Objectives

• Outline the EPI, national immunization schedule in Iraq.
• the cold chain.
• Define family planning (FP) objectives, methods.
• Realize the importance, policies of food supplementation, the common micro-nutrients used.
• Realize the importance of female education in enhancing overall family health.
vaccines

Definition? Is a substance given to the body in order to sensitize the immune system of the body against disease specific agent or its constituents.

Types?
The expanded program of immunization (EPI)

- 1980s was introduced in many countries.
- AIM of vaccination: to increase Herd immunity
- coverage rate $\geq 90\%$
The expanded program of immunization (EPI)

DEGREE OF COVERAGE DETERMINED BY:

1. Awareness and motivation of parents.
2. Commitments of health workers.
3. Integrity of health services.
<table>
<thead>
<tr>
<th>Disease</th>
<th>Type</th>
<th>Form</th>
<th>Dose</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphth.</td>
<td>Toxoid</td>
<td>fluid</td>
<td>0.5 ml</td>
<td>im</td>
</tr>
<tr>
<td>Tetanus</td>
<td>toxiod</td>
<td>fluid</td>
<td>0.5 ml</td>
<td>im</td>
</tr>
<tr>
<td>Hep. B</td>
<td>HBS AG</td>
<td>=</td>
<td>=</td>
<td>=</td>
</tr>
<tr>
<td>Pertus.</td>
<td>Whole killed</td>
<td>=</td>
<td>=</td>
<td>=</td>
</tr>
<tr>
<td></td>
<td>bac.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles</td>
<td>live att. v</td>
<td>freeze</td>
<td>=</td>
<td>sc</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dried</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TB</td>
<td>live att. v</td>
<td>=</td>
<td>0.1 ml</td>
<td>id</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polio</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPV</td>
<td>live att</td>
<td>fluid</td>
<td>2-3 drops</td>
<td>oral</td>
</tr>
<tr>
<td>IPV</td>
<td>killed</td>
<td>fluid</td>
<td>0.5ml</td>
<td>IM</td>
</tr>
<tr>
<td>Rubella</td>
<td>live att</td>
<td>freeze</td>
<td>0.5ml</td>
<td>sc</td>
</tr>
</tbody>
</table>
The national immunization schedule in Iraq

**Basic**

- Soon after birth: BCG, OPV<sub>zero</sub>, HBV1
- End of the 2<sup>nd</sup> month: OPV1, Rota v1., quintet v1.
- End of the 4<sup>th</sup> month: OPV2, Rota v2., quaternary v1.
- End of the 6<sup>th</sup> month: OPV3, Rota v3., quintet v2.
- End of 9<sup>th</sup> month: measles vaccine, Vit. A(100,000 IU)
- End of the 15<sup>th</sup> month: MMR1

**Quintate v= triple+HBV+Hib, quaternary v. = TRIPLE+Hib**
BOOSTERS

End of 18th month: 1st booster of: OPV, quaternary v. + Vit. A(100,000 IU)
At 4-6 years: 2nd booster of: OPV, DPT, MMR.
After 6 years: Td?
After 16 yrs: HBV

For pregnant: (TT IN 5 DOSES)

Girls:
<15 years of age → Rubella vaccination
Women at rep age → same as preg. vacc.
Storage of vaccine:
The cold chain:
Vaccine must stay under certain temp (whole journey) Otherwise it will be damaged and ineffective.

What are the methods used for detecting heat exposure:

1. Cold chain monitor: certain color index incorporated in the vaccine, with exposure to higher temp it’s color will be changed.

2. Vaccine vial monitor: only used in OPV, there is a stricker on the bottle which contains 2 circles; one is purple and the other is white when exposed to high temp. both of them become purple.
Vaccine may lose its activity either by heating or freezing.

- The most sensitive vaccine for higher temp. is; OPV, while tetanus toxoid is the least sensitive one.
- Freezing can make; DPT, tetanus toxoid, DT and Td, all useless.
- Destruction of unused vaccine (vaccination waste management) by incineration.
3 fs

Family planning
Food supplementation
Female education
Family planning: are techniques and methods that allow individuals and couples to attain their desired number of children with the spacing and timing of their births.
FP objectives:

✓ To avoid unwanted pregnancy
✓ To regulate intervals between preg. (spacing)
✓ To control time at which time birth occurs in relation to age of parents particularly (mothers)… timing
✓ To determine no. of children within the family (family size)

i.e having children by choice not by chance
Risks to mothers & infants are greatest in cases of:

- <18 years of age *(too young)*
- >/35 years of age *(too old)*
- After the 4th birth *(too many)*
- Less than 2 years apart *(too close)*
- after miscarriage?
Scopes of FP services:
1. Proper birth spacing.
2. Advice on sterility.
3. Sex education.
4. Screening for reproductive system disease (ca cervix, HPV).
5. Genetic counseling

- These activities vary from country to another according to national objectives and policies with regard to family planning.
Contraceptive methods

I- Transient, Spacing methods

1. Barrier methods
   a) physical methods (condom, diaphragm)
   b) chemical methods (spermicidal)
   c) combined methods

2. intrauterine devices

3. hormonal methods (oral pills, injection, implants, rings).

4. miscellaneous or traditional (coitus interrupts, safe period, BF).

5. Emergency post coital contraception.

II- terminal methods

1. Male sterilization

2. female sterilization (tubal ligation).
Food supplementation:

1. Food supplements directed to 2 target groups

   A- Pregnant women at risk of delivering LBW

   Extra food supplements (3rd trimester) 
   (500 cal + 10g PTN /day)

   Extra gain in WT of 1.5 kg

   300g in BW
B-Children with malnutrition: high ptn food supplements for malnourished children are a major competent for health care programs:

• Take home distribution system

• Central feeding
2. Food fortifications:
A process where micro-nutrients are added to food to maintain or improve the quality of diet of a community.

- Dealing with specific micro-nutrients deficiencies
- Typically used in conj. with staple foods
- As fortifying food with iron salts (flour, salt, sugar, and spices)
- The 3 micro-nutrients deficiencies: iodine, vit A, iron
Iodine deficiency

The consequences:

- spontaneous abortion, stillbirth, IM, and lower productivity of adults.
- affect f during 1st 12 wks of conception leading to irreversible damage:
  - Disabled child, 90% deaf or mute,
  - 40% motor abnormalities as halting gait, or severe spastic paralysis, mental retardation.
  - Impaired physical growth (75% of severely affected children never grow to normal size)
• Prevention of iodine dif.:
  - Fortify salt with iodine (30 gms to 1 tonne of salt)
  - In remote areas not consume fortified salt
  Long term release iodine injections, release iodine slowly over yrs.
Iron deficiency

- There are 230,000,000 women and similar number of children have anaemia.
- 2/3 pregnancy with anaemia in developing countries.
- Cause: Increase in daily requirement nearly 6 times in the last trimester than non-pregnant.
- Symptoms: Maternal and foetal morbidity, fatigue, reduction of work capacity, profound effect on psychological behavior, learning and problem solving capacities?
Vit. A deficiency

- 5-10 million children develop mild xerophthalmia
- 250,000 are blinded
- Triple death rates due to diarrhea and resp. inf.

Prevention:
- Vit. A capsules, drops once every 6 ms;
- In Iraq use 100,000 IU/9 ms, 18 ms of age
- 200,000 IU of vit. A for a women within 6 wks after delivery.
- add green leafy vegetables and yellow fruits, fat, oil to the child’s weaning foods,
- BF good source provided that the mother's vit. A level is adequate.
- Fortifying milk and sugar with vit. A.
• **indications of vit A:**
  - Current xerophthalmia
  - Measles
  - Severe malnutrition

Additional doses needed to treat (these conditions).

Group affected mostly (6 mn-6 yrs)
Bitot spots
Keratomalacia
Female education:
This Act as a powerful independent force in reducing the no. of infant & child death

- Schooling enhances women’s ability to provide adequate care
- Education enhances women status & power within the family
- Educated mothers can use health services & facilities properly