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agencies and a variety of NGOs of which international planned parenthood federation (IPPF) is perhaps the most well known.

The dominant paradigm argued that rapid population growth would not only hinder development, but was itself the cause of poverty and underdevelopment. Almost without exception, population policies focused on the need to restrain population growth; very little was said about other aspects of population such as changes in population structure or in patterns of migration. Given their genesis among the social and economic elites, it is perhaps hardly surprising that the family planning programs that resulted were based on top-down hierarchical models and that their success was judged in terms of numeric goals and targets – numbers of family planning acceptors, couple-years of protection, numbers of tubal ligations performed. Donors, anxious to demonstrate that their aid money was being well-spent, encouraged such performance evaluation indicators. In the drive for efficiency and effectiveness, they supported the establishment of free-standing “vertical” family planning bodies, generally quite separate from other related government sectors such as health, often,
1.4. Components of Reproductive Health

- Quality family planning services
- Promoting safe motherhood: prenatal, safe delivery and post natal care, including breastfeeding;
- Prevention and treatment of infertility;
- Prevention and management of complications of unsafe abortion;
- Safe abortion services, where not against the law;
- Treatment of reproductive tract infections, including sexually transmitted infections;
- Information and counseling on human sexuality, responsible parenthood and sexual and reproductive health;
- Active discouragement of harmful practices, such as female genital mutilation and violence related to sexuality and reproduction;
- Functional and accessible referral
and accessibility can be measured using maternal mortality.

Reproductive health indicators summarize data which have been collected to answer questions that are relevant to the planning and management of RH programs. The indicators provide a useful tool to assess needs, and monitor and evaluate program implementation and impact. Indicators are expressed in terms of rates, proportions, averages, categorical variables or absolute numbers.

2.1. CRITERIA FOR SELECTING INDICATORS

Indicator selection raises technical questions about the implications of data collection as well as other operational issues. A good indicator has a number of important attributes, and those recommended by the World Health Organization (WHO, 1997c) are outlined below.
Reproductive Health

constructed gender roles and norms which prevents a person from enjoying full human rights.

Gender stereotypes refer to beliefs that are so ingrained in our consciousness that many of us think gender roles are natural and we don’t question them.

Gender bias refers to gender-based prejudice; assumptions expressed without a reason and are generally unfavorable.

Gender mainstreaming: the incorporation of gender issues into the analysis, formulation, implementation, monitoring of strategies, programs, projects, policies and activities that can address inequalities between women and men.

Gender analysis is a research tool that helps policy makers and program managers appreciate the importance of gender issues in the design, implementation, and evaluation of their projects.

The Social Construction of Gender

The people involved, Family members, peers, teachers and people in educational and religious institutions are
CHAPTER 2
MATERNAL HEALTH

Learning objectives:

- Describe the safe motherhood initiative and services included under safe motherhood
- Understand important causes of maternal mortality and morbidity
- Describe maternal health services
- Understand methods of maternal mortality measures and their challenges

1. Introduction

Motherhood should be a time of expectation and joy for a woman, her family, and her community. For women in developing countries, however, the reality of motherhood is often grim. For those women, motherhood is often marred by unforeseen complications of pregnancy and childbirth. Some die in the prime period of their lives and in great distress: from
safe motherhood activities helps facilitate the delivery of maternal health services and ensure sustainability.

- Involving community members (particularly women and their families, health care providers, and local leaders) in efforts to improve maternal health helps ensure program success.

- Training and deploying a range of health care providers at appropriate service delivery levels help increase access to maternal health services, especially life-saving services.

- Effective communication between health care providers at both the community level and the district (first referral) level is essential for management of obstetric emergencies and for ensuring continuity of care.

- Community education about obstetric complications and when and where to seek medical care is important to ensure early recognition of complications and prompt care-taking behavior.
even though there is a plan to deliver in an institution there are other variables that can affect the situation during labor and delivery.

- Risk assessment based on predetermined parameters: height, age, parity, past obstetric history, these variables are usually the basis to classify whether the pregnancy is at risk or not. But this has been found out to be less helpful in identifying risk. Randomized controlled trials have been conducted including in less developed countries and the results have consistently pointed to the need for a new strategy for ANC.

Reducing antenatal care visits to 4-5 with proven effective interventions (goal oriented visits) produces similar maternal results. Based on the results of large-scale randomized controlled trials, the WHO Technical Working Group recommended a minimum level of care that is 4 visits per pregnancy. It was found out that Antenatal care delivered by midwife or general practitioner has similar clinical effectiveness as that of obstetrician/gynecologist led shared care.
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delivery, but have little accurate knowledge of appropriate management of labor and delivery. It is now generally accepted that one of the main reasons why many TBA-based maternity care programmes of the past did not work, or were unsustainable, was that the programmes failed to link TBAs to a functioning health care system. In practical terms, TBAs can help in the provision of skilled care to women and newborns by serving as advocates for skilled attendants and maternal and newborn health needs, disseminating health information through the community and families.

In all countries, emphasis should be placed on training and deploying an adequate number of professional, skilled midwives to provide the majority of delivery care. Where TBAs account for a significant portion of deliveries, safe motherhood programs should include activities aimed at providing adequate supervision and integrating them into the health system.

- Appropriate training (skilled trainers and appropriate teaching methodologies)
- Linkages to the health system that include proper supervision and referral for complicated cases
Reproductive Health

- Cleanliness
- Prevent heat loss, (Warming and drying of baby and keeping the delivery room warm)
- Early breast-feeding
- Eye care
- Management of newborn illness
- Immunization
- Vitamin K administration.

Specific maternal health topics that have to be disseminated at community level are summarized below.

1. Promote healthy behaviors to women, families and communities
2. Promote appropriate use of maternal health care
3. Increase community awareness and organization.
4. Discourage practices which harm maternal health

2.3.5. Maternal Nutrition

Poor nutrition before and during delivery contributes in a variety of ways to poor maternal health, obstetric problems and poor pregnancy outcomes.
1. **Stunting** - exposes women to the risk of cephalo-pelvic disproportion.

2. **Anemia** - the cause may be due to inadequate intake of iron, parasitic infestation and malaria. Women with severe anemia are therefore, more vulnerable to infection and at increased risk of death due to obstetric hemorrhage.

3. **Severe vitamin A deficiency** may make women more vulnerable to obstetric complications, including infection and associated maternal mortality.

A diet of pregnant and non-pregnant women should contain daily allowance of Vitamin A of 800mg. It is good to advice for women to have dark green, yellow or orange fruits and vegetables, liver as a source of vitamin A.

It is recommended to give supplemental vitamin A to pregnant and lactating women 200,000IU during pregnancy and 500,000IU during breast feeding. But remember, high doses of vitamin A during pregnancy causes teratogenic effect on fetus (consider doses higher than 50,000 IU is toxic).
countries or areas, covering approximately 35% of the world’s population.

- Those with no reliable system of civil registration where maternal deaths – like other vital events – go unrecorded. Currently, this is the case for most countries with high levels of maternal mortality.

Those with estimates of maternal mortality based on household surveys, usually using the direct or indirect sisterhood methods. These estimates are not only imprecise as a result of sample size considerations, but they are also based on a reference point some time in the past, at a minimum six years prior to the survey and in some cases much longer than this.

WHO, UNICEF and UNFPA have developed estimates of maternal mortality primarily with the information needs of countries with no or incomplete data on maternal mortality in mind, but also as a way of adjusting for underreporting and misclassification in data for other countries. A dual strategy is used that adjusts existing country information to account for problems of underreporting and misclassification and uses a simple
or years since death of deceased siblings, and the age at death of deceased siblings. For each sister who died at age 12 or over, the respondents were asked additional questions to determine whether the death was maternity related; that is, whether the sister was pregnant when she died, and if so, whether she still died during childbirth, and if not, whether the sister died within two months of the termination of a pregnancy or childbirth. Listing all the siblings in chronological order of their birth is believed to result in better reporting of events than would be the case if only information on sisters were sought. Moreover, the information collected also allows the direct estimates of adult male and female mortality.

Information on maternal mortality for the period 0-6 years before the survey, as mentioned, this period was chosen to reduce any possible heaping of reported years since death on five-year intervals. Age-specific mortality rates are calculated by dividing the number of maternal deaths by years of exposure. Maternal deaths are defined as any death that occurred during pregnancy, childbirth or within two months after the birth or termination of pregnancy. This time-specific definition
3.2.3 Sexual coercion or rape

Twenty to fifty percent of women and girls report sexual abuse, rape or sexual coercion which carries about 5% risk of pregnancy in those in reproductive age unless emergency contraceptives given.

3.2.4 Other factors include:

- Lack of control over contraception;
- Young age or single marital status;
- Abandonment or unstable relationship;
- Mental or physical health problems;
- Severe malformation of the fetus; and
- Financial constraints.

3.3 Why does induced Abortion Occur?

Each year women around the world experience 80 million unwanted pregnancies. Out of these mothers, nearly 42 million decide to have an abortion and about 20 million of them undergo unsafe abortion.
• Confidential counseling and quality family planning information and services, including emergency contraception, should be universally accessible to all women,

• Special attention should be given to the needs of young people, marginalized women, women living in situations of conflict, and women at risk of sexual abuse, rape and violence.

II. Providing high quality appropriate services

In more than 131 developing countries, induced abortion is permitted in certain circumstances. In countries where abortion is legal:

• Services should be safe and available

• Service providers must be carefully trained to offer high quality services and compassionate counseling.

• Providers must be well-informed about the legal status of abortion and protocols for providing services, so that women who are eligible can access services quickly and without unnecessary delays or bureaucratic procedures.
Surgical methods (Permanent)

- Tubal ligation (ligating the oviduct).
- Vasectomy (ligating the sperm duct).

Emergency contraception

- IUD
- Levonorgestrel-only or combined estrogen-progestogen
- RU486

Even though various methods are available and accessible, clients do not get the opportunity to discuss with health care providers how/when to use and where to go. Therefore, it is important to ensure provision of information and counseling in family planning services.

The major activities to be carried out are:

1. Review of all available methods in a simple and understandable manner.
2. Understanding and respecting the clients’ right.
3. Follow the acronym GATHER- greet, ask, tell, help, explain, and return
The fertility decline in developing countries that began in the 1960s and 1970s continued through the 1990s. Among 38 developing countries with more than one survey since 1990, the total fertility rate (TFR) fell in almost all. Among developing countries surveyed since 1990, fertility is highest in sub-Saharan Africa, at an average of 5.3 children per woman, but subsequent surveys suggest that parts of Africa have started down the path already taken in other regions. Behind fertility declines, there is continued increase in contraceptive use, particularly use of modern methods. Population Reports estimate that in 2000 about 55% of married women of reproductive age in developing countries were using a contraceptive method. This level of contraceptive use is well below the level in the developed world of 75% to 84% of married women which is the level of contraceptive use generally considered necessary to achieve replacement-level fertility (each couple having an average number of two children with contraceptive prevalence rate of 75% to 84%).
• Give family planning services.
• Should schedule follow-up visits.

4.6.2. Steps in Family Planning Counselling

Counseling new clients about family planning needs a step-by-step process. The process includes learning, making choices, making decisions and carrying them out. It consists of six steps which can be remembered with the acronym GATHER. Not every new client needs all the steps; some clients need more attention to one step than another.

The GATHER Steps

G - Greet clients in an open, respectful manner. Assure the client of confidentiality. Give as much time listening as talking.

A - Ask clients about themselves. Help client talk about their family planning practices, intentions, concerns, and wishes.

T - Tell clients about choices. Depending on the clients need, tell the client what reproductive health choices she/he might take. Focus on methods that interest
Adolescence, married or unmarried, face several potential problems in relation to their sexual and Reproductive Health. These includes:-

- Consequences of unwanted pregnancy which may result in unsafe abortion.
- High risks of early child bearing for the mother, infant and child.
- Diminished opportunities for education and education especially for females.
- Unprotected sexual intercourse exposes adolescents to a high risk of STD's. Consistent and correct use of condom is highly effective in preventing pregnancy and STI (dual protection).

### 4.7. Trends in Contraceptive Use in Ethiopia

According to EDHS, majority (79.5 %) of current contraceptive users obtain methods from the public sector. Thirty-four percent of currently married women have unmet need for family planning. Men desire larger family size than women:
effective when a program is fairly new and people are not familiar with contraceptives. Adding CBD services to existing clinic services has been shown to make family planning more acceptable to a community and to increase a program’s impact. In Ethiopia, CBD workers provide FP to 1.7% of current users from the public sector and 1.4% of the private sector.

To establish CBD:
- Selection of CBD workers
- Training (initial/in-service)
- Supervision
- Integrating into a functional referral system
- Incentives to CBD workers

3. Commercial Retail Sales

If people are willing to obtain contraceptives from sources outside the health care system, commercial retail sales can make contraceptive methods very accessible. In this approach, contraceptives such as OCPs and condoms are sold at reduced, subsidized prices in pharmacies, stores, shops, bars, beauty salons
and barber shops and are advertised on the mass media. When this approach is used, retailers should be given training in basic information about the products and how to refer people who have problems with a contraceptive.

4.9. Reasons for Not Using Contraceptives

An understanding of the reasons why people do not use family planning methods is critical in designing programmes that are effective in reaching women with unmet need and to improve the quality of family planning services.

Main Reasons for Not Intending to Use are:

- Outside sub-Saharan Africa: At little risk of becoming pregnant.
- Sub-Saharan Africa: Currently pregnant or want to have more children.

Other reasons for not intending to use:

- Concerns with contraceptive side effects
- Religious or other opposition to family planning.
reported prevalence of STIs in Ethiopia is 2 % in women and 1.5 % in men.

The links between STIs and HIV is one of the reasons that force the world to give attention to almost neglected sexually transmitted infections, because:

- The presence of an untreated STI enhances both acquisition and transmission of HIV. HSV 2 plays an important role in the transmission of HIV infection.
- STI treatment is an important HIV prevention strategy in a general population
- Integration of HIV/AIDS programs with STIs prevention and care programs is economically advantageous (similar interventions and target audiences)
- Clinical services offering STI care are important for providing information and education about STIs including HIV in order to promote lower risk behavior.

Another reason to consider STIs as public health problems is because STIs can lead to the development of serious complications like:
In order to address these challenges, health providers should:

- Raise awareness in the community about STIs/RTIs and how they can be prevented.
- Promote early use of clinic services.
- Promote safer sexual practices when counseling clients.
- Detect infections that are not obvious.
- Prevent iatrogenic infection.
- Manage symptomatic STI/RTI effectively.
- Counsel patients on staying uninfected after treatment.

5.6 Obstacles to Provision of Services for STI Control

- Decline in interest and resources for STIs prevention and control globally in favor of ART and VCT.
- Lack of integration of prevention and care activities for STIs (including HIV) into sexual and reproductive health services.
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By the end of 2007, 33.2 million people were living with HIV, including 2.5 million children under 15 years old. Over 95 percent of these HIV cases occurred in the developing countries of sub-Saharan Africa and South and Southeast Asia.

In 2007, approximately 2.5 million new adult HIV infections with 420,000 newly infected under 15 years children and 2.1 million AIDS-related adult deaths occurred worldwide with 330,000 deaths of children under 15 years. Women accounted for approximately more than half of the new infections and 2.1 million AIDS deaths.

HIV/AIDS exacts a heavy toll on its victims. People living with HIV/AIDS face tremendous health risks from opportunistic illnesses (such as tuberculosis) that compromise their way of life and dramatically increase their risk of death. In sub-Saharan Africa, average life expectancy has dropped to 47 years, 15 years less than it would have been without AIDS. In addition to health risks, people living with HIV/AIDS face social and cultural barriers, including stigmatization, discrimination, and rejection from health-service providers, friends, and relatives. These barriers, often worsened by the
Obstetric and Delivery Practices

- Rupture of membrane for more than four hours
- Injuries to birth canal during child birth (vaginal and cervical tears)
- Ante partum procedures e.g. amniocentesis, external cephalic version
- Invasive childbirth procedures (e.g. episiotomy, fetal scalp monitoring)
- Vaginal delivery
- Delayed infant cleaning and eye care
- Routine infant airway suctioning

6.2.3. Breast-Feeding Transmission

Breast-feeding is associated with increased transmission overall. A randomized clinical trial comparing breast-feeding with formula feeding demonstrated the efficacy of complete avoidance of breast-feeding for the prevention of MTCT.

In resource-poor settings, breast-feeding offers the best opportunity for inexpensive, readily available, and safe infant nutrition. In most communities, breast-feeding is
2. Build and maintain leadership from all sections of society, including governments, affected communities, nongovernmental organizations, faith-based organizations, the education sector, media, the private sector and trade unions.

3. Involve people living with HIV, in the design, implementation and evaluation of prevention strategies, addressing the distinct prevention needs.

4. Address cultural norms and beliefs, recognizing both the key role they may play in supporting prevention efforts and the potential they have to fuel HIV transmission.

5. Promote gender equality and address gender norms and relations to reduce the vulnerability of women and girls, involving men and boys in this effort.

6. Promote widespread knowledge and awareness of how HIV is transmitted and how infection can be averted.

7. Promote the links between HIV prevention and sexual and reproductive health.
People in the education sector
People in the health sector
People living with HIV
Prisoners
Refugees and internally displaced people
Rural communities
Sex workers and their clients
Women and girls
Workplace populations
Young people

HIV post-exposure prophylaxis

The immediate use of antiretroviral drugs to prevent HIV seroconversion after exposure to potentially HIV-infected blood or body fluids is called Post-exposure prophylaxis for HIV infection (HIV-PEP).

The efficacy of HIV-PEP has been shown in occupational settings but, the evidence is indirect. Studies suggest that when initiated within 12, 24, or 36 hours after exposure, HIV-PEP is more effective than
In response to the urgent need to reduce the number of new HIV infections globally, the World Health Organization (WHO) and the UNAIDS Secretariat convened an international expert consultation in March 2007 to determine whether male circumcision should be recommended as an HIV prevention measure. Based on the existing evidence, experts attending the consultation recommended that male circumcision now be recognized as an additional important intervention to reduce the risk of heterosexually acquired HIV infection in men.

Male circumcision should always be considered as part of a comprehensive HIV prevention package. Moreover, wherever male circumcision services are offered, training and certification of providers, as well as careful monitoring and evaluation of programmes, will be necessary to ensure that these meet their objectives and that quality services are provided safely, with adequate equipment and with appropriate counselling and other services.

The communication strategies around male circumcision will be critical, since men should not develop a false
sense of security and engaging in high-risk behaviours that could undermine the partial protection provided by male circumcision. Additional research is still required in a number of areas to inform the further development of male circumcision programmes such as the impact of male circumcision on sexual transmission from HIV-infected men to women, the protective benefit of male circumcision in the case of insertive partners engaging in anal intercourse, and research into the resources needed for, and most effective ways, to expand quality male circumcision services.

**Prevention of mother-to-child transmission of HIV**

Each day, approximately 1,800 children become infected with HIV, the vast majority of whom are newborns. A pregnant woman who is HIV-positive can pass the virus on to her baby in the womb or during childbirth, or postnatal, through breastfeeding.

In the absence of any intervention, the risk of mother-to-child-transmission (MTCT) of HIV is around 15-30%, if the mother does not breastfeed the child. But it can rise as high as 30-45% with prolonged breastfeeding.
The risk of transmission can be reduced by up to 50% with the administration of a short course of antiretroviral drugs to mother and baby around the time of delivery, in conjunction with replacement feeding.

However, less than 8% of pregnant women worldwide are currently offered services to prevent mother-to-child transmission (MTCT) of HIV.

Prevention of perinatal HIV transmission requires a comprehensive package of services that includes preventing primary HIV infection in women, preventing unintended pregnancies in women living with HIV, preventing transmission from pregnant women living with HIV to their infants, and providing care, treatment and support for women living with HIV and their families.

Health systems need to be strengthened so that interventions to prevent mother to child transmission of HIV infection, including the use of antiretroviral drugs, can be safely and effectively implemented. Moreover, HIV testing in pregnancy has a number of benefits in terms of prevention and care for mother and child, although to avoid or minimize negative consequences
of factors including certain personal, social, economic and political factors that make people or certain groups of people more vulnerable to infection than others. These include age, sex, poverty, gender inequalities, certain laws, etc. Factors affecting risk and vulnerability should be considered in designing an effective AIDS response, more so in behaviour change programmes.

Despite recent evidence in expansion of access to prevention, treatment, care and support services, the fundamental role of human behaviour in the continued spread of HIV is increasingly clear. Fostering health enhancing behaviour change outcomes demands a persistent commitment to meeting the diverse and changing needs of individuals, and to addressing the characteristics of their social, cultural and physical environments that place them at risk.

**Communication for behaviour change**

Information, Education and Communication – sometimes called IEC - are a critical part of the puzzle for achieving the goal of universal access to HIV prevention, treatment, care and support. However,
% of women believed a man is justified in beating his wife at least for one reason. The most widely accepted reasons for wife-beating are going out without telling the partner and neglecting the children (about 64 percent).

II. Sexual Coercion

Sexual coercion exists along a continuum, from forcible rape, to non-physical forms of pressure that compel girls and women to engage in sex against their will. The touchstone of coercion is that a woman lacks choice and faces severe physical and social consequences if she resists the sexual advances.

Sexual violence includes:

- Rape within marriage or dating relationships
- Rape by strangers
- Systematic rape during armed conflict
- Sexual harassment
- Sexual abuse of children
- Forced first sex
- FGM
protect women and girls from all such similar unnecessary and dangerous practices." The 1995 Platform for Action of the Fourth World Conference on Women urged governments, international organizations, and nongovernmental groups "to develop policies and programmes to eliminate all forms of discrimination against the girl child, including female genital mutilation. FGM is recognized as a human rights violation in the U.S. State Department's annual country reports. In 1997 United Nations agencies (WHO, UNICEF, and UNFPA) issued a joint position paper and are increasing their efforts to eradicate FGM.

7.4. Early Marriage (EM):

It has been a common practice, particularly in much of rural Ethiopia to get girls married at an early age as 10 – 15 years old. The young adolescent or preadolescent girl is not ready physically and psychologically for intercourse, pregnancy, child bearing and child rearing.
Reproductive Health

- Providers' reluctance to serve unmarried adolescents
- Prohibition by law/policy to serve adolescents
- Adolescent's reluctance to use services for fear of judgment or concerned about having pelvic examination

8.6 Adolescent Reproductive Health Services

8.6.1. Making clinical services available

Adolescent clinical health services are best staffed by providers trained to deal with specific adolescent health concerns and to counsel adolescents about sensitive reproductive health issues and contraceptive use. In all interventions, providers must consider adolescents' marital status, overall health, and how much power they have in sexual activity. Adolescents often name the following characteristics as important to meeting their
Reproductive Health

health needs confidentiality; convenient location and hours; youth friendly environment; open to men and women; strong counseling component; specially trained providers; and comprehensive clinical service.

8.6.2. Providing information

Providing appropriate and relevant information about reproductive health is essential to any program. Clinic-based education and counseling are important to this effort, as are school-based programs. Obviously, parents are a key source of information, although they may feel ill-informed or embarrassed to discuss these topics with their children, or simply may disapprove of young people expressing an interest in sexuality. Youth-friendly approaches such as radio call-in shows, drop-in centers, magazines, and hotlines also can be effective strategies for reaching adolescents.

Adolescents need to develop practical skills for improving their health. One approach to this challenge is the “Choose a Future” program to be implemented such
Adolescent Reproductive life involves government representatives, NGOs, community groups, young people, and other in a program to increase awareness about reproductive health issues, encourage advocacy, and provide service.

Establish Youth-oriented clinic services: These are quite common in some developed and developing countries like United States, Western Europe, and Latin America and of course in some parts of Ethiopia. These clinics must provide a wide range of clinical and social services, such as pregnancy and STD prevention counseling and testing.

School-based clinics: Are available in some developed and developing countries. The services provided vary considerably, but at a minimum include basic health monitoring and referral services. In developed countries, some school-based clinics provide condoms and counseling about pregnancy and STD prevention, as well as referral for other contraceptive and reproductive health services. These services often are controversial,
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monitored, evaluated, and documented to ensure that their challenges are understood and their successes are replicated. Any health program should focus on decreasing and preventing adolescents’ problems such as unwanted pregnancy abortion, STIs, early marriage, etc... And this can be achieved through life education of adolescents/young people who need knowledge and ready access to appropriate contraception and reproductive health services.

Components of successful adolescent reproductive health programs

Reproductive health programs for adolescents tend to be most successful when they:

(1) Accurately identify and understand the group to be served;

(2) involve adolescents in the design of the program;

(3) work with community leaders and parents;
CHAPTER 9

CHILD HEALTH

Learning objectives

• To know some of the factors that can affect child morbidity and mortality

• To understand childhood diarrhoea and its effect on child health

• To see the problems associated with respiratory infections in children

• To know some of the vaccine preventable diseases

• To understand the concept of expanded programme on immunization

• To understand the concept of growth monitoring in children
## Reproductive Health

### Reproductive Patterns (mother’s age at birth, spacing…)
- Infant care practices
- Exposure to pathogens
- Feeding frequency, food composition, seasonal variation, weaning practices

### Low birth weight, Premature birth, Diarrhea, Malnutrition, lower respiratory tract infections and other causes

### 9.2. The objectives of child survival and child health of ICPD are:

1. To promote the health and nutritional status of infants and children and reduce disparities between and within developed and developing
before reaching one month of age and one in every six babies is born under weight.

This picture shows that malnutrition is the central cause of child mortality, but most of the mortalities are not directly because of malnutrition rather it leads to a greater risk of dying from other common illnesses.

A brief discussion of the epidemiology, prevention and control of these diseases follows. Malnutrition will not be discussed (except related issues such as Growth Monitoring) since it is dealt with in a separate course.
Figure 5: Distribution of 10.5 million deaths among children less than 5 years old in all developing countries, 1999

- Malnutrition: 54%
- Pneumonia: 19%
- Perinatal: 20%
- HIV/AIDS: 3%
- Diarrhoea: 15%
- Measles: 8%
- Other: 28%
- Malaria: 7%
Figure 6: Proportion of Global Burden of Selected Diseases Borne by Children Under 5 Years (Estimated, Year 2000)*

ARI: 54%
Malaria: 79%
Diarrhoea: 85%
Measles: 89%

Percentage of deaths occurring among:
- Children 0–4 years
- All other age groups

* Adapted from Murray and Lopez, 1996.
9.3. DIARRHOEAL DISEASES

Diarrhoea is commonly defined as three or more loose or watery stools per day. If an episode of diarrhoea lasts for less than 14 days it is known as acute diarrhoea, if it lasts 14 days or more, it is known as persistent diarrhoea. Diarrhoea in children causes dehydration and contributes to malnutrition. The death of a child with acute diarrhoea is usually due to dehydration.

Diarrhoea is the leading cause of illness and death among children in developing countries, where an estimated 1.3 thousand million episodes and 3.2 million deaths occur each year in those under five years of age. Overall, these children experience an average of 3.3 episodes of diarrhoea per year, but in some areas the average exceeds nine episodes per year. The median incidence of diarrhoea is greatest for infants aged 6 - 11 months (5 episodes/child/year). Where episodes are frequent children may spend 15% of their days with diarrhoea. 500 million cases of diarrhoea occur
spread of many enteric pathogens, especially as they are unaware of their infections, take no precautions and move normally from place to place.

**Epidemics**

Two enteric pathogens, *Vibrio cholerae* 01 and *Shigella dysenteriae* type 1, cause major epidemics in which morbidity and mortality in all age groups may be high. Since 1961, cholera caused by the eltor biotype of *V. cholerae* 01 has spread to countries in Africa, Asia, and the Eastern Mediterranean, and to some areas in North America and Europe. During the same period, *S. dysentriae* type 1 has been responsible for large epidemics of severe dysentery in Central America, and more recently in Central Africa and southern Asia.
Some dehydration

Those who have some dehydration and who require active oral treatment with ORS solution according to WHO treatment guidelines described in Plan B. Children who have any combination of the following two signs are included in this group: restless/irritable, sunken eyes, drinks eagerly/thirsty, skin pinch goes back very slowly. Children with some dehydration have a fluid deficit equaling 5 to 10 percent of their body weight. This classification includes both “mild” and “moderate” dehydration, which are descriptive terms used in most paediatric textbooks.
be initiated first, unless there is another severe classification.

Children with persistent diarrhoea and no signs of dehydration can be safely managed in the outpatient clinic, at least initially. Proper feeding is the most important aspect of treatment for most children with persistent diarrhoea. The goals of nutritional therapy are to: (a) temporarily reduce the amount of animal milk (or lactose) in the diet; (b) provide a sufficient intake of energy, protein, vitamins and minerals to facilitate the repair process in the damaged gut mucus and improve nutritional status; (c) avoid giving foods or drinks that may aggravate the diarrhoea; and (d) ensure adequate food intake during convalescence to correct any malnutrition. Routine treatment of persistent diarrhoea with antimicrobials is not effective. Some children, however, have non-intestinal (or intestinal) infections
develops blood in the stool, drinks poorly, becomes sicker, or is not better in three days).

Fluids should be given as soon as diarrhea starts; the child should take as much as s/he wants.

Correct home therapy can prevent dehydration in many cases. ORS may be used at home to prevent dehydration. However, other fluids that are commonly available in the home may be less costly, more convenient and almost as effective. Most fluids that a child normally takes can also be used for home therapy especially when given with food.

**Recommended home fluid should be: Safe when given in large volumes.** Very sweet tea, soft drinks, and sweetened fruit drinks should be avoided. These are often hyper-osmolar owing to their high sugar content (less than 300 mOsm/L). They can cause osmotic diarrhoea, worsening dehydration and hypenatremia. Also to be avoided are fluids with
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Persistent diarrhoea should receive supplementary multivitamins and minerals (copper, iron, magnesium, zinc) each day for two weeks.

Treatment of dysentery

The four key elements of dysentery treatment are:

Antibiotics, Fluids, Feeding, Follow-up

Selection of an antibiotic is based on sensitivity patterns of strains of Shigella isolated in the area (nalidixic acid is the drug of choice in many areas). Recommended duration of treatment is five days.

If after two days (during follow-up) there is no improvement, the antibiotic should be stopped and a different one used.

9.3.5. Feeding sick child

- Feed frequently every 3 - 4 hrs (6x a day) during the diarrhoea
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Infections (URTI) which includes Nasopharyngits, Otitis media, Pharyngotonsilitis, and Epiglottitis and Lower Respiratory Tract Infections which include Laryngitis, Tracheobronchitis, Bronchitis, Bronchiolitis, and Pneumonia.

ARI are one of the most frequent illnesses globally and a leading cause of death in the developing world. Among children under five alone, about four million deaths (33% of the deaths) annually are ascribed to ARI most of which are due to pneumonia. That mortality due to pneumonia is 10 - 15 times higher in developing countries suggests that there is ample room for improvement in addressing this important public health problem. At high levels of mortality; such as XIX century in Europe, due to ARI reduced life expectancy by 7.5 years; more than all other infectious diseases including diarrhoeal diseases. At that time in Europe, ARI was the top cause of death among infants and children outside the neonatal period. ARI mortality has been declining steadily with improving living conditions in developed
9.4.2. The Ethiopian Situation

Ethiopians are known for normally self-treating their common colds and rarely seeking treatment from professional practitioners. Pneumonia and other life threatening acute respiratory infections are often brought to the attention of health workers too late, after home treatment with traditional medicines and modern drugs. Thirteen percent of children under five years of age showed symptoms of ARI at some time in the two weeks in Ethiopia and only 19 percent of all children under five with symptoms of ARI were taken to a health facility or provider according to the EDHS 2005. Diseases of the respiratory tract infection were the major causes (11%) of admission among 3500 in children’s hospital in Addis Ababa. Cases with pneumonia as the principal diagnosis constituted 6% of
9.5. VACCINE PREVENTABLE DISEASES

General considerations

Vaccination is the administration of a vaccine to stimulate a protective immune response that will prevent disease in the vaccinated person if contact with the corresponding infectious agent occurs subsequently. Thus, vaccination, if successful, results in immunization: the vaccinated person has been rendered immune to disease caused by the infectious pathogen. In practice, the terms “vaccination” and “immunization” are often used interchangeably.

Each year more than a third of a million children die from immunizable diseases and diarrhoea. The eight childhood diseases preventable by immunization (neonatal tetanus, measles, poliomyelitis, tuberculosis, pertussis, diphtheria, Hemophilus Influenza type B and hepatitis B virus) are responsible for a considerable
Determinants of Patterns of Poliomyelitis

<table>
<thead>
<tr>
<th>Vaccination</th>
<th>Level of Hygiene</th>
<th>Coverage</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Polio endemic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Infection universal</td>
<td>Host population eventually infected</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cases usually less</td>
<td>Average age of infection may be in severe than when in teens or young adulthood</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Polio is endemic</td>
<td>Case usually relatively serious</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>Polio may become</td>
<td>Polio controlled</td>
<td>epidemic unless high OPV</td>
<td></td>
</tr>
<tr>
<td></td>
<td>epidemic</td>
<td>Infection levels Circulation of wild virus interrupted</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Paralytic polio is extremely rare; depend on degree of cases are imported or vaccine coverage associated. May be susceptible population if unvaccinated pockets.

**Incidence**

Before the advent of polio vaccines, an estimated 600000 new cases of paralytic polio occurred worldwide every year. Paralytic polio leads to lifelong disability, and the sequelae of past diseases has left between 10 and 20 million youth and adults disabled today. In contrast to its significance as a cause of disability, the contribution of polio to mortality of children under five is relatively modest; an estimate in Senegal suggests a contribution to mortality of < 2-5 per 1000 live births, or about 1% of all deaths of under five children. Based on this fact, we
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In addition to mortality, the long term disability due to measles is significant. One of the chief causes of blindness in LDCs is acute vitamin A deficiency secondary to measles. Also chronic malnutrition is a significant problem.

The risk factors for mortality from measles are:

1. Age: variable from country to country. Generally, the younger children are at greatest risk.

2. Gender: more in females.


4. Intensity of exposure: a number of studies have shown that measles acquired in the household carries with it a greater risk of death due to intensity of infection. Also the attack rate in the same household of susceptible is approximately 90% vs 75% non household contacts.

5. Nutritional status (Vit A)

6. Vaccination status: This is the strongest correlation (negative) with mortality of any of the risk factors.
4. Population in industrialized countries with high vaccine coverage. In America, during the prevaccine era, measles was primarily a disease of children. Childhood immunization coupled with mandatory school immunization has reduced measles incidence by 98% (Markowitz and Orme, 1990). Peak ages of measles incidence occurrence now are 1 - 4 and 15 - 19 years 25% of cases each, and below 1 year 10%, the rest range from 5 - 10%. As the incidence of disease increases, those infected either die or become immune. Therefore, the size of the susceptible population decreases. Then, the chance that an infectious person will come into contact with a susceptible decreases. Sporadic case of measles will not then, set off an epidemic because the infected individual will not come into contact with an uninfected individual. The incidence of disease decreases, and the population of susceptible gradually increases with new births. It reaches a threshold at which point there is increased frequency of contact between the two groups and incidence rates increases.
immunization prevents up to 0.6 - 3.8% of all diarrhoeal episodes and 6 - 26% of all diarrhoeal deaths.

Post measles pneumonia is the main killer in developing countries. Fifty six percent of measles associated deaths in community based study in India and 92.8% of measles associated deaths in hospital in Ilorin, Nigeria (Fagbulle and Oriyomi 1993). Mortality risk factors are mentioned above.

Immunization programs aim to interrupt measles transmission by including herd immunity; The resistance of a group to attack by measles since a large proportion of the members are immune thereby reducing the chance of contact between an infectious person and a susceptible.

But herd immunity is difficult to achieve with measles because of high transmissibility of measles, low vaccine coverage, and poor vaccine efficacy (80 - 90%). It has been estimated that 95% coverage with a vaccine that is
seroconversion in children 6 months and younger. Both of these had a much higher concentration of the live attenuated virus than did the standard.

The WHO in 1989 changed its policy such that these vaccines were to be used in infants 6 months of age in areas of high measles transmission. Limited amount of vaccine were available and the use was therefore restricted to these areas. Field test proved that they were effective. However, in 1991 a paper published in the Lancet by Garenne suggested that there was an increased mortality in these high titre vaccines: the RR of death using EZ was 1.8 and for high titre Shwarcz, 1.5. Further studies confirmed these findings and in June 1992, the WHO reversed its policy decision and returned to a policy of vaccination at 9 months with standard vaccine.

There are currently attempts to develop other strategies to address the issue of infection in the 4 - 9 month age group. One proposal is to use the standard vaccine at six month and revaccinate later. However, there is
42, 84, or 126 syringes. Need one back up rack or drum filled with sterilized needles and syringes at each session. Calculations are based on the following assumption:

BCG immunization is 100%.

For every BCG immunization given, you also need 3 DPTs, 1 measles and 1 TT immunization. So for example, you know that on your busiest day will not give more than 7 BCG injections. It means that you assume to give 35 injections of the other 3, for a total of 42. Therefore, you need one rack plus one reserve. So, you will need either 2 singles or 1 double or triple rack (drum) sterilizer.

If the health unit does both static and outreach immunization sessions a day you need more sterilization equipment.
Estimating vaccine requirements for the first time:

Need to know;
Total population = # births/yr Coverage: = # < 1 children
Wastage rate = # doses per antigen Reserve = # of doses per vial Times 12 month

Transport
Plan for this could be made based on what is available, working conditions of the means of transport (it is a vehicle), number of workers engaged in vaccination at a time, number of sites available and the efficiency of each in terms of cost, convenience and timing.

Assessment of EPI coverage

- Health facility reports (requires a good HIS)
Targets (under one) - in Ethiopia it is 3.5% of the total population according the 1984 census. Women in reproductive age group constitute about 20 - 22% of the total. Findings from reports could be compared and counter checked with the number of doses of a vaccine
cluster. This is done by selecting a household. If the community had been censused and list of households available, this will be a relatively easy procedure. One numbers the houses and selects at random one house the first house. If no household number exists, one goes to the centre of the community (churches, mosques, schools, market places etc) and selects a random direction in which to proceed (usually by a spinning a bottle). One then counts the number of houses between the centre and the periphery of the selected quarter and selects one house at random, this becomes the starting house. The second household to be visited is the one closest to the first (ie the household with the front nearest door) and so on until you complete the required cluster number. If any of the households contain more than one child, it is advisable to include them all. The vaccination status of each child is determined usually by card. Once all 30 clusters have been finished one will have 210 or up to 300 children.
immunizations subsequently reduced immunization coverage achieved in these countries. In Mozambique 8% and in Guinea Conakry 19% of the eligible children missed the opportunity of being immunized. Missed opportunity studies in Ethiopia are limited. Rates of missed opportunities have been found to range from 35% to 47% (Bekele 1994).

Based on information such as that presented above, UNICEF has concluded that for all vaccines, and in almost all countries, the two outstanding opportunities for increasing immunization coverage in the next few years are to reduce drop out rates and missed opportunity. Both could be exploited at almost no extra cost and both depend on making better use of existing resources rather than major new expenditures. For all immunization programs, bringing the child into contact with the clinic is more than half the battle. Screening all children who present to clinics for whatever purpose and either vaccinating them or referring them for vaccination,
3. Workers only vaccinate women with TT if they are pregnant

4. Workers will only open a vial if there are enough clients who need it.

5. False contraindications

6. Vaccine not available

7. Only one vaccine is given when more than one is indicated

8. Mothers are not immunized when their children are

3. People never reached

These are people who never use the services provided for reasons other than lack of geographic access. As mentioned above, informal interviews and the 75 household survey may be used to determine the reasons. Possible explanations include:

1. Cost (including fees and transport)

2. People unaware of the services
better than it would have been, had the persons not been screened. The potential benefit of anthropometry as a screening tool lies in its ability to predict a child's risk of future morbidity and mortality so that steps can be taken to prevent these problems.

Is this being done in GM programs? A number of problems have been found:

Lack of sufficient supply of charts frequently hampers successful implementation of GM programs.

Poor recording: GM is relatively simple in concept, but difficult to use; there are frequent inaccuracies. A common source of error occurs when workers fail to leave a blank space for each month the child has not been weighed, giving a falsely optimistic impression of the child's growth. A postal survey of 322 health personnel in over 50 countries (in Gerein, 1988) who had used growth charts for at least 4 years in their programs found significant problems with various aspects of the process:

78 % determining the month of birth
Reproductive Health

chart. Finally, once they have received the nutrition advice, mothers must put it into practice.

Unfortunately, in a number of places, there is evidence that none of these stages are successfully implemented. As discussed above, a large percentage of all children are misdiagnosed. Even if correctly diagnosed, it is very unlikely that the mothers will be given any nutritional advice. A study of MCH clinics found that 71% of the consultations took less than 2 minutes. In this time, the child was weighed, examined, vaccinated and treatment was given. In only 10% of all children seen was nutrition advice given, and the advice was usually non-specific e.g.: “eat more greens”. Thirdly, there is good evidence that mothers do not understand the meaning of growth charts. Two studies found that only 6% and 34% of the mothers were able to correctly identify a “good” growth chart as indicating good development as compared to a "bad" chart. The 34% figure relates to educated urban mothers.
Men’s surveys. New findings. Population Reports 2004, Series M, Number 18

The Reproductive Revolution Continues. Population Reports 2003, Series M, Number 17


RTIs. RHO (www.rho.org)

STI Fact Sheet 2004

Lancet SRH series 5: Global control of STIs, 2006
VAGINAL DISCHARGE
(With Speculum and Microscope)

Patient Complains of Vaginal Discharge
(Without Lower Abdominal Pain)

Take History, Assess Risk and Exam
(External and Speculum)

Cervical Mucopus
and/or Erosions/Friability
of the Cervix and/or Risk Assessment
Positive

Yes

Treatment for Gonorrhea and Chlamydia
Plus Treatment for Trichomonas
and Bacterial Vaginosis

No

Wet Mount/Gram Stain Microscopy of Vaginal Specimen

Mobile Trichomonads

Treatment for Trichomonas

Clue Cells plus pH > 4.5 or KOH Positive

Treatment for Bacterial Vaginosis

Budding Yeasts or Pseudoehyphae

Treatment for Candida
LOWER ABDOMINAL PAIN IN WOMEN

Patient Complains of Lower Abdominal Pain

- History and Examination

  - Rigid and tenderness or abdominal guarding
    - Yes: Gynecological Referral
    - No:

  - Missed/Overdue period or Recent Delivery/Abortion or Vaginal Bleeding or Abdominal Mass
    - Yes: Gynecological Referral
    - No:

  - Cervical Motion Tenderness
    - Or
  - Lower Abdominal Tenderness and Vaginal Discharge

- Treatment of Pelvic Inflammatory Disease
  
  Return after 3 days

- Patient has improved?
  - Yes: Continue Treatment
  - No: Refer
NEONATAL CONJUNCTIVITIS

Neonate with Eye Discharge

History and Examination

Treatment of Baby for Gonorrhea and Chlamydia
Treatment of Mother and Her Partner for Gonorrhea and Chlamydia

Baby Condition Improved

Yes
Continue Treatment

No
Refer