22-PSM

public health phase history India
ds control(1880-1920) →
health promotion(1920-1960) →
social engineering(1960-1980) →
health for all(1981-2000)

epidemiological triangle
causative factor(agent)
grp of population & characteristic
environm behaviour, culture, physiologic factor, ecological element
time

enzootic-endemic in animal
epizootic-outbreak ds in animal population may affect human

hospice-special grp people helping old & terminally ill pt
medical audit-retrospective evaluation of medical performance
migrant study-evaluate role of possible genet & environm factor
sanitation barrier-segregation of feces
socialised medicine-provision of medicine service & professional education by state
state medicine-provision of free medical service by state

seasonal trend
measles, chicken pox (early spring)
URTI (winter)
GIT inf, polio
cerebrospinal meningitis
rubella (late winter & spring)
dengue
cyclic trend (herd immunity)
measles (every 2-3y)
rubella (every 6-9y)
influenza pandemic (every 10-15y)
secular (long term) trend
↑-CAD, ca lung, DM
↓-TB, typhoid, diphtheria, polio
health indicator characterist
valid, reliable, sensitive, sp, feasible, relevant

Susser
ds-physiological/pathologic dysfn
illness-subjective state of person aware of not being well
Sickness-range of Social dysfn

Durkheim
Division of labour in society
rule of sociologic method
suicide
elementary form of religious life

screening
perspective-pt benefit
proSpective-Others benefit
↑survival-ca colon

ds→impairm→disability→handicap
accident→loss of foot→cant walk→unemployed
impairment-any loss or abnormality of psychologic, physiologic, anat struct/fn
disability-inable to perform activity
handicap-prevent fulfilment of role

demographic cycle
I-high station↑BR=↑DR-popul stationary
II-early expanding↑BR,↓DR-popul↑
III-late expanding↓BR>↓DR-popul↑(India)
IV-low stationary↓BR=↓DR-popul stationary(Tamil Nadu, Austria, Denmark, Sweden, Belgium)
V-declining↓BR=↓DR-popul↓(Germany, Hungary)

population growth—AGR%—y to double
stationary-no growth—
slow<0.5→139
moderate=0.5-1—139-70
rapid=1-1.5—70-47
very rapid=1.5-2—47-35
explosive=2-2.5—35-28

India-demographic profile
total populat=1210mill
CBR=22.1/1000MYP
CDR=7.2/1000MYP
annual growth rate=1.6%
populat doubling time=30y
populat %rural area=68.8%
adult literacy rate=74.04%
density of populat=382/km²
sex ratio=940/1000mal
sex ratio at birth=914
child sex ratio=914
popul<15y=30.9%
popul>60y=7.5%
average family size=2.6
age at marriage fem=22.4y
annual per capita GNP=Rs.60603/-
TFR=2.4
NMR=29/1000 live birth
IMR=40/1000 livebirth, highest-MP(62)>Odissa(61),
lowest-Kerala(13),Maharashtra(28)
MMR=178/1lac livebirth, highest-Assam(390)>UP(359), lowest-Kerala(81),
Maharashtra(104)
%GDP spent on health=1.2%
adult HIV prevalence=0.27%
%fem in 15-24y=20

natural method of contraception
Ogino/safe period/rhythm/calender-fertile period=1st d-(shortest cycle–18) → last
d(longest cycle–10), 8th-22nd d
basal body temp↑body temp by 0.3-0.5°C, coitus restricted to post ovulatory period
Billing/ovulation/cervical mucus-at ovulation mucus become watery
symptothermic=temp+Billing+Ogino

acceptable noise level(db)
hospital ward=20-35
residential  bed room=25
educational class room=30-40
library=35-40
living room=40
laboratory=40-50
industrial workshop=40-60

corrected effective temp=air temp+ velocity+ humidity+ mean radiant heat
20=pleasant&cool
20-25=comfortable & cool
25-27=comfortable
27-28=hot & uncomfortable
28+=extremely hot
30+=intolerably hot
McArdle max allowable sweat rate
P4SR=4.5l/4h

luminous intensity - brightness of point source - Candela, Candela power
luminous FLux - FLow of light - lumen
illumination - amount of light reaching surface - lux
brightness luminance - amount of light reemitted - Lambert (candela-lumen-lux-lambert)

daylight factor = (illumination indoor / illumination outdoor) × 100
living room ≤ 8%
kitchen ≤ 10%
ofloor = 15-20%
furniture = 30-40%
wall = 50-60%
ceiling = 80%
satisfactory vision = 15-20 footcandle
reflection

healthful school environment
≤ 40 student/classroom
per capita space in classroom ≥ 10 ft²
minus desk
combined door & window area ≥ 25% floor
1 urinal - 60 student
1 latrine - 100 student

overcrowding
room-person
1 = 2
2 = 3
3 = 5
4 = 7
≥ 5 = 10
floor space (ft²)-person
≥ 110 = 2
90-100 = 1½
70-90 = 1
50-70 = ½
child<12mth=0, 1-10y=½
≥2person>9y sleep in same room

hospital waste management
Ministry of environment&forest
BMW rule-2011
Schedule I-categorisation biomedic waste
Schedule II-colour coding and type of container for disposal biomedical waste
Schedule III-label for biomedical waste container/bag
Schedule IV-label for transport
Schedule V-treatment of waste

(HAM Woman Chamunda Seva Sansthan LIC)
1-Human anatomical waste
2-Animal waste
3-Microbiological&biotechnology waste
4-Waste sharps
5-Cytotoxic drug&discarded medicine
6-Soiled waste
7-Solid waste
8-Liquid waste
9-Incineration waste
10-Chemical waste
colour coding-waste category-treatment
yellow-1,2,3,6-incineration
red-3,6,7-autoclave
blue-4,7-autoclave
black-5,9,10-secure landfill

(HAM Woman Chamunda Seva Sansthan Ci)
1-Human anatomical waste
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5-Cytotoxic drugs&discarded medicine
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7-Solid waste
8-Chemical waste
colour coding-waste category-treatment
yellow-1,2,5,6-incineration
red-3,4,7-autoclave
blue-8-autoclave
black-municipal waste
inertization-mixing wast with cement & other substance
pharmaceutical waste = 65%
lime = 15%
cement = 15%
water = 5%
temp in incineration = 800-1200°C

hospital waste
Govt hosp = ½-4kg/bed/d
private hosp = ½-2kg/bed/d
nursing home = ½-1kg/bed/d

controlled tipping (sanitary landfill)-most satisfactory method of refuse disposal

sewage = solid excreta + liquid excreta
suLLage = Liquid waste—hum excreta (soakage pit)
garbage = kitchen waste
refuse = waste—human excreta
ruBbiSH = solid waste—(garBage+aSH)

strength of sewage
biological O2 demand (BOD)
chemical O2 demand (COD)
suspend solid

water borne ds-ingest of contaminate water—cholera, typhoid, amoebic dysentery,
bacillary dysentery, viral hepatitis, leptospirosis, giardiasis
water washed ds—due to lack of water for washing-scabies, skin sepsis, ulcer, yaws,
trachoma, conjunctivitis
water Based ds—transmitted through inverteBrate animal—schistosomiasis,
dracunculiasis
water Related ds—spread by insect depending on water—malaRia, onchocerciasis

bacteriological indicator of water quality
fEcal StrEptococ-rEcEnt contamination
ClOstridium perfringens-remOte contamination
chemical indicator
nitrite > 3mg/l—recent
nitrAte > 50mg/l—pAst
fluorine > 1.5ppm

ANOPHeles
egg
laid singly
boat shape with lateral floater
larva
rest parallel to water surface
NO siphon tube
palmate hair present
pupa
siphon tube broad, short
adult
incline at angle(45°)
wing spotted
palpi long in both sex
Culicini
egg
laid single(Aedes), cluster(Culex, Mansonia)
 oval shape, without floater
larva
angle to water
siphon tube present
no palmate hair
pupae
siphon long, narrow
adult
hunchback
wing unspotted
palpi short in fem

Anopheles
fresh overhead tank breeding
rural-A culicifacies
urban, coastal area-A stephensi
Forest, foothill-A Fluvitalis
foothill NE state-A dirus
brahmin H2O-A Sundicus
Aedes
d time breeder
artificial breeding place
transovarian transmission
flight range=100m
Culex
hunch back
sewage breeder
max flight range=11km
C tritaenirhyncus-JE
C viShnuI-South India
C quinqueFasciatus(Fatigans)-Filariasis
mosquito net
size of hole<0.0475inch
no. of hole=150/inch²
Housefly
larva moult twice
3instar stage
voracious feeder-stage1
Sandfly
light brown, smaller than mosquito
lanceolate shape wing
longer leg, hair on body
Phlebotomus ARgentipes-kala azAR
P Sergenti-cutaneous leishmaniaSis(oriental Sore)
P papatASI-SAndfly fever
Sandflea
ulcers on foot
biological transmission
Cyclodevelopmental(GF)-Guineaworm in cyclops, microFilaria in mosquito
Cyclopropagative-malaria parasite in mosquito
Propagative-Plague bacilli in rat flea
Transovarian(ATM)-Aedes, Tick, Mite
Transstadial(fr 1stage of life cycle→other)-tick
insecticide
contact poison
natural-pyrethrum, rotenone, mineral oil, derris, nicotine
synth
organiCl-DDT, methoxychlor, HCH(BHC), lindane, chlordane, heptachlor, dieldrin,
aldrin, toxaphene, kepone, mirex
repellant-metadiethyltoluamide, benzyl benzoate, indalone, dimethyl phthalate,
ethyl hexanediol
organoP-chlorthion, diazinon, dioxathion, demethoate, EPN, malathion(OMS1-least
toxic), fenthion(OMS2), methyl parathion, parathion(no residual action), ronnel,
trichlorfon, dichlorvos, abate(OMS786), naled, gardona, chlorpyrifos,
fenitrothion(OMS43), dicapthon(OMS214)
carbamate-carbaryl, dimetilan, pyrolan, propoxur(OMS33)
synth pyrethroid-resmethrin, pothrin, bioresmethrin
stom poison-paris green, NaF
fumigant-HCN, CH3Br, SO2, C(SO4)2
larvicide
environmental control
chemical control
mineral oil
synthetic-abate, fenthion, malathion, chlorpyrifos
paris green
biological control
Gambusia affinis
Labister reticularis
not larvicide-DDT

classification of water
soft water<50mg/l(1mEq/l)
mod hard=50-150mg/l(1-3mEq/l) drinking water
hard water=150-300mg/l(3-6mEq/l)
very hard water>300mg/l(>6mEq/l)
hard water prevent CVS ds

problem village
no water<1.6km
water>15m depth
↑salinity,Fe,F
cholera risk

slow sand filter
effective diam sandbed=0.2-0.3mm
rate of filtration=0.1-0.4m³/h/m²
rapid sand filter
effective diam sandbed=0.4-0.7mm
rate of filtration=5-15m³/h/m²
Na thioSO₄ is add to neutralize Cl

Cl disinf
hypochlorous acid>hypochloric acid
Cl gas, chloramine, perchloron
not effect on-spore, poliovirus, viral hep, E histolytica cyst
min recommended conc of free Cl=0.5mg/l for 1h
H₂O-residual Cl(mg/l)
  drinking H₂O≥0.5
  swimming pool≥1.0
H₂O body&post disaster≥0.7
I2
more sporidical than Cl
iodophore-organic compound that slow release of I2, surfact

greenhouse gas
natural-CO2(9-26%), N2O, CH4(4-9%), H2O(36-70%), O3(3-7%)
nonnatural-HFC, SF6, perfluorocarbon
air pollution curtail life span by-3y

monitor air pollution
SO2, gritt&dust measurem, coeff of haze, air pollution index, smoke/soiling index

instrument-use
anemometer(4metal cup)-high air/wind velocity, calm=0.5m/s, hurricane=30-50m/s
aneroid barometer-atm press
audiometer-hearing ability
barograph-continuous atm press
chlorinator/chloronoMe-Mix/regulate dose of Cl in water
chloroScope-measure residua Cl in H2O
dial thermometer-coldchain temp monitor
globe thermometer-radiant heat(record higher temp than ordinary air thermometer temp)

Herpenden skin callipers-skinfold thick
Horrock app(6cup for calulat, total=7cup)-Cl demand estimat in H2O, indicator-starch
iodide, colour-blue, bleaching powder req(g) to disinf 455l of H2O=no. of cup blue
colour×2
HYgrometer-absolute air HumiditY
iceline refrigerator-coldchain temp maintain
infantometer-infant lth
Kata thermometer-low air velocity+cooling power of air(thermal comfort-dry Kata≥6,
wet Kata≥20)> low air velocity(10ft/min)
mercurial barometer-atm pressure
rain gauge-pptn(rainfall, snowfall, hail), Symon rain gauge-funnel(5inch diam), unit of pptn-mm/d
Salters scale-field instrument of LBW
Shakir tape-MAC(best age independent measurem)
sling(whirling) psychrometer(2Hg thermometer)-relative humidity
sound level meter-intensity of sound
stadiometer-adult ht
station barometer-kew pattern
venturimet-bed strth in slow sand filter
Winchester quartz bottle-physical& chemical quality of drinking water
wind vane-wind direction
rural areas-builtup area<\frac{1}{3} of total area
urban areas-builtup area<\frac{2}{3} of total area

occupational hazard
corrected effective temp=20-27^\circ C(69-80^\circ F)
light
precision work=50-75 foot candle
regular work=6-12 foot candle
corridor=0.5 foot candle
ionizing radiation<5 REM/y to whole body

ds-agent
anthrACOsis-COAl dust
bird fancier lung-avian sr prot
Chees work lung-Aspergillus Clavatus, Penicillium Casei
Farmer lung-Micropolyspora Faeni, Aspergillus Fumigatus
humidified fever-thermophilic actinomyces
malt worker lung-Aspergillus clavatus
maple bark stripper ds-Cryptospora corticale

asbestosis
chrysolite/serpentine(hydrated Mg silicate)-90%
amphibole-crocidoLite(blue), amOsite(brOwn), antHrophyllite(wHite)-mesothelioma
Safe-AmoSite&ChrySolite(SAC)
skin cancer

silicosis
1st rept-Kolar goldmine,Mysore(1947)

byssnosis-hypersensitive pneumonitis

Mission Indradhanush
25/12/2014
immunisation coverage to all child by 2020
diphtheria, pertussis, tetanus, TB, HBV, measles, polio
JE(endemic state), Hib pentavalent vacc(selected state-9mth → 16-24mth)
catchup campaigne mode

adjuvant↑ immunogenicity of Ag
most potent-Freund(prot Ag in H2O phase of H2O in oil emulsion)

vaccine—strain—preservative
acellular pertussis-flagellar hemaglutinin, pertussis toxin,fimbriae—
BCG-Danish1331—
bird flu(avian influenza)-A/Vietnam/1203/2004,inactivated,IM-d1,28
chicken pox-Oka strain-neomycin
VZIG-<72h
diphtheria-Park William8—
DPT—-thiomersal,AlPO4/Al(OH)3
H influenzae-Hib(polysaccharide conjugate)-thiomersal
HAV—-thiomersal
HBV(1st vacc clone in yeast)—-thiomersal
HIV-mvA(modif vaccinia ankara),rAAV(recomb adeno assoc viral),AIDSVAX,sub unit vacc strain
HPV16,18-cervarix
HPV6,11,16,18-garDasil
influenza-H1,N1,C-thiomersal
IPV-Salk[1-Mahoney(40U),2-MEF1(8U),3-Saukett(32U)-formaldehyde,streptomycin/ne
omyacin/polymyxinB
JE-Nakayama,killed-Beijing1,virulent-SA14-14-2(attenuated Beijing1)—
malaria-cocktail(Spf66Ag),Pf25—
Measles-Edmonston Zagreb,Schwartz,Moraten-neomycin,kanamycin
mumps—-neomycin
N meningitidis-polysaccharide(A,C,Y,W135),recombinant(B)—
OPV-Sabin(1=3lac,2=1lac,3=3lacTCID 50 unit)-neomycin,MgCl2
rabies-Pitman Moore L503—
d-0,3,7,14,28
rubella-RA27/3-neomyin
TT-Harvard-alum,AlPO4
typhoid
monovalent(S typhi)-vacc of choice India,heat killed-phenol
bivalent(S typhi,S paratyphi A)
typhoral(ty21a)-live attenuated,age>6y,1,3,5d,protects after 7d
TAB(not recommend by WHO)
Vi polysaccharide(Ty2)-≥2y,protects after 7d,single dose SC/IM
yellow fever-17D—

live vaccine(TIPSBYC2MMR)
Typhoid
Influenza
Plague
Sabin(OPV)
BCG
Yellow fever
Chicken pox
Cholera
Mumps
Measles
Rubella
live vacc can be given in HIV-measles, mumps, rubella, rotavirus
2 live vacc given simultaneously on 2 different site/at interval of 3w
live vacc given≥12w after Ig
Ig given≥2w after live vacc(Ig2 live vacc)
Ig should contain≥5time Ab potential
most heat sensitive vacc-OPV(−20°)
freezer-OPV, measles
cold part(not freezer)-DPT, TT ,hepaTitis B, Hib TypeB, diluTnT, TB vacc(BCG)
vacc carrier icepack=4
day carrier icepack=2
risk of cold chain failure max-subcentre, village
VVM-use if outer circle darker than inner square

survey of immunization by WHO-12-23mth
rabies Ig=20IU/kg
F(ab)2=40IU/kg
in dogbite wound washing done for=15min

ds in which simultaneous active&passive immunizat-(DHeRT tere ki)-Diphtheria,
HBV, Rabies, Tetanus

post exposure immunisation
chicken pox, rabies, hepatitis, measles, H influenzae, tetanus, rabies, meningococci,
HIV, HBV

vacc avoid in pt allergic to egg-duck embryo rabies, influenza, yellow fever

ClOMS/WHO(2012) classific of Adverse Effect Following Immunization(AEFI)
vacc product related rxn
vacc quality defect related rxn
immunisat error related rxn(p error)
immunisat anxiety related rxn
coincidental event

measles
catchup-1time nationwide vacc-9mth-14y
keepup-vaccinat>95% of each successive birth cohort
followup-nationwide vaccinate every 2-4y
mopping up-large stage door to door survey for polio
PPI done b/n Nov&Feb(low transmission period)

catchup HAV vacc-2y
min age HAV vacc-1y

vacc with Max efficacy on single dose-Measles

cholera vacc-endemic area

AFP suveillance indicator
≥1nonpolio AFP/y/10000 populat<15y
ds-incubation period
Staphylococcal food poisoning=1-6h
influenza=18-72h
cholera=1-2d
pneumonic plague=1-3d
diphtheria=2-6d
yellow fever=2-6d
bubonic plague=2-7d
septicemic plague=2-7d
meningococcal meningitis=3-4d
SARS=3-5d
KFD=3-8d
dengue=3-15d
chikungunya=4-7d
leptospirosis=4-20d
trachoma=5-12d
Japanese encephalitis=5-15d
tetanus=6-10d
pertussis=7-14d
polymyelitis=7-14d
small pox=7-17d
malaria=8-17d
scrub typhus=10-12d
measles=10-14d
typhoid=10-14d
chicken pox=14-16d
mumps=14-21d
rubella=14-21d
Q fever=14-21d
TB=w-y
hepatitis A=15-45d
amoebiasis=21-28d
yaws=21-35d
hepatitis D=21-45d
hepatitis E=21-60d
rabies=3-8w
leishmaniasis=1-4mth
ancylostoma=5w-9mth
ascariasis=2mth
AIDS=3mth-10y
taeniasis=8-14w
lymphatic filariasis=8-16mth
dracunculiasis=9-14mth
leprosy=3-5y

name-ds
1st ds-rubeola(measles)
2nd ds-scarlet fever
3rd ds-rubella
4th ds-SSSS
5th ds-erythema infectiosum(parvovirus B19)
6th ds-exanthema subitum(roseola infectiosum-HHV6)
5d fever-trench fever
8d fever-tetanus
100day cough-pertussis(whooping cough)
black death-plague
black sickness-kala azar
breakbone fever-dengue
cerebrospinal fever-meningococcal meningitis
English ds-rickets
French ds,great pox-syphilis
Hansen ds-leprosy
Koch ds, barometer of social fever-TB
ds of mistake, Malta fever-brucellosis
MoNday fever-byssitis
monkey fever-KFD
poverty ds-cholera
river blindness-onchocerciasis
slim ds, white ds-AIDS

tetanus
wound<6h(clean wound)—other
A-prim complete immunization <5y-none-none
B-prim immunization 5-10y-1TT-1TT
C-prim immunization >10y-1TT-1TT+Ig
D-unknown TT complete TT complete +Ig
protect level anti tetanus antitoxin = 0.01 IU/ml

meningococcal meningitis
high endemic rate > 10 case/lac/y
moderate endemic rate = 2-10 case/lac/y
low endemic rate < 2 case/lac/y
epidemic > 100 case/lac/y

TB case
new-never had Rx for TB or <1mth
relapse-declared cure, but again sputum+ve
failure-sputum+ve even for >5mth Rx
default-receive Rx >1mth, stopped Rx >2mth
c/c-sputum+ve after completing Rx
transfer in-transfer into TB unit/district fr another

ds not showing iceberg phenom (MTR²)
Measles, Tetanus, Rubella, Rabies

carrier not seen in measles, pertussis

ds communicable in incubation period
measles, pertussis, chicken pox, HAV

herd immunity req to eradicate ds
diphtheria ≥70%
polio ≥66%

International health regulation (CYP)
Cholera, Yellow fever, Plague

WHO surveillance (LPRISM)
Louse borne typhus fever, Polio, Relapsing fever, Influenza A, Small pox, Malaria

International notifiable ds
cholera, plague, yellow fever, louse borne typhus, relapsing fever, polio, influenza, malaria, rabies, salmonellosis

cluster testing - AIDS
incubation period
tracing source of inf
period of surveillance
immunization
identify pt source/propagated epidemic

persistent diarrh≥14country

countries endemic for polio
Afghanistan, Pakistan, Nigeria

ds-period of isolation
polio-adult=2w, child=6w
HAV=3w
pertussis=4w/paroxysm cease
Chicken pox-until all lesion Crusted
measles-onset of catarrhal stage→3d of rash
influenza-until 3d after onset of rash
HSV-until 6d after onset of rash
mumps-until swelling subside
shigellosis, salmonellosis-until 3consecutive –ve stool culture
cholera, diphtheria-until 3d after tetracycline started
meningococcal meningitis, Strept pharyngitis-until 6h abtc therapy
TB(sputum+ve)-until 3w of effect ATT

ds-quarantine period
chlorea=5d
yellow fever=6d
plague=7d
SARS=10d
rabies=14d
smallpox, viral hgic fever=21d

4common traveller ds
diarrh, resp problem, wound, pain

HIV
grp I(high prevalence)
>5%high risk, >1%antenatal fem
grp II(mod prevalence)
>5%high risk, <1%antenatal fem
grp III(low prevalence)
<5% high risk, <1% antenatal fem

WHO case def AIDS surveillance
major sign
wt loss > 10% body wt
c/c diarrh > 1mth
prolong fever > 1mth
case = 2maj + 1min
Expanded case def
case = 2maj + 1min + HIV Ab test

measles eliminat
absence ≥ 12mth
incidence < 1/1lac
absence of endemic measles
mortality rate
measles = 10%
measles encephalitis = 10-20%
if mother has had measles then her neonat is immune 4-6mth

chickenpox
rash - pleomorphic, centripetal, symmetric, flexor surface, sparing palm & sole
sec attack rate = 90%

smallpox
rash - centrifugal

dengue
rash - centrifugal

family
communal - all member play part in Mx
broken - parents separated/dead
problem - lag behind rest of community
nuclear/conjugal/elementary
joint/extended
3 generation/stem
nuclear family life cycle
I - formation - marriage
II - extension - birth of 1st child
III - complete extension - birth of last child
IV - contraction - 1st child leaves home
V - complete contract - last child leaves home
VI-dissolution-1st spouse dies—death of survivor

7 Clean-surface, hand, towel, blade, cord&tie, stump, warm H2O

community based universal health insurance scheme(2003-04)
for individual-Rs1.00/d, Rs365/y
family upto 5-Rs1.50/d, Rs548/y
family upto 7-Rs2/d, Rs730/y

ds—food—toxin
AFLAtoxicosis-Aspergillus FLAvus/parasiticus-AFLAtoxin
endemic ascitis-crotolaria seed(jhunjhunia)-pyrrolizidine alkaloid
epidemic dropSy-muStard oil with Argemone mexicana-Sanguinarine
ergotism-Claviceps fusiform-clavine alkaloid
Lathyrism-kesari daL(Lathyrus sativus)-βoxaLyL amino aLanine(BOAA)

crippling fluorosis-F>10ppm(mg/l)

RDA-energy allowance(kcal)/d
child=1000-1500
female
sedentary=1900
moderate=2230
heavy=2850
male
sedentary=2320
moderate=2730
heavy=3490
nutrient-energy in kcal/g
prot=4
carbohydrate=4
fat=9
dietary fibre=2
twin fortified salt=40mcg I2+1mg Fe

nutrient-richest source
eichososapentaenoic acid-fish oil
linolenic acid-flax seed oil
MUFA-palmolein oil
PUFA(linoleic acid)-safflower oil
SFA-coconut oil
vitB12-liver>kidn>meat>fish>egg>milk
vitC-amla>guava>cabbage>lime
source-def nutrient
   cereal-Lys+Thr
   maize-Lys+Try
   pulse-Met+Cys
   soyabean-Met+vitB12
   egg def-carboh+vitC
   milk def-Fe+vitC
   human milk def-F,vitD,vitK

milk
   fat,prot,energy,Ca-buffalo>goat>cow>human
   lactose-human>buffalo>goat>cow
   test for pasteurisation
   phosphatase test
   std plate count
   coliform count
   huma milk-6mth=730ml, 12mth=525ml, whey/casein ratio=60:40

midday meal scheme(15/08/1995)
   food=100g/student/d
   calorie=300kcal/d, ½of 1day
   prot=8-12g/d, ½of 1day

RDA vitA(mcg/d)
   infant=350
   child(1-6y)=400
   >6y(adolescent,adult,fem,mal)=600
   pregn=800
   lactation=950
   1IU=0.3μg

RDA of vitB9/d
   children=80-120μg
   healthy adult=200μg
   lactation=300μg
   pregnancy=500μg

RDA vitB12(μg/d)
   infant&child=0.2
   adult=1
   pregn=1.2
   lactation=1.5
RDA Zn (mg/d)
infant = 3.5-5.0
child (7-9y) = 8
adult mal, preg, lactat = 12
adult fem = 10

Fe, vitB9 tablet
adult = 100mg elementary Fe + 0.5mg vitB9
child = 20mg elementary Fe + 0.1mg vitB9
preterm infant = 10-15mg elementary Fe + 0.1mg vitB9

Indian reference man-woman
age = 18-29y – 18-29y
wt = 60kg – 55kg
ht = 1.73m – 1.61m
BMI = 20.3kg/m² – 21.2kg/m²

ICDS
3-6y-cal = 500kcal/d, prot = 15g/d

spleen rate in children
hypoendemic < 10%
mesoendemic = 11-50%
hyperendemic > 50%
holoendemic > 75%

disaster cycle (RMP)
Response → Mitigation → Preparedness

triage
red-high priority
yellow-medium
green-low priority
black-least priority
White-Walking Wounded
golden period = 4-8h
reverse triage-military battlefield

WHO/UN definition
adolescent = 10-19y
youth = 15-24y
young people = 10-24y
approach to health education
regulatory (managed prevention)
service
health education
PHC

World health report (LPS)
Leadership reforms
Policy reforms
Service reforms

goal—ultimate desired state towards which objectives & resources are directed
objective/point—planned endpoint of all activities
plan—blueprint for taking action
policy—guiding principle, expectation
procedure—set of rules for carrying out work ensuring max use of resources & effort
programme—seq of activities designed to implement policy & accomplish objectives
schedule—time seq for work to be done
target—discrete activity, degree of achievement

health planning committee
BhorE (1946)—Health Survey & Development
MudALLier (1962)—Health Survey & Planning
Chadah—National Malaria Eradication p
Mukerji—delink Malaria service fr FP
Jungalwallah—Integration of Health Services
KaRTaR Singh—MultiPurpose WoRker under Health & FP
Shrivastav—Grp on Medical Education & Support Manpower
Krishnan—Urban Revamping scheme
Bajaj (1986)—National Medical & Health Education policy

communication
1way—Didactic
2way—Socratic

group discussion—6-12 people interacting in a face to face situation
panel discussion—4-8 person qualified to talk on topic
symposium—series of speech on select subject
workshop—series of meeting (≥4) with emphasis on individual work, with help of consultant & resource personnel

attitude—degree of like/dislike for item
cognitive (knowledge) element
affective (emotional/feeling) element
tendency to action

learning
permanent change in behaviour d/t practice
acquire knowledge, skill, form habit, develop perception
conscious & unconscious

medical audit
retrospective evaluation of quality of medical care through scientific analysis of medical record

Central Drug Control Organisation-zonal office
Mumbai, Kolkata, Chennai, Ghaziabad

National Environment Engineering Research Institute (NEERI)- Nagpur

12th FYP-establish Universal Health Coverage in country

ESI scheme finance
contribution-% of total wage bill
employer=4.75
employee=1.75
share on expenditure on medical care
state government=⅛
ESI corporat=⅞

Ottawa charter for health promotion
build healthy public policy
strengthen community for health
reorient health services

IMCI (WHO/UNICEF) (DAMMM)
Diarrhoea
ARI
Malaria
Measles
Malnutrition

IMNCI
danger sign OPD-convulsion, vomiting, lethargy
RCH phase I
family planning
client approach to healthcare
child survival & safe motherhood
prevent/Mx STD/RTI/AIDS

RCH phase II
essential obstetric care
institutional delivery
skilled attendant at delivery
emergency obstetric care
operationise FRU
operationise PHC & CHC for 24h service
strengthen referral system

indicator for monitoring ASHA (25-45y fem resident of village, 8th class)
process
no. of ASHA selected
no. of ASHA trained
% of ASHA attending review meeting
outcome
% of neonat weighed & family counselled
% of children with diarrhoea receive ORS
% of delivery with skilled assistance
% of institutional deliveries
% of JSY claims made
% of completed immunisation in 13-24mth age
% of unmet need for spacing contraception
% of fever cases received chloroquine
impact
IMR
child malnutrition rate
no. of TB/leprosy case detected

strategy-ds
catchup, keepup, followup-measles
Pulse-Polio
RBM-Malaria
SAFE-trachoma
santushti-population control
SET (Survey, Education, Treatment)-leprosy
STEPS-noncommunicable ds
stop TB-TB
3×5 initiative-AIDS (provide ART to 3 million people by 2005)
12×12 initiative-nutritional anem

codex alimentarius
jt FAO/WHO std
International market
Indian std

Indian std
Prevention of Food&Adulteration Act std
min, mandatory std

FSSAI(Food Safety&Std Authority India)
MinOWFW-Food Safety Act(2006)
replaced PFA Act

not mandatory
Beaurau of Indian std-ISI mark
AGMARK

ICDS
child<6y, nursing mother, expectant mother
supplementary nutrition=300d/y
child(6mth-6y)=500kcal+12-15g prot= Rs 6/d
severe malnourished child(6mth-6y)= 800kcal+20-25g prot=Rs 6/d
preg+nursing fem(6mth-6y)=600kcal+18-20g prot=Rs5/d

RNTCP
1microscopy centre-1lac(plane), 50000(hilly area)
1TB unit-5lac(plane), 2.5lac(hilly area)
1senier TB lab supervisor-5lac
1district TB centre-revenue district
1stare drug store-5crore

Roll Back Malaria initiative
better delivery of health service
insecticide treated bed net
access to basic health care
training of healthcare worker
effective means of administering drug
↑drug developm

Insecticide Treated Bed Net p(ITBNP)
↓Anopheline=68%, Culicine=50%
chemical-synth pyrethroid
deltamethrin(2.5%)
cyfluthrin(5%)

NVBDCP
malaria, dengue, filaria, kalaazar, JE, chikungunya

Rajiv Gandhi Shramik Kalyan Yojna(ESI)
nonemployment inj-unemployment allowance×6mth

National Family Health Survey3
unmet need for FP-married women not use contracept
<20y(max)-spacing
20-24y-spacing(75%), limiting birth(25)
30y-limiting birth

National Disaster Mx Authority(NDMA)
Disaster Mx Act(Dec 2005)
head-PM
NIDM-New Delhi, Ministry Home Affairs
nodal unit-district(rapid response team)

MNREGA(Mahatma Gandhi National Rural Employment Guarantee Act)
Ministry of Rural Developm Sep 2005
unskilled manual work
Gram Panchayat-job card within15d
employment wage rate≥Rs.60/d
equal wage to both mal&fem
<5km radius of village
beyond 5km-10%extra wage
≥½beneficiary-fem

Sound 2030
WHO SEARO&Christian Blind Mission(CBM), Society of Sound Hearing(SSH)
goal↓ avoidable hearing impairm→50% by 2015, 90% by 2030

RSBY(Rashtriya Swasthya Beema Yojna)
Ministry Labour Employment
health insurance for BPL families
coverage upto Rs.30000
5member of family to pay Rs.30 as registration fee

National Health Mission(NHM)
12th FYP, 2012-2017
↓ MMR → 1/1000 live birth
↓ IMR → 25/1000 live birth
↓ TFR → 2.1
↓ TB incidence by ½
↓ annual malaria incidence → <1/1000
↓ filaria prevalence in all district → <1%
kala azar eliminate by 2015(<1/10000)

Indian Newborn Action Plan (INAP)
achieve single digit NMR by 2030
all states to achieve target individual by 2035

NITI aayog (National Institution for Transforming India-Policy commission)
chairperson-PM

Indira Gandhi Matrutva Sahyog Yojna (IGMSY)
MinOWCD
preg=Rs.4000, AWW=Rs.200, AW helper=Rs.100

JSY
100% centrally sponsored
benefit of cash assisted with institutional care
rural area
LPS-mother=Rs 1400, ASHA=Rs 600
HPS-mother=Rs 700
urban area
LPS-mother=Rs 1000, ASHA=Rs 200
HPS-mother=Rs 600

UJJAWALA(MoWCD)
prevent trafficking of women&child
component-prevention, rescue, rehabilitation, reintegration, repatriation

Polio Eradication & Endemic Strategic Plan (2013-2018)
detect and interrupt all polio transmission
strengthen immunization system & withdraw OPV(2) by mid2016
containment and certification
legacy planning

AFP surveillance
immediate reporting & investigating cases of AFP<15y, collect 2stool sample 24-28h apart
f/u=60d
specimen reach lab<72h
indicator
sensitivity of reporting(non polio AFP rate≥1/1lac child<15y
completeness of stool sample(2adeq sample≥80% of all AFP case)=87%(2012)

Integrated Ds Surveillance Project(IDSP)
sentinel-STD, outdoor air quality
regular periodic-NCD risk factor
additional state priority
classific
syndromic Dx-paramedical personnel
presumptive Dx-medical officer
confirmed Dx-medical officer/lab

Health for all
7principle-rt to health, equitable distribution, community participation, intersectoral
collaboration, health promotion, prim health care, intersectoral cooperation
8A-appropriateness, acceptability, availability, affordability, adequacy, assessability,
accessibility, accountability
3C-completeness, comprehensiveness, continuity

Millenium Development Goal(UN)
adopted in Sep2000 by 189 countries
baseline-1990
deadline-2015
3 of 8goal, 8 of 18target, 18 of 48 indicator of progress are health related
1-eradicate poverty&hunger
2-universalize primary education
3-gende equality&women empowerment
4-reduce child mortality
5-improve maternal mortality
6-combat HIV/AIDS, malaria&other ds
7-ensure environment sustainability
8-develop global partnership for development

Ottawa Charter for Health Promotion
build public health policy
create supportive environment for health
develop personal skill
reorient health service
strengthen community action for health
organisation-headquarter
WHO-Geneva
India Red Cross-Geneva
ILO-Geneva
UNICEF-New York
UNDP-New York
UNESCO-Paris
FAO-Rome
World Bank-Washington

UNICEF GOBIFFF
Growth monitoring
Oral rehydration
Breast feeding
Immunization
Fem literacy
Food supply
Fertility control

UNFPA
every preg is wanted
every birth is safe
every young person potential fulfillment

World bank(1944)
working for World free of poverty
IBRD(International Bank Reconstruction & Development)
IDA(International Development Association)

Abbreviations
a-artery, AA-amino acid, abtc-antibiotic, AI-autoimmune
bef-before, bel-below, b/l-bilateral, bld-blood, b/n-between, bn-benign, br-branch,
Bx-biopsy
ca-carcinoma, carb-carbohydrate, c/i-contraindication, c/l-contralateral,
conc-concentration, cong-congenital, Cx-cervix
d-day, def-deficient, ds-disease, d/t-due to, Dx-diagnosis
E-estrogen
fem-female, fr-from
gld-gland, glu-glucose
h-hormone
idiop-idiopathic, i/l-ipsilateral, inf-infection, inj-injury
lig-ligament, LL-lower limb, l/t-leading to
m-muscle, maj-major, mal-male, MC-most common, met-metastasis, min-minor,
mtx-methotrexate, Mx-management
n-nerve, norm-normal
P-progesterone, pl-plasma, prot-protein, pt-patient
Rx-treatment
SCC-squamous cell carcinoma, sr-serum, Sx-surgery, sz-seizure
tm-tumour, ts-tissue
UL-upper limb, u/l-unilateral
vag-vagina, VC-vocal cord, vel-velocity, vert-vertebra, vit-vitamin, vol-volume
w-week, wt-weight
Xr-X ray
y-year
#-fracture
°-degree

THESE NOTES ARE ONLY FOR THE PURPOSE OF GUIDANCE AND HELP TO PG ASPIRANTS, NOT FOR COMMERCIAL OR OTHER PURPOSE. REFERENCE HAS BEEN TAKEN FROM VARIOUS STANDARD TEXTBOOKS.