonal level increases in blood, stimulating oestrogen secretion, which causes the endometrium to thicken and become more vascular. This phase follows menstruation and lasts until ovulation.
2. **Secretary phase:** The secretary phase follows ovulation and is under the influence of progesterone and oestrogen from the corpus luteum. Leutinising hormone level increases in blood. Under the combined stimulus of estrogen and progesterone, the endometrium reaches the peak of its thickening and vascularisation.
3. **Menstrual phase:** It is characterised by vaginal bleeding, lasts for 3 – 5 days. On absence of fertilization, the thickened endometrium is shedded.

Two Gonadotrophic hormones are released by the anterior pituitary gland. They are

1. **Follicular stimulating hormone:**FSH is primarily responsible for stimulating the ovaries to secrete oestrogen and for maturation of ovum.
2. **Luteinising Hormone (LH):** LH is primarily responsible for stimulating the corpus luteum for productoin of progesterone.

3. **Puberty:** This is the period in which, the reproductive organs develop and reach maturity. The first signs are breast development and appearance of pubic hair. The body grows considerably and takes on the female contour. Puberty culminates in the onset of menstruation, the first period being called **menarche**. The first few cycles are not accompanied by ovulation. Puberty usually occurs between 12 and 14 years.
4. **Menopause:** It is the end of a woman's reproductive life, characterised by the gradual cessation of menstruation. The period first becomes irregular and then ceases altogether. This occurs between the ages of 45 to 50. It is the normal part of aging and maturation. Menstruation ceases because the ovaries are no longer active. No more ovarian hormones are produced. The reproductive organs become atrophied.
5. **Fertilization:** Following ovulation, the ovum about (0.15 mm) in diameter passes into the fallopian tube and moves towards uterus. If coitus takes place at this time, the alkaline mucus attracts the spermatozoa. About 300 million sperms are deposited in the posterior fornix of the vagina. Those which are propelled by the cervical mucus reach the fallopian tube and others are destroyed by the acid medium of the vagina.

Fig 3.3 (a) Fertilisation



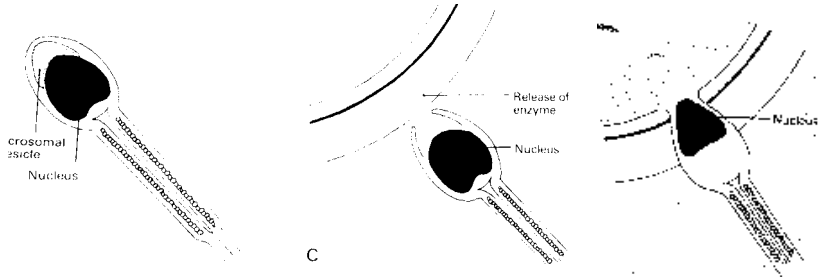


Fig 3.3 (b) Fertilisation

The matured sperm is capable of producing the enzyme hyaluronidase, which allows the sperm to penetrate the cell membrane, surrounding the ovum. Many sperm are needed for this, but only one will enter into the ovum and fertilisation occurs. After this, the membrane is sealed to prevent the entry of any further sperm and the nuclei of the two cells fuse.

The sperm and the ovum each contribute half the complement of chromosomes to make a total of 46. The sperm and ovum are known as the male and female gametes. The fertilised ovum is known as the **zygote.**

Implantation of the fertilised ovum (embedding) into the uterine cavity (endometrium) is called as nidation or nesting. Normally this occurs by the 11^{th} day after ovulation and the endometrium closes over it completely.

Development of the fertilised ovum:

Fertilised ovum reaches the uterus by 3-4 days. Cell division takes place as 2 into 4,8,16, etc, till a cluster of cells formed known as morula (mulberry). Next a fluid filled cavity, a blastocele appears in the morula and it is known as blastocyst. Outside of blastocyst there is a single layer of cells known as **trophoblast,** while the remaining cells are clumped together forming an **inner cell mass.**

The trophablast forms the **placenta** and **chorion** while the inner cell mass become **fetus** and **amnion.**

Formation of fetal membrane and placenta:

The trophoblast has two layers,

- Outer **syncitiotrophoblast**, which erodes the endometrium in the process of embedding.
- The inner **cytotrophoblast** produces a hormone called **human chorionic gonadotrophin** (HCG) which reacts on corpus lutuem to continue the pregnancy by producing oestrogen and progesterone.The trophoblast develops as placenta which will nourish the fetus until delivery.

The inner cell mass differentiates into three layers.

- From the **ectoderm** skin and nervous system are formed.
- From the **mesoderm** bones and muscles, heart and blood vessels and certain internal organs are formed.
- From the **endoderm** mucous membranes and glands are formed.

During the first three weeks following conceptual the **fertilised ovum** is termed as **zygote.** From 3-8 weeks, it is termed as **embryo**. The organs and systems are developed by 7^{th} week. After 8 weeks, till birth it is termed as **fetus**.

Placenta:

The placenta is a remarkable organ. It originates from the trophoblastic layer of the fertilised ovum. The placenta is completely formed and starts functioning from 10 weeks after fertilisation.

The placenta is a round flat mass about 20 cm in diameter and 2.5 cm thick at its center. It weighs approximately $1/6^{th}$ of the baby's weight. The fetus obtains oxygen and excretes carbon dioxide through the placenta. Oxygen from the mother's hemoglobin passes into the fetal blood by diffusion. Similarly the fetus gives off carbon dioxide into the maternal blood.

Functions of placenta:

1. The fetus obtains amino acids, glucose, vitamins, calcium, phosphorus, iron and other minerals from the maternal blood through the placenta.

2. The placenta also stores glucose in the form of glycogen. It also stores iron and fats soluble vitamins.
3. The waste products such as carbon dioxide, bilirubin and urea are excreted from the fetus through the placenta.
4. The placenta prevents passing of microorganisms from the mother to the fetus to some extent.
5. The placenta also produces hormones like the human chorionic gonadotrophic hormone, oestrogen, progesterone and human placental lactogen (HPL).

The fetal sac:

The fetal sac consists of a double membrane, which contains the fetus and the amniotic fluid.

1. The chorion is the outer thick, opaque membrane. It is derived from the trophoblastic cells.
2. The amnion is the inner smooth tough membrane. It is derived from the inner cell mass

Amniotic fluid (liquor amnii)

It is the clear, pale, straw-coloured fluid in which the fetus floats. It is 500-800 ml in quantity at a term. Presence of amniotic fluid allows for growth and free movement of the fetus and it acts as a shock absorber thereby protecting the fetus.

Umbilical cord:

The cord extends from the fetus to the placenta and transmits the umbilical blood vessels, two arteries and one vein. These are enclosed by Wharton' s jelly.

The length of the cord is about 50 cm.

Fetal development:

Summary of fetal growth and development:

0-4 weeks after conception:

1. Rapid Growth.
2. Formation of embryonic plate.
3. Primitive central nervous system forms.
4. Heart develops and begins to beat.
5. Limb buds form.

4 - 8 weeks:

1. Very rapid cell division occurs.
2. Head and facial features develop.
3. All major organs laid down in primitive form.
4. External genitalia present but sex is not distinguishable.
5. Early movements visible on ultrasound from 6 weeks.

8 -12 weeks:

1. Eyelids fuse.
2. Kidneys begin to function and the fetus passes urine from 10 weeks.
3. Fetal circulation starts functioning.
4. Sucking and swallowing present.
5. Sex apparent.
6. Moves freely (not felt by mother)

12 - 16 weeks:

1. Rapid skeletal development - visible on x-ray.
2. Meconium present in gut.
3. Lanugo appears.
4. Nasal septum and palate fuse.

16 - 20 weeks:

1. Quickening – mother feels fetal movements.
2. Fetal heart heard on auscultation.
3. Vernix caseosa appears.
4. Finger-nails can be seen.
5. Skin cells begin to be renewed.

20 - 24 weeks:

1. Most organs become capable of functioning.
2. Periods of sleep and activity present.
3. Responds to sound.
4. Skin red and wrinkled

24 - 28 weeks:

1. Survival may be expected if born.
2. Eyelids reopen.
3. Respiratory movement present.

28 - 32 weeks:

1. Begins to store iron and fat.
2. Testes descend into scrotum.
3. Lanugo disappears from face.
4. Skin becomes pale and less wrinkled.

32 - 36 weeks:

1. Increased fat makes the body more rounded.
2. Lanugo disappears from body.
3. Head hair lengthens.
4. Nails reach tips of fingers.
5. Ear cartilage soft.

36 - 40 weeks:

1. Term is reached and birth is due.
2. Contours rounded.
3. Skull firm.

3.2 Maternal physiological changes during pregnancy

During pregnancy there are progressive anatomical and physiological changes, not only confined to the genital organs but also to all systems of the body. This principally is a phenomenon of maternal adaptation to the increasing demands of the growing fetus.

3.2.1 Reproductive organs:

Vulva:

Vulva becomes hyperaemic. Labia minora are hyper pigmented and hypertrophied.

Vagina:

Vaginal walls become hypertrophied and more vascular. Increased blood supply gives the bluish discolouration of the mucosa. The vaginal secretions become copious, thin and white.

Uterus:

There is enormous growth of the uterus during pregnancy. The uterus in non-pregnant state weighs about 60 gm and measures about 7.5 x 5 x 2.5 cm in size. At term, it weighs 900-1000gm and measures 35 x 22 x 13 cm in size. The changes occur in all the parts of the uterus that is the body, isthmus and cervix.

Body of the uterus:

There is an increase in growth and enlargement of the body of the uterus. The muscle fibres undergo both hypertrophy and hyperplasia [both increase in length and breath and addition of new muscle fibres.] The uterus feels soft and elastic in contrast to firm feel of the nongravid uterus.

Decidua:

Decidua is the name given to the endometrium during pregnancy. It becomes thick and spongy and blood supply is also increased.

The upper and lower uterine segments are formed towards the later weeks of pregnancy.

The shape of the uterus changes from pear shaped to ovoid. Uterus rises out of the pelvic cavity by 12^{th} week of pregnancy.

Cervix:

Cervix softens and loosens in preparation for labour and delivery. There is hypertrophy and hyperplasia of the elastic and connective tissues.

Mucous production increases and forms a thick plug (called operculum) effectively sealing the cervical canal to prevent ascending infection from the vaginal canals.

Ovary:

Both the ovarian and uterine cycles of the normal menstruation remains suspended. Hence no ovulation takes place. Corpus luteum persists in early pregnancy until the development of placenta is completed.

Fallopian tubes:

They get enlarged as uterus rises in pelvic and abdominal cavities.

3.2.2 Breasts:

Marked hypertrophy and proliferation of ducts and alveoli occurs that increase the size of the breasts. Blood supply is increased.

The nipples become larger, erectile and deeply pigmented. The sebaceous glands become hypertrophied and are called as "montgomery' s tubercles".

3.2.3 Changes in cardiovascular system.

Blood volume expands as much as 50% to meet the requirements of new tissues and the increasing needs of all systems. Blood vessels are dilated due to the action of progesterone, which predisposes the woman to varicose veins and hemorrhoids (caused by abnormal dilation of blood vessels).

The plasma volume increases 40% and the red blood cells increases only 20% that leads to haemodilution, which causes physiological anemia in healthy women.

The heart rate is slightly increased to improve blood flow to the fetus and placenta.

3.2.4 Changes in the respiratory system:

As the uterus grow, it presses on the diaphragm and causes shallow and more frequent respiration. Hence respiratory rate is slightly increased and oxygen consumption is increased by 15%.

3.2.5 Changes in digestive system:

Nausea and vomiting occur in the morning usually in early pregnancy. Heart burn and mild indigestion may occur. Constipation may occur probably due to the action of progesterone. Increased salivation occurs-called as **ptyalism.** Cravings or desires to nonnutritive substances may occur. After that condition is called as **pica.** Bleeding gums and tooth loss due to demineralisation are common.

3.2.6 Changes in the skin:

There is an increased pigmentation occurring around the nipples and areola of the breasts, the center line of abdomen

(linea nigra), in the face especially on forehead and cheek (chloasma). Stretch marks (striae gravidarum) occur in abdomen, thighs and breasts.

3.2.7 Changes in skeletal system:

Alternations in posture, walking and gait occur due to change in center of gravity as the uterus enlarges in size. Joint mobility is increased as a result of action of relaxin, an ovarian hormone on connective tissue. Backache is common. Occasional calf muscle cramps may occur due to calcium deficiency.

3.2.8 Changes in urinary system:

Frequency of urination is common in early pregnancy as the gravid uterus pressing on the bladder when it is in the pelvic cavity. Again frequency increases in the last few weeks of pregnancy due to pressure from the enlarged uterus. When the fetal head enters into the pelvic cavity, lightening will occur. The pregnant woman will have easy breathing as the pressure on the diaphragm is relieved.

3.2.9 Weight gain in pregnancy:

The total weight gain during pregnancy averages 10 to 12 kg. The total weight gain is distributed approximately as follows:

Weight gain

upto 20 weeks	- 2 kg.
after 20 weeks till term	- 10 kg

Distribution of weight gain during pregnancy

Foetus	3.4 kg
Placenta	0.6 kg
Amniotic fluid	0.6 kg
Fat deposit and protein	3.5 kg
Uterus	0.9 kg
Breasts	0.5 kg
Increase in blood volume	1.5 kg
Increase in extra cellular fluid	1.0 kg
Total weight gain	**12.0 kg**

Periodic and regular weight checking is of high importance to detect abnormality.

3.2.10 Changes in endocrine system.

Corticosteroid production is increased. The anterior pituitary gland is enlarged. Adreno-corticotrophic hormone, melanocyte stimulating hormone and thyrotrophic hormone increase their activities.

3.3 Diagnosis of pregnancy:

The placenta produces a hormone, called human chorionic gonadotrophin, which is excreted in the urine. This hormone is usually detected in the urine within a week of the first missed period. Biological and immunological tests depend on the detection of human chorionic gonadotrophin in the urine.

3.3.1 Immunological test:

Immunological pregnancy test depends on the fact that human chorionic gonadotrophin has antigenic properties. The test consists of two steps.

- HCG antiserum is added to urine of the woman.
- Sensitized red cells or latex particles are then added.

The first step neutralizes HCG antibodies; hence no agglutination occurs after the second step, confirming pregnancy.

3.3.2 Signs and symptoms of pregnancy.

There are many signs of pregnancy.

- **Presumptive signs** are suggestive of pregnancy and these signs could be caused by other conditions. So they do not establish a diagnosis of pregnancy.
- **Probable signs** of pregnancy can be documented by physical examinations. These findings could also be caused by other conditions.
- **Positive signs** are physical findings that establish a diagnosis of pregnancy.

Presumptive or possible signs of pregnancy:

1. **Amenorrhoea - Absence of menstruation:** It is the first sign and is noticed by the woman herself. Following implantation, of the fertilised ovum, the endometrium undergoes decidual change and menstruation does not occur throughout pregnancy.
2. **Morning sickness:** Nausea and vomiting along with or without indigestion occur due to increased human chorionic gonadotrophic hormone level.
3. **Skin changes:** Pigmentation of the areola, linea nigra and bluish pink striae on the abdomen are present.
4. **Breast changes:** Discomfort, tingling and a feeling of fullness of the breasts may be noticed as early as third or fourth week of pregnancy due to increased vascularisation.
5. **Bladder irritability:** Frequency of urination increases due to pressure from the gravid uterus and increased vascularity of the bladder.
6. **Quickening:** A woman' s first awareness of fetal movement is called quickening. It is initially felt between 18 to 20 weeks of gestation. In multigravida it may be felt from 16 weeks onwards.

Probable signs:

1. **Presence of HCG in blood and urine** between 4 and 12 weeks
2. **Hegar' s sign:** Softening of isthmus. Isthmus is the part of uterus between body of uterus and cervix.
3. **Goodell' s sign: S**oftening of cervix.
4. **Chadwick' s sign:** The colour changes from pink to bluish purplish in the mucous membranes of the cervix and vagina due to increased vascularization.
5. **Osiander' s sign:** Pulsation in fornices felt at 8 weeks. The above signs may develop due to pelvic congestion also.
6. **Braxton-Hick' s contractions:** Painless, mild uterine contractions occur from 16^{th} week onwards, called as Braxton-Hicks contractions.

7. **Changes in the size and shape of uterus:** From 8^{th} week onwards the size of the uterus enlarges. Its consistency is soft and become globular rather than pear shaped.
8. **Enlargement of the abdomen:** The abdomen enlarges in size as the uterus grows.

Positive signs of pregnancy:

1. **Visualization of fetus** by x-ray evidence and ultra sound evidence.
2. **Fetal heart sounds** may be heard as early as 20^{th} week.
3. **Fetal movements** can be felt per abdomen by the examiner about 22 weeks onwards.
4. **Fetal parts** can be felt in about 24 weeks onwards.

3.4 Normal Pregnancy:

Pregnancy is a state of carrying fetus inside uterus by a woman from conception to birth. Gestation is the term given to pregnancy.

3.4.1 Prenatal :

Prenatal is the period from conception to birth.

3.4.2 Intranatal:

Intranatal is the period from the initiation of labour pain till birth.

3.4.3 Postnatal:

Postnatal is the period from birth to 42 days Otherwise called as puerperium.

3.4.4 Prenatal or antenatal care:

Systematic supervision of a woman during pregnancy is called antenatal care. The supervision should be of a regular and periodic nature in accordance with the principles laid down or more frequently according to the need of the individual.

It is the education, supervision and treatment to a pregnant woman so that her pregnancy and labour will terminate with delivery of a mature healthy living baby, without injury to the mind or body of the mother.

The objective of Antenatal care is to ensure a normal pregnancy with delivery of a healthy baby from a healthy mother.

3.4.5 Aims of antenatal care:

Aims of antenatal care are

1. to monitor the progress of pregnancy in order to ensure maternal health and normal fetal development.
2. to recognise the deviation from the normal and provide management or treatment as required.
3. to ensure that the woman reaches the end of her pregnancy physically and emotionally prepared for her delivery.
4. to identify high risk pregnancy and for their proper management.
5. to reduce or prevent maternal and perinatal mortality and morbidity
6. to help and support the mother in breast feeding and parenting.
7. to offer family welfare advices on parenthood.

3.4.6 Antenatal care comprises of:

1. Registration of pregnancy
2. History taking
3. Antenatal examinations [general and obstetrical]
4. Health education

3.4.6.A Registration of pregnancy:

The registration of pregnancy must be done in an antenatal clinic within 12 weeks.

3.4.6.B History taking:

A complete history of the woman including the following is collected in the first visit.

1. Demographic data (Name, age, address, marital status religion, education, occupation etc)
2. Menstrual history.
3. Personal history.
4. Past medical and surgical history.

5. Family history.
6. History of present pregnancy (last menstrual period LMP, Expected date of delivery EDD, etc.
7. Obstetrical history (number of pregnancy, any abnormality in previous pregnancies and deliveries).

Calculation of expected date of delivery (EDD):

EDD is calculated by adding nine calendar months and seven days to the date of first day of the woman' s last menstrual period, provided the woman has a regular 28-day menstrual cycle.

3.4.7.C Antenatal examination:

A complete general examinations of the body is conducted, including

1. **Height:** The height is carefully recorded, as patients measuring 5 feet or less is more likely to have a small pelvis that may cause difficulty during delivery.
2. **Weight:** Weight should be regularly taken using an accurate weighing machine. Periodic and regular weight checking helps in detecting abnormalities.
3. **Pallor:** Colour of conjuctiva, soft palate, tongue, and nail beds are to be noted. (Paleness indicates anemia)
4. **Jaundice:** Eyes and mouth are to be observed for yellow discolouration. (yellow discolouration indicates of jaundice)
5. **Tongue, teeth, gums:** Observe for signs of infection and malnutrition.
6. **Legs:** Legs are to be examined for oedema.
7. **Breasts:** Examination of the breasts is mandatory, to note the presence of pregnancy charges and condition of the nipples (cracked / depressed / inverted).
8. **Abdominal and vaginal examinations:** Position of the uterus is noted in abdominal examination. Unless necessary, vaginal examinations is not routinely done except for the first time when the woman attends the clinic to confirm pregnancy.

Laboratory investigations:

1. Complete blood count including haemoglobin level,
2. Blood grouping and Rh typing.
3. Blood for VDRL
4. Urine examinations:
5. Urine should be tested for albumin, sugar, pus cells,

One to two doses of tetanus toxoid is given to immunize against tetanus infection iron and folic acid supplements is given

Subsequent visits:

- Up to 28 week -- the antenatal check up should be done at an interval of 4 weeks from the first visit.
- Beyond 28 weeks, the antenatal check up should be done at interval of 2 weeks upto 36 week and
- thereafter weekly, till the expected date of delivery.

At each visit, the findings are to be recorded in the same card for better evaluation.

3.4.7.D Health education:

The antenatal education should include.

1. **Diet:** The diet during pregnancy should be adequate to provide for
    a. the maintenance of maternal health.
    b. the needs of the growing fetus.
    c. the strength and vitality required during labour and
    d. the successful lactation.

The pregnancy diet should be light, nutritious and easily digestible. It should be rich in protein, minerals vitamins and fibres and of the required calories. Dietary advice should be given with due consideration to the socio-economic condition, food habits and taste of the individual. Supplementary iron therapy is needed for all pregnant mothers from 20 weeks onwards.

3.5 Personal hygiene:

1. **Rest and sleep:** The woman may continue her usual activities throughout pregnancy. Hard and strenuous work should be avoided. On an average, a patient should have 10 hours of sleep (8 hours at night and 2 hours at noon)
2. **Bowel:** As there is a tendency of constipation during pregnancy, regular bowel movement may be facilitated by regulation of diet taking plenty of fluids, vegetables and milk.
3. **Bathing:** Daily baths and preferably twice a day are advised.
4. **Clothing:** The patient should wear loose but comfortable dresses. High heel shoes are better avoided.
5. **Dental hygiene:** The dentist should be consulted at the earliest, if necessary.
6. **Care of the breasts:** Cleanliness of the breasts is maintained. If anatomical defects are present advise to seek medical help.
7. **Coitus:** Contact with the husband to be avoided during the first trimester and last 6 weeks.
8. **Travel: Long distance t**ravel better to be avoided. Rail route is preferable.
9. **Smoking and alcohol:** Smoking and alcohol are to be avoided totally during pregnancy as both cause variable injuries to the fetus.
10. The pregnant women should avoid over-the counter drugs (drugs without medical prescription). The drugs may have teratogenic effects on the growing fetus especially during the first trimester **(The first three months is the period of organogenesis. Teratogens will cause gross malformation or defects to the fetus. The common teratogens are drugs caffeine, exposure to x-rays, alcohol, nicotine, etc).**

3.6 General advice:

The patient should be persuaded to attend for antenatal checkup positively on the scheduled date of visit. She is instructed to report to the doctor even at an early date and if the following untoward (warning signs and symptoms) symptoms arise:

- intense persistent headache
- severe oedema
- disturbed sleep with restlessness
- low urine output (less than 500 ml per day)
- epigastric pain
- persistent vomiting
- painful uterine contractions
- sudden gush of watery fluid per vaginum
- active vaginal bleeding etc.

3.7 High risk pregnancy:

Certain conditions may affect the development of the fetus and labour outcome that may lead to increased perinatal and maternal morbidity and mortality. These abnormal conditions must be identified at the early stages and treated properly.

3.7.1 First trimester complications:

The following complications may arise during the first three months of pregnancy to a woman who is previously normal.

3.7.1.A Abortion :

Abortion is the termination of pregnancy before the viability of the fetus. It may occur spontaneously or induced.

Types of abortion :

1. **Spontaneous abortion:**
   - Threatened abortion
   - Inevitable abortion
   - Complete abortion
   - Incomplete abortion

2. Induced abortion:

- Legal abortion (medical termination of pregnancy)
- Illegal abortion
- Septic abortion

3.7.1.B Hydatidiform mole or vesicular mole:

There is abnormal development and proliferation of the trophoblast as fluid filled vesicles. If the condition is not identified and terminated at the early stages the woman may develop severe bleeding and malignant changes

Management:

Evacuation of the uterine content and further follow-up is mandatory.

3.7.1.C Ectopic pregnancy:

Implantation and development of fertilised ovum occurs outside the uterine cavity.

Types:

1. tubal pregnancy
2. cervical pregnancy
3. ovarian pregnancy
4. abdominal pregnancy.

The abnormal type of pregnancy is identified and managed by surgical treatment.

3.7.2 Second trimester complications:

The following high-risk conditions may arise during the second three months of pregnancy.

1. **Polyhydramnios:** Excessive amniotic fluid present in the uterus causing pressure symptoms and other obstetrical complications such as preterm labour unengaged head, cord prolapse and postpartum hemorrhage etc.
2. **Gestational diabetes:** Some times in pregnancy hyperglycenia and glucosuria may develop to woman who is previously normal.

3. **Pregnancy Induced Hypertension and Preeclampsia:** In certain pregnancies the woman develops hypertension, proteinuria and edema after 20 weeks of pregnancy.

3.7.3 Third trimester complications:

3.7.3.A Antepartum hemorrhage :

Bleeding may occur during the last three months due to premature separation of normally implanted placenta (**abruptio placenta**) or due to **placenta praevia** (abnormal implantation of placenta in the lower pole of the uterus).

Abruptio placenta and placenta praevia are managed by surgical interventions.

3.7.3.B Preterm labour:

Preterm labour is the condition where the labour process is initiated before 37 weeks of pregnancy.

Other complications that may arise during pregnancy are

- Anemia complicating pregnancy
- Premature rupture of membranes
- Post dated pregnancy
- Other medical and surgical complications associated with pregnancy etc

3.8 Nutrition in pregnancy:

During pregnancy there should be an increase in all nutrients to meet the physiologic demands of maternal changes and fetal growth. The amount of increase in essential nutrients for each woman depends on a number of factors, such as

- the general nutritional status before pregnancy,
- current health status, age and parity,
- time interval between pregnancies
- height, weight and activity level

Adolescents who are pregnant before the cessation of their own growth do not have the physiologic maturity to withstand the

additional stresses of pregnancy. They need greater nutritional requirements then do adults.

3.8.1 Calorie increase:

Calorie requirements must be increased between 10 and 15 percent during pregnancy to meet the increased energy demands of the women's body and the development of the fetus. The total energy cost during pregnancy is approximately 80,000 calories. Therefore, an increase of about 300 calories (kcal) per day is needed during pregnancy.

A well balanced diet consisting of about 2500 calories a day will meet the nutritional demands of pregnancy.

3.8.1 A Protein:

Protein should be increased from 45 to 50 gm per day in the non-pregnant women to 60 gm per day for the pregnant women. For adolescent pregnancy, the protein requirement is 1.5 g per kilogram of body weight.

Protein is needed to provide additional amino acids

1. to support rapid fetal and placental growth
2. growth of the breasts and uterus
3. expansion of maternal blood volume and
4. to meet the demands of labour, birth and lactation.

Sources of complete proteins:

Milk, cheese and eggs, meet, fish, poultry, grains, legumes and nuts. Vegetable proteins can be combined with complete proteins, (or) two vegetable proteins that complement each other's amino acid deficiencies can be eaten together to make a complete protein.

Example: Milk and cereal.
Rice with beans.

3.8.1 B Carbohydrates and fats:

The role of carbohydrate and fats during pregnancy are to contribute to the total calorie intake required for maternal and fetal growth.

Sources of carbohydrates and fat:

Fruits, whole grains cereal, milk and bread. Fats are found in butter, cheese, oil and nuts.

3.8.1 C Vitamins:

Vitamin intake should be maintained or increased during pregnancy and lactation. This intake should be obtained through a well balanced diet. The role of vitamins in the diet is to maintain the normal cell structure and function and to support the growth of new tissues.

The fat-soluble vitamins A, D, E and K are stored in the liver in moderate amount. They are absorbed along with the dietary fats eaten.

1. Vitamin A:

Vitamin A is essential for cell development, tooth formation and bone growth. It plays a role in the metabolism of carbohydrate and deficiency causes night blindness.

Sources:

organ meat, egg yolk, butter, yellow fruits and vegetables, green leafy vegetables.

Excessive amounts of vitamins A are toxic and during pregnancy could be teratogenic, causing congenital fetal malformations. Hence usually pregnant women are not given vitamin A supplements.

2. Vitamin D:

Vitamin D is needed to enhance the absorption and use of calcium and phosphorus, which are needed for fetal skeletal and tooth formation.

Sources:

Liver, egg yolk, milk, fresh fruits and vegetables. Sun exposure causes Vitamin D synthesis in the skin.

3. Vitamin E:

The primary function of vitamin E is as an antioxidant. It takes on oxygen so that the substance will not undergo chemical change.

Source:

Vegetable fats and oils, whole grains, greens and eggs.

4. Vitamin K:

It is essential for blood coagulation and prevention of hemorrhage. The RDA for pregnant women is 65 μg/day. Intake of vitamin K is usually adequate in a well-balanced diet.

5. Vitamin B Complex:

The entire B complex of Vitamin B1 (Thiamine), B2 (riboflavin), B6 (pyridoxine), B12 (cobalamin) , niacin and folic acid have the important function in metabolic function and energy metabolism. Therefore the Vitamin B requirement increases as calorie intake increases to meet metabolic and growth needs.

Vitamin B_1:

Vitamin B_1 requirements increase from 1.1mg/day to 1.5mg/day.

Sources:

pork, liver, milk, potatoes, bread and cereals.

Vitamin B_{12}

Vitamin B_{12} requirement 1.6 mg/day.

Sources:

Milk, liver, eggs, bread and cereals.

Vitamin B6:

Vitamin B6 is associated with protein metabolism, so that if the protein intake is higher than average, vitamin B6 intake should be higher.

Vitamin B6 plays a vital role in the development of baby' s central nervous system. Requirement is 2.2mg per day.

Source:

Fish, liver, port, potatoes, wheat germ, and yeast.

Vitamin B_{12}:

Vitamin B_{12} is found only in animal source and it is essential for formation red blood cells.

Sources:

Milk, meat, liver, eggs and cheese.

2.2 µg per day

Deficiency leads to pernicious anemia

Niacin :

Niacin requirement of pregnant women is 17mg/day.

Sources:

Meat, poultry, fish, liver, whole grains, bread, cereals and nuts.

Folic acid:

It is important for the promotion of adequate fetal growth. Requirement during pregnancy is 400µg/day.

Sources:

Fresh green leafy vegetables, organ and bananas, kidney, liver, meat, dried bean. 80 percent of folic acid is lost in cooking.

Deficiency of the Folic acid leads to spontaneous abortion, fetal malformations neural tube effect. Supplementation of folic acid 400µg / day, is recommended during antenatal period.

Vitamin C:

During pregnancy, Vitamin C aids in the formation and development of skin and vascular system of fetus. It enhances the absorption and storage of iron.

The Requirement is 70 mg/day.

Deficiency of Vitamin C: causes scurvy.

Sources:

A well balanced diet provides the required amounts of vitamin C. Food rich in Vitamin C include citrus fruit, strawberries tomatoes, potatoes, and green leafy vegetables.

3.8.1 D Minerals:

1. Iron:

Iron is essential in the synthesis of hemoglobin in maternal and fetal red blood cells. Unfortunately most Indian women enter

pregnancy with low iron stores. Deficiency leads to iron deficiency anaemia.

Women at risk for iron deficiency anaemia are

1. Women with frequent childbirth.
2. Women with multiple gestations.
3. Women with poor diets.

Requirement for pregnant women is 60 mg per day

Sources:

meat, liver, eggs, green leafy vegetables, bread and cereals.

The absorption of iron from vegetables sources can be enhanced by combining them with vitamin C sources. Pregnant women absorb only about 15-25 percent of available iron in food. A well-balanced diet with good iron- rich food will provide only about 15 to 18mg of iron per day. Therefore, a supplement of iron such as ferrous gluconate, ferrous fumarate or ferrous sulphate is needed.

2. Zinc:

Zinc is essential for normal fetal growth and development and uterine contractility for the initiation of labour.

The RDA for Zinc during pregnancy is 15mg/day

Sources:

Liver, wheat bran, milk.

Deficiency:

Deficiency leads to infection, fetal malformation, low birth weight, and intrapartum hemorrhage.

3. Copper:

Copper is essential in the absorption, storage and release of iron.

The RDA for copper in the non-pregnant women is 3mg/day. The exact requirement for pregnant women is not known.

Sources:

Liver, meat, oysters, nuts, corn oil and dried legumes and drinking water.

3. Calcium:

Calcium is essential in pregnancy

- Ø For the fetal skeletal formation
- Ø Teeth formation and
- Ø Regulation of nerve and muscle activity.

The RDA for calcium during pregnancy is 1200 mg per day. The RDA for pregnant teenager is 1600 mg per day.

Sources:

Milk and milk products, green leafy vegetables, whole grains and bread.

4. Phosphorus:

Phosphorus is necessary for the rapid division and growth of new fetal cells.

The RDA during pregnancy is 1200 mg per day.

Sources:

Meat, chicken, eggs, milk and cheese.

5. Magnesium:

Magnesium is important during pregnancy for cellular metabolism and structural growth.

The RDA for pregnancy is 320 mg per day.

Sources:

Milk, whole grains, legumes, nuts and tea.

6. Iodine :

Iodine is needed for the regulation of the metabolism.

Source:

Sea foods including fish and oysters

Iodine deficiency of a pregnant woman may lead to **cretinism** in infant.

3.8.1 E Water:

Fluid intake is an important component of a well-balanced diet to support the physiological changes taking place. An adequate

intake helps by assisting with digestion and in prevention of constipation

Requirement of water: 2000-2500ml per day.

3.9 Weight gain in pregnancy:

Weight gain during pregnancy is an important indicator of maternal-fetal well-being. The amount of weight a woman should gain varies, depending on her pre-pregnancy weight and her health status.

This body mass index (BMI) is a better indicator of maternal nutritional status than weight alone.

$$\text{Body mass index} = \frac{\text{pre pregnancy weight (in kilogram)}}{\text{height (in metre)2}}$$

3.9.1 Common nutritional problems during pregnancy

1. **Underweight during pregnancy**

   It is associated with maternal anemia, cardiopulmonary problems, interactive growth retardation and pre-term delivery. The underweight women should take 500 calories per day above the non-pregnant RDA. The protein intake should be increased to 20gm per day.

The weight gain recommendations by
Pre - pregnancy Body Mass Index (BMI)

Weight - for –height category	Recommended total weight-gain during pregnancy (in kilograms)
LOW (BMI < 19.8)	12.5 – 18
Normal (BMI 19.8 –26.0)	11.5-12.5
High (BMI > 26.0 – 29.0)	7.0 – 11.5

2. **Overweight during pregnancy:**

   It is associated with an increased risk for hypertensive disorders of pregnancy, diabetes, infection, large birth weight babies, and dystocias of labour.

Women who are overweight should not attempt to lose weight during the pregnancy. During pregnancy, the goal should be to improve the quality of the diet.

3.9.2 Common nutritional risk factors in pregnancy

In addition to being underweight or overweight, a number of factors pose nutritional risks during pregnancy and threaten the well-being of the mother and infant.

i) Frequent pregnancies
ii) Women with medical or obstetric problems
iii) Fad diets.
iv) Eating disorders.
v) Adolescent pregnancies
vi) Substance abuse.
vii) Myths about foods.

3.10 Process of labour

Labour is the expulsion or extraction of viable fetus out of the uterus. Delivery may be vaginal [either spontaneous or aided] or it may be abdominal.

Labour is a series of events that takes in the genital organs in an effort to expel the viable products of conception out of the uterus through the vagina. Usually it occurs between 38-42 weeks of pregnancy. If labour occurs before 37 weeks, it is termed as **preterm labour.**

Expulsion of conceptual products before 28 weeks is called **abortion.**

3.10.1 Normal labour:

Normal labour (Eutocia) occurs at term and is spontaneous in onset with the fetus presenting by the head. The process is completed within 18 hours and no complications arise. by which the fetus, placenta and membrane are expelled through the birth canal.

3.10.2 Dystocia:

Dystocia is the term used to denote a difficult labour

3.10.3 Successful labour depends on the

- **Passages: The passage is the adequate pelvic dimension.**
- **Passenger:** The passenger is the adequate fetal dimension
- **Powers:** Primary powers are the uterine contractions and secondary powers are the maternal efforts taken to expel the fetus with the help of abdominal muscles and the diaphragm.
- **Psyche of the mother:** Emotional status of the mother also influences the outcome of labour.

3.10.3 A Initiation of labour pain:

The exact mechanism that initiates labour is unknown.

1. Uterus becomes stretched and the pressure increases causing physiological changes.
2. As pregnancy advances there is a gradual rise in oxytocin level (a hormone which is responsible for uterine contraction).
3. There is increased production of prostaglandin by fetal membranes and uterine decidua.

The mutual coordinated effects of oxytocin and prostaglandin initiate the rhythmic contractions of true labour.

Prelabour symptoms:

During the last few weeks of pregnancy number of changes occur in women.

1. Lightening: As the presenting part sinks into the true pelvis, the women now breathes easier and experiences a relief.
2. Walking is more difficult as the fetal head enters into the pelvis
3. There is frequency of micturition
4. There is backache due to relaxation of sacroiliac of joints
5. There may be spurious or false pains

Features of true labour pain:

1. Uterine contractions (labour pains) occur in regular intervals,
2. Intensity of labour pain increases with time
3. The labour pain is located in back and abdomen.
4. Walking intensifies the pain.
5. Pain is not affected by mild sedatives.
6. Pain results in progressive, cervical dilation

3.10.4 Stages of labour:

3.10.4 A First stage:

This is the stage of dilatation of the cervical OS. It begins with the onset of true labour contractions to full dilatation of the cervix. Duration of first stage is an average of 13 hours for nullipara and 7.5 hours for multipara.

The first stage is clinically manifested by **progressive uterine contraction**, progressive taking up of the cervix and ultimate rupture of membranes.

3.10.4 B Second stage:

It is the stage of fetal expulsion. It begins with full dilation of cervical OS and ends with the birth of the baby. Second stage lasts for one to one and half hours for nullipara and 20 to 45 minutes in multipara.

3.10.4.D Third stage:

It is the stage of separation and expulsion of the placenta and membranes. It begins with birth of the baby until the expulsion of placenta and membranes. The third stage may last from few minutes to thirty minutes.

3.10.4.E Fourth stage:

The fourth stage lasts from the delivery of placenta and membranes until the postpartum condition of the women has become stabilized. This stage is usually one hour after delivery. In this stage the mother must start breast-feeding her infant.

3.11 Changes taking place during the stages of the labour :

3.11.1 Changes taking place during the first stage of the labour:

1. **Presence of show**-profuse cervical secretions, mixed with blood is called show.
2. **Dilation and taking up of cervix:** The cervical canal begins to dilate and takes up.
3. **Formation of "bag of waters":** With the dilation of the cervical canal, the lower pole of the fetal membranes becomes unsupported and tends to bulge into the cervical canal.

Role of nurse in caring of the woman in the first stage of labour:

1. Take a brief history and assessment
2. Encourage the woman to have a warm bath or vulval toileting.
3. Give a soap and water enema.
4. When membranes are intact, allow the woman to walk, sit or lie down in lateral position according to her convenience. If membranes are ruptured bed rest must be advised. Analgesics may be given as per doctor' s prescription
5. Encourage the woman to take fluid diet soup, fruit juice, salt lemon juice or plain water. Food and oral fluids to be withheld, when the woman is in active labour.
6. Encourage the woman to empty her bladder herself frequently.
7. Monitor the progress of the labour by recording a partograph.
8. The following are recorded in partograph.
    - Maternal vital signs
    - Cervical dilation
    - Station of fetal head
    - Cervical effacement
    - Presence or absence of membranes
    - Fetal heart rate, (Normal FHR is 110 – 150 per minute).
    - Drugs given
9. Watch for maternal and fetal well-being
    - Monitor pulse, blood pressure and temperature every second hourly and FHR every hour
    - Monitor urine output
    - Observe the tongue to assess the hydration status.
10. Psychological preparation of the mother and her family is equally important as her ambitions play a great role in managing labour pain and discomfort.

3.11.2 Changes taking place during the second stage of the labour:

1. The second stage is clinically manifested by increased frequency and intensity of uterine contractions
2. Appearance of "bearing down" efforts which result in expulsion of the fetus
3. The mother may show features of exhaustion.

The role of nurse in caring the woman in the second stage of labour is

1. To assist in the natural expulsion of the fetus slowly and steadily.
2. To prevent perineal injures.
3. To assist labour under aseptic precautions
4. Vigilant monitoring of maternal vital sign and fetal heart rate.

3.11.3 Changes taking place during the third stage of the labour:

1. The placental separation is achieved by marked reduction in the uterine surface area of the placental site following delivery of baby due to retraction.
2. After separation of placenta it is expelled by controlled cord traction. The bleeding is controlled by effective contraction and retraction of uterus.

The role of nurse in caring the woman in the third stage of labour is

1. Watch for signs of placental separation before taking efforts to remove the placenta. (lengthening of cord, suprapubic bulge and fresh gush of blood from vaginum)
2. The placenta is removed by controlled cord traction.
3. Injection Methergin may be given for effective uterine contraction to control bleeding.
4. Watch for maternal vital signs, consistency of uterus, height of the uterus and amount of vaginal bleeding.

5. The placenta and membranes should be examined for any abnormality following their expulsion.

3.12 The newborn infant:

A healthy infant born at term (between 38-42 weeks.) should have an average birth weight of 2500 to 3000 gms.

1. it cries immediately following birth.
2. It establishes independent respiration.
3. It quickly adapts to changed environment.

The newborn is otherwise called as the neonate (between 0-28 days). After 28 days to one year, it is called as an **infant.**

3.12.1 Immediate neonatal assessment:

Provided the baby is seen to be making some respiratory effort, a quick assessment of its general condition is made which includes the following factors:

- Heart rate.
- Respiratory rate.
- Muscle tone.
- Reflex response to stimulus.
- Colour.

The scoring system is called as the **Apgar** scoring system. Apgar score, is recognized and used universally of the above five signs. The heart rate and respiratory effort are the most important.

Apgar score is assessed at 1 minute and 5 minutes after birth. The maximum score is 10. Medical assistance should be sought if the score is less than 7.

The normal infant in good condition at birth achieves an Apgar score of 7-10.

A score below 7 indicates a degree of asphyxia, which necessitates some form of resuscitation.

THE APGAR SCORE

Sign	Score		
	0	1	2
Heart rate	Absent	less than 100 beats per minute.	more than 100 beats per minute
Respiratory effort	Absent	slow, irregular	good or crying
Muscle tone	Limp	some flexion of limbs.	active
Reflex response to stimulus	none	minimal grimace	cough or sneeze
Colour	blue, pale	body pink extremities blue	completely pink.

3.12.2 Physical features of a newborn at birth.

Weight:

The weight is variable from country to country but usually exceeds 2500 gm. In India, the weight varies between 2.7 to 3.1 kg.

Length:

Usually, length is between 50-52 cm.

Posture:

The newborn assumes the attitude of its intrauterine existence-extremities flexed and fists clenched.

Skin:

Initially slightly blue, but soon become pink. Vernix caseosa may be present.

Head:

Head is larger in relation to the rest of the body.

Face:

The face is comparatively smaller in relation to the head. The eyes remain closed most of the times. Pupils react to light. The cheeks are full due to brown fat.

Neck and trunk:

The neck is short the circumference of the chest is slightly less than that of the head.

Genitalia:

In the males, the testes are in the scrotum, the rugae cover the scrotum. In females, labia minora and clitoris are covered by labia majora.

Temperature:

The body temperature may fall to as low as 97^0F because the newborn is very thermolabile due to immature hypothalamus.

Urine:

Small amount of urine is passed.

A neonate passes urine 6 to 8 times a day

Stool:

The first stools passed are called as the meconium (sticky, dark coloured) may be passed soon after birth.

3.13 Care of normal newborn:

The events during first few minutes and hours of life have an immense bearing on the immediate and long term outcome of the infant. The aims of neonatal care at birth include the following.

1. Establishment of respiration
2. Prevention of hypothermia
3. Establishment of breast-feeding.
4. Prevention of infection

Care of the newborn can be divided into four sections.

1. Preparation before delivery
2. Immediate care at birth
3. Care after birth
4. Essential postnatal care.

3.13.1. Preparation before delivery:

Each delivery room must have a well-lighted, well-ventilated and warm environment without droughts to receive the newly born baby. The baby care area in the delivery room should have

i. A radiant warmer or simple 100 or 200-watt electric bulb kept about 20 inches (50 cm) above the baby.
ii. Clean sterile linen, like towels, bed sheets and baby blankets should be available. At least two blankets should be provided for each baby, one for drying and one for wrapping.
iii. Disposable cord clamps, sterile cord-cutting scissors, cotton swabs, gauze pieces and bulb sucker.
iv. Oxygen supply, suction device, resuscitation equipments, adhesive tape, scissors etc must be checked well in advance.
v. Weighing scales, measuring tapes, identification tags, clinical thermometer.
vi. Medication tray containing spirit, distilled water, normal saline for cleaning eyes. Vitamin K ampoules, medications needed during resuscitation ie epinephrine injection, disposable syringes 2 cc, 5cc and 10 cc should be kept.

3.13.2 Immediate care at birth:

The radiant warmer should be put on 15 minutes before the birth of the baby. The baby should be received in pre-warmed linen and dried from top to bottom immediately after birth. The wet linen should be removed and baby should be covered with a dry and warm towel. The baby should be placed in a head low position to facilitate drainage of oropharyngeal secretions.

The mouth should be suctioned first followed by suctioning of the nose using a bulb sucker. Suction should be done gently and intermittently. Suctioning should not be more than 5 seconds at a time. The heart rate should be monitored for possible bradycardia.

These steps take around 20 to 30 seconds. By this time most babies are vigorously crying, actively moving and pink.

3.13.3. Care after birth:

A sterile disposable delivery kit should be used for each baby to prevent cross infection. The eyes should be cleaned with sterile normal saline using one swab for each eye from inner canthus toward outer canthus.

- The umbilical cord should be tied using umbilical cord clamp, 2 or 3 cm beyond the base of the cord.
- Do not apply anything on the cord.
- The patency of the anus should be checked by passing a stiff rubber catheter into the anal orifice.

3.13.4. Essential postnatal care:

1. The bay should be warm to touch and soles should be pink.
2. The umbilical stump should be clean and dry.
3. The tie should be tight. There should be no bleeding.
4. Check that the baby has good suckling. If suckling is poor, assure correct positioning and attachment to breast. Initiate breast-feeding within half an hour in normal delivery.
5. Check that the baby is crying well and has no breathing difficulty. If found the difficulty refer to pediatrician.

3.13.5 Advice on discharge:

Advise the mother

- to keep the umbilical stump clean and dry and not to apply anything on the cord stump.
- to protect the baby from cold or heat by wrapping according to climate.
- to exclusively breastfeed the baby till 6 months frequently day and night. Do not give to baby any other food including water.
- Feed the baby on demand, day and night.
- Do not apply anything in the eyes.

Intranatal complications:

1. Obstructed labour

2. Fetal distress
3. cord prolapse

Normal puerperium

Puerperium is the period immediately following labour during which,

- The reproductive organs return to their pre pregnant stage.
- Lactation is initiated, and
- The mother recovers from the physical and emotional experiences of parturition.
- Puerperium begins as soon as the placenta is expelled and lasts for 6 weeks (42 days)
- The process whereby the genital organs revert back to their original state is called **"Involution"**

Involution of the uterus:

Immediately following delivery, the uterus becomes firm and weighs about 1000gm. At the end of 6 weeks, its measurement is almost similar to that of the non-pregnant state and weighs about 60gm.

By the end of second week after delivery, the uterus becomes a pelvic organ.

Lochia:

Lochia are the discharges from the uterus, cervix and vagina for the first fortnight during puerperium. They are alkaline in reaction and contain bloods, debris of deciduas, and liquor amnii, lanugo, vernix caseosa and meconium.

Colour of lochia:

1. Lochia rubra (red) lasts for 1-4 days.
2. Lochia serosa – lasts for 5-9 days. Colour is yellowish or pink or pale browne.
3. Lochia alba- (pale white) lasts for 10-15 days.
4. The character of the lochia gives useful information about the abnormal puerperal state.

Puerperal complications:

1. postpartum hemorrhage
2. thrombo embolic manifestations
3. puerperal infections
4. postpartum psychosis
5. lactation failure

Lactation:

Initiation of breast feeding is more important during the immediate postnatal period. For the first two days, **colostrum** will be secreted from the breasts, which is a **yellow serous fluid rich in protein and immunoglobulins**. It provides resistance against infection to the newborn.

The first feeding is an important experience to the mother and baby. The success of breast-feeding depends on mother's learning of a good breast-feeding technique in a happy and positive way.

Breast-feeding should be given on demands of the baby and normally a healthy baby takes breast feeds 6 to eight times in 24 hours, for not less than 10 minutes each.

Advantages of breast-feeding:

1. **Ideal composition.** Helps in easy digestion for the baby.
2. Breast milk contains a number of protective factors. Breast fed babies are less likely to develop infections like diarrhea and respiratory infections.
3. Breast milk is readily available, usually sterile.
4. It is convenient, requiring no preparation and costs nothing.
5. It protects against allergies like asthma.
6. It has a laxative action for the baby.
7. It enhances emotional bonding between the mother and the baby.
8. Breast-feeding acts as a natural contraceptive. Chance of conception is less during lactation period.
9. Helps in involution of uterus.

10. Breast fed babies have a higher IQ and have less chance of developing hypertension, diabetes mellitus, coronary heart disease, liver disease and cancer in later life.
11. For mother, breast-feeding reduces the risk of breast and ovarian cancer.
12. Breast-feeding saves money and time and conserves energy. The family and society spend less on milk, health care and illness.

Management of puerperium:

The basic principles of post-natal care include.

1. Promotion of physical well-being by good nutrition, adequate fluid intake, comfort, cleanliness, and sufficient exercises to ensure good muscle tone.
2. Early ampulation is insisted to prevent deep vein thrombosis.
3. Establishment of emotional well-being.
4. Promotion of breast-feeding.
5. Prevention of complications.

The important considerations of postnatal care include.

1. Adequate rest and sleep:
2. Watch for the signs and symptoms of infection and excess bleeding.
3. Diet: A balanced diet containing sufficient protein (90 gm) minerals and vitamins should be given. Additional fluid intake is encouraged. Fresh fruits and vegetables should be included in the main meals.
4. Antibiotics and analgesics are given to combat infection and to relieve pain and discomfort.
5. Perinial care with aseptic precautions to prevent puerperal infections
6. Micturition: Difficulty with urination is quite common during the first few days due to trauma. It must be ensured that the bladder emptied completely.

7. Constipation: It is common during puerperium as there is a tendency of the bowels to be sluggish. A diet rich in fibre will overcome the problem.
8. Postnatal exercise: The importances of post-natal exercises are stressed to the mother and are also taught to her to regain the muscle tone, which are stretched during pregnancy and labour.
9. Continuance of supplementary iron therapy.
10. Advise for a gradual return to day-day activities.
11. Advise on breast-feeding and care of newborn including immunisation.
12. Family planning advice and guidance.
13. To have a postnatal check up after 6 weeks.

3.14 Family welfare:

During the postnatal period, the mother is advised about the temporary and permanent family planning methods. The midwife should motivate the mother to adapt to contraception.

3.14.1 Family welfare programme in India:

National Family Welfare Programme in India has been started from 1975. It comprises of five components.

1. Maternal and child health care.
2. Immunization of pregnant women by tetanus toxide (TT) and that of children by BCG, oral polio, DPT and measles.
3. Nutritional supplement. Iron and folic acid tablets to pregnant women, Vitamin A supplements to children.
4. Education and distribution of spacing contraceptives (condom, contraceptive pills, intrauterine contraceptive devices and other chemical methods etc).
5. Motivating for voluntary surgical contraception. (tubectomy for female and vasectomy for male)
6. Health education on primary health care.

Medical termination of pregnancy (MTP) service is also available from 1972 onwards throughout the country as a health measure for protection of women's health against criminal abortion.

3.15 Reproductive Child Health:

Now the family welfare services are modified as Reproductive Child Health Programme. RCH services include maternal and child health services including family planning, adolescent health, identification of reproductive tract infections and their treatment , screening for malignant changes affecting the reproductive organs etc

Legal aspects in midwifery:

(i) Medical termination of pregnancy act (MTP act) 1971, which has liberalised abortion, permits abortion under the following conditions. Where the pregnancy is a risk to the life of the mother.

1. Risk to the life of the fetus.
2. Cause is due to rape
3. due to contraceptive failure.
4. social cause
5. economic cause
6. Eugenic cause

(ii) Identification of the sex of the baby in the uterus and revealing is unethical and illegal.

Summary :

Midwives hold an important key role to positive care around the time of child birth. Following ovulation the ovum is fertilised by the sperm.

The fertilized ovum known as zygote undergoes cell division and develop into a matured fetus in about 270 days. The placenta acts as the lung to the fetus taking in oxygen from the mother' s hemoglobin and giving up carbon dioxide and other metabolic waste products into the maternal blood.

It nourishes the fetus with glucose, amino acids, fatty acids, vitamins and minerals being absorbed from the maternal blood. The amniotic fluid is a clear straw coloured fluid in which the fetus

floats. During pregnancy certain maternal, physiological changes occur in woman' s body, especially the reproductive organs.

The diagnosis of pregnancy is done by immunological tests and as well as by the signs and symptoms. Antenatal care includes, early registration, regular antenatal check ups, iron and folic acid supplements, immunisation against tetanus and screening for high-risk conditions.

Nutrition is also important for maintaining the mother' s health and to meet the needs of growing fetus. The outcome of the normal labour depends on the power, passage, passenger and psyche of the mother.

The role of nurse during intrapartum and postpartum is non-interference with watchful expectancy and to monitor carefully the progress of labour and the course of puerperiam. Following delivery breast-feeding must be initiated within half an hour. At discharge the mother and the family members are advised regarding newborn immunisation, postnatal care and newborn care at home.

QUESTIONS:

I Fill in the blanks:

1. Liberation of matured ovum for the graafian follicle is known as _____
2. The union of Spermatozone with the ovum is called ___
3. After fertilisation the _____ restores the ____number of chromoseomes.

II. Match the following

1	Quickening	The first 42 days following delivery
2	Lightening	The woman who has given birth for the first time
3	Primipara	Maturation of ovum and graafian follicle
4	Nullipara	16-20 weeks

5	puerperium	Maintenance of corpus luteum
	Follicle stimulating hormone	The woman who has not given birth before
	Luteinising hormone	38 – 40 weeks

III. Define the following

1. Menarche.
2. Menopause.
3. Quickening
4. Lightening
5. Normal labour
6. Puerperium

IV. Write in brief

1. Menstrual cycle.
2. Aims of antenatal care
3. Signs and symptoms of pregnancy
4. Diagnosis of pregnancy
5. Characteristics of true labour pain.
6. Family planning.
7. Reproductive child health

V. Write detailed answer

1. Write the internal structure and functions of female reproductive organs.
2. Describe fetal growth and development.

3. Explain the maternal physiological changes taking place during pregnancy.
4. Describe antenatal care.
5. Enumerate and explain the stages of labour.
6. What is the role of nurse in giving nursing care to woman in first stage of labour?
7. Explain the nurse' s role in newborn care following delivery.
8. Write in detail the importance of nutrition during pregnancy and write the important nutrients, functions, sources and RDA per day during pregnancy.
9. Describe the nursing care given during puerperium.
10. State the advantages of breast-feeding.

4. PRACTICALS

Session 1:

4.1 Giving medicines by mouth:

Oral administration is the most commonly used method of giving medicines. It is the most simple and economical method.

Articles required:

1. Bowl of clean water.
2. Drinking water in a container.
3. Measuring glasses.
4. Glass rod to mix medicines (or a spoon in the home)
5. Small motar and pestle to crush tablets.
6. Towel to wipe the medicine bottles and medicine glasses
7. Medicine glasses.
8. Small container or spoon to carry tablets.

Procedure:

1. Written orders for medicines to be given (charts or medicine cards)
2. Give your full attention to this work.
3. Read the orders, find the medicine and check that what is written on the label agrees with the medicine ordered.
4. Shake the bottle before pouring a mixture. Hold the bottle with label on the upper side.
5. Hold the measuring glass in your other hand so that the mark of the amount ordered is at the eye level, while pouring the medicine. Pour the exact amount carefully.
6. Wipe the mouth of the bottle, replace the cork and read the label again while replacing the bottle.
7. Pour the dose into the medicine glass and administer to the correct patient.
8. If the drug is in tablet, pill or capsule form put them into a small container with spoon or paper.

9. Tablets may be powdered by crushing in the motar and pestle if necessary give water before and after putting the powder into the patient' s mouth.
10. Always give medicines you have prepared yourself. Offer medicine to the patient followed by water to drink. Stay with the patient until the medicine is swallowed. If the patient does not take the medicine, inform the medical officer.
11. Record medicines only after you have given them and never before. The person who gave the medicine must record it herself and initial it.
12. Leave all the articles clean and in order.

In the villages when you give a bottle of mixture or pills etc to any one make sure that they understand how and where to keep them. For example TID means medicines should be taken one dose in the morning, one in the afternoon and one at night. QID means four doses each day, one in the morning, one at mid-day, one in the evening and one at night.

When giving aspirin, iron pills or vitamin pills tell the person to take it together with or soon after meals to avoid stomach upset.

Antacids are better taken when the stomach is empty.

Giving medicine to children:

1. Take great care in measuring the correct dose.
2. Liquid medicines should have a syrup base or made sweet by mixing it with honey or sugar.
3. Tablets should be crushed for easy swallowing. Never mix the medicine in milk or food as the child may develop a dislike for the food.
4. The child should be sitting or have the head and shoulders raised. The medicines may be given by the mother or by a nurse who has won the confidence of the child.
5. Never destroy the child' s trust by saying the medicines tastes well if it does not.. If the child takes the medicine well praise him. Never hold the child' s nose nor use force as the child may aspirate the medicine. Encourage the child

to drink by himself or herself or to hold the spoon along with you.

6. Report to the doctor if the child always struggles and refuses a certain medicine or vomits it.
7. The important points to be remembered are as follows
    - Right patient
    - Right drug
    - Right dose
    - Right time
    - Right route
    - Right recording.

Session 2:

4.2 Ryle' s Tube-feeding.

Purpose:

To introduce liquid food through the nostril into the stomach, when the patient cannot or will not take food in the ordinary way. Some conditions are:

1. When the patient is unconscious.
2. Patients who are refusing food, e.g, in hysteria and mental illness.
3. When the pharynx is paralyzed for any cause.
4. After surgery of the mouth.
5. In Tetanus when there is difficulty in opening the mouth.
6. Premature babies who are too weak to suck.

Articles required:

1. A sterile Ryle' s tube or naso-gastric tube.
2. A 20 ml syringe.
3. Lubricant such as liquid paraffin
4. Litmus paper.
5. Container of sterile water.
6. Swab sticks
7. Kidney tray
8. Adhesive plaster
9. Clip or spigot to close the end of the tube.

10. Rubber or plastic sheet and treatment towel.
11. Mouth wash if the patient can use it. Required feed in a measuring glass, a bowl of warm water (any liquid food that is strained and will pass through the tube with out blocking can be given).

Method:

1. Explain to the patient and get his co-operation.
2. Position the patient usually sitting upright and supported.
3. Bring the tray to the bedside and screen the bed.
4. Drape the plastic sheet and towel around the patient' s neck.
5. Clear the nostril.
6. Wash the hands then take the tube, lubricate it and make sure it is empty.
7. Insert the tube along the floor of the nostril and gently pass it into the naso-pharynx.
8. Ask the patient to swallow repeatedly while the nurse advance the tube quickly into the stomach.
9. Attach the syringe to the end of the tube and aspirate the stomach contents.
10. If there is doubt about the position of the tube, test the fluid aspirated with litmus paper. Blue litmus paper turns red when the tube is in the stomach, because of the acid in the gastric juice.
11. Secure the tube to the nose or forehead with adhesive tape.
12. If the patient can understand, talk to him about the food to be given as this may help his appetite and digestion.
13. Before and after the feed introduce a little water. Ordered medicines may also be given through the tube.
14. Give the food slowly. Instead of forcing it in through the syringe, the plunger may be removed and the food poured into the barrel.
15. Give a mouthwash and make the patient comfortable with the tube clamped.
16. Record the time, quantity and type of food given and the route.

Milk drip:

If a milk drip is ordered e.g for a patient with peptic ulcer, connect the nasogastric tube to a container of milk (covered) hung on a stand and use a drip bulb and clip to regulate the flow. See that the milk is fresh.

Session 3:

4. 3. Oxygen Therapy:

1. Oxygen is a gas, which has no smell or colour and is heavier than air.
2. It is stored at high pressure in black and white cylinders.
3. With oxygen there is always a serious fire risk.
4. Smoking is not allowed anywhere nearby oxygen cylinder.
5. No open fire or any inflammable material should be kept near the oxygen cylinder.
6. Oil, grease or alcohol should never be used on the connections of the cylinder.
7. The cylinder is mounted on a stand for easy and should be tested before taking it to the bedside.
8. To test it open the cylinder with the key and then open the small valve very little and test the flow of oxygen from the cylinder into a bottle half filled with water (wolf bottle).
9. The bottle has a rubber cork with two holes tubes passing through it.
10. The cylinder is connected by means of rubber tubing to the longer tube.
11. Oxygen flows into the wolf bottle and then oxygen is given to the patient.

Reasons for oxygen therapy:

1. For patients who are cyanosed, indicating shortage of oxygen into the blood
2. For patients with breathing difficulties such as in heart and lung disease.

3. In cases of shock and circulatory failure.
4. In cases of hemorrhage and air hunger.
5. For newborn babies with asphyxia.

Nasal Catheter method:

1. Explain to the patient and get his co-operation
2. Bring the oxygen, cylinder to the bedside.
3. Bring also a tray containing a small bowl of water, swabstciks, for lubricating and kidney tray adhesive tape and scissors
4. Clean the nostril if necessary
5. Attach the catheter to the tubing turn on the oxygen and adjust the flow, testing by putting the end of the catheter in the bowl of water where oxygen bubbles are seen.
6. Lubricate the catheter and insert it gently along the floor of the nose for about 7 cm. It should lie in the pharynx.
7. Fix the catheter to the cheek or forehead with adhesive tape.
8. Check the oxygen flow and adjust to 4 – 6 litres per minute (40-60 bubbles) or as ordered by the doctor. Check the flow at intervals.
9. A child may need to have the arms splinted.
10. Record the time the oxygen therapy has begun and stopped
11. Report to the doctor.

Mask method:

1. There are two kinds of masks the nasal type, which covers only the nose and the oro-nasal, which covers both the mouth and the nose.
2. The mask must fit the patient' s face the headband is adjusted and co-operation of the patients obtained.
3. The mask is removed at intervals for washing the patients face and for feeling fresh.

Oxygen Tent:

1. This apparatus is more expensive but disturbs the patient less.
2. The tend may be strong transparent material with sleeves for nursing and feeding purposes.

3. The sides of the tent are tucked in under the mattress to make the tent airtight.
4. Oxygen from a cylinder is admitted into the tent and regulated.
5. Used air is sucked out into a box containing calcium chloride, which absorbs the carbon dioxide.
6. A radiator with ice keeps the tent cool.

Session 4:

4.4 Steam inhalation:

Introduction

1. Inhalation means breathing air or vapour into the lungs through the nose or mouth.
2. A substance such as ammonia may be inhaled in the treatment of fainting.
3. Amyl nitrate may be inhaled to relieve angina (pain in the heart).
4. Steam inhalation is administered for general (systemic) effect, more often.
5. Steam inhalations are given for local effect.

Purpose:

1. To relieve the symptoms of cold and sinusitis caused by inflammation and conjestion of mucous membrane
2. To lose mucus and relieve coughing.
3. To warm and moisten the air to relieve dyspnoea and irritation in air passages.
4. For antiseptic effect.

Required articles:

1. Nelson inhaler
2. Jug
3. Steam tent

Nelson' s inhaler method:

1. The inhaler has a glass mouthpiece passing through the cork of the inhaler and an air inlet at the side.
2. Prepare the patient and get his co-operation. Protect him from cold air. Have him comfortably seated with a bed table in front.
3. Warm the inhaler with a little hot water and pour the water out.
4. Pour the boiled water below the air inlet.
5. Add the drug ordered.
6. Cork the inhaler
7. Turn the mouthpiece away from the air inlet.
8. Wrap the inhaler in flannel or a towel and place it in a small tray or basin.
9. Take it to the bedside together with a towel and gauze piece.
10. Wrap the piece of gauze around the mouthpiece of the inhaler.
11. Place the inhaler in front of the patient and ask him to keep his mouth in the mouthpiece and breathe in to receive the steam and breath out removing his lips from the mouthpiece.
12. Continue the treatment for 15 to 20 minutes.
13. Wipe the patients face and keep him warm and in the same room for at least an hour.
14. Wash the mouthpiece and boil it. Wash the inhaler and replace all the articles.
15. Record the procedure and effect on the patient.

Session 5:

8.5 Vaginal douche:

This is irrigation of the vaginal canal by introducing a stream of fluid at low pressure.

Purposes:

1. To cleanse the vagina in preparation for surgery or insertion of radium.

2. When a pessary is being worn and after removal.
3. To wash away discharge (in case of cancer)

Solutions which may be used include:

1. Normal saline
2. Dettol 2%
3. Acriflavin 1 : 4000

Articles required.

1. Douche can, with tubing, end clamp or stop cock irrigation stand.
2. Large clean bed pan
3. Douche nozzle
4. Cotton swabs, or clean rag pieces
5. Dressing forceps
6. Rubber or plastic sheet and towel

The above articles may be clean and aseptic, but after delivery, abortion or operation, sterile equipment must be used.

Procedure:

1. Explain the treatment to the patient and screen the bed.
2. Bring the articles to the bedside or to the treatment room.
3. Ask the patient to empty the bladder before the treatment.
4. Put the patient in modified dorsal recumbent position and drape to expose only the vulva. Place the rubber sheet and towel under the buttocks and the bed pan under her.
5. Hang the douche can on the stand about 30 cm above the patient.
6. Wash your hands well and then connect the douche nozzle making sure it is in good condition.
7. First allow a stream of solution to run over the vulva then wipe off any discharge with swabs.
8. Separate the labia and insert the douche nozzle gently into the vagina for about 7 cm.
9. The nozzle should be pointing downwards and backwards.

10. As the solution runs in , it flows out again into the bed pan. For a low douche a short nozzle is used and it is inserted only 2 ½cm into the vagina.
11. When finished disconnect the douche nozzle and put it into the kidney tray.
12. If she can get the patient to sit on the bed pan for a minute so that the remaining solution drains out.
13. Dry the area and leave the patient comfortable.
14. Wash the douche nozzle and boil it. Wash and keep away all the articles.
15. Record the time, quantity and nature of douche and the character of return flow.

Precautions:

If the woman is menstruating give a douche as per doctors prescription.

Session 6:

4.6 Catheterisation:

This is the removal of urine by means of a catheter.

Purpose:

1. To relieve distension of the bladder due to retention of urine.
2. To obtain a sterile specimen of urine for laboratory testing.
3. To make sure the bladder is empty for certain pelvic operation.

Catheterisation of a female patient.

Articles required:

A sterile tray containing

1. Two rubber catheters , number 6 or 7
2. antiseptic solution in a small bowl (saline only if a laboratory specimen is required).
3. Cotton swabs
4. Two dressing forceps
5. Towel
6. Pair of gloves if necessary
7. Kidney tray

8. two specimen bottles or test tubes to collect the sterile urine.

Clean tray containing

1. Rubber sheet or plastic sheet and towel
2. Kidney tray or paper bag
3. Transfer forceps in lotion
4. Bedpan to empty urine from the kidney tray.

Nursing measures before catheterisation:

1. Reassure the patient
2. Apply hot water bag to the pubic area.
3. Give a bedpan and pour warm water over the genitals
4. Let the patient hear running water.
5. Give a hot drink
6. Help the patient to sit in as natural a position as possible.
7. A sitz bath or hot enema may be effective.

Procedure:

1. Explain the patient and get her co-operation.
2. Screen the bed and bring the articles to the bedside.
3. Place the patient in modified dorsal position. Protect the bed under her buttocks and drape to expose only.
4. Wash your hands thoroughly and if possible wear gloves.
5. Place the sterile towel carefully in position under buttocks.
6. Cleanse the vulva using a dressing forceps to hold a swab moistened in lotion. Use one swab only for one stroke, first the labia majora, right side then left side , then the labia minora. Lastly separate the labia with thumb and first finger of the left hand and clean directly over the urethral opening down to the anus. Discard the forceps.
7. Place a swab lightly in the vaginal opening to prevent contamination by any discharge.
8. Place the sterile kidney on the sterile towel between the thighs.
9. With the right hand take a catheter holding it 5 cm from the tip with the other end in the sterile kidney tray.

10. Separate the labia again with your left hand. Instruct the patient to breathe through the mouth and insert the catheter gently and carefully into the urethral opening. Direct it downwards and backwards for about 5 cm. Urine should begin to flow into the kidney tray. If gloves are not used use the sterile forceps to pick up and insert the catheter. If the catheter becomes unsterile before it is inserted, discard it and take the second one.
11. If a specimen of urine is required collect it directly into the test tube or bottle in the middle of the stream.
12. Slightly pressure above the pubis will make sure the bladder is emptied.
13. When the bladder is empty withdraw the catheter gently and leave the patient comfortable.
14. Specimen is obtained, labeled and send it immediately to the testing laboratory.
15. The remaining urine is measured and charted. Record the time and procedure.

Precautions:

1. Remember that urinary system is considered to be sterile and strict asepsis is to be observed in this procedure.
2. Avoid causing injury by too large catheter or using force.

Catheterisation of a male patient.

This is preferably done by a doctor or the nurse.

Articles required:

1. The materials required are similar to those required for female catheterisation but a longer catheter may be require and there must be a sterile lubricants.
2. Sterile gloves should be worn.

Procedure:

1. This also is similar to female catheterisation for most steps.
2. Place the rubber sheet across the thighs under the penis.
3. After scrubbing the hands and wearing gloves, place the sterile towel over the rubber sheet.

4. Using the forceps clean the penis thoroughly with moistened swabs.
5. With the left hand retract the foreskin, exposing the urethral meatus and using forceps in the right hand gently clean the area.
6. Lubricate the catheter and insert it gently while holding the penis upwards and stretching it to straighten the urethra as mush as possible.
7. Never use force and if there is difficulty, refer the patient to a doctor.
8. If there is no obstruction , insert the catheter up to 20 cm or until urine begins to flow.
9. The remaining urine is measured and charted. Record the time and procedure.

Session 7:

4.7 Enema:

An enema is an infection of fluid into the rectum and this may be ordered for various reasons :

1. To empty to bowel of faces
2. To relieve distension due to flack us
3. To introduce fluids or drugs into to body
4. For diagnostic purposes
5. Before operation and before delivery
6. Cleansing enema or simple enema

Requirements:

1. Soap solution 25 ml
2. Warm water 500 ml
3. Lotion thermometer
4. 2-3 feet long rubber tube with enema can
5. Stop cock
6. Glass connection
7. Saline stand
8. Kidney tray

9. Rubber catheter 8” to 10”
10. Lubricont (Vascline)
11. Cotton swabs
12. bedpen with lid

Procedure :

1. Prepare the enama solution (soap solution 25 ml with 500 ml warm water) mix it well with a rod
2. Examine the enema con whether it works properly.
3. Explain the patient, Bring all the articles near to the bed side.
4. Screen bring the patients buttocks to the edge of the bed.
5. Keep the necessary portion open place the rubber sheet and towel under the buttocks. Keep the kidney tray also.
6. Lubricate the catheter with Vaseline.
7. Lift the enema on and fill the solution and let the air come out from the rubber tube.
8. Ask the patient to the easy and take deep breath by mouth
9. Insert the rubber catheter 7-10 cm into the rectum open the stop – cock.
10. Let the soap and water flow slowly into the rectum. The enema can be longed above 50 cm from the bed. If the patient complaints of severe pain stop the stop-cock. After some time again open the stop-cock Let it flow slowly before the soap solution gets over stop the stop cock so that the air should not enter into the rectum.
11. Remove the rubber catheter and put it into the kidney tray.
12. Hold the buttocks for some time so that the water should be retained in the rectum atleast for 5 to 10 minutes.
13. Make the patient sit or the bed pan so that we can find out the result make to patient go to the toilet.
14. If the patient is able to cater to his or her needs by himself let him do it otherwise the nurse has to check the rectum with the cotton swabs.

15. After half an hour the enema result should be good. Only the water you gave come out means you have to inform the senior nurse.
16. Remove the rubber sheet and towel. Make the patient lie comfortably .
17. Make a nite of the contest inside the bed pan
18. Remove all the equipments rubber catheter should be washed old disinfected keep all thins in respective places.
19. Wash your hands well. Record the type of enema timings and the result.

Barium enema :

Purposes :

To diagnose if there is any ulcer tumor in the large intestines

1. Before giving this barium enema the bowel should be emptied previous night itself some locative or enema should be given by the instruction of medical officer.
2. Take the patient to the X-ray room, make the patient lie down left lateral position insert the rubber catheter into the rectum slowly to barium should be given. While giving the x-ray will be taken.
3. After some hours also patient will be asked to remain there for some more X-ray pictures to be taken.
4. Generally after taking all X-rays patient should be given some food.

Reasons for giving intra muscular injections

1. Immediate effect
2. Patient is vomiting continuously
3. When the patient is unconscious or be cannot swallow the medicine.
4. Immediate effect when you inject at the some place.

Precautions :

1. Only what it is necessary the injections should be given
2. Medicines manufacturing date as well as expiry date

3. The action of the drug is quicker. Then when given by mouth. So you should be careful before giving injections
4. Use the sharp needles
5. Select the correct medicines. Don' t push the entire length of the needles. It may break.
6. When you give injection for unconscious patients and also for the children you need assistant.
7. The syringes and needles should be sterlised properly the patient wall get abscess.
8. The injections should be given in correct places. The correct technique of giving injections should be used.
9. Always you must keep one inj of adernaline empode in the tray. If the patient gets any allergic shocks before giving any injections, the sensitivity rest to be given

Sires for giving injections :

1. Gluteal muscles
2. Deltoid muscles
3. Quadriceps muscles

Session 8:

4.8 Stomach Wash-Out

Washing out the stomach is a procedure that may be ordered in cases of pyloric stenosis in intestinal obstruction immediately before operation, and in the treatment for poisoning when the poison has been swallowed particularly in cases of narcotic poisoning or acute alcoholic poisoning. A stomach wash-out may be given in the treatment of poisoning by a corrosive or caustic substance after the poison has been neutralized.

Requirements :

1. Jacques' asphageal catheter, for an adult sizes 18 to 20, for a child sizes 8 to 14, and for an infant a soft rubber catheter, size 8.
2. A glass connection.
3. A length of rubber tubing (3 to 4 feet)
4. A large glass funnel.

5. Large jug containing the solution for the wash-out.
6. This, sodium bicarbonate 1 drachm to water 1 pint, or normal saline 6 pints, should be prepared at a temperature of 100^{o} F.
7. A pint measure.
8. A large pail to receive the wash-out.
9. A receiver for tube after use.
10. A mouth wash and a few small squares of old linen.
11. A lubricant, such as glycerin or butter, may be required.
12. A mackintosh to protect the bedclothes and a mackintosh cape to protect the patient' s grown.
13. A gag will be required if the patient is unconscious.

Method :

1. The apparatus should be placed in a bowl of hot water.
2. The pail stands on the floor at the bedside and should be placed on newspaper to protect the floor.
3. If the patient is conscious and able to co-operate, the usual position is sitting upright leaning slightly forward
4. if he is unconscious, the usual procedure is to have him prone, with the head over the edge of the bed or couch, or else on his back with the head lower than the body.
5. The tube should be marked at 16 and 18 inches.
6. The tube is easier to swallow if it has been chilled on ice before use.
7. The tube should be passed over the tongue slightly to one side of the midline towards the pharynx and the patient if conscious, is directed to swallow, the tube being pushed along as he does so.
8. He should be allowed time to breathe and directed to take a fairly big breath between swallowing.
9. The average distance from the lips to the cardiac orifice of the stomach is 16 inches, so that when 18 inches of the tube have been swallowed it is safety in the stomach.

10. The pint measure is filled with solution from the large jug and about 1 pint is allowed to flow in.
11. When the funnel is almost empty, it should be inverted over the pail and the fluid siphoned back.
12. The process is repeated until the fluid is returned clear or until the prescribed amount of the solution has been used.
13. The tube should then be tightly compressed and with-drawn quickly.
14. The patient should be given the mouth wash and the pieces of old linen to wipe his mouth.
15. The contents of the pail should be measured and saved for inspection. Several gallons of fluid may be needed to wash out the stomach in cases of poisoning.
16. If unconscious the patient is placed in either the prone or Trendelenberg' s position to prevent fluid running into the air passages.
17. The lavage in these cases is performed by the doctor.
18. Aspiration of stomach contents for diagnostic purposes or to empty the stomach as in acute gastric dilatation or paralytic ileus is usually carried out by means of a Ryle' s tube, a small asophageal catheter (size 6) or a Miller-Abbott' s tube passed through the nose and left in position.
19. The lubricated tube is passed along the floor of the nose until it reaches the pharynx.
20. The patient may then be given sips of water and the tube is pushed on by the operator while the movements of swallowing are taking place.
21. The stomach contents are removed by a syringe attached to the end of the tube or by continuous suction using a siphonage apparatus.
22. A simple siphonage apparatus may be set up using a large bottle containing water which is suspended neck downwards, about three feet above the level of the patient' s body.
23. The bottle is closed with a two-hole rubber bung through which pass one short and one long piece of glass tubing. The

short tube is connected by a length of rubber tubing to a similar bottle standing on the floor and the rate of flow water from the upper to the lower bottle is controlled by a screw tubing clip. The longer piece of glass tubing which projects beyond the water level in the suspended bottle is connected to the Ryle' s or Miller-Abbott' s tube.

Session 9:

8.9 Wound dressing:

Preliminary assessment:

1. Check the diagnosis and the general condition of the patient.
2. Check the purpose for which the dressing is to be done.
3. Check the condition of the wound - the type of the wound, the type of suturing applied, the type of dressings to be applied etc.
4. Check the physician's orders for the type of dressing to be applied and the specific instructions, if any, regarding the cleaning solutions, removal of sutures, drains and the application of medications etc.
5. Check the patient's name, bed number and other identifications.
6. Check the nurse's record to find out the general condition of the wound.
7. Check the consciousness of the patient and the ability to follow instructions
8. Check the articles available in the unit

Preparation of the articles

Articles:

A sterile tray containing

1. Artery forceps-1
2. Dissecting forceps-2
3. Scissors-1
4. Sinus fcrceps-1
5. Probe-1

6. Small bowl-1
7. Safety pin-1
8. Gloves , masks and growns
9. cotton balls, gauze pieces , cotton pads etc as necessary

Clean tray containing

1. Cleaning solutions as necessary.
2. Ointment and powders as ordered.
3. Vaseline gauze in sterile containers
4. Ribbon gauze in sterile containers
5. Swab sticks in a sterile container
6. transfer forceps in a sterile container
7. Bandages, binders, pins adhesive plaster and scissors.
8. A large bowl with disinfectant solution.
9. Kidney tray and paper bag
10. Mackintosh and towel.

Purpose:

1. To clean the wound and the surrounding skin area.
2. For the debridement of the wound, if necessary or to cut the gauze pieces to fit around the gauze etc.
3. To open the sinus tract or to pack the sinus tract if necessary.
4. To take the cleaning solutions.
5. To fix the drain in case the drains are cut short.
6. To use when large wounds are dressed.
7. To create a sterile field around the wound.
8. To clean the wound and the surrounding skin area.
9. To apply on the wound.
10. To prevent the dressing adhering to the wound.
11. To pack a sinus tract or a penetrating wound.
12. To apply the medications if necessary.
13. To handle the sterile supplies.
14. To fix the dressing in place
15. To discard the used instruments.
16. To collect the waste.
17. To protect the bed garments.

Preparation of the patient:

1. Identify the patient and explain the procedure to get his confidence and co-operation.
2. Explain the sequence of the procedure and tell the patient how he can co-operate during the procedure.
3. Provide privacy with curtains and drapes.
4. Apply restraints, in case of children.
5. As far as possible, avoid -meal timings; the dressings may be done either one-hour before the meal or after meal.
6. Offer bedpan or urinal prior to the dressing.
7. Give some analgesics if the patient is in pain e.g., before dressing an extensive burned wound.
8. See that the cleaning of the room is done at least one hour before the expected time of the dressing.
9. Shave the area if necessary.
10. Removal of the adhesive is more painful if the hair is present. So the shaving should be done before the first dressing is applied.
11. Place the patient in a comfortable and relaxed position depending on the area to be dressed.
12. Give proper support to the body parts, if the patient has to raise and hold it in a position for a considerable time.
13. See that the patient's room is in order with no unnecessary articles. Clear the bedside table so that there is sufficient space to set up a sterile field and to arrange needed supplies and equipments.
14. Close the doors and windows to prevent drafts. Put off the fan.
15. Bring the patient to the edge of file bed.
16. Call for assistance if necessary e.g., to do the unsterile procedures, to transfer sterile supplies etc.
17. Protect the bed with a mackintosh and towel.
18. Fold back the upper bedding towards the foot end of the bed leaving a bath blanket or sheet over the patient. Expose the

part as necessary.

19. Untie the bandage or adhesive and remove them. Make sure that the dressing is not removed from its place until the nurse is ready to do the dressing (after washing her hands).
20. Turn the head of the patient to one side, so that the patient may not see the wound and get worried about it.

Procedure:

1. Wear the mask to prevent wound contamination with droplets.
2. Wash hands thoroughly to prevent cross infection
3. Put on gown, gloves etc as necessary to ensure asepsis.
4. Open the sterile tray. Spread the sterile towel around the wound to create a sterile field around the wound.
5. Pick up a dressing forceps and remove the dressings and put it in the paper bag. Discard the dissecting forceps in the bowl of lotion to prevent contamination of the hands with the soiled dressings. (if the dressing is adherent to the wound, pour saline and wet it before removal) .
6. Note the type and the amount of drainage present.
7. Ask the assistant to pour small amount of cleansing solution into the bowl to prevent contaminating the hands of the nurse by the outside of the bottle.
8. Clean the wound from the centre to periphery, discarding the used swabs after each stroke. Cleaning should be done from cleanest area to the less clean area. Wound line is considered cleaner than the surrounding area even if the wound is infected.
9. After thoroughly cleaning of the wounds dry the wound with dry swabs using the same precautions.
10. Discard the forceps in the bowl of lotion to keep the wound as dry as possible.
11. Apply medications if ordered and to apply the ointment directly to the wound may be difficult. Apply a small portion on the dressing that goes directly over the wound.

12. Apply the sterile dressings. Apply the gauze pieces first and then the cotton pads. Cotton placed onto the wound may stick on to the wound when the discharge dries.
13. Reinforce the dressings on the dependent parts where the drainage may collect. Reinforcing the dressing will prevent oozing of the drainage onto the bed of the patient.
14. Remove the gloves and discard it into the bowl with lotion. Gloves worn during the dressing will be highly contaminated.
15. Secure the dressings with bandage or adhesive tapes.
16. Removal of the drains or sutures should be done after the cleaning of the wound area.

After care of the patient and the articles:

1. Help the patient to dress up and to take a comfortable position in the bed. Change the garments if soiled with drainage.
2. Replace the bed linen.
3. Remove the mackintosh and towel.
4. Take all articles to the utility room.
5. Discard the soiled dressings into a covered container and send for incineration.
6. Remove the instruments and other articles from the disinfectant solution and dean them thoroughly.
7. Dry them.
8. Re-set the tray and send for autoclaving. Replace all other articles to their proper places.
9. Send the soiled linen to the laundry bag for washing (Remove the blood stains before sending them to dhobi).
10. Wash hands.
11. Record the procedure on the nurse' s record with date and time. Record the condition of the wound , the type and amount of drainage, condition of the sutures etc, on the nurse' s record. Report to the surgeon any abnormalities.
12. Return to the bedside to assess the comfort of the patient. Special instructions in the care of the wound are to be communicated to the patient.

13. Clean the bed and the unit of the patient

Session 10

4.10 Pre and post -operative care:

The success of every surgery depends on the type of nursing care given to the patient before (pre-operative) during (intra-operative) and after (post-operative) period of surgery. The preparation of the patient for surgery depends on the type of surgery, age of the patient, general health of the patient and the organ involved.

Types of surgery and features

Types of surgery		Features
Emergency	:	Pre-operative period is very short, because of the life threatening situation eg., acute appendicitis. Therefore , minimum preparation in the pre-operative period.
Planned	:	Time for surgery is fixed with the mutual consent of the surgeon and the patient.. There is enough time left for the pre-operative care to be given to the patient.
Major		The operation involving a large surface area of the body.
Minor		The operation involving a small surface area of the body.
Diagnostic		This is an operation in which the diagnosis is unknown. Eg. Exploratory laparotomy in which the abdomen is opened to seek the cause of the symptom
Curative		This is an operation in which he diseased part of the organ is removed to relieve symptoms. Eg.

		Cholecystectomy
Restorative		This is an operation involving strengthening of a weakened area. Eg. Herniorrhaphy
Corrective		This is an operation in which deformities are corrected. Eg. Replacement of the mitral valve.
Palliative		This is an operation in which the symptoms are relieved but the cause remains. Eg. Gastro jejunostomy.
Cosmetic		This is an operation done to improve the appearance Eg. Repair of the cleft lip and cleft palate.

Pre-operative care of the patient begins as soon as the surgeon makes a diagnosis and decides that an operation is necessary for the patient.

1. Psychological preparation

Discuss with the patient to give full information about the surgery, such as:

1. Type of surgery
2. Consequences of surgery (if it is done and if it is not done).
3. The problems to be faced (disabilities expected)
4. Expected duration of hospitalization
5. Expected time of resuming duty (if employed)
6. Cost of surgery
7. Treatment / investigations done before surgery and its purpose
8. Necessary arrangements to be made about the family, financial matters, work, hospitalization, etc.

Eradicate fear of operation from the patient:

1. Allow the patient to ask questions and clear all his doubts
2. Introduce to the patient someone who had similar surgeries and successfully recovered from the symptoms.

3. Explain what happens during anaesthesia.
4. Explain how to get rid of pain after surgery.
5. Tell the patient when he can have meals.
6. Answer all questions asked by the patient in a language he can understand, so that the patient will have confidence to undergo surgery.
7. Let the patient see the persons, places and equipment involved in his operation.
8. Always start the procedures with an explanation, so that it will inspire confidence in the medical team. The patient has to feel that he will be safe in the hands of the competent people during surgery.
9. For many patients, their admission to the hospital is a first experience in their lives. In such situation, the nurses should make them feel at home by eradicating their fear.

3. Meet the spiritual needs of the

1. Let the patient meet the ministers of his religion, if requested
2. Obtain inform consent.
3. Build up the general health
4. Preoperative teaching
5. Surgical preparation.
6. Preparation of the patient on the evening before operation enema and bowl wash.
7. Preparation of the patient on the day of the surgery.
8. Sending the patient to operating room

Preparation of skin:

Preliminary assessment:

1. Check the doctor' s orders for the diagnosis and the orders for operation.
2. Check the type of the operation to be done and the area to be prepared.
3. In doubt, clarify with the surgeon, or at least with the seniors.
4. Check the orders for specific precautions.

5. Check the operative area for any skin lesion.
6. Check the cleanliness of the skin to be prepared.
7. Check the abilities and the limitations of the patient.
8. Check the consciousness of the patient and the ability to follow instructions.
9. Check whether the patient is getting any treatment and can be discontinued till the skin preparation is complete.
10. Check whether the articles are in working order. Check the articles in the patient' s unit.

Articles:

1. Clean razor with sharp blade in a container.
2. A bowl with the disinfectant.
3. Shaving cream or soap jelly.
4. Cotton tipped applicators.
5. Scissors
6. Kidney tray and paper bag.
7. Mackintosh and towel

Articles for cleaning the area and dressing the skin area.

1. Basin with warm water.
2. Wash clothes.
3. Soap with soap dish
4. Spirit, mercurochrome, iodine
5. Binders and safety pin
6. A sterile tray containing, sponge, holding forceps, cotton balls, dressing towel and gloves

Purpose

1. To shave the skin without scratches.
2. To disinfect the razor after shaving
3. To lather the skin area for a wet shave. The skin is soft when it is wet.
4. To smear the cream on the area.
5. To cut long hair, if any, and to cut short the nails.
6. To receive the wastes.

7. To protect the bed and garment. dressing the skin area
8. To clean the area after the shave.
9. To use as antiseptics on the skin.
10. To secure the dressing towel in place
11. To clean and to paint the area.
12. To cover the area after cleaning.
13. To maintain the aseptic technique when dressing the area

Preparation of the patient and the environment

1. Identify the patient and explain the procedure to win his confidence and co-operation.
2. Explain the sequence of the procedure and tell him how he can co-operate with you.
3. Provide privacy with curtains, and drapes.
4. Place the patient in a comfortable and relaxed position according to the part to be prepared.
5. Give proper support to the body parts, if the patient has to raise it from mattress and hold it in a position for a considerable time.
6. Arrange the articles conveniently at the bedside.
7. Close the doors and windows to prevent drought.
8. Adjust the height of the bed according to the comfortable **working** of the nurse. Bring the patient to the edge of the bed.
9. Fold back the upper bedding towards the foot end of the **bed** leaving a sheet or bath blanket over the patient. Expose **the** parts as necessary.
10. Protect the bed with a mackintosh and towel.
11. Remove the ornaments and the cosmetics used on the **area** to be prepared.
12. Inspect the finger and toe nails. If long, cut short.

Procedure:

1. Wash hands To prevent cross infection
2. Lather the area for the easy removal of the hair. The skin will be soft when it is wet.
3. Shave the skin by holding the skin taut and the razor held at 45° angle to the skin and moved in the direction the hair is growing. Use short, firm but gentle strokes.

4. This approach decreases the skin irritation and ensure complete removal of hairs.
5. Rinse the area with soap and water and then with water alone, using the wash clothes. Thorough cleaning will remove the dirt and soap residue from the skin.
6. Repeat the steps 2 to 4 times until the entire area has been prepared clean and no hair is visible. Dry the area.
7. Discard the razor into the bowl with antiseptic. disinfect the razor.
8. Put on gloves, if available. Clean the area with spirit starting from the centre to the periphery. Paint the area with either iodine or mercurochrome spirit, iodine and mercurochrome are antiseptics. If iodine is used special care should be taken to prevent blistering
9. Cover the operative area with the sterile towel and secure with binders.

After care of the patient and the articles

1. Put on fresh gown.
2. Adjust the position of the patient in bed. Rearrange the bed clothes.
3. Remove the mackintosh and towel.
4. Take all articles to the utility room. Remove the razor from the disinfectant solution, discard the blade, clean it thoroughly, dry it and replace it in its proper place. All the articles are cleaned, dried and replaced in their proper places.
5. Wash hands
6. Record the procedure on the nurse's notes with date and time.
7. Record the area prepared and the condition of the skin.
8. If there is time, send the patient for a thorough bath after shaving of the skin but before he is prepared for operation.
9. Always entrust the patient to someone who will take responsibility of the patient while he is in the operation theatre.

Post-operative care (in general)

1. Preparation of post-anaesthetic bed and reception of the patient.

- After sending the patient to operating room prepare a bed to receive the patient undergone surgery and anaesthesia. (Refer in Principles and Practice of Nursing Vol. I)
- There should be adequate number of people to. transfer the patient without disturbing the functioning of the devices attached with the patient; such as : i.v. infusion set, self retaining suction set, blood transfusion sets, naso-gastric tube, oxygen, urinary catheter, cardiac monitoring, water seal drainage system, plaster casts, traction sets.
- Receive the patient without disturbing the devices attached to the patient. The recovery room nurse-incharge may give the necessary instructions to the personnel before transfering the patient.
- Ask the theatre staff who has accompanied with the patien about any complications that has occurred in the operation room during surgery.
- Before the theatre staff (including anaesthetist) return to operation theatre, check the vital signs blood pressure, pulse rate, respiration, colour of the skin and nails for any cyanosis etc. Compare it with the baseline data recorded before sending to operation theatre.
- Check the operation site for bleeding, discharge etc., if draina tubes are fitted.
- Keep the patient well covered to prevent draught.
- Never leave the patient alone to prevent injury from falls.
- Observe the patient for swallowing reflexes. If not present, keep the patient in a sidelying position to prevent the tongue falling back and obstructing the airway. After tonsillectomy, the patient may be kept in prone position to prevent blood

aspirating in the lungs. The patient who had spinal anaesthesia, the foot it may be raised on bed blocks

- Quickly observe the functioning of all devices and make sure that they are in its functioning order e.g., the drainage tubes connected with the drainage bottle, the IV sets are patent.
- Check the doctor's orders for other instructions and treatment

2. Care of the patient who is under the effects of anaesthesia

- Patient needs close and diligent observation until the patient fully recover from anaesthesia. This will help to detect the early
  signs of complications after surgery and the nurse will be able to respond immediately.
- A noisy breathing is indicative of airway obstruction that can occur, due to the tongue falling back and obstructing the pharynx, or fluid collected in the airway passages or fluids aspirated into the lungs. Apply suction immediately, send & call the surgeon and the anaesthetist.
- Keep the patient in a suitable position that will be helpful to drain out the vomitus, blood and secretions collected in the mouth and will prevent them aspirating into the lungs. This position is maintained until protective reflexes are returned.
- The oro-pharyngeal airway left in the mouth of the patient should be removed as soon as the patient has regained the cough and swallowing reflexes.
- Excessive secretions in the mouth or anywhere in the respiratory passage can lead to airway obstruction. It should be sucked out. If intra-tracheal auctioning is necessary, always use sterile technique.
- If the patient is cyanosed, administer oxygen inhalation. At the same time, find out the cause and remove the cause. Prolonged oxygen therapy should be guided • by arterial blood gas determinations.
- A weak thready pulse with a significant fall in blood pressure may indicate circulatory failure. It may also indicate blood

loss from the body. The surgeon and the anaesthetist should be informed.

- In order to prevent injury from falls from bed, put on the side rails on the bed. Till the patient recover from the effects of anaesthesia, the nurse should not leave the patient alone. Even, when the patient has recovered from the effects of anaesthesia, entrust the patient to someone responsible for the care.
- While awakening from anaesthesia, patients need frequent orientation as to where they are, what has been done to them, and reassurance that they are safe in the hands of the medical team. They also need to know that the operation is over and they are recovering from anaesthesia.
- Although these patients, while they are under the effects of anaesthesia, appear to be unconscious, the nurses should be careful, not to make any statement about the patient or his disease conditions that may create anxiety in the patient.
- When the patients under the effects of anaesthesia complain pain in the operation site, the narcotics/sedatives may be ordered by the surgeon and it should be given with caution.
- The first post operative dose of a narcotic is usually reduced to half the dose the patient will be receiving after fully recovered from anaesthesia. This is because it can cause pronounced depression of the respiratory/circulatory/central nervous systems that may follow.
- Patient recovering from anaesthesia may ask for drinking water.
- Unless die patient has fully regained the swallowing reflex, drinking water may choke the patient; it should not be given.
- As the patient is recovering from the effects of anaesthesia, the patient may become restless due to the discomfort caused by the presence of those devices attached to the patient, such as IV sets, urinary catheters, drainage tubes etc.
- The nurse should help the patient by giving adequate explanations.

- Keep the family informed of the successful completion of surgery, transfer of the patient from the operating room to recovery room etc. These informations will reduce their anxiety.
- If possible, allow the relatives to meet surgeon to clear their doubts.

3. Observation of the patient in the postoperative period

- Close and diligent observation by the nurses are important to detect complications in the early stages, and thus, save the patient.
- On the first post operative day the patient needs close and frequent observations : e.g., the vital signs are checked every 15 minutes or more frequently (during the period when the patient is in the recovery room).
- Once the vital signs are stabilized, the observations may be made every 2 hourly or 4 hourly according to the progress made by the patient.
- The main points that should be observed are
  - Vital signs - blood pressure, pulse rate, respiratory rate, akin colour, skin temperature.
  - Intake and output -I.V. fluids, oral fluids taken by the patient, naso-gastric aspiration, wound drainage, blood loss.
  - Abdominal girth in patients with abdominal distension.
  - Urinary output- time and amount.
  - Bowel movements.
  - Signs of hypo/ hypervolaemia.
  - Any breathing difficulties.
  - Pain over the calf muscles.
  - Operation site for bleeding, drainage.
  - Any specific observation as told by the surgeon and according to the operation done: e.g., vaginal discharge in patients who had hysterectomy, any arrhythmias in

patients who had cardiac problem, motor and sensory functions in a patient with neurological problems.

4. Diet of the patient

- All patients, except patients who had abdominal surgery, may start the normal diet, if desired so, on the first day. Remember to exclude nausea and vomiting due to the effect of naesthesia.
- Patient who had abdominal surgery, but did not involved the intestine or stomach, can have the clear fluids on the day after the surgery.
- Gradually, it can change into soft diet and then normal diet.
- Patients who are with specific diseases, for which, they were taking special diets, should continue to observe the control of their diet as ordered by the doctor (e.g., a diabetic patient).
- Remember, the patients who had undergone any type of surgery, need a diet rich in vitamins and minerals.

5. Post operative health teaching

All patients need health teaching according to the educational background pf the patient.

- Teach the patient following points :
  - Maintenance of personal hygiene.
  - Diet that is allowed for the patient; any control on the diet.
  - Ambulation; activities that are permitted, as well as restricted.
  - Any adjustments to be made in the occupation of the patient.
  - Any drugs to be taken post operatively; the side effects and precautions.
  - Date on which the patient may resume duty.
  - Learning of any particular procedure to be carried out postoperatively, e.g., care of the colostomy. When the patient is unable to perform the procedure, teach the patient's relatives.

- Further treatment that may be needed for the patient in any other hospital, e.g. radiation therapy for cancer patients.

Session 11:

4.11 Intramuscular Injection:

Purposes :

1. When larger amounts of fluid required the could be given
2. When the drug would be irritating when injected superficially

Requirements :

1. Sterile syringes and needles in a sterliser
2. Sterile cotton balls
3. Sterile cheatle forceps
4. Distilled water
5. Ampoules or viols and files
6. Spirit
7. Kidney tray
8. One clean X-ray for putting used syringes and needles.

Procedure :

1. Read the prescription carefully select the medicine
2. Wash your hands well and dry it with a towel
3. use cheatle forceps for making cotton swabs and dip it in the spirit and wipe the mouth of the viel or ampoule. If it is an ampoule break it with file.
4. Take the syringe fit it. Handle it properly your hand should not touch inside the syringe.
5. Handle the syringe with cheatle forceps only.
6. If it is powder in the olds, take distilled water in the syringe and inject it. Shake it well
7. According to the prescribed dose take the medicine in the syringe.
8. Check the medicine whether the medicine is correct and also the dose and the patient also.

9. Explain to the patient. Take his co-operation make the patient lie down comfortably. The position is left leveled position or lying on the chest will be comfortable.
10. Select the place, wipe it with the sprit and put it in the kidney tray.
11. Press the muscle with one hand and hold the syringe like a pen, pork it slanting position quickly. It should be deep.
12. Before pushing the medicine, draw the syringe and see whether there is any blood is coming it the blood is coming please remove etc. change the needle and inject it in other place.
13. If there is no blood inject the medicine carefully.
14. Keep the cotton in the place where you inject it, take out the syringe. Give bottle message with the cotton balls. Make the patient lie down comfortably.
15. After using clean the syringes and needles
16. Record the time, type of injection, dosage any allergic shock and the nurse should sign.

Session 12:

4.12 Intravenous fluid :

The introduction of large amount of fluid into body via veins is termed as I.V. infusions.

It has the following purpose :

1. To restore the fluid volume that is lost from the body due to hemorrhage, vomiting, diarrhoea, drainage etc.
2. To meet the patient's basic requirements for calories, water, minerals and vitamins.
3. To prevent and treat shock and collapse.
4. To supply the body with adequate amounts of fluids, electrolytes, and other nutrients when the patient is unable to take in adequate amounts by mouth or oral intake is contraindicated or impracticable.
5. To administer medicines.

Indications of intravenous infusions:

Intravenous infusions are indicated in the following situations :

1. To save the patients in life threatening situations e.g., patients having hemorrhage, shock, extensive burns etc.
2. To supply fluids and nutrients to the patients who may have nothing by mouth or who are unable to ingest oral liquids to prolonged nausea, vomiting, diarrhoea, peritonitis, paralytic ileus, fistulas etc.
3. Supply fluids and nutrients to the patients who are unable to digest or absorb a diet administered by mouth or through the nasal tube; e.g., patients who do not have an anatomically intact intestinal tract or the patients with septicaemia etc
4. To dilute toxins in case of toxaemia or septcaemia.
5. To administer medications that are destroyed by the gastric juices or that will not be absorbed by the gastro-intestinal tract, if administered orally.

Solutions used:

1. Nutrient solutions e.g.. dextrose 5%, *10%*. 20%, 25%. 50%. etc.
2. Electrolyte solutions available in isotonic, hypotonic and hypertonic concentration, e.g., normal saline, dextrose saline, lactated ringer's solution. 1/6 molar sodium lactate solutions etc.
3. Alkalinizing and acidifying solutions, e.g.. sodium lactate solution, sodium bicarbonate, potassium chloride etc.
4. Blood volume expanders. These are plasma substitutes and contain large molecular substances which will not escape through the vessel walls and tend to prevent the circulating fluid from leaking into the tissues, e.g.. dextran, lomodex. haemocoele etc.

Venipuncture sites:

When selecting a site for administration of I.V. fluids, it is essential to consider the following factors :

1. The condition of veins (collapsed or too small).
2. The characteristics of tissues over the vein (oedematous, injured, diseased, inflammed etc.)
3. Purpose and the duration of infusions.
4. The type and the amount of I.V fluid ordered.
5. The diagnosis and the general conditions of the patient.
6. The most convenient veins for venipuncture in the adult are the basilic and the median cubital vein in the antecubital fossa because these veins are large and superficial. However, for prolonged infusions, these veins cannot be used without limiting the movements at the elbow joints by the use of splints.
7. If the person is right handed, use of the left arm allows more independence and vice versa.
8. The most commonly used veins in the order of their frequency of use are as follows:
   - Veins of the forearm (basilic and cephalic veins).
   - Veins in the antecubital fossa (median cubital, cephalic and basilic vein).
   - Veins in the radial area (radial vein).
   - Veins in the hand (dorsal metacarpel veins).
   - Veins in the foot.
   - Veins in the thigh (femoral and saphenous veins)
   - Veins in the scalp (for infants).

Nurse's responsibility in the administration

1. Check the patients' name, bed number and other identifications
2. Check the diagnosis and the age of the patient.
3. Check the purpose of infusion.

4. Check the physician's orders for the type of infusion fluid, the strength, the amount and the duration of infusion.
5. Check the consciousness of the patient and his ability to follow the instructions.
6. Check the general condition of the patient, whether overhydrated or dehydrated.
7. Check the site of infusion - note the condition of the veins and tissue at the infusion site.
8. Check the abilities and limitations of the patient.
9. Check the need for additional restraints.
10. Check the patient's previous experience with infusions.
11. Check the articles available in the patient's unit.
12. Check the articles for their working order, the sterility of drip sets and the fluid. Check the expiry date of the fluid. Check the fluid fix discolouration, suspended particles etc.

Preparation of articles

Articles

1. I.V. solutions (sterile and clear) in required number of bottles for a day.
2. Sterile I.V. tubing with attached drip chamber and damp.
3. Sterile [Butterfly (or) real] needle with a protective on its needle.
4. Sterile syringes (2 or c Needles no. 20) and
5. Sterile transfer forceps in jar
6. Sterile cotton swabs and, pieces in sterile containers
7. Methylated spirit container
8. Kidney tray and paper
9. I Bowl with water
10. Tourniquet
11. Adhesive plaster with scissors Covered arm splint with the bandages.

12. Specimen bottles
13. Mackintosh and towel
14. Intravenous pole

Purpose:

1. To administer fluid without interruption.
2. To apply the fluid into the patient.
3. It can be used for unstable vein and also allows maximum freedom of movement.
4. To take blood specimens, if necessary , to add medications to0 the intravenous drip or to initiate the procedure.
5. To handle sterile supplies.
6. To clean the skin at the site of infusion and to cover the needle after the venipuncture.
7. To clear the skin.
8. To receive the wastes.
9. To receive the used syringes and needles
10. To occlude venous return and to make the veins visible.
11. To secure the needle and the tubling.
12. To immobilize the part in order to prevent the needle dislodging from the site.
13. To collect blood specimen if ordered.
14. To protect the bed and the garments.
15. To hang the bottle at the required height.

Preparation of the patient

1. Explain the procedure to the patient to win confidence and co-operation. Explain the sequence of the procedure and tell how he can co-operate in the procedure.
2. Tactfully send the visitors out of the patient' s room.
3. 1f the general conditions allows ask the patient to wash hands with soap and water.
4. Provide privacy with curtain and drapes.
5. Restraint the site, in case of children.
6. Offer the bed pan or urinal as needed.

7. See that the patient has taken food or drink, if allowed.
8. Check the vital signs and record it in the nurses record for the future reference.
9. Divert the attention of the patient away from the infusion procedures by friendly conversations and by curious articles.
10. If any sedation is ordered, it may be given to quiet the patient.
11. Adjust the height of the bed for comfortable working of the nurse.
12. Clear the bedside table or overbed table and arrange the articles conveniently.
13. Place the patient in a comfortable and relaxed position suitable for the infusion site.
14. Select a site on the non-dominant arm to give maximum freedom for the patient.
15. Keep the I.V. stand in position.
16. Place the mackintosh and towel under area where the infusion is to be given.
17. Provide a good source of light if the lighting in the room is inadequate.
18. Call for assistance if necessary.

Procedure:

1. Wash hands
2. Prepare the I.V. solution
3. Carefully remove the bottle seal from the top of the bottle. Clean the top with a spirit swab; holding the bottle upright, insert the drip set and the air vent into the bottle openings.
4. Every step requires aseptic technique to prevent contamination of the whole apparatus.
5. Close the screw clamp to prevent the drip chamber completely filled with the fluid loss from the drip set.
6. Hang the bottle on the I.V. pole about 18 to 24 inches high.
7. Connect the butterfly needle to the I.V. tubing and remove the protective covering.

8. Open the damp and flow the iv fluid through tubing and needle into kidney tray until all air is removed. Clamp the tubing and reapply the protective cap over the needle.
9. Prepare few strips of adhesive tapes and keep ready for use.
10. Prepare the venipuncture site.
11. Place the extremity independent position (1ower than the patient's heart).
12. Apply a tourniquet firmly 6 to 8 inches proximal to the venipuncture site.
13. Massage or stroke the vein distal to the knot and in the direction of the venous flow (towards the heart).
14. Encourage the patient to clench and unclench the fist rapidly.
15. Lightly tap the vein your finger tips.
16. If the veins are not visible by the above stops, remove the tourniquet and apply heat to the entire extremity for 10 to 15 minutes. Then apply the tourniquet.
17. Clean the area with a spirit swab.
18. Dry the area with a sterile dry swab.
19. Insert the needle into the vein by grasping the arm distally to the point of the entry of the needle.
20. Place the left thumb one inch below the expected point of entry. Pull the skin taut.
21. Holding the needle

Reasons:

1. To prevent cross infection.
2. Sufficient height needed for gravity to overcame venous pressure and to facilitate the flow of solution into the vein.

After care of the patient and the articles:

1. Maintain the. specified rate of flow throughout the procedure.
2. Remove the mackintosh and towel.
3. Make the patient comfortable in bed. Tidy up the bed.
4. If the patient is conscious, instruct the patient not to move the hand.

5. Collect all articles used for infusion and take them to the utility room; clean them first with cold water and then with warm soapy water and rinse them thoroughly with clean water. Dry them and replace them in their proper places.
6. Send the blood specimens, if any, to the lab.
7. Record the following informations on the nurses record with date and time :
   - Type of fluid administered.
   - The concentration of the solution.
   - The amount of fluid.
   - The rate of flow of fluid.
   - Any medicines added to the bottle. (If medicines are added to the I.V. bottle, it should be clearly written on the I.V.bottle also).
   - Any reaction noticed in the patient.
8. Return to the bedside to assess the comfort of the patient and observe any complications developing in the patient. Stay with the patient and observe the patient constantly in order to prevent accidents and complications. Watch for any un-favourable signs such as headache, chills, nausea, restlessness, dyspnoea etc. Watch the infusion site for swelling, pain etc.
9. If appropriate, teach the family members to observe and report the following conditions and request for nursing assistance.)
   - The fluid chamber is not dripping.
   - Bottle or bag of fluid nearly empty.
   - Backflow of blood into the tubing.
   - Needle or connections in the tubing is disconnected.
   - Increasing pain and. discomfort at the needle site or along the vein.

- Swelling of tissues around the needle insertion site.
- Any unusual symptoms such as chills, restlessness etc.

10. When leaving the ward, the nurse should report the following to the relieving nurse.
    - The name and bed number of the patient getting I.V. drip.
    - The time at which the drip has started.
    - The type of fluid that is given.
    - The amount of fluid that is administered and how much more to be administered.
    - Any specific precautions to be followed.
    - The specified rate of flow.
    - The general condition of the patient.
11. To change the intravenous bottles :
    - Prepare the new bottle prior to the old one running out completely. Remove the bottle seal and clean the top with a spirit swab.
    - Clamp the intravenous tubing. Remove the air inlet from the old bottle and insert the new one, followed by the I.V. tubing. Hang up the new bottle, release the clamp and re-establish the infusion in the specified rate of flow.
    - Chart the amount and type of fluid infused or added each time.
12. When the prescribed volume of fluid has been infused, it is discontinued. To discontinue it :
    - Clamp the infusion tubing. Loosen all the adhesive tapes that have been used to fix the needle and the
    - Withdraw the needle by pulling on the needle hub in line with the vein. At the same time hold a dry sterile swab over the needle site.

- When the needle is out, apply firm pressure to the site for 2 or 3 minutes, to prevent bleeding
- Apply a small sterile dressing over the needle site, which can be removed on the following day.
- Discard the bottle and tubing as desired.
- Record the total amount of fluid infused, the amount of fluid discarded if any, and the time at which the infusion is stopped.
- Watch for the general condition of the patient after the fluids have been discontinued. If the condition deteriorates, inform the doctor and restart the infusion.

Subcutaneous infusions (hypodermoclysis)

In medical practice, the term subcutaneous infusion or hypodermoclysis is used to designate an injection of a large amount of fluid into the subcutaneous tissues, by means of a needle for the purpose of supplying the body with fluids.

In this method, the fluid is absorbed principally by the lymphatics. It is given in a part where the tissue is loose. The purpose of subcutaneous infusions are same as that of intravenous infusions. This route is seldom used now-a-days due to increased facilities available for the intravenous infusions.

However, this route may be useful under emergency conditions. The Sites used for subcutaneous infusions are:

1. Anterior and outer aspect of the thigh, midway between the knee and the hip.
2. Under and outer margins of the breast.
3. Abdominal wall halfway between the umbilicus and the flank.
4. Back, just below the scapula.
5. The equipment used for the subcutaneous infusion is same which is used for intravenous infusions.
6. The subcutaneous infusions may be given in two places, using a T- connection to help in the maximum absorption of the fluid.

7. To start the subcutaneous infusions, pick up a fold of subcutaneous tissue with the left hand and with the right hand insert the needle at an angle into the subcutaneous tissue in the direction of venous blood flow.
8. The rate of flow is determined by the individual's rate of absorption.
9. In all cases, the rate at which the fluid is given, should be such that the tissue around the needle stay nearly normal in tension and appearance.
10. Hyaluronidase injected into the tissues at the site of infusion or added to the infusion fluid, will increase absorption.
11. When swelling occurs, the infusion should be stopped completely.
12. The solutions used for the subcutaneous infusion should be isotonic.
13. Sugar solutions that are electrolyte free are contraindicated, as it may produce oedema at the injection site.
14. Hypertonic solutions are not absorbed. On the contrary, they may attract body fluids into the injection site.

THE NURSES PLEDGE

I solemnly pledge myself before God
and in the presence of this assembly
to pass my life in purity and to
practice my profession faithfully.
I will abstain from what ever is
deleterious and mischievous and
will not take or knowingly administer
any harmful drug. I will do all in my
power to maintain and elevate the
standard of my profession and will
hold the confidence in all personal
matters committed to my keeping
and all family affairs coming to my
knowledge in the practice of my calling.
With loyalty, I will endeavor to aid the
physician in his work and devote myself
to the welfare of those committed to my care.

The modified Hippocratic Oath arranged by Mrs. Lystra E. Gretter and her committee for the Farrand Training School for Nurses, Detroit is called the Florence Nightingale Pledge as a token of esteem for the **Founder of Modern Nursing.**

The pledge is taken by all the nurses who have completed the training program before entering to their practice.

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