Specific Objectives

At the end of the lecture you will be able to

1. Recall risk screening & assessment by the MOH and the WHO scoring system.
2. Describe nutritional requirements, and problems in pregnancy.
3. Describe other preventive measures and health education topics applied during antenatal care.
4. Natal care
5. Post natal care
6. Realize the importance of newborn care screening.
7. Define LBW, prevention and management.
8. Realize the importance and the essential services of young child clinic.
9. Describe the objectives of growth and anthropometric measurements employed, the significance of monitoring and growth chart, how to prevent malnutrition.
Risk screening & assessment
Risky pregnancy

• Is that pregnancy that have a risk to the mother or to the baby or both.

• 40% of pregnancies have complication??
Risk screening:

- it involves using a list of risk factors & scoring system.
- To separate women into risk categories; “very high risk” & ‘high risk” and “usual risk”.
- and arrange for them skilled care, with appropriate care for all pregnant.
The intention of risk screening is to:

- predict problems.
- identify pregnant women with problem.
- refer them at the appropriate time to hospital.
Criteria put by Iraqi Ministry of Health for risk factors included:

- Maternal age
- **Weight:** Sources of weight gain
- Height
- Previous obstetric history
- Previous delivery
- Medical history
## Reasons For Special Care

### 1- Maternal Age:
- a. Primigravida Less than 16 years.
- b. Primigravida 30 years old or more.
- c. Multigravida over 35 years.
- e. Still birth.
- f. Toxaemia of pregnancy.
- g. Prematurity.

### 2- Weight:
- a. Less than 45 Kg.
- b. More than 90 Kg.

### 3- Hight less than 150 cm.

### 4- Previous obstetric history:
- a. Threatened abortion.
- b. Habitual abortion.
- c. Missed abortion.
- d. More than two abortion.
- e. Fetal abnormality.
- f. Toxaemia of pregnancy.
- g. Anaemia.
- h. Rhesus sensitivity.
- i. Previous cesarian section.
- j. Previous obstructed labour.

### 5- Medical history:
- a. Hypertension or renal disease.
- b. Diabetes mellitus.
- c. Cardio vascular disorder.
- d. Thyroid disorder.
- e. Epilepsy.
- f. Abnormal fetal presentation.
- g. Multiple pregnancy.
- h. Antepartum hemorrhage.

### 6- Previous delivery history:
- a. Premature labour.
- b. Postmature labour.
- c. Previous cesarian section.
- d. Previous obstructed labour.

### 7- Present obstetric:
- a. Toxaemia of pregnancy.
- b. Anaemia.
- c. Rhesus sensitivity.
- d. High parity (over 4).
- e. Contact to rubella.
- f. Abnormal fetal presentation.
- g. Multiple pregnancy.
- h. Antepartum hemorrhage.

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**Note:** Put a red circle around any of the above findings.

**Notes**

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**Tetanus Toxoid**

- T.T. Dose I
- T.T. Dose II
- Booster Dose
- Present obstetrical history
  - Anemia
  - Rh isosensitization
  - high parity (>4)
  - Too short or too long spacing?
  - contact to rubella??
  - fetal presentation
  - APH
  - twins
  - minimum or no wt. gain
  - IUGR
  - Post-term pregnancy
  - smoker mother?
WHO scoring system for the assessment of risk status of pregnancy:

<table>
<thead>
<tr>
<th>Maternal characteristics</th>
<th>category</th>
<th>score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>&lt;18 &amp; &gt;40 yrs</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>30 – 39 yrs</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>19 – 29 yrs</td>
<td>0</td>
</tr>
<tr>
<td>No. of children</td>
<td>&gt; 5</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>0 – 1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>2 – 4</td>
<td>0</td>
</tr>
<tr>
<td>Spacing</td>
<td>&lt;24 ms</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>&gt;24 ms</td>
<td>0</td>
</tr>
<tr>
<td>Medical &amp; obs.history</td>
<td>previous obstetric complication &amp; perinatal death</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>DM, CVD, renal disease</td>
<td>5</td>
</tr>
<tr>
<td>Maternal education</td>
<td>Illiterate</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Literate</td>
<td>0</td>
</tr>
<tr>
<td>Risk status</td>
<td>Action</td>
<td>Total score</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Very high</td>
<td>referral obligatory</td>
<td>&gt;5</td>
</tr>
<tr>
<td>High</td>
<td>referral recommended</td>
<td>3-4</td>
</tr>
<tr>
<td>Usual (low)</td>
<td>local care</td>
<td>0-2</td>
</tr>
</tbody>
</table>
Ante natal Health education:

1. diet & proper nutrition:
   - metabolic requirements,
   - child survival is correlated.

2. Personal behavioral advices: personal hygiene, oral hygiene, sleep, bowels (purgatives?), exercise, smoking →.

3. Normal changes during pregnancy
4. Drug avoidance

- thalidomide → deformed hand and feet,
- streptomycin → deafness and 8th N damage,
- corticosteroids → impair foetal growth,
- tetracyclin → affect bones and enamel formation of teeth,
- drugs even during lactation.
- Radiation → leukemia and other neoplasm, other congenital malformations as microcephaly.
- TT.
5. warning signs:

- Vaginal bleeding
- Leaking liquor
- abd. Pain
- Blurred vision, severe headache.
- Leg edema
- No Ft. movement

6. child care: consist of BF, nutrition, hygiene and child rearing, weaning, vaccination, education.

7. FP.
Maternal nutrition
changes during pregnancy:
- begin very early in pregnancy, under hormonal control:
  - General increase in metabolism.
  - Changes in renal functions.
  - GIT mucosal changes: high absorption of iron and vits. (2 times more than normal).
  - Haemodilution and relative anaemia.
  - Water overload (oedema).
Outcomes of maternal malnutrition:

1- maternal depletion, anaemia, toxaemia of pregnancy, post partum haemorrhage.

2- puerperal sepsis, thromboembolic phenomena of mother.

3- LBW & prematurity.

4- foetal and neonatal mortality & morbidity.

5- congenital malformations:

- Anencephaly → Folic acid before pregnancy.
- Thalidomide; it interferes with the absorption of vit B12 & its metabolism.
- Antimetabolites (e.g methotroxate) interferes with folic acid absorption.
Anaemia during preg, why??:

- High iron requirement.
- Short spacing.
- Dietary iron (unhealthy diets).
- Blood loss (haemorrhage, intestinal parasites).
- Loss of appetite & repeated vomiting.
- Folic acid & vit B\(_{12}\) deficiency depletion.

If anaemia doesn’t respond to Rx it may be due to haemoglobinopathies.
Measures to improve the nutritional status of mothers and children:

1. Direct interventions:
   - supplementary feeding programs,
   - supplementary tablets,
   - nutritional education,

2. Indirect intervention:
   - control of inf. Dis., immunization,
   - environmental sanitation,
   - provision of safe water,
   - FP,
   - food hygiene,
   - nutritional surveillance.
EBM in pregnant nutrition ... 

• Iodine supplementation results in reduction in the incidence of cretinism with no apparent adverse effects.

• Calcium supplementation appears to reduce the risk of high blood pressure in pregnancy, particularly for women at high-risk.

• There is no evidence salt free diet during pregnancy has any beneficial effect in the prevention or treatment of pre-eclampsia,
Preventive measures during pregnancies:

1. TT - 5 doses.
   - 1<sup>st</sup> D at 16-20 wks
   - 2<sup>nd</sup> D after 1 m
   - 1<sup>st</sup> booster D after 6 ms
   - 2<sup>nd</sup> booster after 1 yr
   - 3<sup>rd</sup> booster after 1 yr

2. Iron and folic acid.

3. Nutritional supplementation (biscuit, milk).

4. In endemic area with malaria → chemoprphyphylaxis.

5. Rx of helminthes.

6. Prevention and Rx of STDs.
Delivery care
Natal care

The most common problems:

A. Asphyxia → brain damage →
   1. mental disabilities
   2. death

B. Infection → - tetanus neonatorum
   - puerperal sepsis

C. Hypothermia

D. Trauma

E. Hemorrhage
Aim of good intra-natal care:

1. Thorough asepsis
2. minimum injury.
4. deal with complications as prolonged labour, convulsions, malpresentation, cord prolapsed.
5. Baby resuscitation, care of cord, care of the eyes.
The danger signals during delivery?
Post natal care

Duration: 6 wks after delivery.

Objective: to detect and taking care of any complications arise during this period and results from child birth.

Examination include the: 1) mother
2) new born baby
1) examination of mother:

Objectives of mother post natal examination:
1. to prevent complications.
2. to enhance rapid restoration of optimum mother health.
3. to check adequacy of BF
4. to provide FP services.
5. to provide basic HE to mother.

Examination of mother include:
1\textsuperscript{st} examination $\rightarrow$ 1-2 wks after delivery.
2\textsuperscript{nd} examination $\rightarrow$ 4-6 wks after delivery.
What to check?

- Size & position of uterus
- Cx and vagina
- Care of breast (BF)
- GUE
- Hb
- Establishment of contraception
- Health education (prevent future incontinence).
- Arrangement for future attendance to the child health clinic

Home visits should be organized by health visitors.
2) Examination of the new born

Examination of new born → 1. directly after delivery.
2. 48 hrs there after.

1. **Directly after delivery include:**
   - Immediate care: APGAR score
   - Encouraging BF.
   - Cord care;
   - Eye care;
   - Measurement of birth wt.
   - Checking for:*maturity
     - *any congenital anomalies
     - *birth injuries
     - *disorders of respiration
     - *disorders of muscle tone
<table>
<thead>
<tr>
<th>Apgar score</th>
<th>(0)</th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: appearance</td>
<td>blue all</td>
<td>body pink</td>
<td>all pink</td>
</tr>
<tr>
<td></td>
<td>body pale</td>
<td>ext .blue</td>
<td></td>
</tr>
<tr>
<td>P: pulse</td>
<td>----</td>
<td>&lt;100/min</td>
<td>&gt;=100/min</td>
</tr>
<tr>
<td>nasal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G: catheter</td>
<td>----</td>
<td>some mov.</td>
<td>active</td>
</tr>
<tr>
<td>response</td>
<td></td>
<td>of facial musc.</td>
<td>crying</td>
</tr>
<tr>
<td>A: activity</td>
<td>----</td>
<td>flexion of</td>
<td>active</td>
</tr>
<tr>
<td>(muscle tone)</td>
<td></td>
<td>some limbs</td>
<td>movement</td>
</tr>
<tr>
<td>R: respiration</td>
<td>apnea</td>
<td>gasping</td>
<td>regular/</td>
</tr>
<tr>
<td></td>
<td>(slow, irregular)</td>
<td></td>
<td>normal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>crying</td>
</tr>
</tbody>
</table>
Range: 0-10
0-3: severe respiratory & cerebral depression
4-6: hypoxic
7-10: good
1, 5, 10 minutes
Examination of new born After 48 hrs

- By pediatrition
- Encouraging exclusive BF
- Starting immunization.
• Newborn screening
  • LBW
• Young child clinic
  • Breast feeding
Neonatal screening:

The objective is:

1. to detect infants with treatable genetics, developmental and other abnormalities.
2. to provide their parents with genetic counseling.

The most common disorders which are screened are:

Phynylketonuria (PKU), neonatal hypothyroidism, galactossemia, CDH.
Low Birth Wt (LBW)

Definition .... .... A live baby born with birth weight (BW) less than 2.5 kg (up to and including 2499 gm)

It may be Due to:
1. IUGR (developing)
2. Prematurity? (developed)

Causes:
1. Maternal malnutrition, under wt
2. Short stature mother
3. Placental abnormalities
   - small size
   - Premature separation
   - infarction
4. Smoking
5. Multiple pregnancies
6. Toxemia
7. Congenital abnormalities
8. Genetic
9. Infection
   - viral; rubella, CMV
   - Bacterial (UTI)
   - Parasitic → toxoplasmosis and malaria.
Prevention of LBW:

• Proper feeding...e.g.
• Treatment of anemia?
• Fortification and enrichment of food.....etc.
• Controlling infection...e.g. UTIs, Malaria, rubella, toxoplasmosis, syphilis
• Early detection and treatment of hypertension, toxemia, and diabetes
Treatment of LBW
- Incubatory care
- Feeding
- Prevention of infection

Leading causes of death in LBW
- Atelactasis
- Malformation
- Hemorrhage (??)
- Pneumonia and other infections
Importance of preventive services of children:

1. Many causes of morbidity and mortality are avoidable.

2. Existence of socio-economic differences between countries. IMR=10/1000LB (ped)
   125/1000LB (ping)

3. Children are more exposed to variety of health hazards.

4. Children are more vulnerable due to the stress of growth and development.
Child health care includes four strategies beside the 3 F; instituted by WHO:

growth monitoring → G
oral rehydration → O
breast feeding → B
immunization → I
Family planning → F
Food supplementation → F 3Fs
Females education → F
Growth monitoring

It is the process of repeated measurement of body weight of under five years old child.

- How often: every month, since birth
- Tool: growth chart
growth monitoring, raisons d'être?

- Most malnutrition is invisible
- Sensitive indicator of malnutrition and health of <5 children
- Need appropriate follow-up activities
- Most malnutrition is not only caused by lack of food but by repeated infections
لمعالجة حالات الأسهم لدى الطفل ومنع الجفاف عنه وتحفيز عرضه على الطبيب استعمل مخلوط الأرواء الفموي الدكستروسلامين.

- للاطفال الثلاث سنوات: مشكلة الله، والكبد، شاملة وثلاثية. 
- للاطفال الخمس سنوات: مشكلة الله والكبد، شاملة وثلاثية. 
- للطفل يجيء مشكلة الله والكبد، شاملة وثلاثية. 
- للطفل يجيء مشكلة الله، والكبد، شاملة وثلاثية. 
- للطفل يجيء مشكلة الله والكبد، شاملة وثلاثية.

- راتبي خط سير مخطط النمو مؤشر مهم لصحة الطفل.

- السنة الأولى: تتضمن جميع الأمراض التي تظهر بها الطفل على الخبط وموادها.
- السنة الثانية: تتضمن جميع المعتدات الطبية إعادة الأغذية الإضافية.
- السنة الثالثة: تتضمن أمراض الرضع من الثلاثي.
- السنة الرابعة: تتضمن ولاية الطفل الجديد.
- السنة الخامسة: تتضمن إجراءات كبرى لصحة الطفل.
Uses of growth chart:

1. “growth monitoring”.
2. Diagnostic tool
3. Educational tool for mothers.
4. Tool of action (for nutritional program)
5. Tool of evaluation (effectiveness and impact of program)
6. Planning and policy making at local and central level.
Messages directed at mother to prevent malnutrition:

- Exclusive breast feeding for the first 4-6 months
- Breast feeding on demand
- Start giving weaning foods (Juice, cereals, soup) 1-2 times/day 4-6 months
- 5-6 meals (small) including family food 12-24 months
- Continue Breast feeding up to the end of the 2nd year of life
- Three main meals within the family food +3 small meals/day at the age of 24 months & over
- Add oils
- Continue feeding during illness
- Add one extra meal after illness until growth curve returns back to upward state
- Active feeding from a separate dish
Summary of management of children nutritionally at risk

**Grouping**
At-risk children

**steps taken**
- *regular attendance*
- growth monitoring
- immunization
- Rx
- *special emphasis on feeding & giving supplements*
- *follow-up should be more frequently*
- *attendance at a less busy clinic*
- *Home-visiting*

Inadequate growth in significant period flattening of the weight chart
Continued poor growth
early signs of
Malnutrition

Severe life-threatening
malnutrition.

* admit to a nutrition
Rehabilitation centers
arrange daily attendance

* admit to hospital