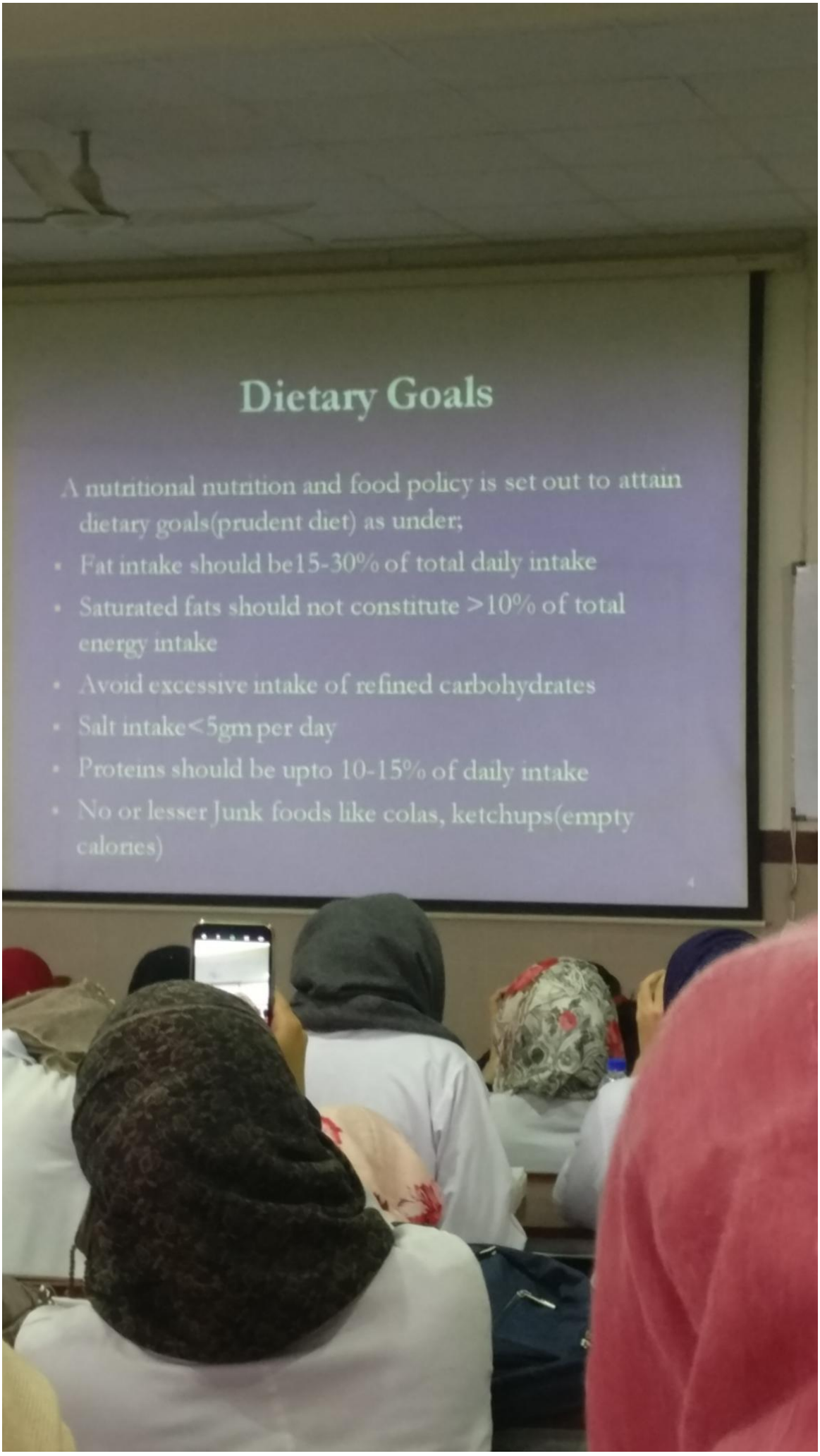
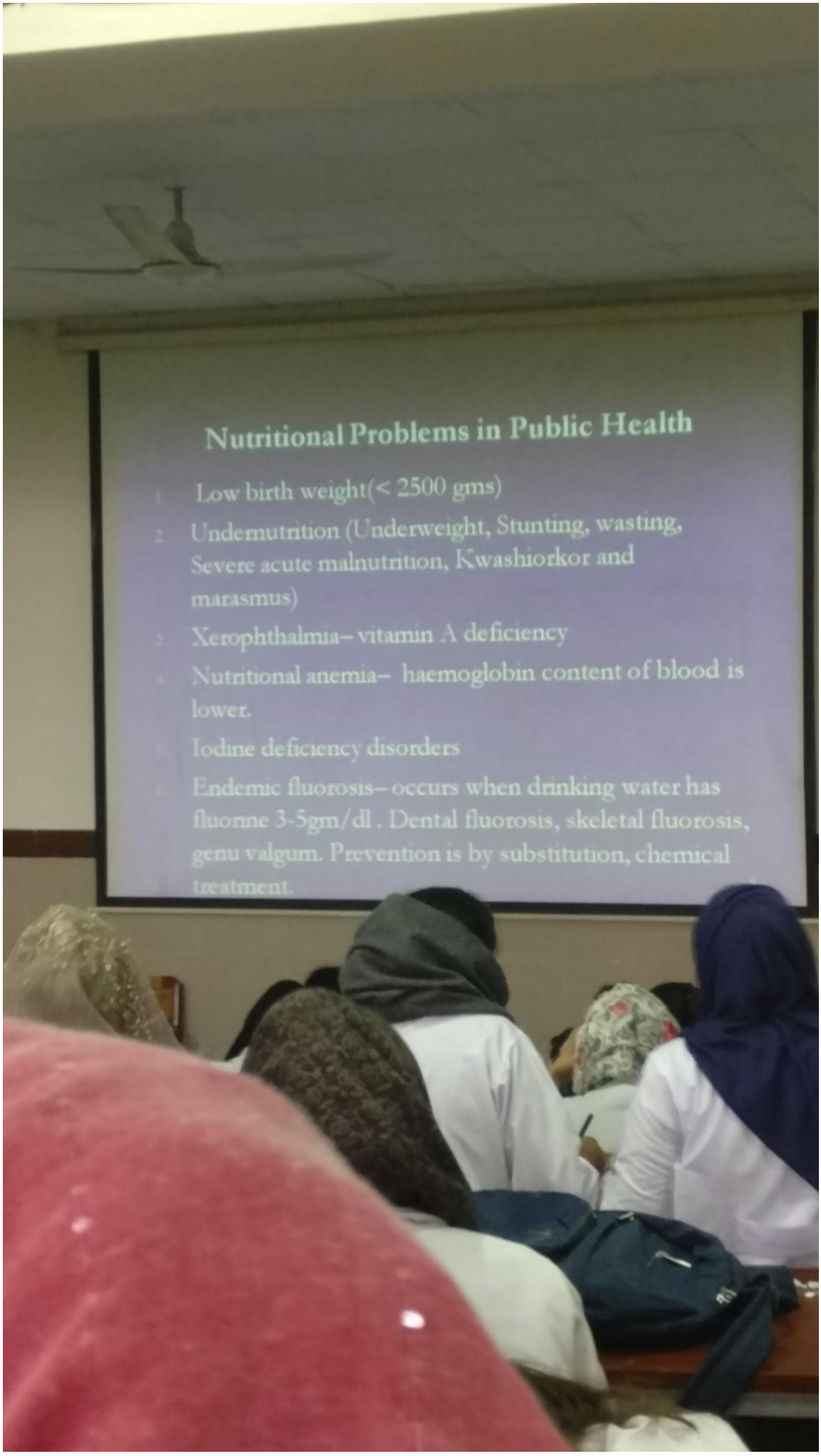
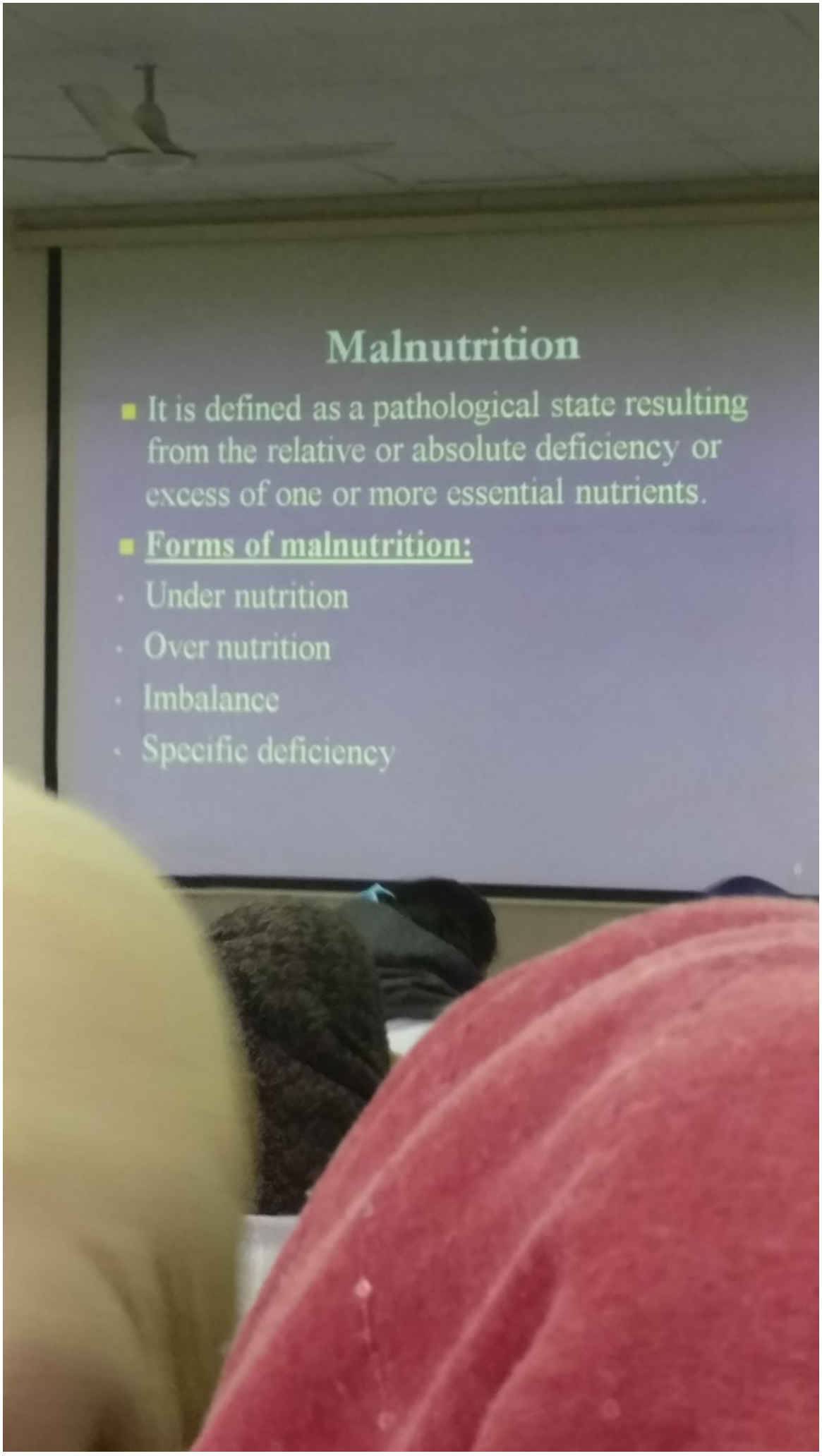
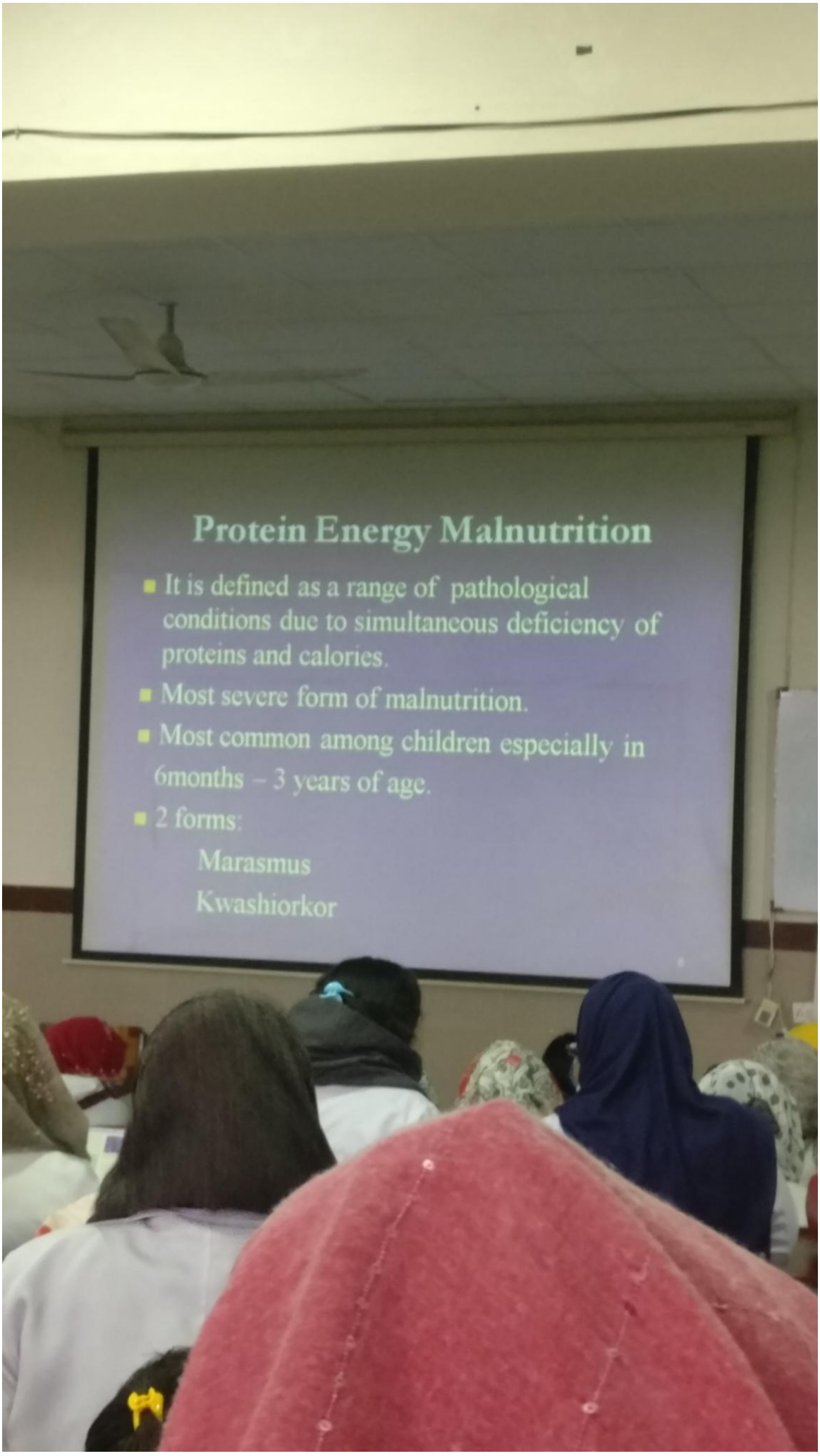
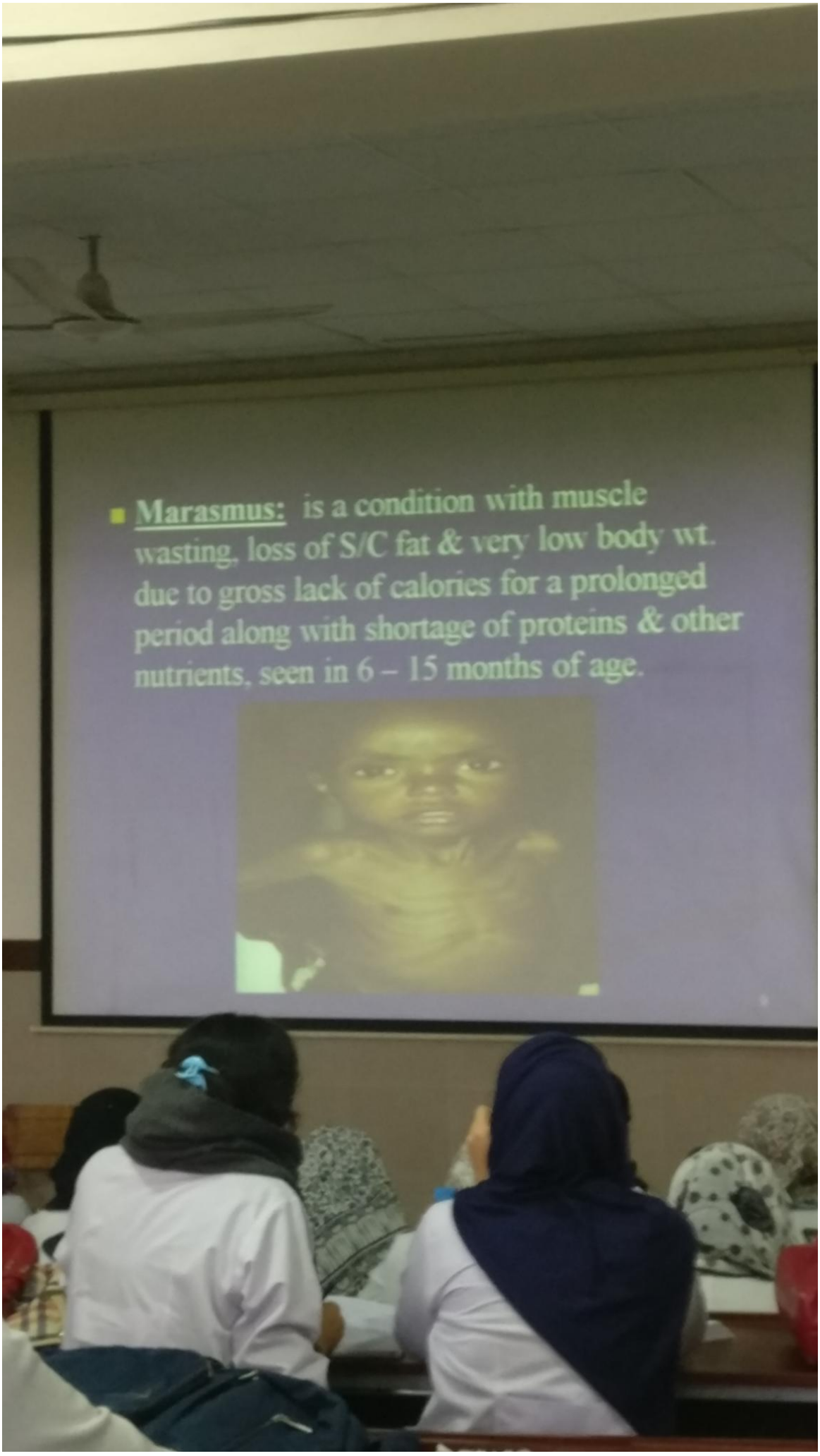

Dietary Goals
A nutritional nutrition and food policy is set out to attain dietary goals(prudent diet) as under;
Fat intake should be15-30% of total daily intake
Saturated fats should not constitute >10% of total energy intake
Avoid excessive intake of refined carbohydrates
Salt intake<5gm per day
Proteins should be upto 10-15% of daily intake
No or lesser Junk foods like colas, ketchups(empty calories)

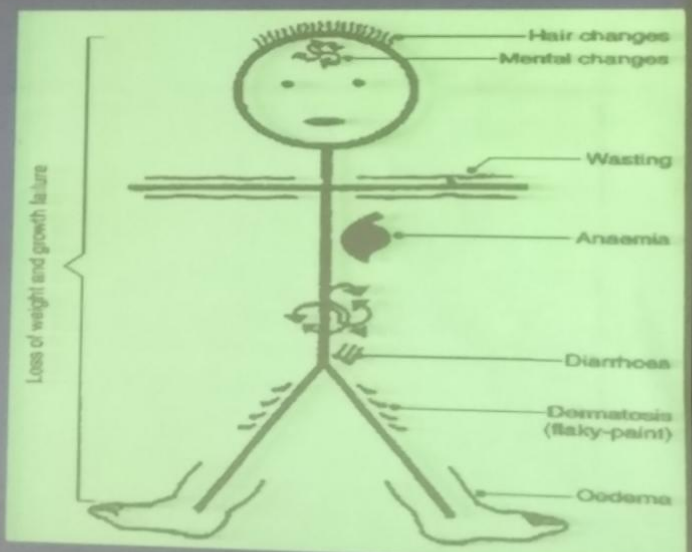

Nutritional Problems in Public Health
1 Low birth weight(< 2500 gms)
2 Undernutrition (Underweight, Stunting, wasting, Severe acute malnutrition, Kwashiorkor and marasmus)
3 Xerophthalmia– vitamin A deficiency
4 Nutritional anemia– haemoglobin content of blood is lower.
5 Iodine deficiency disorders
6 Endemic fluorosis– occurs when drinking water has fluorine 3-5gm/dl . Dental fluorosis, skeletal fluorosis, genu valgum. Prevention is by substitution, chemical treatment.

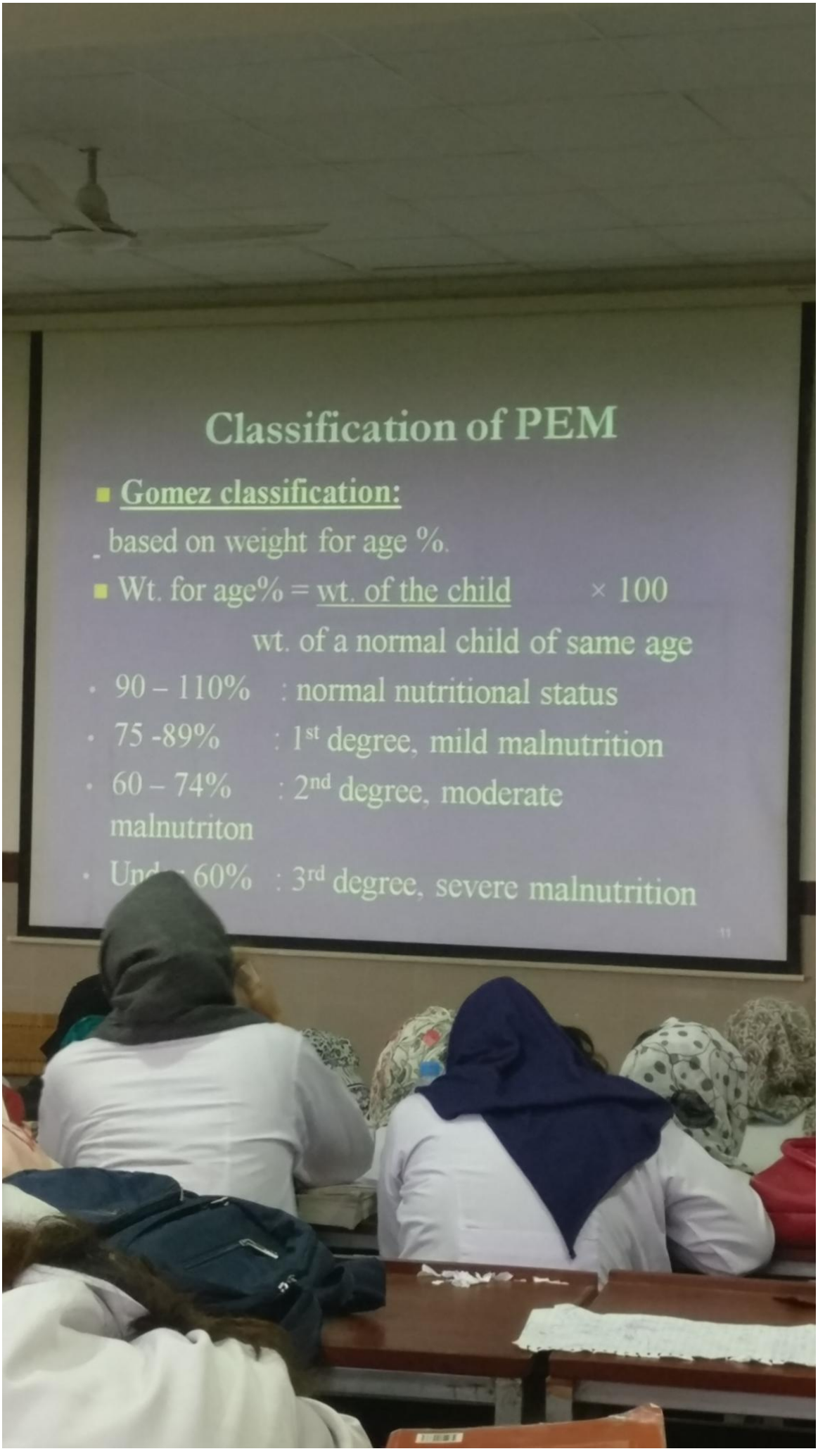

Malnutrition
It is defined as a pathological state resulting from the relative or absolute deficiency or excess of one or more essential nutrients.
Forms of malnutrition:
Under nutrition
Over nutrition
Imbalance
Specific deficiency

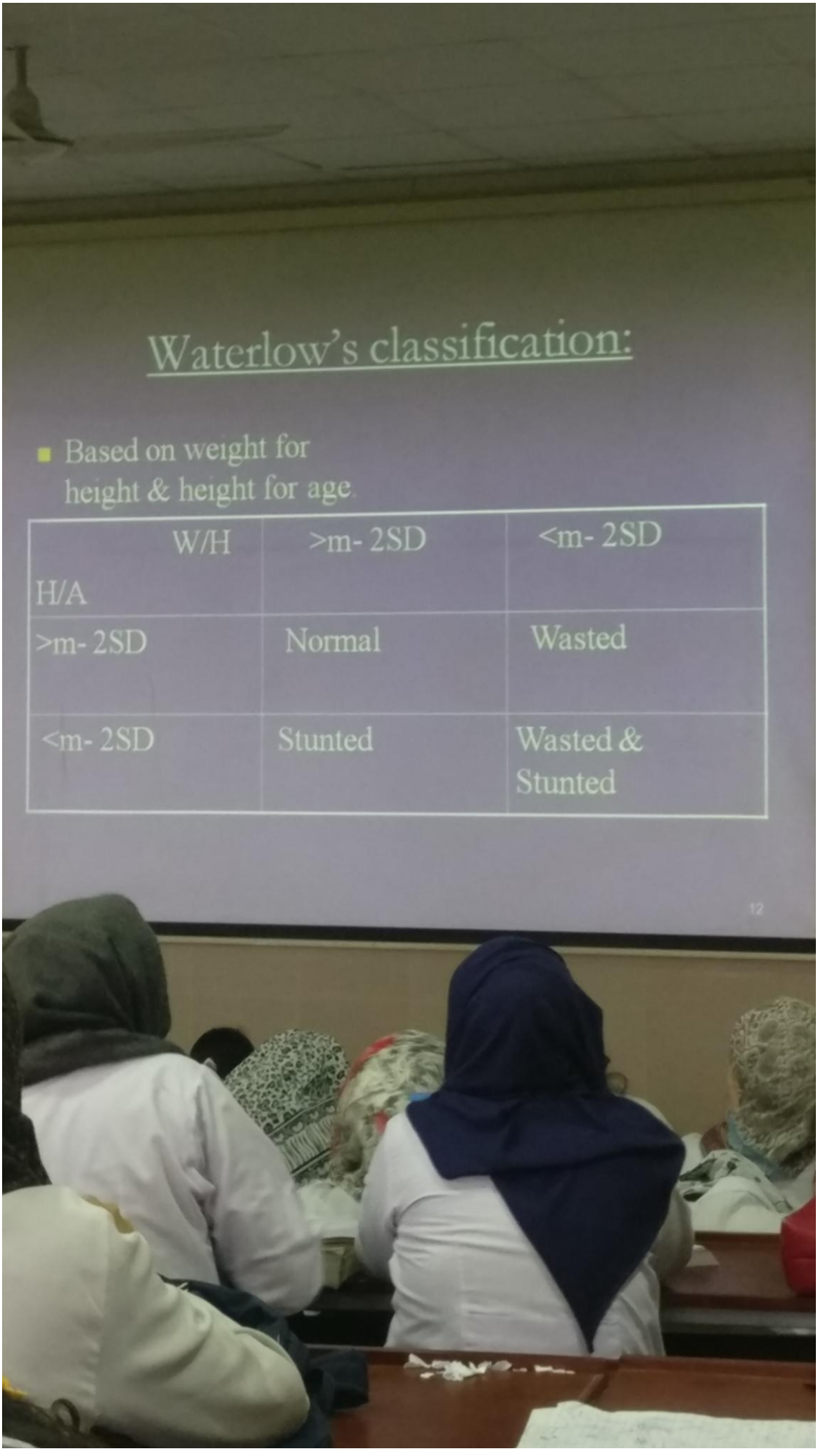

Protein Energy Malnutrition
It is defined as a range of pathological conditions due to simultaneous deficiency of proteins and calories.
Most severe form of malnutrition.
Most common among children especially in 6months – 3 years of age.
2 forms:
Marasmus
Kwashiorkor

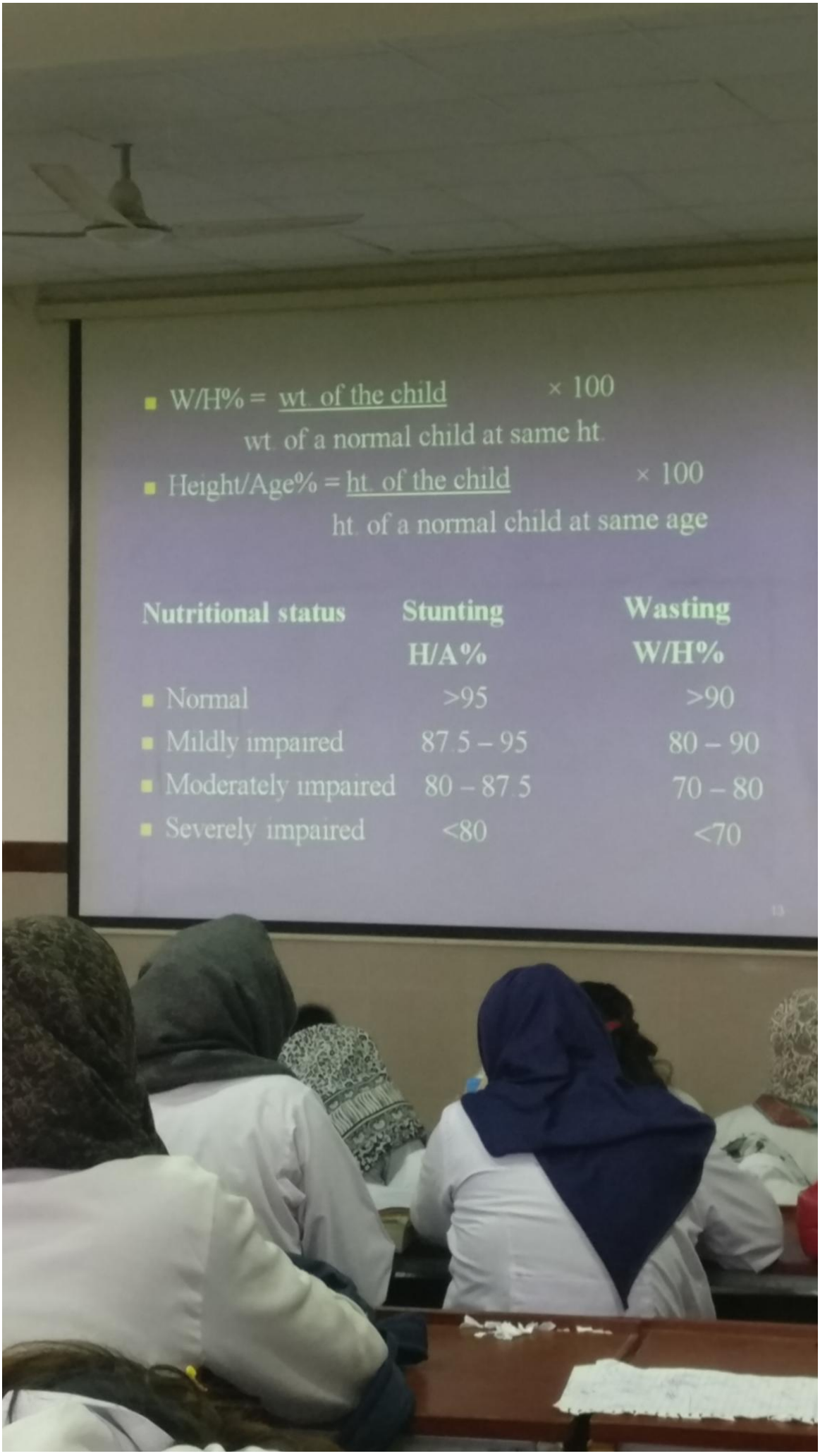

Marasmus: is a condition with muscle wasting, loss of S/C fat & very low body wt. due to gross lack of calories for a prolonged period along with shortage of proteins & other nutrients, seen in 6 – 15 months of age.

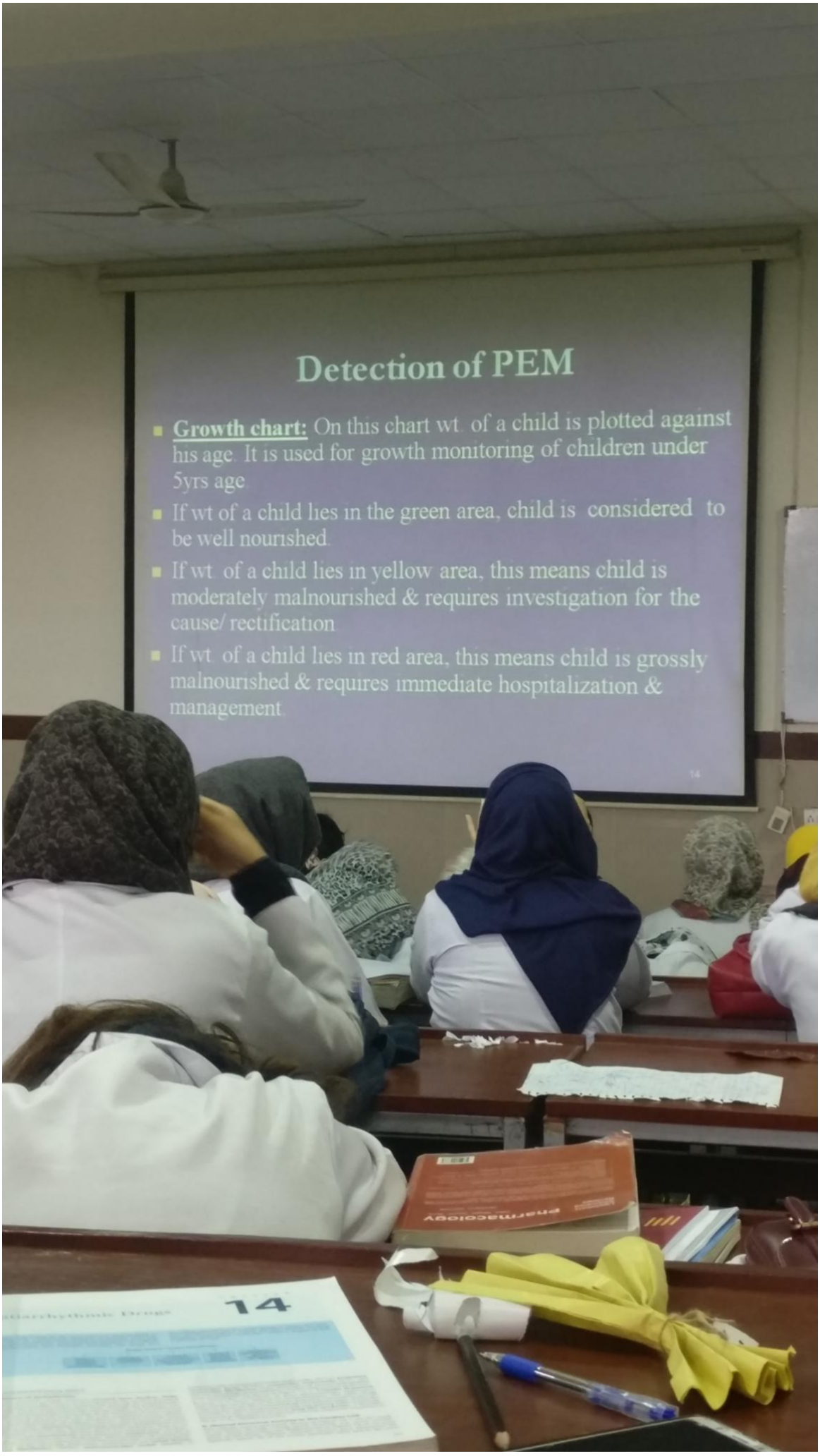
- **Kwashiorkor:** is a severe clinical condition due to protein deficiency along with varying amounts of calories, seen in 1 – 3 years of age.

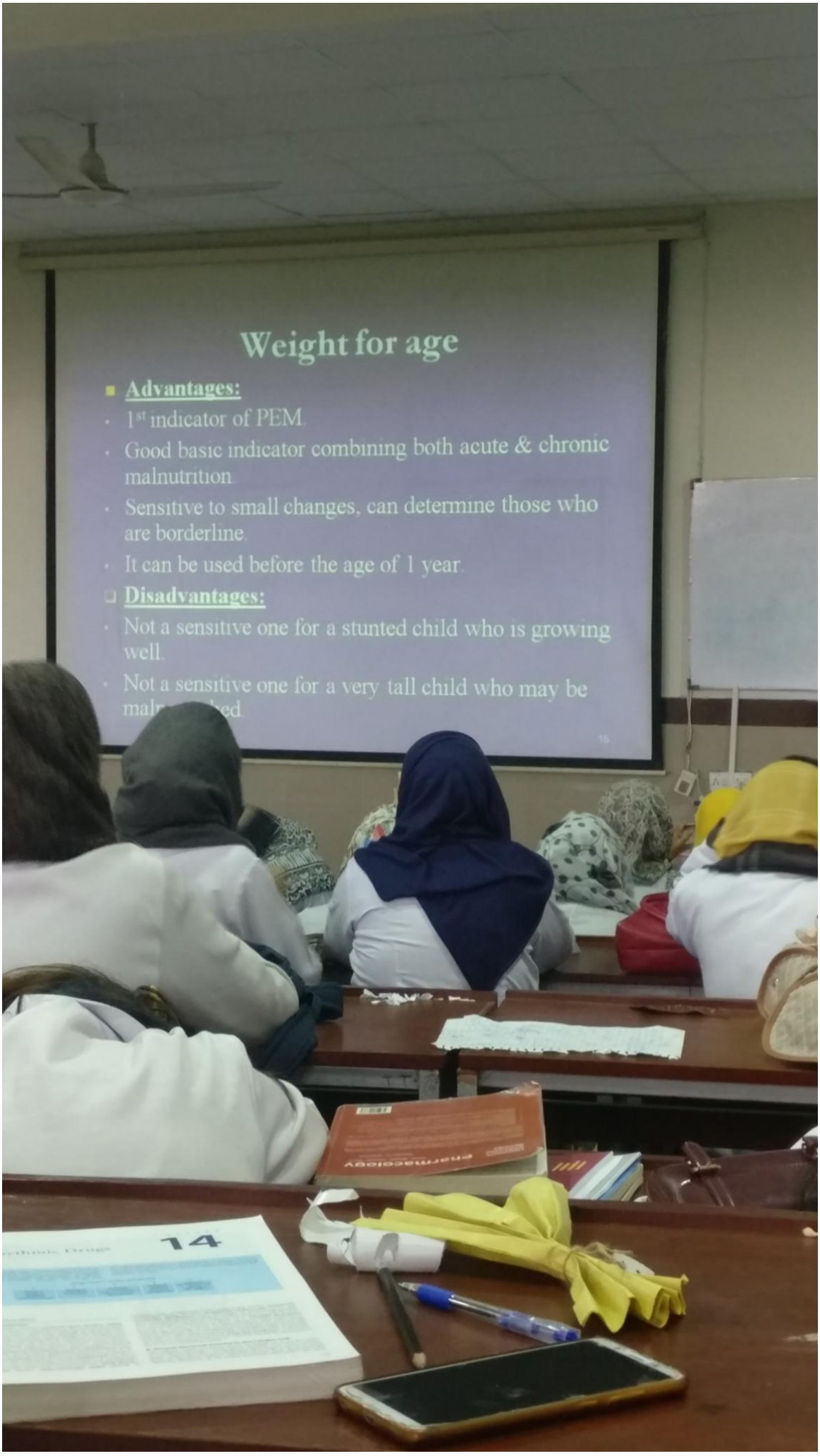


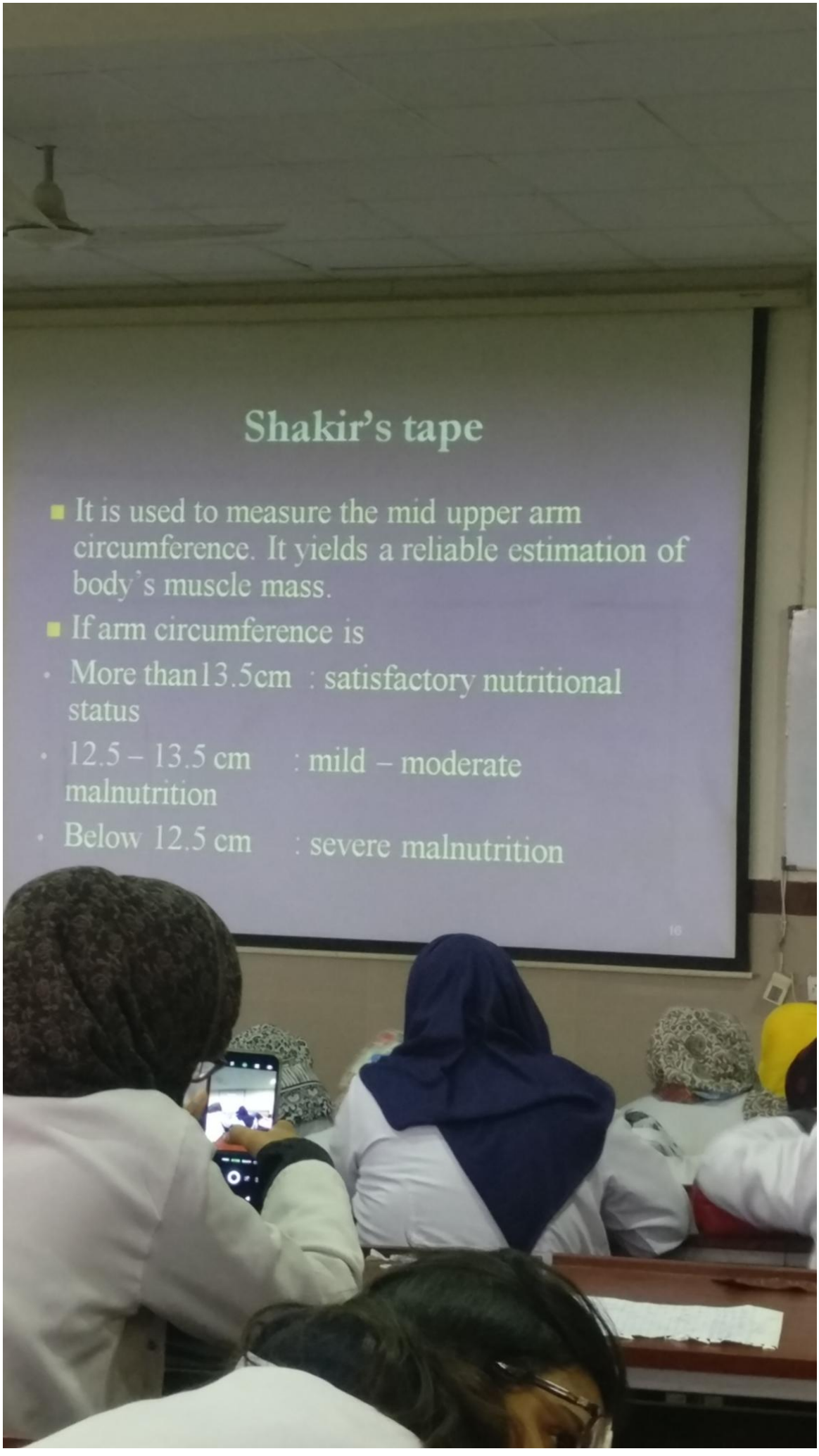

Classification of PEM
Gomez classification:
based on weight for age %.
Wt. for age% = wt. of the child × 100
wt. of a normal child of same age
90 – 110% : normal nutritional status
75 -89% : 1st degree, mild malnutrition
60 – 74% : 2nd degree, moderate malnutriton
Und 60% : 3rd degree, severe malnutrition

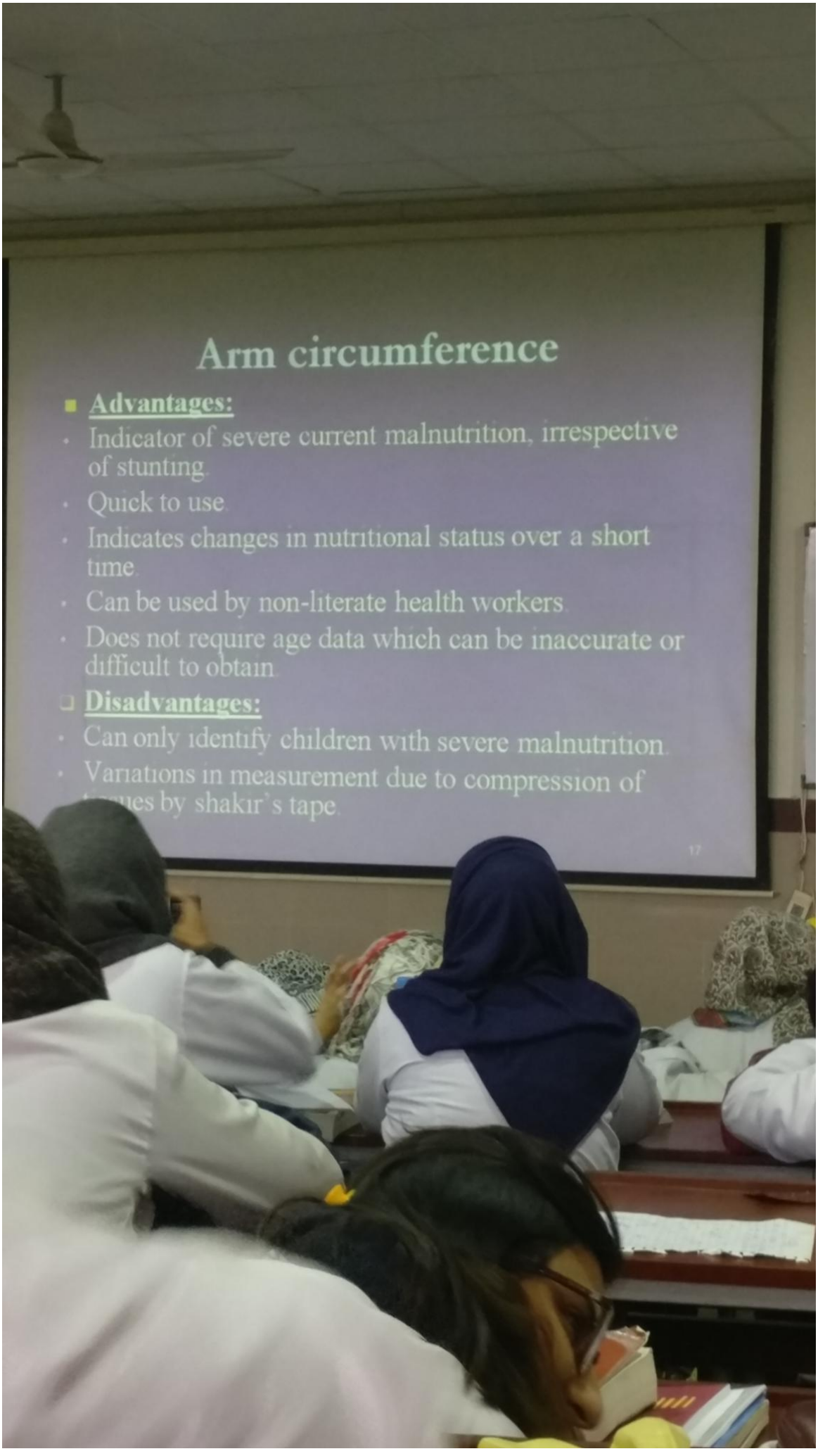

Waterlow's classification:
Based on weight for height & height for age.
W/H
H/A
>m- 2SD
<m- 2SD
>m- 2SD
Normal
Wasted
<m- 2SD
Stunted
Wasted & Stunted
12

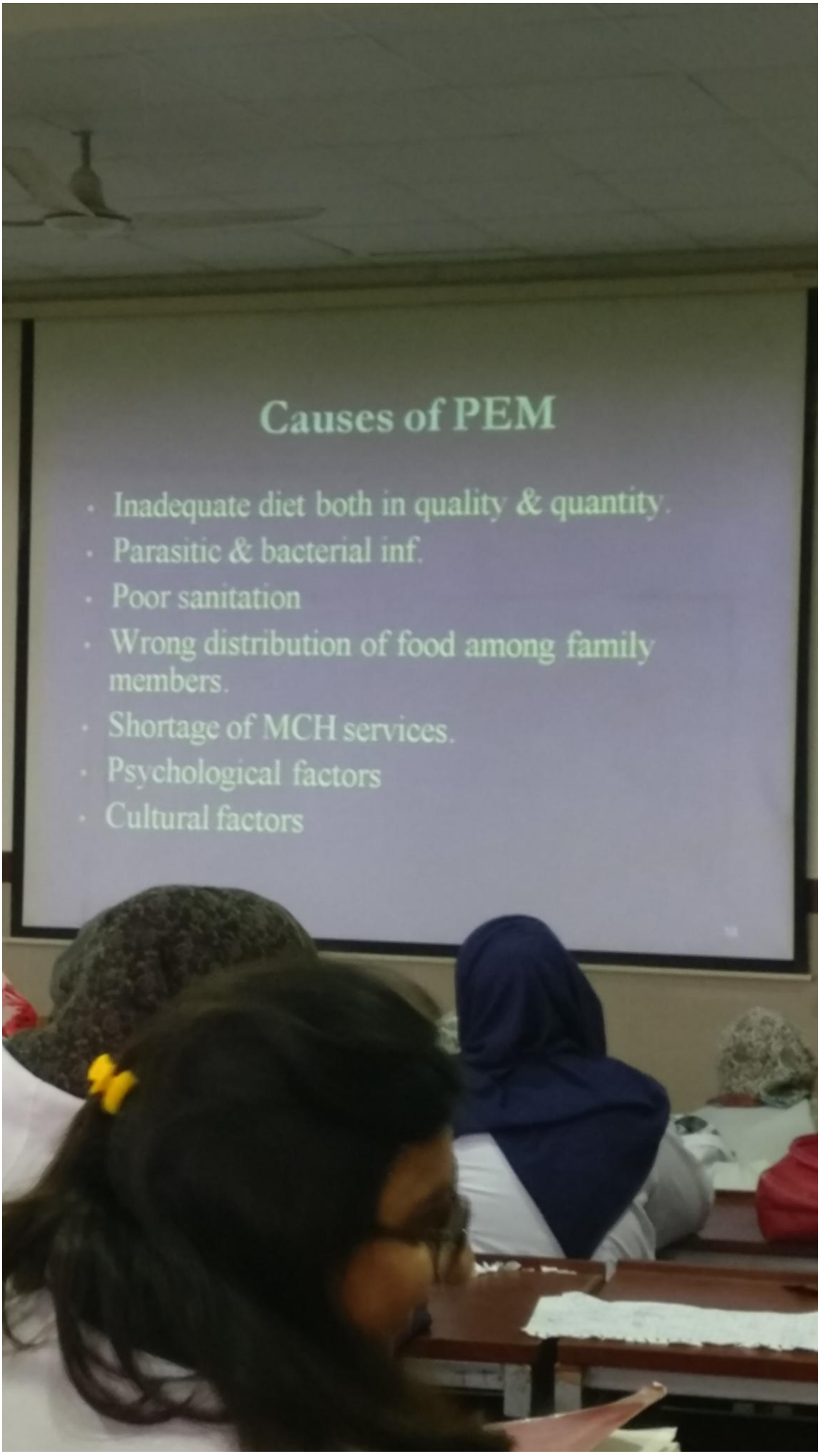

W/H% = wt. of the child × 100
wt. of a normal child at same ht.
Height/Age% = ht. of the child × 100
ht. of a normal child at same age
Nutritional status Stunting H/A% Wasting W/H%
Normal >95 >90
Mildly impaired 87.5 – 95 80 – 90
Moderately impaired 80 – 87.5 70 – 80
Severely impaired <80 <70

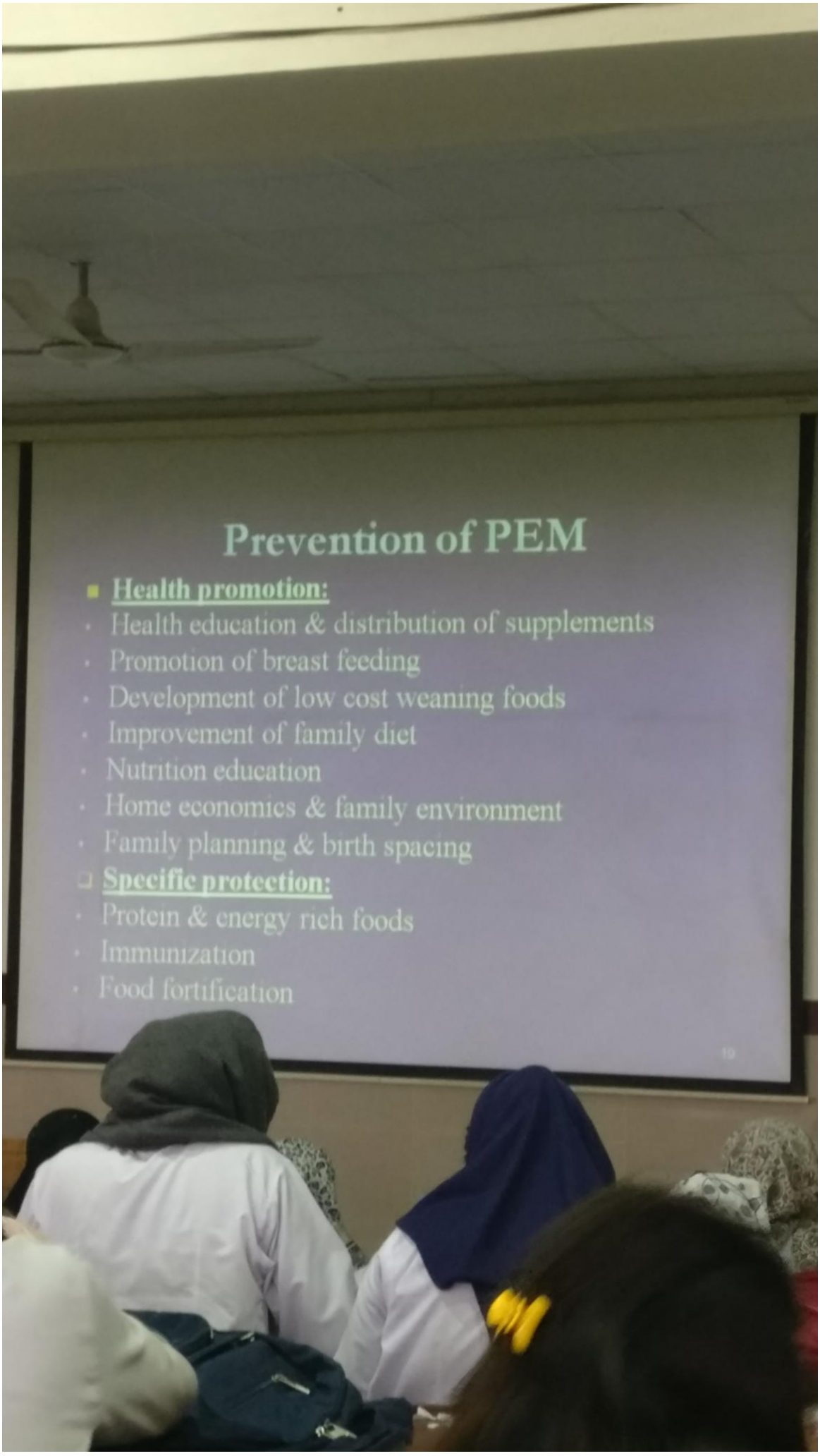

Detection of PEM
Growth chart: On this chart wt. of a child is plotted against his age. It is used for growth monitoring of children under 5yrs age.
If wt of a child lies in the green area, child is considered to be well nourished.
If wt. of a child lies in yellow area, this means child is moderately malnourished & requires investigation for the cause/ rectification.
If wt. of a child lies in red area, this means child is grossly malnourished & requires immediate hospitalization & management.
14
PHARMACOLOGY
14

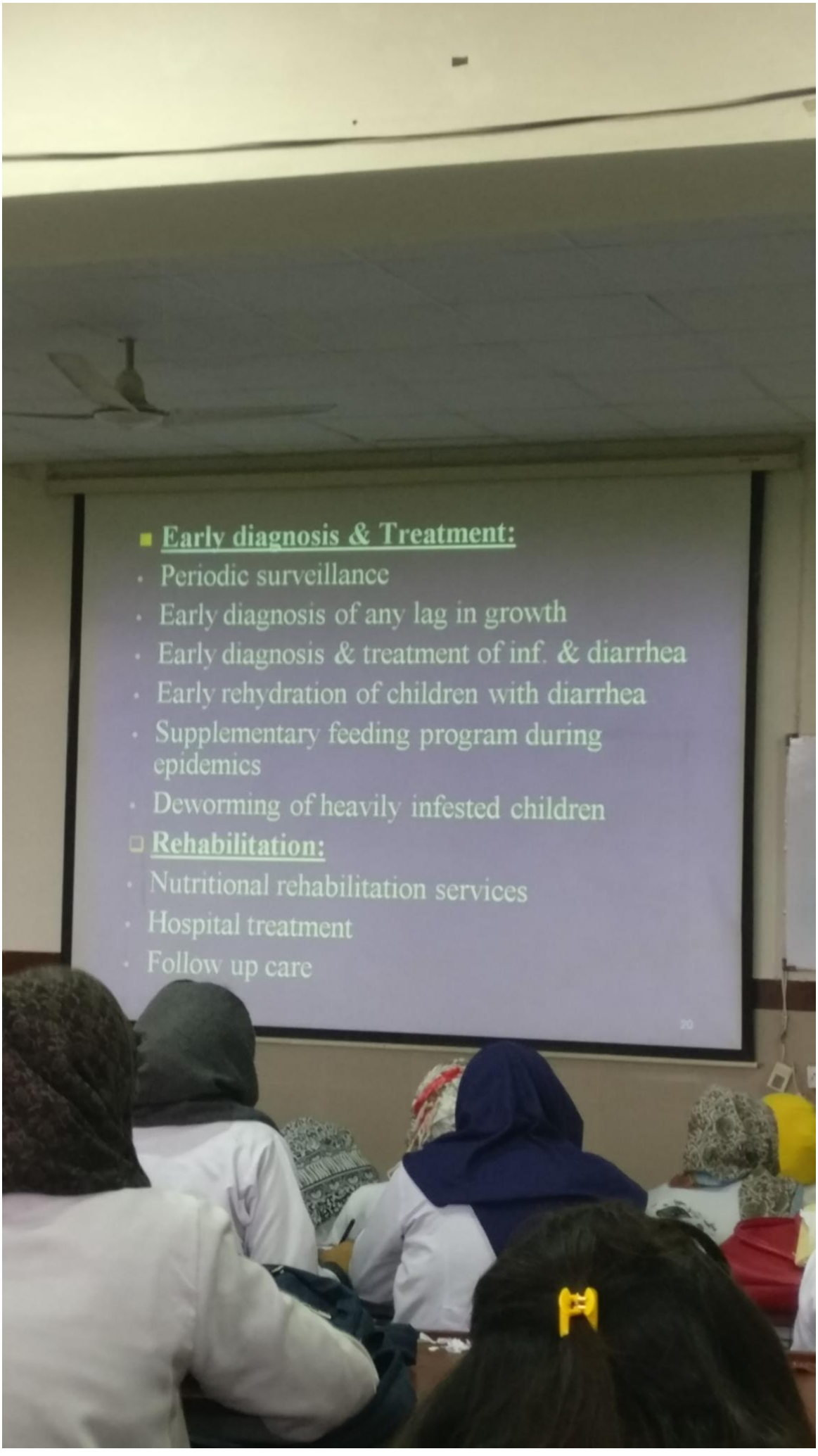

Weight for age
Advantages:
1st indicator of PEM.
Good basic indicator combining both acute & chronic malnutrition.
Sensitive to small changes, can determine those who are borderline.
It can be used before the age of 1 year.
Disadvantages:
Not a sensitive one for a stunted child who is growing well.
Not a sensitive one for a very tall child who may be
15
14

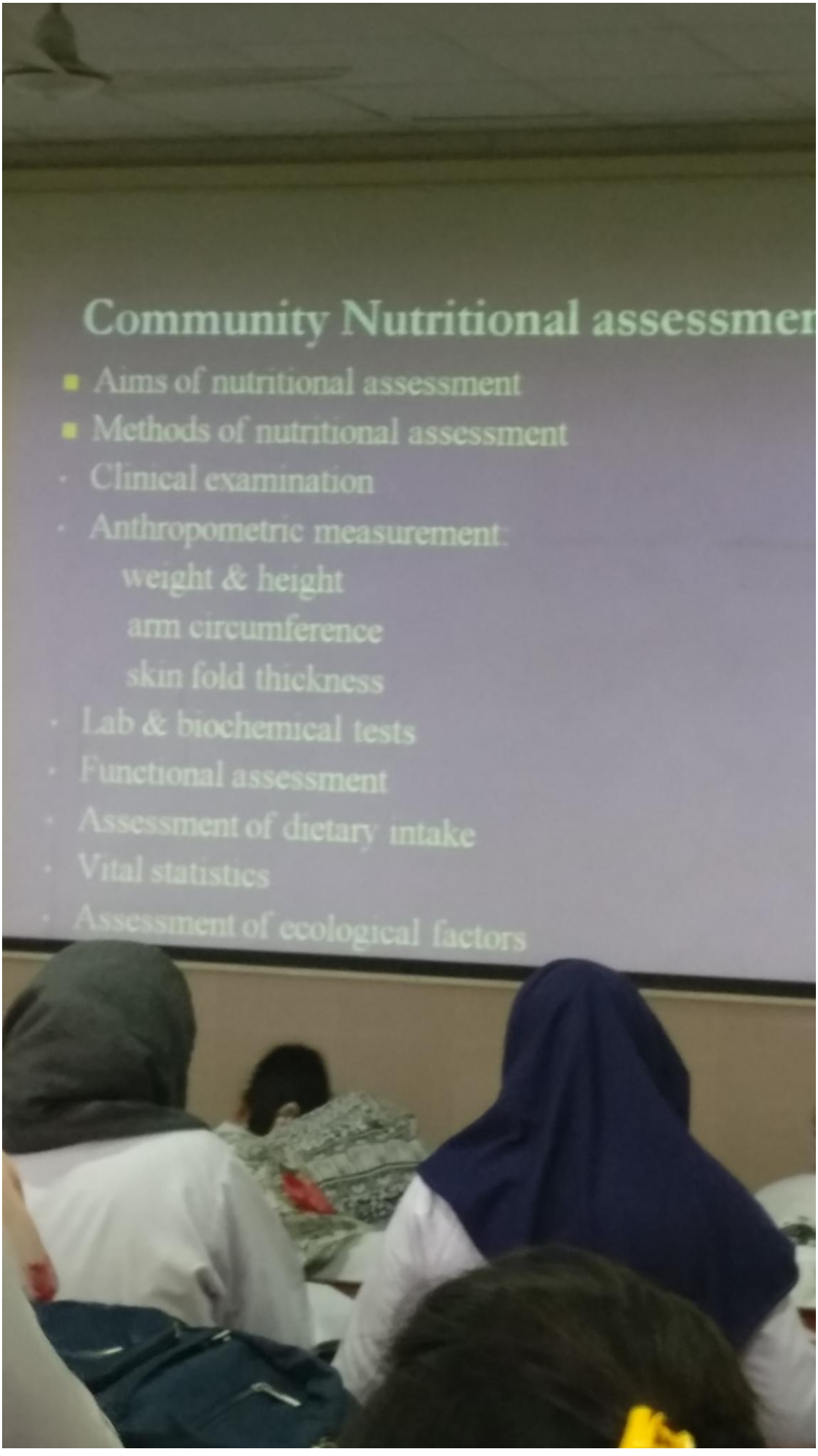

Shakir's tape
It is used to measure the mid upper arm circumference. It yields a reliable estimation of body's muscle mass.
If arm circumference is
More than13.5cm : satisfactory nutritional status
12.5 – 13.5 cm : mild – moderate malnutrition
Below 12.5 cm : severe malnutrition

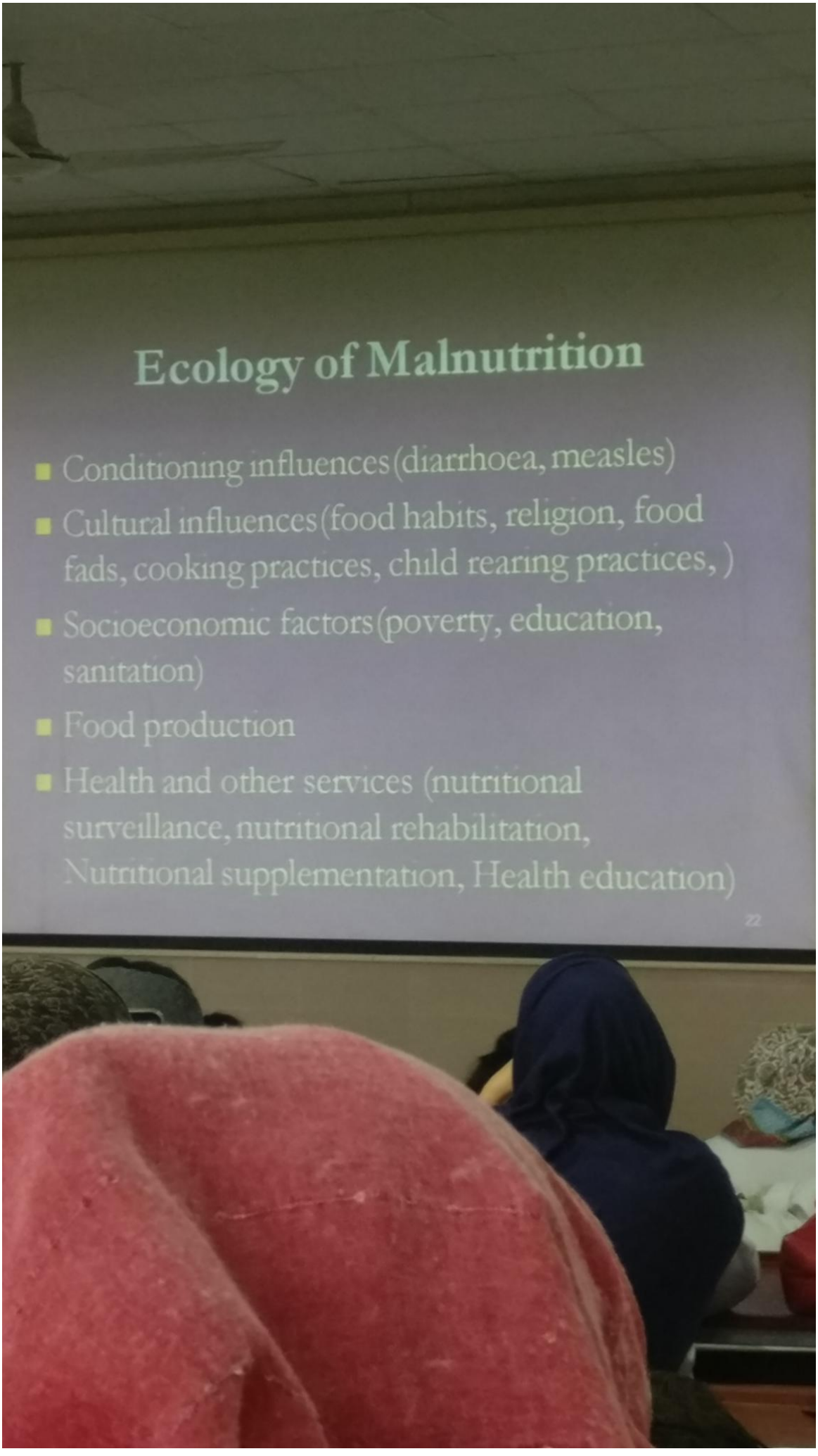

Arm circumference
Advantages:
Indicator of severe current malnutrition, irrespective of stunting.
Quick to use.
Indicates changes in nutritional status over a short time.
Can be used by non-literate health workers.
Does not require age data which can be inaccurate or difficult to obtain.
Disadvantages:
Can only identify children with severe malnutrition.
Variations in measurement due to compression of
ues by shakir's tape.

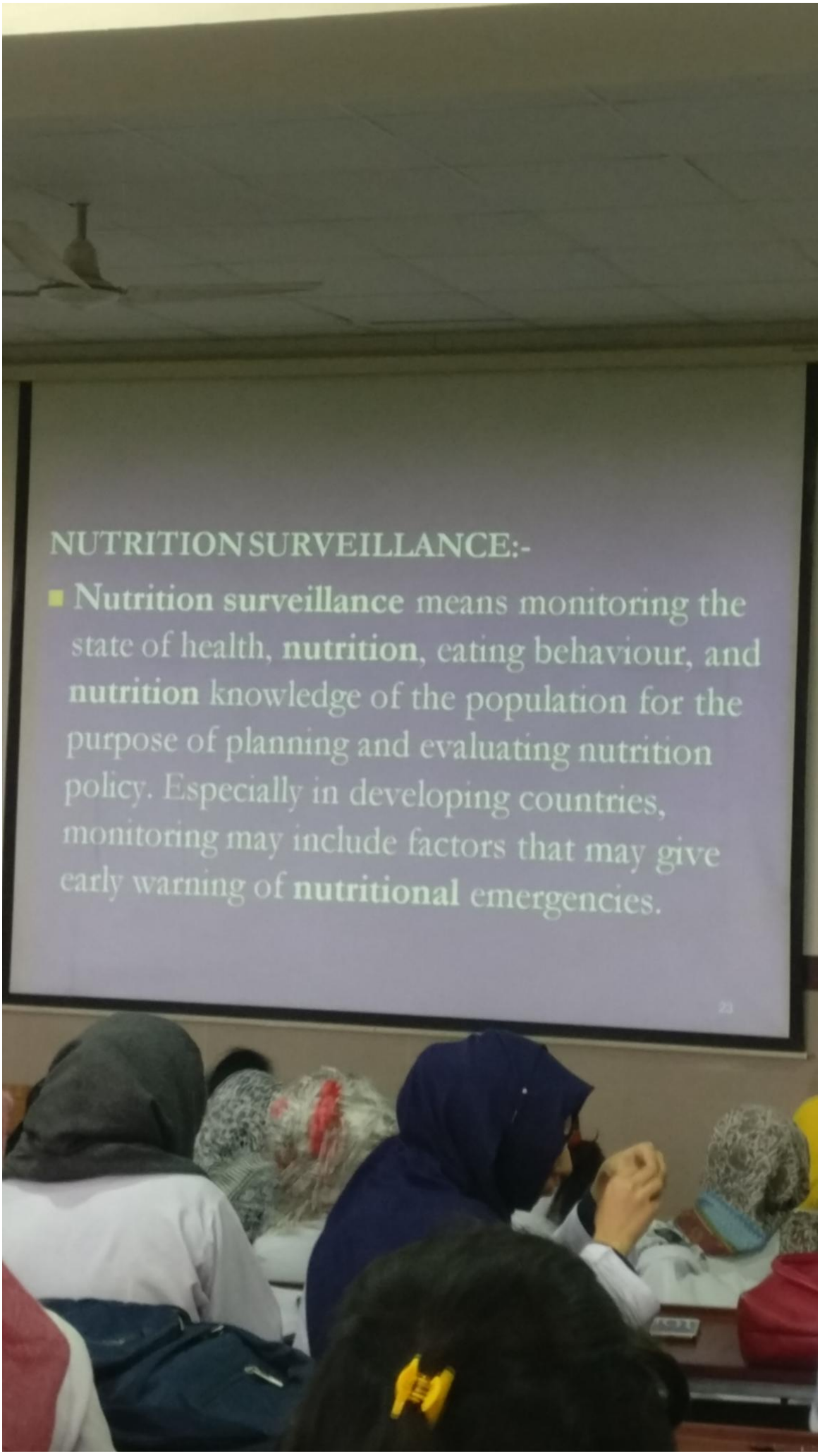

Causes of PEM
Inadequate diet both in quality & quantity.
Parasitic & bacterial inf.
Poor sanitation
Wrong distribution of food among family members.
Shortage of MCH services.
Psychological factors
Cultural factors

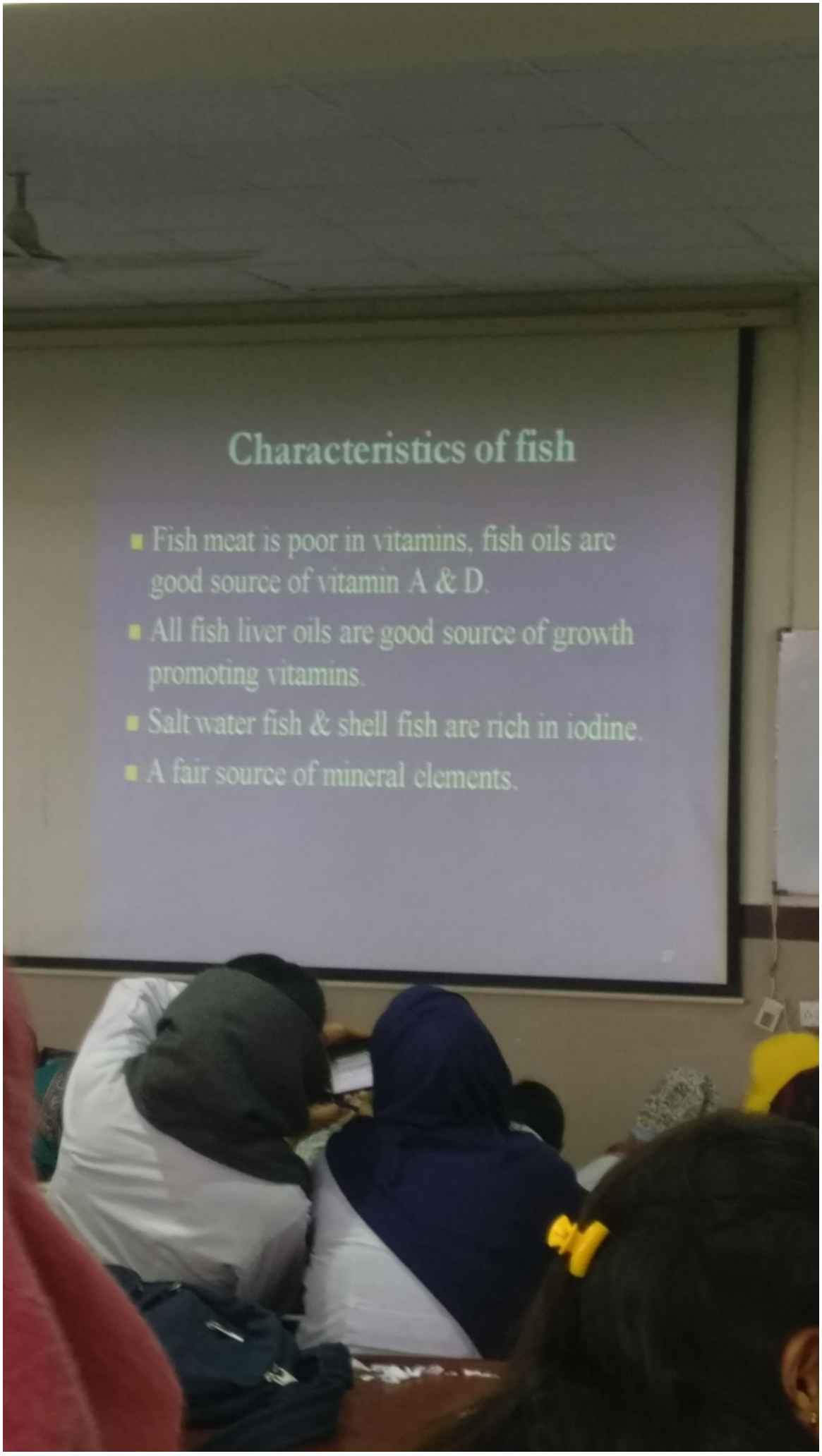

Prevention of PEM
Health promotion:
Health education & distribution of supplements
Promotion of breast feeding
Development of low cost weaning foods
Improvement of family diet
Nutrition education
Home economics & family environment
Family planning & birth spacing
Specific protection:
Protein & energy rich foods
Immunization
Food fortification

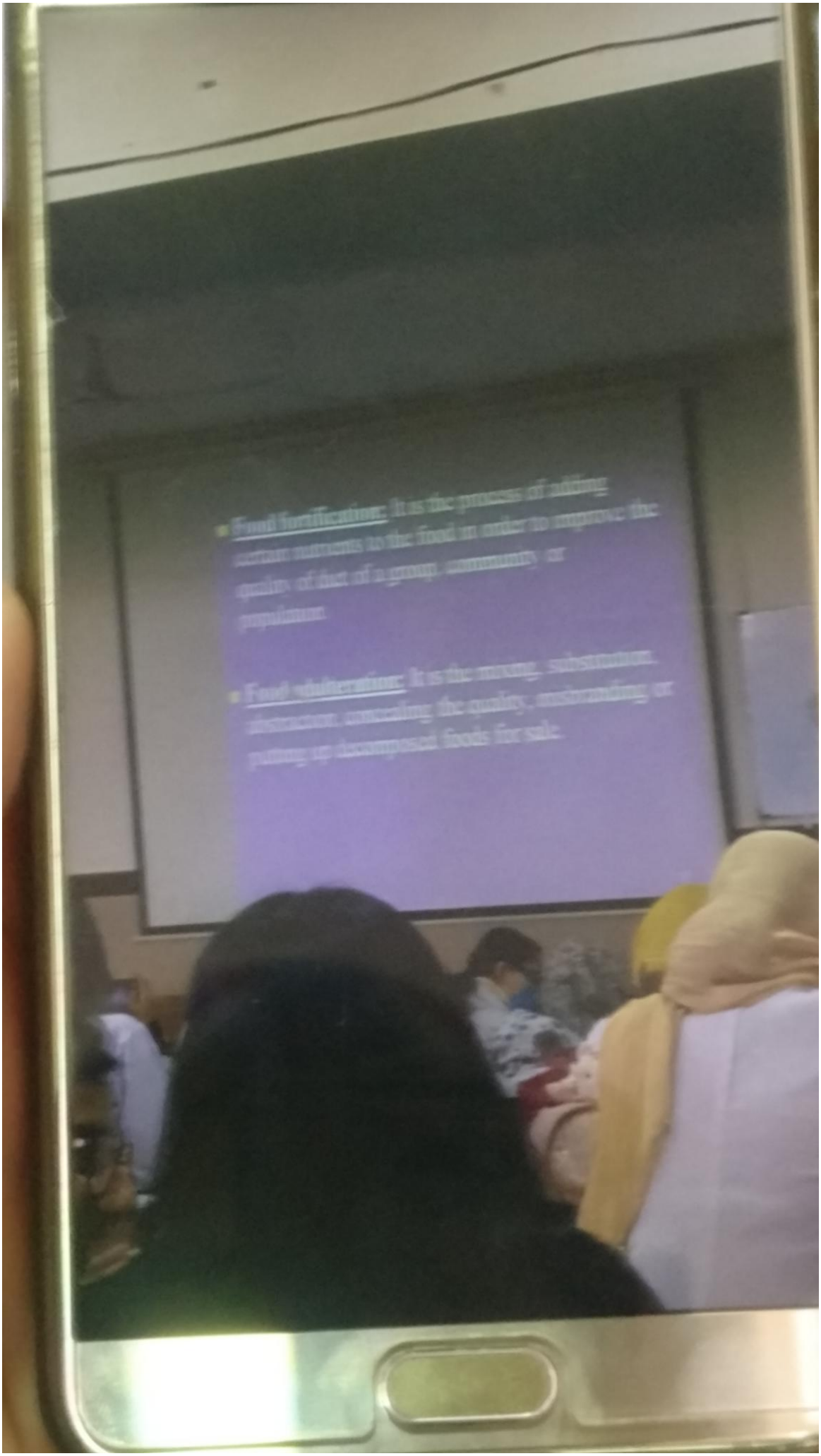

Early diagnosis & Treatment:
Periodic surveillance
Early diagnosis of any lag in growth
Early diagnosis & treatment of inf. & diarrhea
Early rehydration of children with diarrhea
Supplementary feeding program during epidemics
Deworming of heavily infested children
Rehabilitation:
Nutritional rehabilitation services
Hospital treatment
Follow up care

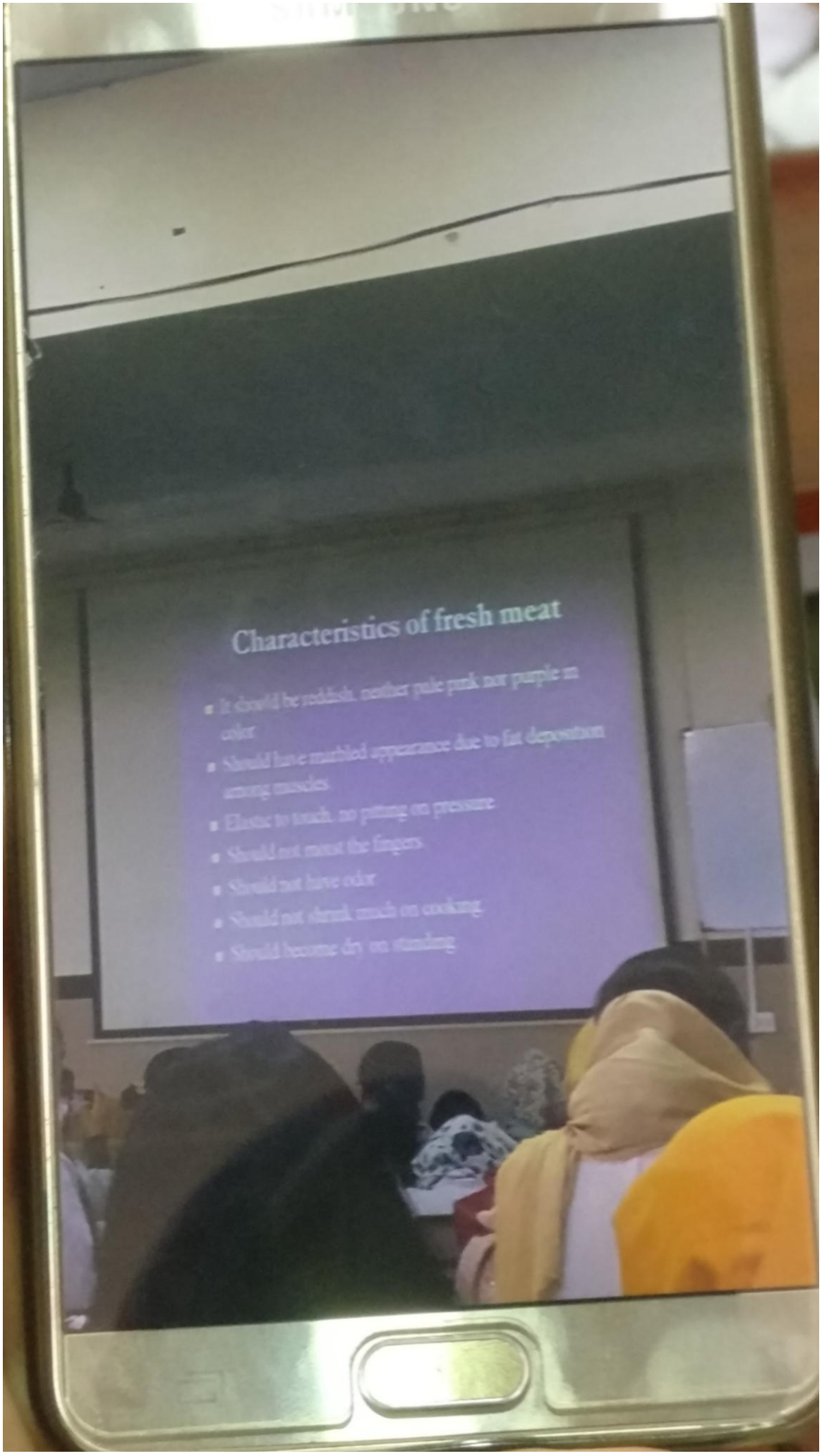

Community Nutritional assessmen
Aims of nutritional assessment
Methods of nutritional assessment
Clinical examination
Anthropometric measurement:
weight & height
arm circumference
skin fold thickness
Lab & biochemical tests
Functional assessment
Assessment of dietary intake
Vital statistics
Assessment of ecological factors

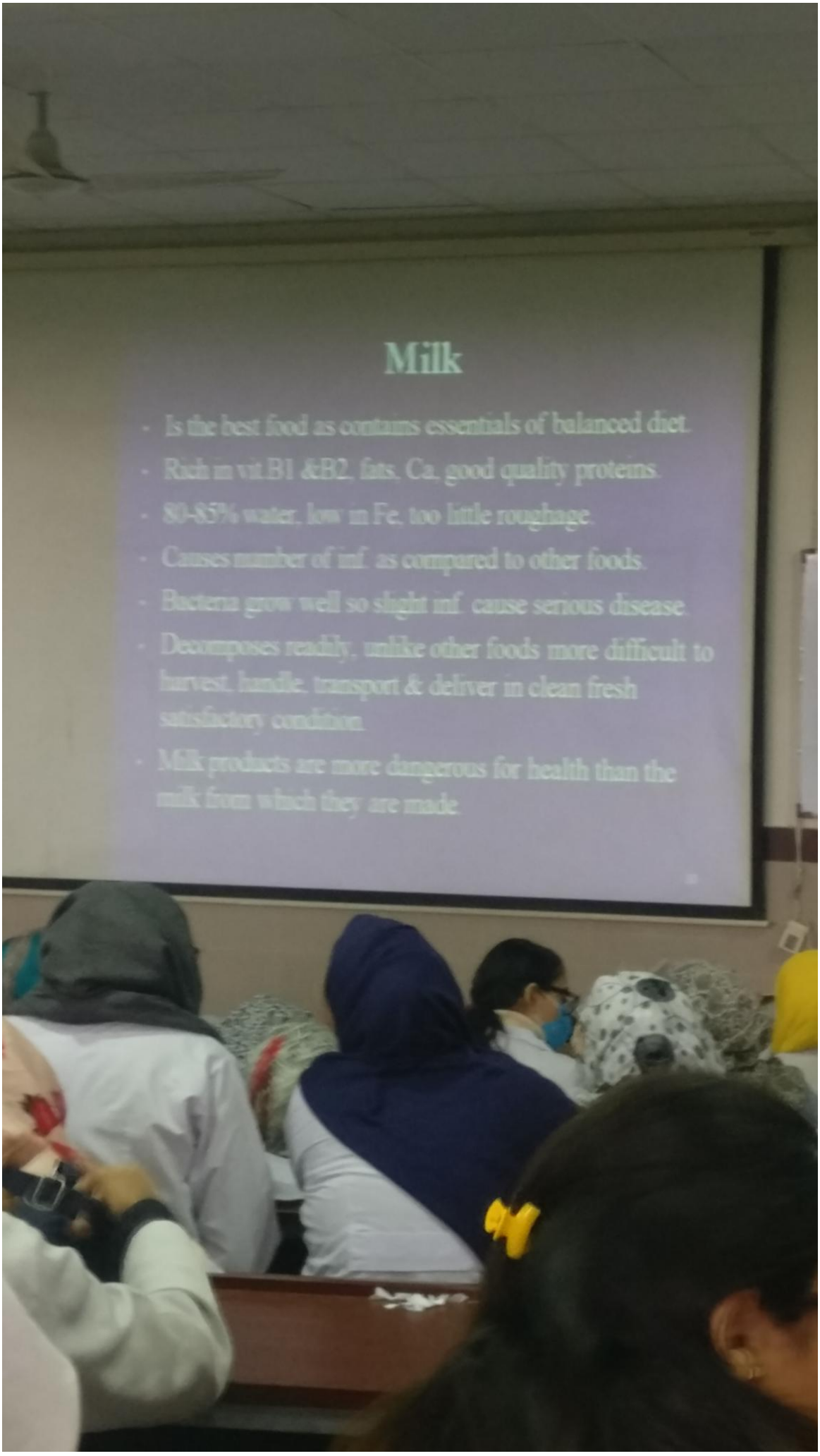

Ecology of Malnutrition
Conditioning influences (diarrhoea, measles)
Cultural influences (food habits, religion, food fads, cooking practices, child rearing practices, )
Socioeconomic factors (poverty, education, sanitation)
Food production
Health and other services (nutritional surveillance, nutritional rehabilitation, Nutritional supplementation, Health education)

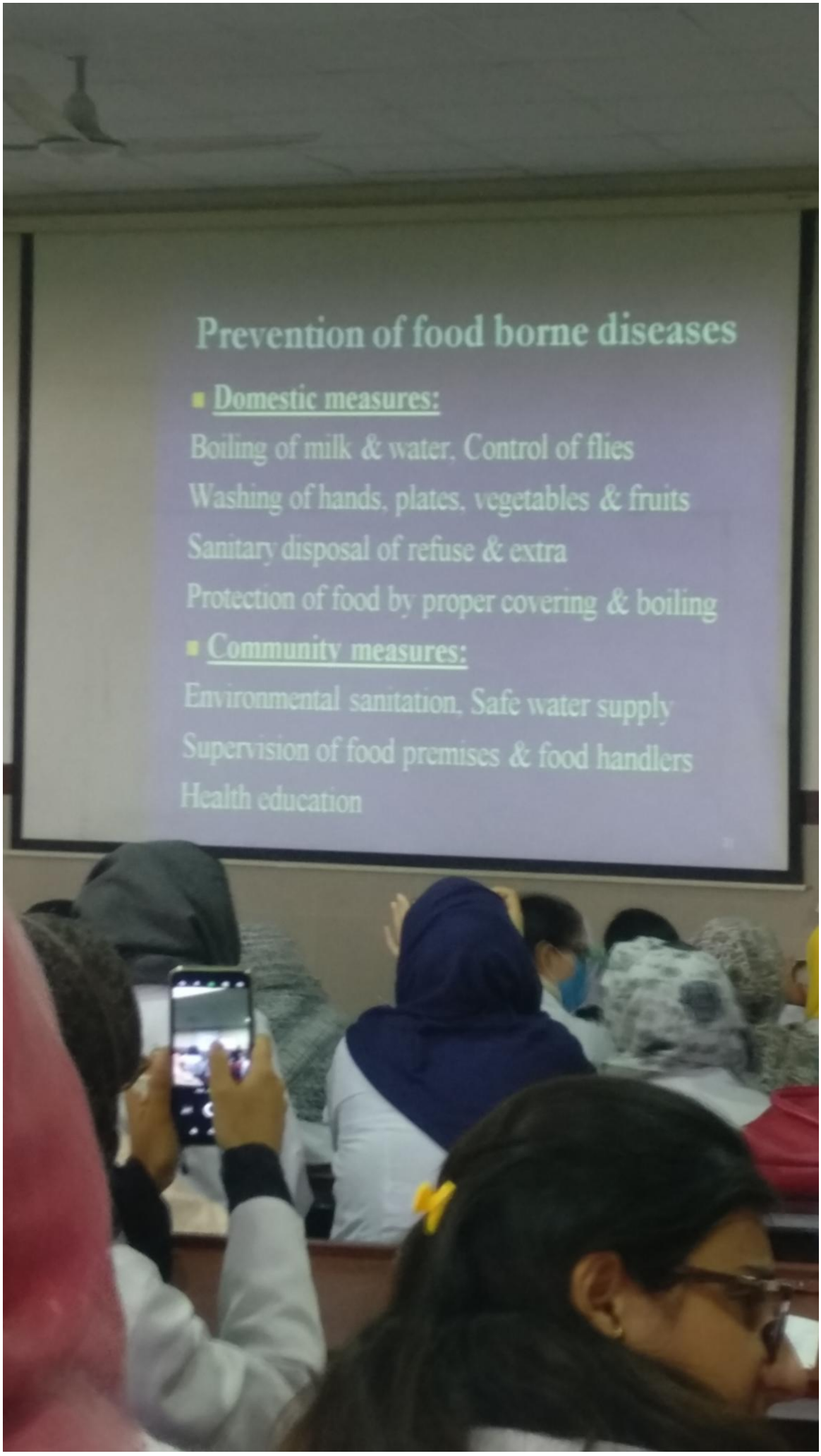

NUTRITION SURVEILLANCE:-
Nutrition surveillance means monitoring the state of health, nutrition, eating behaviour, and nutrition knowledge of the population for the purpose of planning and evaluating nutrition policy. Especially in developing countries, monitoring may include factors that may give early warning of nutritional emergencies.

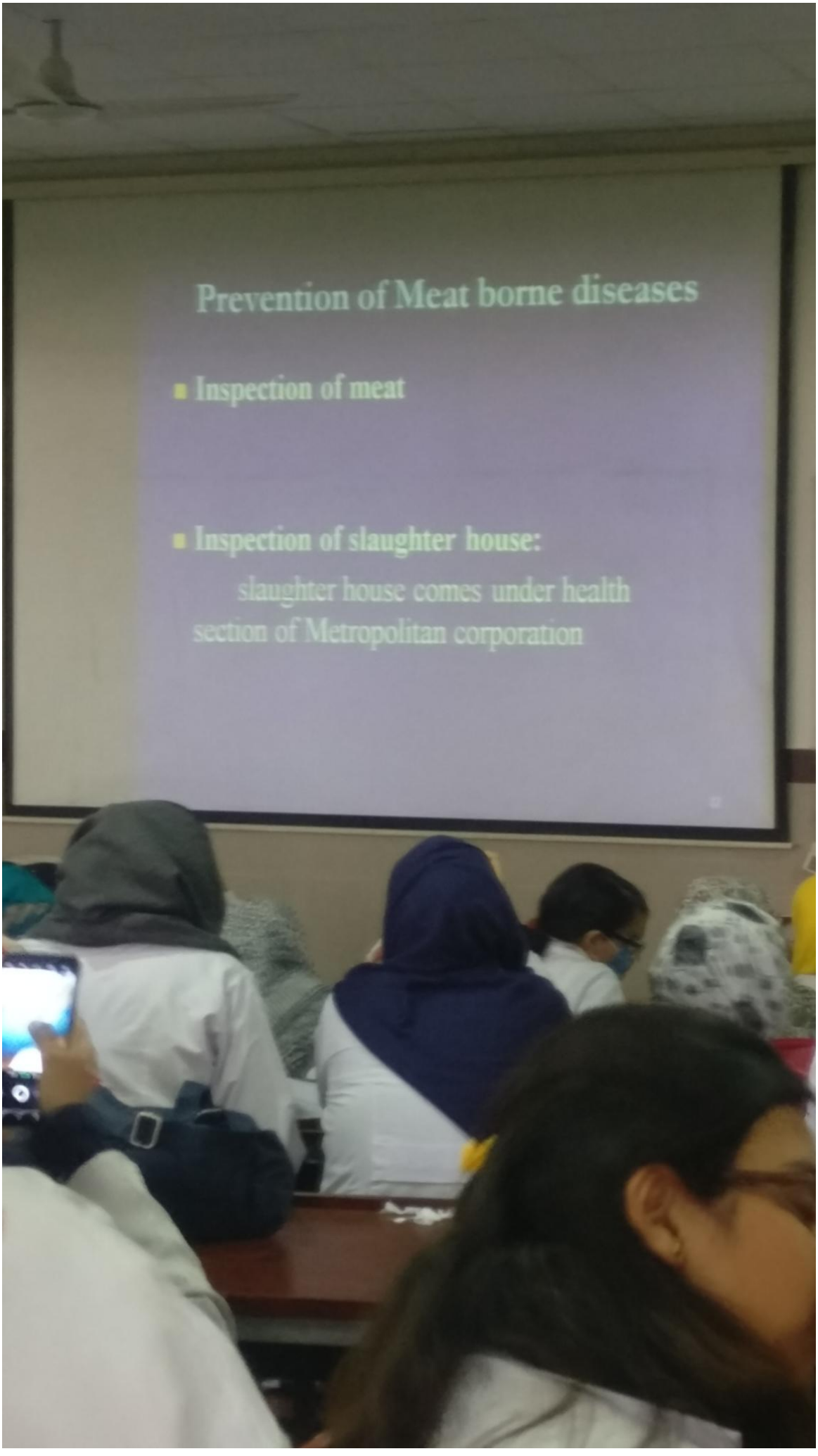

Characteristics of fish
Fish meat is poor in vitamins, fish oils are good source of vitamin A & D.
All fish liver oils are good source of growth promoting vitamins.
Salt water fish & shell fish are rich in iodine.
A fair source of mineral elements.

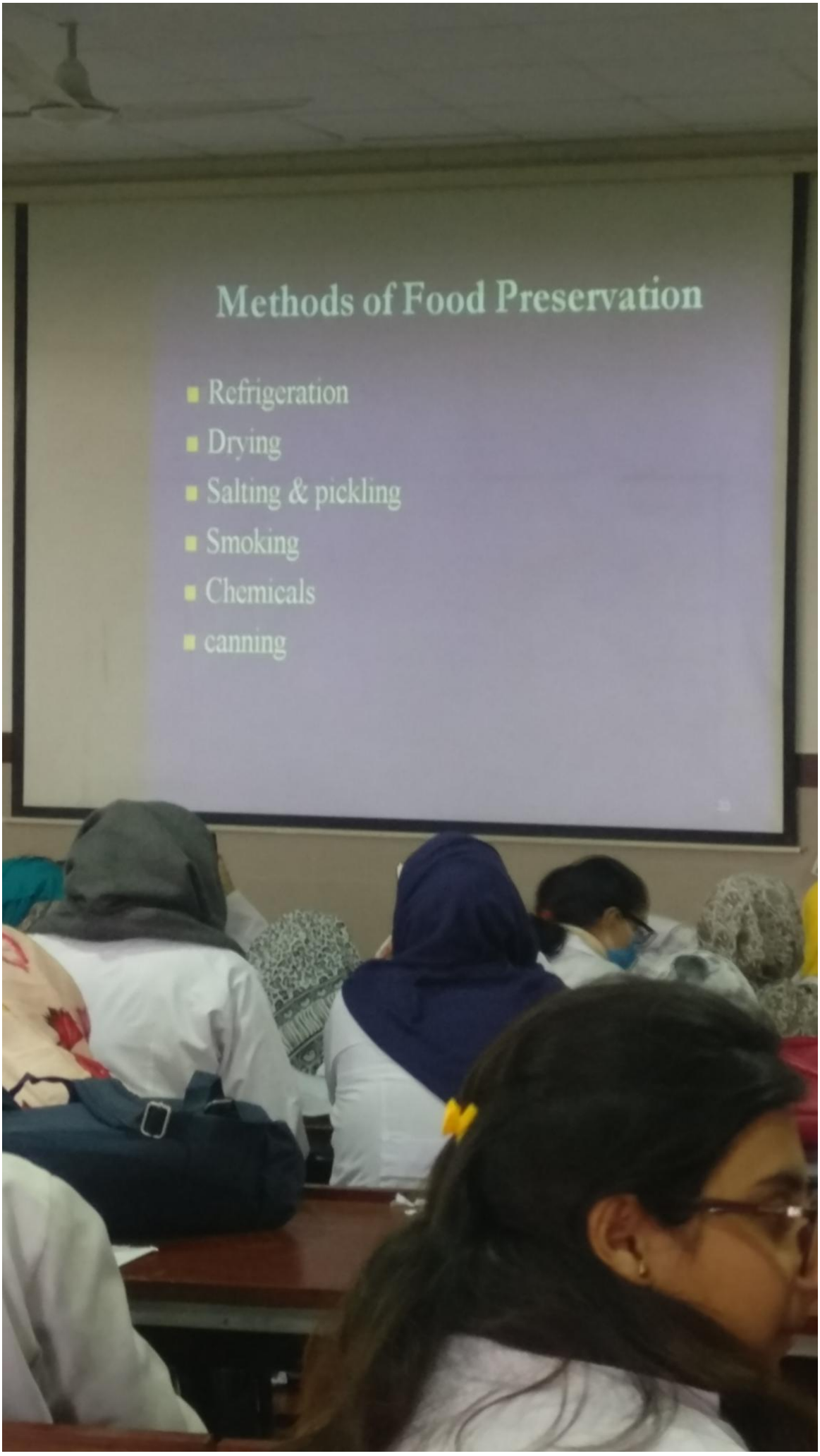

Food fortification: It is the process of adding certain nutrients to the food in order to improve the quality of diet of a group, community or population.
Food adulteration: It is the mixing, substitution, extraction, concealing the quality, contaminating, or putting up decomposed foods for sale.

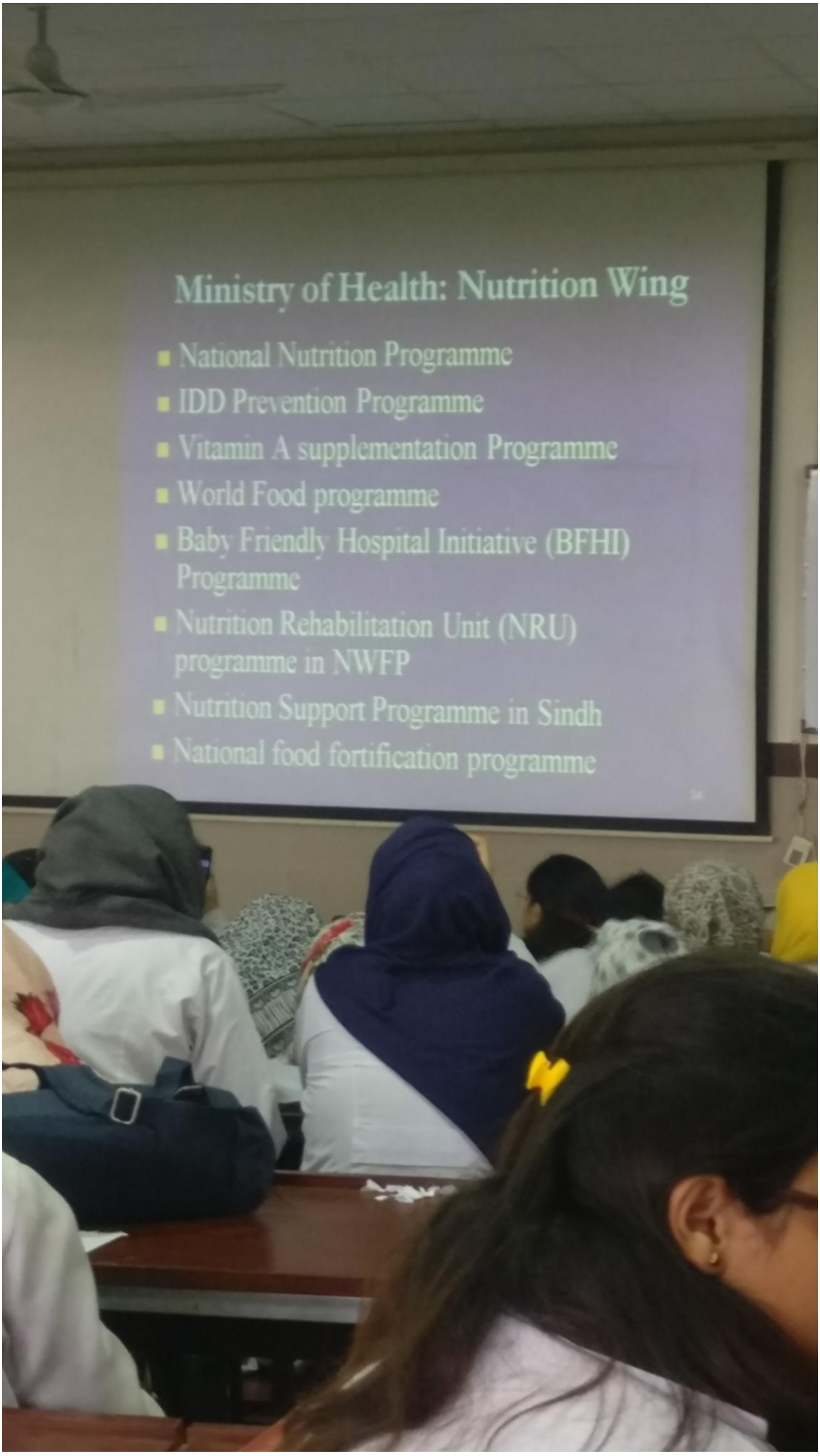

Characteristics of fresh meat
It should be reddish, neither pale pink nor purple in color
Should have marbled appearance due to fat deposition among muscles
Elastic to touch, no pitting on pressure
Should not moist the fingers
Should not have odor
Should not shrink much on cooking
Should become dry on standing

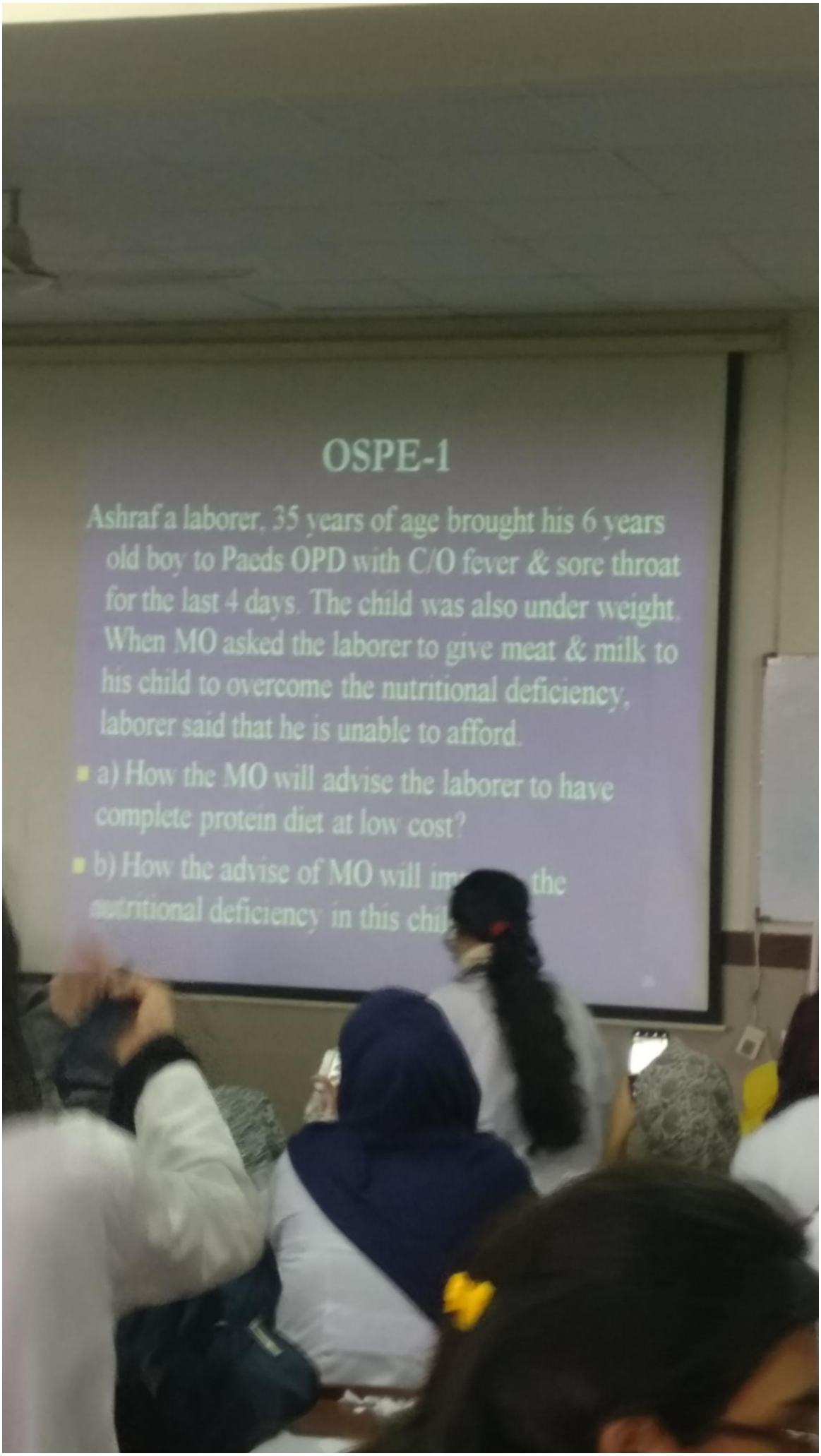

Milk
Is the best food as contains essentials of balanced diet.
Rich in vit.B1 &B2, fats, Ca, good quality proteins.
80-85% water, low in Fe, too little roughage.
Causes number of inf. as compared to other foods.
Bactera grow well so slight inf. cause serious disease.
Decomposes readily, unlike other foods more difficult to harvest, handle, transport & deliver in clean fresh satisfactory condition.
Milk products are more dangerous for health than the milk from which they are made.

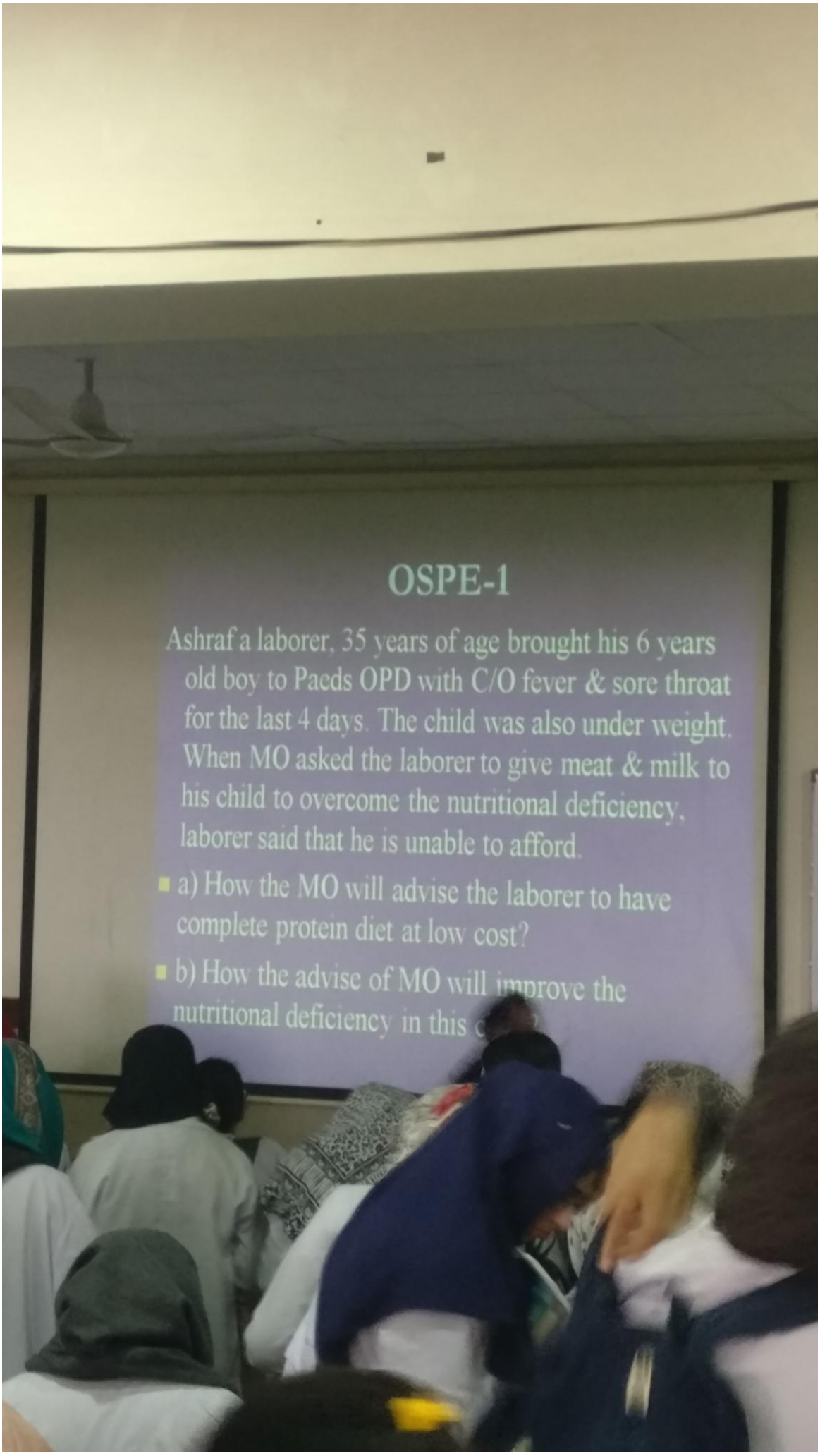

Prevention of food borne diseases
Domestic measures:
Boiling of milk & water, Control of flies
Washing of hands, plates, vegetables & fruits
Sanitary disposal of refuse & extra
Protection of food by proper covering & boiling
Community measures:
Environmental sanitation, Safe water supply
Supervision of food premises & food handlers
Health education


Prevention of Meat borne diseases
Inspection of meat
Inspection of slaughter house:
slaughter house comes under health section of Metropolitan corporation


Methods of Food Preservation
Refrigeration
Drying
Salting & pickling
Smoking
Chemicals
canning


Ministry of Health: Nutrition Wing
National Nutrition Programme
IDD Prevention Programme
Vitamin A supplementation Programme
World Food programme
Baby Friendly Hospital Initiative (BFHI) Programme
Nutrition Rehabilitation Unit (NRU) programme in NWFP
Nutrition Support Programme in Sindh
National food fortification programme


OSPE-1
Ashraf a laborer, 35 years of age brought his 6 years old boy to Paeds OPD with C/O fever & sore throat for the last 4 days. The child was also under weight. When MO asked the laborer to give meat & milk to his child to overcome the nutritional deficiency, laborer said that he is unable to afford.
a) How the MO will advise the laborer to have complete protein diet at low cost?
b) How the advise of MO will
the
nutritional deficiency in this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a) How the MO will advise the laborer to have complete protein diet at low cost?
b) How the advise of MO will improve the nutritional deficiency in this