

Editorial Board :	
Editor-in-chief	: Dr. F. Lallianhlira, <i>Principal Director, H&FW</i>
Editors	: 1) Dr. Lalrozama, <i>I.A.S., MD (NHM)</i> 2) Dr. H. Lalchungnunga, <i>DHS</i> 3) Dr. T. Lalmangaihi, <i>DHME</i>
News Editor	: Pu C. Lalmuankima, <i>SMEMO</i> ☎ : 2322498 (O)
Members	: Dr. Vanlalsawma, <i>JD (FW), DHS</i> Joint Director, <i>(P), DHME</i> Pu Lalsawma, <i>JD (FDA), DHS</i> Pi Lalbiaksangi, <i>JD (Nursing), DHME</i> Dr. Lalthanpuii, <i>SNO (Trng.), DHS</i>
Asst. Editors	: Pu C. Lalthanchhunga, <i>BEE</i> ☎ : 9862791814 (M) Pu M.S. Dawngkima Ralte, <i>AE</i> ☎ : 9436199510 (M)
Cir. Manager	: Pu Rodingliana, <i>BEE</i> ☎ : 9862373911 (M)
Asst. Cir. Manager	: Pu K. Lalrinsiam, <i>Projectionist</i> ☎ : 9436198379 (M) Pu Lalengzuala, <i>Projectionist</i> ☎ : 8014009272 (M)
News	: 1) Pu H. Zothankhuma, <i>BEE</i> ☎ : 9612715524 (M)
Correspondence	: 2) Pu Lalchhanchhuaha, <i>Projectionist</i> ☎ : 9862815749 (M)

A chhunga thu awmte

1.	Editorial	2
2.	TB damdawi ei dan tlangpui	3
3.	Nun dan hrisel	6
4.	Cancer hemna Linear Accelerator	13
5.	Hritlang (Common cold)	16
6.	Dam reina thuruk	18
7.	Lung natna & a damdawi	21
8.	Zawng\ah hi	24
9.	Hrisel nan ei leh in uluk a ngai	25
10.	Ka chhung natna	28
11.	HIV/AIDS	30
12.	Zunkawng hnai/l^wng	33
13.	Anxiety Disorder	39
14.	Hriselna atana tui in tam pawimawhna point 10-te	42
15.	Hmangchang	44
16.	Kan lo hrisel leh thianghlim nan	46
17.	Keimahni	47



Editorial

Thlasik a lo ni leh ta reng mai, hetiang hunah hian khua te a lo ro a, boruak a bawlhhlawhin, vaivut khu te boruakah a leng nasa hle \hin. Hengte avang hian Hritlang khawsik te kai a awl duh bikin, inkaidarh a awl hle bawk a ni. Amaherawhchu mahni thu a damdawi lo inchawh chawp emaw, Antibiotics lo ei ve ngawt emaw ang chi reng reng tih loh tawp tur a ni. Mahni thua Antibiotics lo ei ve ngawt hian keimahniah harsatna lian zawk min thlen thei a ni tih kan hriat nawn fo a \ul a, a hlauhawm bawk tih kan hriat a \ha.

Khawvelah hian khawi lai hmunah pawh natna hrik te hian min chang reng a, kan taksa chauh hun te, kan taksa leh thawmhnaw balh hunah te mi beih tumin alo awm reng \hin a ni. Hengte hi kan pumpelh ngei ngei kher lo a lo ni thei e, amaherawhchu natna hrang hrang laka kan lo invenna \ha ber chu Thianghlimna, Faina leh Thuawihna hi a ni tih kan hriat reng a \ul. Japanese-ho te hi an dam hun chhung a rei bik em em nachhan chu thianghlimna kawngah te, faina leh taimakna kawngah te an lo advance bik em avang a ni tih zirchiang mite chuan an sawi \hin. Heng dinhmun a ding ve tur hian nang leh kei hian thianghlimna a\anga bul kan \an ve hi kan tih tur niin a lang.■

TB DAMDAWI EI DAN TIDANGLAM

Dr. Vanlalfela
State TB Officer

Revised National TB Control programme (RNTCP) chuan sawrkar laipui thuchhuak angin TB damdawi ei dan thlak in ni tina ei tawh turin a ti ta a. A hma kha chuan chawlhkar khatah wawi thum nikar thlak in ei a ni \hin a. Ni 13, Nov. 2017 World Antibiotic Week hawn ni khan Mizoram-ah hman a nih ve theih nan, Pu Lal Thanzara, Health & Family Welfare Minister in he thu hi a puang a ni.

Damdawi mum tihdanglam a ni: TB damdawi chi hrang hrang te mum khata dah (Fix dose combination) vek a ni a. Damdawi mum tam tak nikhatah ei a ngai dawn tawh lo a ni. Damlo kg tam deuh ten a mum an ei tam deuh dawn anih chu.

Relapse tlem deuh tura beisei a ni: Ni tina damdawi ei a nih chuan taksaah damdawi kha a cham reng ang a, TB hrik te khan inthlahpunna remchang an nei thei dawn lo a ni. Relapse hi damdawi ei zawh, a dam tawh hnu a TB lo chhuak leh tihna a ni.

Damdawi ei habit a siam ang: Ni tin regular-a damdawi ei a nih chuan damlo in habit-

ah a nei ang a, theihngihl a awm lo deuh tura ngaih a ni.

Private Doctorte tan zawm anuam ang: Private doctor ten TB damlo an enkawlin ni tin ei an hmang tlangpui a, rual khai taka kan kal tlan theih nan a \angkai hle dawn a ni.

TB hi Notifiable Disease a ni: Doctor tupawh sorkar, private, laboratory personal ten TB an hmuchhuak thei a, sorkar-ah report an pe tur a ni. Mahse hei hian mi dang hriatah an puangzar thei tihna a ni chuang lo. Report pekna chu District TB Officer hnenah a ni a. Phone emaw form hmangin ziakin a pek theih a ni.

TB damlo chuan a duh chuan private doctor hnen a\ang pawhin treatment a la thei a, mahse damdawi a lak

dan dinhmun leh a dam ta em tih te sorkarin hriat sak a phut thung a ni.

Universal DST: Tunlai hian Drugs Resistant-TB (TB damdawi thatpui lo) an lo tam tak avangin TB tawh phawt chu drugs resistant a ni nge ni lo ensak nghal zel turin programme chuan a phut a, Gene Xpert/ CBNAAT (Cartridge Based Nuclei Acid Amplification Test) khawl hmangin awlsam tein entheih a ni.

Sorkar laipui chuan TB hi priority disease (natna

ngaih pawimawh hmasak tur zingah) ah a puang a. Kum 2025-ah chuan tih rem (eliminate) a tum a ni.

Thawktute hma a ko hle.

India ram hian TB kan ngah ber a, khawvel puma TB vei hmun lia \hena hmunkhat hi India rama mi an ni. Kum tinin a tlem ve hret hret a, kumtin 1.5 % in a tlem ve zelin an chhut a ni. Kum 2025 a eliminate tur chuan kumtin in 10% a tlak hniam a ngai niin sawi a ni bawk.

TB DAMDAWI EIDAN THAR (Ni tina ei tawh tur a ni)

PUITLING TAN

Rih zawng (weight Category)	Damdawi mum eitur zat (FDCs)		Streptomycin Injection Gm
	Intensive Phase (IP)	Continuation Phase (CP)	
	HRZE	HRE	
	75/150/400/275	75/150/275	
Kg 25-39 inkar	2	2	0.5
Kg 40-54 inkar	3	3	0.75
Kg 55-69 inkar	4	4	1
Kg 70 chunglam	5	5	1

NAUPANG TAN

Rih zaawng (Weight category)	Damdawi mum eitur zat (FDCs)			Streptomycin Injection mg
	Intensive Phase (IP)		Continuation Phase (CP)	
	HRZ	E	HRE	
	50/75/150	100	50/75/100	
Kg 4-7 inkar	1	1	1	100
Kg 8-11 inkar	2	2	2	150
Kg 12-15 inkar	3	3	3	200
Kg 16-24 inkar	4	4	4	300
Kg 25-29 inkar	3 + 1A*	3	3 + 1A*	400
Kg 30-39 inkar	2 + 2A*	2	2 + 2A*	500

1A* = Puitling dose khat (Kg 25-39 inkar)

2A* = Puitling dose hnih (Kg 25-39 inkar)

Streptomycin Injection hi TB vei tawh enkawl leh (CAT II) kan tihte chauhin Intensive Phase (IP)-ah thla hnih chhung lak tur a ni. Tin, damlo kum 50 chunglam hnenah chuan 0.75gm aia tam pek loh tur a ni.

DAMDAWI EI HUN CHHUNG

TB vei thliar dan	Intensive Phase (IP)	Continuation Phase (CP)
TB veithar tan (Category I)	Thla 2 (HRZE)	Thla 4 (HRE)
TB vei nawn tan (Category II)	Thla 2 (HRZES) + Thla 1 (HRZE)	Thla 5 (HRE)

H = Isoniazid R = Rifampicin
 Z = Pyrazinamide E = Ethambutol
 S = Streptomycin (injection)



NUN DAN HRISEL

(| halaite Heart Attack leh Stroke laka kan invenna'n)

Dr Eric Zomawia

TUNLAI chu mitthi an awmin an thih chhan chu cancer emaw heart attack, stroke, zunthlum, BP sang a ni ta deuh zel mai. Heng natnate hi inkaichhawn loh chi (non-communicable) an ni a, natna benvawn (chronic, dam har, rei tak enkawl ngai) an ni a, kan nundan (lifestyle) in a zir loh avanga kan veite an ni bawk. Heng natna kan sawite hi Non-communicable diseases (NCD) tiin sawi an ni ta a, NCD natnate tiin kan sawi zel mai dawn a ni.

Khawvelah kumtin mi maktaduai 56 an thi a, chung zinga 68 % (maktaduai 38) chu NCD vanga thi an ni. India ramah pawh thihna zawng zawng 60% chu NCD vang a ni. Mihring kan changkang zel a, natna inkaichhawn chi an tlem zel a, NCD natnate an pung zel thung a ni.

NCD natnate lo thlir zauhret ila:

BP Sang: Blood Pressure (BP) hi 120/80 aia hniam hi normal a ni. 140/90 aia sang hi BP Sang (Hypertension) tih an ni a, a chung lam 120-140 inkar, a hnuai lam 80-90 inkar hi BP sang hmahruai emaw Pre-hypertension emaw an ti.

'Normal sang' a awm thei lo a, 120/80 aia a san chuan a normal tawh lo tihna a ni. BP sang hian taksa peng hrang hrang a khawih chhe duh em em a – thisen zam, lung, kal, mit, thluak a ti chhe duh hle. Stroke tam ber hi BP control that loh vanga awm an ni. BP hi kumtin vawikhat tal check thin tur a ni.

Zunthlum (Diabetes): Kan thisen thlum zawng (blood sugar/ blood glucose) hi a normal chu zing chawei hma (fasting) in 100 mg% aia sang lo, chawei kham darkar hnih (PP/post prandial) ah 140 mg% aia sang lo tur a ni. Chawei hmaa 126 mg% chin chung lam emaw, chawei kham

darkar hniha 200 mg % chin chunglam a nih hian zunthlum (diabetes) vei kan ti thin. Zunthlum hian lung, kal, thisen zam, mit, thluak a ti chhe thin a; zunthlum veite thihna tam ber chu heart attack leh stroke a ni. Kum 30 tling tawh te'n Blood sugar kumtin vawi khat tal test thin tur a ni.

Heart attack: Lung (heart) hi kan taksa peng hrang hranga thisen leh oxygen leh chaw \ha pe chhuaktu a ni. Lunga tihrawl chawmtu thisen zam te reuh te ho hi 'coronary arteries' an ti a; BP sang, meizuk, thisena thau a tam avangte inheng coronary arteries bang chhung lamah hian thau leh thil dang a bet a, a lo lian telh telh a, thisen zam chu a tizim a, a hnawhphui \hin. Coronary arteries a lo zim hian kan lung a tihrawlte'n thisen leh oxygen an mamawh ang tawk an hmu lova, lung-na a lo awm thin;a zim phui vek chuan thisen leh oxygen a kal thei lova, chu chuan heart attack a siam ta thin a, thih thutna a thlen duh hle. Lung-na hi a lanchhuah theih dan chu – awm

zawn na, zakhnuai veilam na, ban veilam na, dar veilam na, pumna, hnungzang na. Thisen zam a hnawhphui vek loh chuan rei vak lo chawlh hahdamin a na chu a reh ve mai a; a phui veka heart attack a awm chuan chawlhahdamin a na a reh mai lova, thawhah, thlanfim chhuak, chau, luak, hriatna hloh, thih thutna thlengin a awm thei. Rinhlelh chuan damdawiin pan vat tur a ni.

Stroke: Thluaka thisen zamte hi thau-in a hnawh chuan thisen zam in block avanga stroke (ischaemic stroke) emaw, thisen zam puak keh avanga stroke (haemorrhagic stroke) a awm thei. Hetiang hi a awm thut chuan stroke a ni thei a, damdawi in panpui vat tur a ni - Balance hloh (kal tha thei lo, taksa pangkhing zeng), mit hmuh fiah lo (hmu phir, mit pakhat emaw pahnih del thut), hmai sawi, ban/ke zawi emaw zeng, Tawng tha thei lo/ tawng fiah lo.

NCD te hi eng nge an awm chhan?

NCD natna te hi natna hrang hrang ni mahse a thlentü,

a awm tirtu chu a inang tlangpui a, chung zinga 4 pawimawh deuh deuh te chu -

- 1) **Vaihlo** (Tobacco).
- 2) **Physical inactivity** - awm awl lutuk, exercise lak ngai loh.
- 3) **Ei leh in** hrisel lo
- 4) **Zu** (alcohol) in nasat lutuk.

Hei bakah hian hengte hi an pawimawh -

- 1) Thau luattuk
- 2) Thisena cholesterol sang
- 3) Rilru tih hah leh mut tlem.

NCD pumpelh nan enge kan tih ve theih?

NCD pumpelh nana pawimawh em em chu kan nundan hrisel zawnga kan thlak danglam – nundan hrisel (healthy lifestyle) neih hi a ni. Healthy lifestyle chu NCD natna ven nan mai bakah, a vei mekte enkawl nan a pawimawh hle.

Healthy lifestyle chu eng nge ni le?

Healthy lifestyle nei tur chuan hengte hi a ngai – Ei leh

in hrisel, exercise lak \hin, Thau lo tura invawn, vaihlo laka fihlim, rilru tih hah lutuk loh, mut that leh regular taka in test thin.

1) Ei leh In Hrisel:

- **Thau ei tlem:** Kan thau lutuk loh nan leh kan thisena thau \ha lo (cholesterol) a tam loh nan thau/mawm kan ei tlem a pawimawh. **Saturated fats** lam ei tlem a pawimawh zual; saturated fats chu room temperature a khal thei ho hi an ni e.g. Vawk thau, bawng thau, ar thau, sa thau hrim hrim, dalda, ghee, coconut oil, palmolein oil; heng hi eitur siam nan hman loh tur a ni. Chawhmeh kanna tel (oil) atan **Unsaturated fats** chauh hman tur a ni; unsaturated fats chu olive oil, mustard oil, groundnut oil, canola oil, sunflower oil, soyabean oil an ni. **Cholesterol tamna** hengte hi insum tur a ni - Sa thau, sa vun, sa thin, a thluak, a ril, artui laimu, bawngnhnute dak, cheese, unsaturated fats, butter. Sa hi ei tam loh a tha a, red meat (vawksa, bawngsa, kelsa) ai chuan white

meat (arsa ti, sangha) te an hrisel zawk. Thil kan (fry) kan siamin tel (oil) tlemte chauh kan hmang tur a ni. Tin, hmawmsawm kan-mawm chi ei tlem a pawimawh.

- **Thlai leh Thei ei tam:**

Thlai leh Thei hi an hriselna em em chu vitamins leh minerals a tam a, taksa tana hlauhawm leh min ti thau theitu a awm tlem a, **Fibre** a tam em em bawk. Fibre hi pumpui leh ril-in digest thei lo mahse an \angkaina chu ril tan a hrisel a, ek a ti nuam a, cholesterol kan eite kha an lo man bet a, chu chu thisena lut lovin kan daikal rualin a chhuak leh mai \hin. Thlai leh thei ei tam tur chuan chawei apianga thlai siam tel, thei ei uar, chawei karah hmawmsawm aiin thei emaw thlai hel ei chi ei thin te a pawimawh.

- **Chi ei tlem:** WHO sawi danin Chi (salt) hi puitlingin nikhata kan mamawh zat chu 5 gm (fiante khat) vel chauh a nih laiin mi tam takin 15 gm laite nikhatah an ei \hin. Chi (salt) a sodium hian BP a tisang a, lung leh thisen zam natna a

thlen duh hle. Chi/sodium hi ei siam nana kan hman bakah hmarcha rawt, pickles, hmawmsawm, ajinomoto, bakery chhang, sauce ah te an tam a, ei tlem tur a ni. Hei baka Chi ei tlem dante chu - chawei dawhkanah chi chhawp loh; thleng sirah chi chhawp loh; chawhmehah chi a tlem thei ang ber telh, chawhmeh tih hmui nan hnah rimtui lam telh thin, te an ni.

- **Thlum (sugar) ei/in**

tlem: Thil thlum tih hian chini, cold drinks (soft drinks), rosgulla, jelebi, cakes, khawizu, kurtai, candies, sweets, chocolates, biscuit thlum etc a huam vek mai. Thil thlum ei/in tam lutuk hian chakna (calories) kan taksaah kan la lut \euh a, exercise hmanga kan tihral leh si loh chuan taksaah a inkhawl a, a tawpah thau-ah a chang leh thin. Thil thlum ei/in nasa ho chu an thau duh hle. Ram changkang zawkah cold drinks an in nasat lutuk chu an thau phah hle a, tunlaiin an buaipui tawh hle. Coke/Fanta 'can' pakhatat hian chini

fiante 14 te a tel a ni. Thlum insum a ngai.

- Kan taksa hian chaw chi hrang hrang inchawih tawk (balanced diet) a mamawh a. **Protein** atan red meat aiin artui varlai (a chhung eng tel lo), arsa ti, sangha, dal, be, beans, tofu ei \hin a \ha. **Carbohydrates**-ah chuan complex carbohydrates - rice, oats, atta, muesli, alu, bal, vaimim etc a tha. Fats-ah chuan chawhmeh kan nan unsaturated fats tlemte chauh hman thin tur a ni. **Minerals, vitamins leh fibres** chu thlai leh thei ah a tam a, ei tam tur a ni. Ei tur hi khawl hmanga siam sa (processed foods) ai chuan natural foods (an nih ang anga siam) hi an hrisel zawk. Vitamins leh chaw \ha tak tak nia sawi sumdawn nana an hman ho ai chuan natural foods a hrisel zawk zel, kan taksain tlakchham kan neite a nih si loh chuan lo ei ve vak vak hi thil tul lem lo a ni.

2) Exercise/ Taksa chet tam:

WHO in a tarlan danin moderate exercise (exercise

satliah lutuk lo deuh) mihringte'n kan mamawh zat chu hetiang hi a ni:

- **Kum 5-17 tan:** Ni tin 60 mins (darkar khat) tal; hei bakah tihrawl leh ruh tih chakna lam chi exercise karkhatah vawi hnih tal.

- **Kum 18 - 64 tan:** Kar khat chhungin 150 mins tal. Chumi awmzia chu ni tin 30 mins kar khat chhunga ni 5 tal. A nih loh chuan vigorous exercise (exercise hahthlak chi) karkhat chhungin 75 mins tal. Tihrawl tih chakna lam karkhatah vawi 2 tal telh bawk ni se.

- Kum 65 chin chunglam: kar khat chhungin 150 mins tal. Chumi awmzia chu ni tin 30 mins karkhat chhungin ni 5 tal. A nih loh chuan vigorous exercise (exercise hahthlak chi) karkhat chhungin 75 mins tal. Tihrawl tih chakna lam karkhatah vawi 2 tal telh bawk ni se.

- Moderate exercise te chu - chak deuh hleka kea kal (walk), cycling, sports angte hi

a ni a; walk \hin hi exercise awlsam leh tha emem a ni. Kea kal tam hrim hrim hi a tha hle.

- Exercise hi taksa tan a \ha em em a, ruh leh tihrawl tan, lung leh chuap tan, BP sang leh heart attack ven nan, stroke ven nan, zunthlum ven nan, cancer ven nan, depression ven nan leh enkawl nan a tha hle a ni.

3) Thau lo tura invawn:

Mahni rih zawng tur aia nasa lutuk lova kan rih hi 'overweight' a ni a, chu aia kan rih viau chuan 'obesity' an ti. Kan rit lutuk em tih enna an hman uar ber chu **BMI (Body Mass Index)** a ni. BMI chhut chhuah dan chu hetiang hi a ni:

$BMI = \frac{\text{Weight in kg}}{\text{Height in metre}^2}$

Entir nan : Rih zawng = 80 kg.
San zawng = 1.8 metre.

$BMI = \frac{80}{1.8^2} = \frac{80}{3.24} = 24.6$

BMI hi 25 chin chunglam a nih hian 'overweight' a ni a, 30 chin chunglam a nih chuan 'obesity' tih a ni.

Khawvela puitling 39% hi overweight an ni a, 13 % hi obese (obesity nei) an ni. Mizoramah kum 10 kal ta khan rit lutuk (overweight & obesity) hi 11% kan nih laiin tunah chuan 21% kan ni (NFHS 2&3). Rih lutuk in NCD natna hrang hrang - cancer, lung na, heart attack, stroke, BP sang, zunthlum, thawhah, khup na etc a thlen duh hle.

Thau lo tur chuan thil mawm/thau leh thil thlum ei tlem a pawimawh a, exercise lak thin leh thlai leh thei lam uar a pawimawh. Chaw ei tama exercise lak leh si loh hi thauna bul a ni. Kawng phai tur chuan thleng a phai hmasak a ngai a ni.

4) **Vaihlo laka fihlim:** NCD natna thlentu zinga pawimawh ber pakhat chu vaihlo a ni. Vaihlo hi mihring taksa hian a haw em em a, vaihlo hi kumtin mihring maktaduai 7.2 in an thih pah a ni. Chuvangin healthy lifestyle nei tur chuan vaihlo chi reng reng laka kan fihlim a pawimawh tak zet a ni.

5) **Rilru tih hah lutuk**

loh: Rilru hah (stress) hi taksa in a haw em em a, NCD natna a thlen duh hle. Thil vei ngut ngut lutuk loh deuh te, a huna chawlh hahdam thiam te, rilru tih hahdam thiam te, zaidam zirte, meditation te, Pathian pawla \awng\ai \hin te hi mihring hrisel nan a pawimawh hle.

6) **Mut \hat :** Puitlingin ni tin darkar 7-8 muthilh kan mamawh a, a chhan chu kan muthilh lai hian kan taksaa cells (timur ho) te an insiam tha (repair) a, a thar ang diaiin an lo insiam \ha leh \hin. Mut \hat loh hian NCD natna kan vei duh a, taksain mamawh lo angin inhre mah ila, a hnuah min \hing let tho zel a ni.

7) **Regular taka in test**

tir thin: Kum 30 kan tlin tawh pheichuan kan BP, Blood Sugar, Blood Cholesterol, BMI te hi a normal a nih pawhin regular takin kumtin test-tir thin tur a ni. Heng number duhthusamte hi vawn leh nih tum ila:

BP : 120/80 aia hnam.

Blood Sugar : Zingah 100, chawei khamah 140 aia hnam.

Blood Cholesterol : 180 aia hnam.

BMI : 25 aia hnam.

Tlangkawmna:

Mihringte hi Pathianin duh taka a siam kan ni a, kan taksa hi uluk taka kan enkawl tura min pek a ni. |henkhat chuan kan enkawl uluk loh avangin kan ti khawlo a, harsatna tam takin min tlakbuak a, kan damrei loh phah \hin. Kan hriselna hi thui tak kan kutah a innghat a ni tih hria ila. Hriselna ngai pawimawh nun (healthy lifestyle) neih hi hrehawm taka insumna ni lovin, nuam tak leh hlim taka nun hmanna a ni. Khawtlang tan, ram tan, Pathian tan, kohhran tan, mahni chungkaw tan, mahni tan, mi \angkai ni tur chuan hriselna a pawimawh hmasa a; chumi tur chuan thalaite kan nun hrisel takin hman i tum ang u. Heart attack emaw, Stroke emaw, Cancer emaw neih kher nghak suh; tunah \an nghal ang che.■

CANCER HEMNA LINEAR ACCELERATOR

By Malsawmkima Pachuau
Technical Assistant RSA

WHO chuan khawvelah hian cancer vei maktaduai 33 (Nuaih 330) an awm mek a. Mi tam zawkin cancer hemna radiotherapy an hman ve theih nan cancer enkawlina huang zauh hi tih mak mawh a ni a. Chumi tihlawhtling tur chuan cancer hemna khawl tuna hman lai mek bak hi Linear Accelerator singkhat dang mamawh belh a ni a ti. Cancer vei zaa sawmsarih te hian radiotherapy an mamawh a. Tunlai thiamna s[^]ng tak hmanga siam, \helh hauh lova cancer hem thei Linear Accelerator (Linac) chu Mizoramah pawh kan lo nei ve dawn ta reng mai. Linear accelerator chu eng nge a nih? Kan ngaihtuah ho dawn a ni.

Kum 1895-a x-ray hmuh chhuah a nih a\ang khan damdawi ina hmanraw pawimawh ber pakhat a ni ta reng a. Linac pawh hi cancer hemna khawl pawimawh tak ani chho ta zel a. Linac chuan x-ray zungzam photon leh electron energy sangtak a pek chhuah theih avangin cancer hem dan \hin pangngai Conventional radiotherapy bakah, technology sang tak Image-guided radiotherapy (IGRT), intensity modulated radiotherapy (IMRT), stereotactic radiosurgery

(SRS), sterotactic body radiotherapy (SBRT) hmang tein cancer a hem theih a ni. Radiation zungzam hmanga cancer enkawlina hi radiotherapy an ti a. Kum 1960 hmalam kha chuan heng radioactive isotopes cesium-132, irridium-192 leh cobalt-60 bak cancer hemna a awm lo va. Hengte hi \angkai hle mahse mihring taksa chhah pui pui chhunga cancer bawh hem nan energy sang zawk mamawh a nih vangin Linac mamawhna hi a sang em em a. Radiation tha chakna hniam

zawh electron a pek chhuah theih bawh avangin taksa pawhlang cancer hem nan pawh a \angkai hle a ni.

Linac hnathawh dan hi tangkai tak tak sawi tur a awm thei ang. Radiation energy kan mamawh tawh chauh kha computer nen \angkawpin a siam chhuak thei a. X-ray zungzam lo chhuak chu taksa chhunga cancer bawh tumour shape angzelin a siam danglam thei bawh a. Cancer bawh pianhmang chu artui anga sawl a nih chuan x-ray zung zam kha chutiang chiah chuan a kap chhuak thei a. Chutianga siam theitu multileaf collimator khawh a neih avangin taksa chhungril tak taka cancer b^wk awm te pawh timur hrisel pangngai te khawih tel hauh lovin a hem thei bawh. Cancer b^wk hem tur pianhmang Target shape te hi tunlai computer thiamna sang tak 2D & 3D leh CT-scan, MRI hlim thla atanga siam a ni a. Lu ruh chhuglama thisenzam bawh Arterio Venous Malfunction (AVM) te, Pituitary Tumour te,

Nasopharyngeal carcinoma etc. enkawl nan te a \ha em em a ni.

LINAC hmanga cancer hem dan tlangpui te;

1. Conventional Radiotherapy: Fractionated Radiotherapy an ti bawh. Radiation dose kar khatah wawi 5 zel pek a ni a. A rei zawng hi kar 4-6 te a ni tlangpui.

2. IGRT : Image-guided radiotherapy (IGRT), hi CT-Scan, MRI leh ultrasound hmangin tumour awmna leh a pianzia an duang phawt a. Chung cancer hlimthla te chu Linac khawh software-ah thunin kil hrang hrang a\anga a landan ang zelin radiotion zungzam chu taksa chhungah chuan kah luh a ni thin. Taksa peng dang hem tel lo thei ang ber turin 3D technique hman a ni a. Taksa peng che reng thin chuap, thin, prostate gland cancer hemna \ha tak a ni. Linac khawh chuan x-ray thlalakna hmangin b^wk awmna chu a tin zawn reng avangin cancer b^wk target chu a lo chet pawhin fuhtakin a hem thei tho dawn a ni.

3. **IMRT** : Intensity modulated radiotherapy), pawh hi MRI or CT-Scan nen tangkawpa cancer hemna a ni a. Cancer b^wk chiah a hem a, taksa peng dang te hem tel lo tura ruahman a ni. Hei vang hian uluk a ngai a, hun pawh a duh rei deuh. Prostate, head & neck leh central nervous system hemna a ni deuh ber a. Kar khatah wawi nga hem a ngai a, kar 5-8 a rei a duh tlangpui. Vawikhat hem rei zawng hi set-up tih chung nen 10 to 30 minute a ni tlangpui.

4. **SRS** : Stereotactic radiosurgery, Surgery hmanga zai phak loh, Radiation zungzam hmanga inzaina tihna a ni ber a. Thluak leh a bul vel

a cancer b^wk te tak t> t> hemna a ni. Thluak bul vela thisen zama b^wk awm arteriovenous mal formation (AVMs) hemna pawimawh tak ani a. Thluak leh hriatna thazam cancer hem nan an hmang tangkai hle a. Vawi 1-5 an hem tlangpui.

HENGTE HI TUTE TIH TURNGE? Hetianga thiamna sang tak hmanga radiotherapy hna thawk tur hian team an awm a. Radiation oncologist, medical physicist, radiotherapy technologist Team te hian radiation dose bi thliah siamin damlo hem dan tur tha ber duangin damlo chu radiation therapy an pe \hin a ni.

Zun/thisen thlum vei i nih chuan he thil hi han ti ve chhin teh:

Theihai zik 10-15 lo la, tuisik rialno khat velin chhum la. I chhum hnuah zan khat riah la, a tuk engmah i ei hma hauhin a tui kha in rawh. Chutiang chuan thla hnih thum vel han ti teh, a \hatzia i hre mai ang. Dampui an tam tawh em.

He mi em pawh i ti peih lo a nih chuan, "A tawk e, Lu Mam. I thak thakin thak rawh" tih hi a ni mai.

HRITLANG (Common Cold)

- Vanlalduhsaki

Hritlang hi khawvel natna hrang hrang zinga tam ber, mitin in a kan hmelhriat tawh a ni. He natna hi inkaichhawn awl tak, khirh em em ni si lo, awm ti nuam lo deuh si a ni. Hritlang hi engtik lai pawhin a awm a, thlasik lai hian a hluar bik deuh a, mahse khawlum lai pawhin a kai theih reng a ni.

Hritlang chu eng nge?

Hritlang chu thawkawng (Resp. tract)-hnar a\anga hrawk thlenga buaina/natna a ni a, he thumal in a tum/kawh ber chu hnarping, hnaptui leh hahchhiau inkawp hi a ni. Hritlang thlentu ber natna hrik (virus) chu 'Rhinovirus' a ni a, hei bakah virus dang pawhin a thlen thei tho a ni. He natna hrik inkaichhawn dan ber chu, hritlang vei ten mi dang an hahchhiau khum emaw khuh per khum te, kut fai lova mit nuai te, hnar emaw ka chung kut bala khawih te hi a ni a, heng a\ang hian natna hrik chuan hnarah awm hmun a khuar a, chutah chuan a pun belh zel ta a, tichuan ni 2-5 velah hritlang chu a thlen ta a



ni. A tirah chuan hnar leh hrawkah buaina/nawm lohna a lo awm phawt a, chutah chuan hnap a rawn tui a, hnar a ping a, hahchhiau leh khuh te in a rawn zui leh a, khawsik hial a thlen ta thin a ni. Heng bakah hian luna, chaw chak lohna, taksa zawi/chau ngawih ngawih leh hrawk hnawk te a thlen bawk a ni. Naupangin hritlang a vei chuan khawsik a nei tel deuh ngei ngei thin, puitlingah erawh chuan khawsik a tel ker lem lo.

A tlangpuiin hritlang rei zawng hi kar khat (ni sarhi) chung a ni a, taksa chak leh chak loh azirin a rei zawng hi mihringah a in ang lo bawk. Thenkhatin ni rei lote hnua an

dampui lain, \henkhatah chuan kar thum lai te pawh a aw h thin a ni. Kum khatah mi pakhat hian hritlang vawi 2-4 a kai thei a; naupang lam chuan vawi 6-12 lai an kai thei thung. Hritlang hi kar khat hnuah chuan ziaawm lam panin amahin a reh ve mai thin a, mahse a reh hnuah pawh khuh hi chu a la chambang thin chawk a ni.

Enkaw l dan: Hritlang chu amaha reh ve mai thei a nih avangin, damdawi ei kher pawh a ngai lo thei a, mahse luna leh khawsik a thlen chuan nachhawkna ei a paw i lo va, hnarping leh hnap tui pawh damdawi eiin a chhawk thei bawk. Heng bakah hian a hnuai a tarlan te hi zawm a tha:

- i) Mut tam leh taksa chawlh hahdamtir.
- ii) Tui tam taw k tak in.
- iii) Ei leh in tihthat
- iv) Taksa invawn fai
- v) Taksa tihvawh loh

- vi) Mi dang bula aw m tam loh.

Hritlang chhawk tura damdawi ei a paw i loh rualin, Doctor chawh loh a antibiotics lo ei ve ngawt hi tih loh tawp tur a ni.

Hritlang chungchang tlangpui chu kan hre ta baw k a, mahni inenkawl dan pawh kan thiam tawh \heuhin a rinawm, mahse ngaihthah changte a aw m thin a, "hritlang satliah" mai mai te kan ti thin a, hei hi a tha lo hle. Inenkawl that loh chuan chuap lamah \hatlohna a thlen thei a, chu bakah sinusitis (sinus na) leh bengah pawh chhiatna (otitis media) a thlen thei a ni. Tin, hritlangin thaw k a tihbuai a, ziaawm lam aia zual lam a pan chuan mi thiamte r^wn vat hi a tha a ni. Hritlang kai chuan mahni induat a, inenkawl that hi a paw imawh hle a, mi dang hnena kai darh tu ni lo tura inenkawl dam vat hi a thei chuan tum hram tur a ni.



DAM REINA THURUK

C. Lalchhuanthanga, BEE
 Directorate of Health Services
 Mizoram, Aizawl.

Hmanlai mifingte chuan, 'Mihring hi a thi lo va, amah a inthat a ni,' an ti. Hei hi mi tam takah chuan a dik thei hle awm e. Mi zawng zawng hi thi theuh tur zawng ni mah ila, mi tlemte chauh hian dam chen tur an dam tlingtla a ni. Damrei duh chuan naupanlai atangin an hriselna an lo duatin an uluk thin a, chu chu a pawimawh a ni tih hriat a \ul hle a ni.

Mitinte hi mahni vanglai theuhah chuan mi hrisel leh chak an ni deuh vek a, amaherawhchu hetih hun lai tak hi mitinin an nun theuh an uluk leh duat hun a ni a. Engkim chungga thuneitu Pathian chuan mihring thil tih zawng zawng hi a nghawng nei turin dan nghet tak a ruat a. 'Miin a theh apiang chu mi vek chu a seng leh ang,' tih a puang a. Tichuan buh thehtu chuan buh bawk a seng a, vaimim tuhtu chuan vaimim bawk a seng ang. Hetiang bawk hian, Tleirawl laia nundan tha lova nun chingte chuan an taksaah natna chi a tuh a, chuvangin engtik hunah emaw tal chuan bawrsawmna an la seng ngei

ngei ang tih chu a chiang sa reng mai a ni. Nupaa insiam hma a mipat hmeichhiatna (sex lama) emaw mi dang kawp-lawra inhman luatte hi a tha lo va, V.D. leh HIV/AIDS, Hepatitis te hi a hlauhawm hle a, HIV/AIDS te phe chu natna tihdam theih loh a ni a, hetih rual hian ruihtheih thil, zu leh drugs te leh vaihlo te chin dawklak hian nun a titawiin taksaah natna hlauhawm pui pui a thlen thin. Chuvangin a hnuai tarlante hi damreina atan a mal te te in i lo sawi dawn teh ang:

1. Damrei nana chawtha ei:

Chawtha kan han tih hian sapin, 'Balanced Diet' an

tih hian a funkim ber a, chu chuan a tawk chauhva taksain a mamawh ang tur chi ei hi a ni a. Chawtha han tih hian sa leh thau/hriak lamte a huam tel vek a, amaherawhchu heng ang chi ei tam hi taksa tan a tha lo va, a chhan chu hengte hian lung leh thisen zam hnathawhte a tihbuai theih vang a ni. Taksaa hriak awmte hnathawh a tibuai a, chuvangin hriaklam ei tam hian cholesterol leh LDL te a siam tam a, chung chuan lung banga thisen zamte a tisawngin emaw, a tipping thei a, lungphu te pawh a ti rang a, lungphu chawlh thutnate a thlen thei a ni. Chuvangin thau leh hriak lam entir nan – ghee, vawkthau te hi a tha lo hle a, thisen sang nei mi tan pheh chuan ei miah loh tluk a awm lo. Thlaithar lam ei uar hi a tha ber a, a bik takin thlai hnah hringte, bean te, maitai te hian taksaah chakna a thlen bakah mitdelna a veng a, mi thiam thenkhat pheh chuan Cancer te pawh a veng e an ti hial a ni. Thei tharlam ei uar hi a tha hle bawh.

2. Damrei nan insum theihna a pawimawh:

Insumtheihna hi damreina atana \ul pakhat a ni. A hmei a pa in mi damrei kum 100 emaw, a aia naupang deuh kum 70-80 vel te hi an nun han chhutsak hian a tlangpuiin mi insum thei tak an ni tlangpui a. Thil engkimah insum theihna hi a pawimawh hle a ni, ei leh in mai bakah, zuk leh hmuam leh zu in lakah te, mipat hmeichhiatna kawnga insum theihna te, rilru leh taksa tihhadam te hian nasa takin natna a veng thei a ni. Pathian leh a thilsiamte nena lungruual taka chenho thiam a pawimawh hle bawh a ni. Tin, thinrimna te, thiknate, khakna te hian hriselna an tichhe thei theuhva, nun a titawi thin.

3. Insawizawina:

Damrei tur chuan ni tin a insawizawi hi a tul hle a ni. Taksa hi khawl ang a ni a, khawl chu hman fo loh chuan a tuiek thuai thin a. Tin, khawltuiek chu a tliak awl em em tih pawh mi tinin kan hria. Mi a insawizawi loh chuan a

taksa a khawng thin. Tarte phe chu an insawizawi loh chuan an taksa a khawng nasa a, an ke te pawh an hmang thei lo mai thin. Insawizawina hian nasa takin taksa leh rilruah zangkha a pe a, anmahni pawh a tihlim thin.

Lehkhabu ziaktu lar tak Norman Vincent Peale chuan a tlangpuiin biak ina inkhawm thinte leh sakhuana ngaihtuah mite hi an damrei a, a chhan chu an taksa leh rilru Pathian kutah an inkawl tir thin vang a ni.

I awih em? **SAM | UAK TIREH DAN THURUK**

Mihringte incheinaah hian sam hi a tel ngei ngei thin. Make up eng ang tha pawh hmang mah ila kan sam kan ngaihthah chuan awmzia a nei chuang lo vang.

Tuna kan sawitur chu sam hi a hun lova a \uak chuan rilru te hi a na in tihdum zelte a ngai a, a hnawksak thin em a ni. Mahse tuna kan sawi ang chiah hian lo ti ve la mi dang hre ve lo te pawh lo hrilh chhawng leh zel ang che. Mahse tar tawh vanga \uak erawh chuan duhthu a sam lo deuh ve thung mai thei nia.

Alu pum nga kha fai deuh in silfai phawt rawh. A kawr vela chu a kawr chu tui tlemte chuan chhuangso rawh. Minute sawm vel i chhuanso hnuah chuan dahthla la tidai rawh. A daih hnuah chuan a kawr kha la la paih rawh. A tui kha i lu ah chuan hnawih kim rawh. Minute 20 hnu velah sufai rawh. Chawlh karkhatah vawi khat in thlakhat vel i suk hnuah chuan sam\uak chu zawn hmuh tur a awm leh tawh lo vang.

t Gas cylinder phui lo (leak) tih phui dan: Gas cylinder kua kha zuk bih la, nawalh fung tiat vel thir tawite a rawn lawr ang a, kha kha thir chaicheh zumin emaw nghet takin (nem press lovin zuk chep bet la, sana vir zawngin (dinglam zawngin) vawi khat i herh tight zeuh dawn nia..... a confirm nan a kuaah khan tui han far la, a rawn phuan/emaw puar loh chuan a leak tawh lo tihna a ni mai, washer thlak vel aiin a awlsam daih zawk....

LUNG NATNA & A DAMDAWI

-Dr. C. Lalrampana

KHAWVEL huapah leh abikin Mizoramah lungna vei an tam hle. Nausen pianghlim lung tha lo saa piang thihpui ta an tam thei hle bawk. Thangthar tleirawl/rawlthar leh puitling phanchang tawh pawh lung natna vei leh thih phah an tam thei hle thin. Tunhma lam aiin tun kum hnih khat kal ta atang khan hetiang natna vei hi an tam lehzual nia ngaih a ni.

Taksa peng dang zawng aia lung mak danglam em emna hi i ngaihtuah ngai em le? Mihring a lo pian hma zawngin a nu lungphu ringin a hun a hmang a, mihring nihphung pangngai a chan chhoh atangin a lungphu chuan hna thawk tanin a nih dan tur dik takin a phu char char a, a phut loh hlek chuan mihring chu a buaizui nghal mai thin. A tawp/chawlh rei phei chuan mitthi a ni zui mai thin.

Bahlah hauh lova a thawh tur dik tak tluang taka a thawh chuan mihring dam chhung chu chhum lo chat lovin a hnukchah hma zawng lung chu a phu reng ringawt mai tihna a ni. Kum 100 chuang damte lungphu chuan chawl lova a hna thawkin kum 100

chuang a phu char char tihna a ni a, chuvangin, taksa peng dang aiin a mak danglam takzet niin a lang.

Lungna (Heart disease) hi 'Cardiovascular disease' tih a ni bawk. Lung natna awm chhan ber chu thisen a dawn tur zat aia tlem a dawn vang a ni ber a, cholesterol san luat vangin thisen pechhawngtu arteries chu sawngin a lo zim a, hei vang hian lungna thisen pek chhawanna artery atanga thisen infawkluh tur zat chu a pechhawng thei lova, lungin a mamawh ang tawk thisen a dawn loh avangin lung chuan a hnathawh tur a thawh theih loh avangin lung na a lo awm ta thin a ni.

Doctors (physicians) rawn mumal lova antibiotics

damdawi entir nan - nachhawkna etc. sang leh chak pui pui mahni ngaihdana lo ei ve chiam chiam chinte hi a tha lo hle a, nghawng tha lo (side effect) a neih avangin a bik takin lungin a tuar a, chuvangin, mi tam takin lung lama harsatna heart problem leh a hnuah lungna heart disease emaw, lungphu chawl, heart attack avanga thihna hial a lo awm thin a ni. Chuvangin, mahni thua damdawi ei vak vak chin loh hi lung natna pumpelhna kawng tha tak pakhat a ni.

Lung natna hi tihdam a har hle a, damdawia tihdam theih loh a nih tawh chinah pheih chuan mihring chuan englai-pawhin seol thlan thim kotlang atangin Seol thlan khur thim chu a bih reng tihna a ni thei ang.

Zai a nih pawhin tih fuh hle loh chuan rei an daih meuh thin lo. Mi thenkhatte erawh computer chip chikhat "page maker" vuahsak ngai an ni bawh thin.

LUNG NA VEI HRIAT THEIH DAN

1. Taksa a chau ngawih ngawih thin.
2. Awmah leh banahte a na chhuak thin,
3. Dar veilam leh khabe kualahste a na thin.
4. Thawk a harsa a, kut hmawr leh ke hmawr a vawt a, lu a hai a, khua sik seng seng thin.
5. Ngaihtuahna a fim lova, thil hriat a Chiang lo ruai thin.
6. Lungphu a mumal lova, phut zawk zawk a awl thin.
7. Eng emaw thawm ri hlekah mangan a awl hle thin.

Hetianga i awm a nih chuan daktawr pan vat thin ang che.

A DAMDAWI:

Lungna damdawi Pathian siamsa atanga kan hmuhtheihte zingah Vaimim (corn maize) hi damdawi tha ber pawla ngaih a ni. Vaimim chhawn 30grams tui thianghlim liter 1-in chhum la, a

lumin emaw dah vawhin emaw zing tin emaw tlai tin rial no khat in thin la, i lungnatna chu nasa takin a thunun thei ang.

Vaimim hi a kung leh a hnahte bakah a vaimim tak/fang chhumna tui pawh a tha tel vek thoa ngaih a ni nain a chhawn hi a chak \ha bera ngaih a ni.

LUNG NA ATANA THA DANGTE

1. Purun var: Ni tin mum/mal/fang 7 tal rawtsawma a tui in thin a \ha a, hei hian thisen kal vel a siam tha a, lunga thisen inpekchhawnaa puitu tha tak a nih theih avangin rawtsawm tui in kher lo pawhin chaw ei apianga hmeh thin pawh a tha tho bawk.

2. Hmazil: A hmin mu phoro dendip (powder) fiante 1 tui thianglim no 1 nen chawhpawlhin ni tin zingah & tlaiah in thin a tha.

3. Hmarchapui: Thak lo chi hmin \uah tawh a mu phoro rawt dip tui thianglim nen pawlhin a chung a mi ang bawk khian in thin a tha.

4. Maitamtawk: Hei pawh hi a chung a mite ang bawk khian a hmin mu rawt dip tui nena chawhpawlh in thin a tha.

5. Parbawr: A par hlawm ni tin a helin chaw ei apianga hmeh tel a tha.

6. Broccoli: Chaw ei apiangin a helin emaw chhum hminin emaw hmeh thin a tha.

7. Thei arlung hnah: A hnah chhum tui ni tin zingah & tlaiah in thin a tha.

8. Fanghma: Chaw ei apiangin hmeh tel a tha a, ni tin a hauva ei thin a tha bawk.

Khingte khi a taka tih theih deuh vek a ni a, chhawr tangkai theih dan ngaihtuah thiam erawh a pawimawh hle.

Mawitea huang!

E A mikhual naah khan in neitupa khan, "Pua chu engtin nge an koh thin che?" a ti a, ani chuan, "Aw pangngaiin min ko ve mai, kan nu thinrim erawh hi chuan vin deuh te pawh hian min ko ve bawk" zuk ti roh a!!

ZAWNGJAH HI

Damdawi lam zir mite mihring tana tha thil thlum chhuak. Chung thlumte chu thlum, glucose leh fu atang zawngtahah hian a awm Fibre tam tak a la awm tam tak a awm bawk.



chuan zawnglahah hian (sweet) chi thum an hmu thei atanga hmuh thei a thum chhuak angte hi vek a ni. Zawngtahah hian cheu avang hian chakna

Zawnglah a awm Tryptopane hi kan kawchhungah a luh hian Serotonin-ah a chan tak avangin rilru hahna chu chhawk zangkhain rilru a tihahdam sawng sawng thei bawk.

Vitamin B6 a awm avang hian thisena thlum awm a sem rualin rilru a ti zangkhai hle bawk. Iron chak tak a tel bakah zawngtah hian kan thisen ah Hemoglobin a siam chhuah avang hian thisen tlem vanga chaute tan ei tur tha tak a ni bawk.

Zawngtahah hian Potassium tam tak awm mahse al (salt) a tlem avang hian BP sang tur a vengin BP sang luat vanga zeng (stroke) tur a ven thu America rama FDA chuan a sawi. Lung natna tan a that thu an sawi bakah zawnglahah hian potassium a tam vangin ni tin zing leh chhun chaw ei ruala zawngtah kan ei tel chuan thluak a tih chak thu an sawi bawk. Fibre a tam vang hian ek khal natna neite tan ek a ti nuam hle bawk. Zawnglah leh khuaisu ei kawp hi zurui tih reh nan a lha hle bawk.

Zawnglah kan ei hian kan kawchhungah natural acid lha tak a siam chhuah vang hian pumpui lama harsatna neite tan chuan ei thin a tha hle a ni. Rai tan pawh luak chhuak a tiziaawm. Thokang sehna vanga thak leh p<nah zawnglah hnawih a tha. Zawnglahah hian Vitamin B a tam vangin nerve lama harsatna neite tan a tha hle bawk a ni.

Zawngtahah hian vitamin B6 leh V12 a awm avangin natna vanga taksa chhe tawhte tan taksa a siam tha chakin mihring a ti chak rang bawk a ni. Nicotine a thah avangin zial zu thin tan chuan zawnglah hi ei ngei ngei tur a ni. New England Journal of Medicine ina an zir chiannaah chuan zawngtah ei thinte chu ei ngai lo te aiin 40% in BP sang vanga zeng stroke in an tih buai loh thu an hmuh chhuah bakah hian Apple aiin protein a let 4, Carbohydrate a let 2, Phosphorus a let 3, vitamin A leh Iron a let 5 in zawngtahah hian a tam zawk a ni. Vitamin dang tam tak leh potassium tam tak a awm a ni. Ni tin zawngtah ei thin chu Doctor hnen atanga hla takah an awm thin thu an sawi tel bawk. ■

HRISEL NAN EI LEH IN ULUK A NGAI

Dr. V.L. Hmangaihzei

Mi puitling leh fing zawka ingaite hian kan duh thlanna te hi kan hmang thiam \hin em? Ngunthluk takin i han bih chiang phawt teh ang u. Kan taksa enkawl dan kawngah leh hriselna kawngah hi chuan fing hle a inggai tam zawkte hi chu naupang chhia leh tha pawh la thliar thiam lo ai mahin kan changkang bik lo mai thei a ni. A chhan chu naupang chuan a tana tha tur leh tha lo tur a la thliar hrang thiam lo va, a tana tha lo tur kawng a lo zawh palh a nih pawhin, a chhia leh tha hriatnain a la man phak loh vang chauh a ni. Keini thalai emaw puitling tawhte leh pianphunga mi pangai chinte hi chuan chhia leh tha hriatna hmang thiam tawh tura ngaih kan ni tawh a. Mahse, kan taksa tana hmelma leh chhiat theihna tur kan tih leh kan chin thin, thil thalo leh hlauhawm insum har deuhna tur chi te, kan thlang thiam tawh lo niin a lang a, chungte chu kan hrisel zawk nan leh kan damrei zawk nan i lo bih chiang teh ang.

EI LEH IN THU-AH

Ei leh in lam thu-ah hian kan hriselnain a huat em em leh kan nat phah thin ei leh inah insumkarna nei miah lova kan khawsak thin avangin kan nat phah a, a nih loh vek leh kan nun pawh a tawi phah thin. Mi thenkhat chuan, 'Kan pi leh pu ei leh ina insumkarna hre lo ho te kha, tar kun khup bihin an dam tho alawm' te an ti. Sawi tur tinga damrei tlem chu awm

bawh mahse, a mimir chu an dam rei lo a ni. Kum 30-40 hmalama thlan lung ziak han en ila, veng leh khaw hrang hrang a mi te, tar thi emaw kan tih tam tak te kha kum 40-50 vel bawh an ni chauh hlawm a ni, an ti a. Chuvangin kan ei leh in te hi chhiat phah nana hmang lo va, \hat phah zawk nan leh hrisel phah zawk nana hmang tur kan nih laiin TAWK CHIN kan ngaihtuah thin loh vang mai

chauh a lo ni. Pum lam zawh tawk te, taksa tana tha tur tawk leh taksa tana tangkai tur chi te kan ei thin hi a ngai a ni. Kan thil ei tur reng reng hi a thianghlimin natna hrik eng pawh lakah a fihlim bawk tur a ni. Chawhmeh thing chhuanso that te, thil ei nghal mai tur chu silfai that te a pawimawh tak meuh a ni. Tin, thil rep ung lutukah hian cancer thlen thei thil tha lo awm duh a sawi a ni a, ei dawn chuan ziahfai a silfai that a \ul a, chutianga tih harsa chi a nih phei chuan ei loh mai pawh a tha zawk a ni. Kan fimkhur tawk loh avanga kan nat phah emaw kan thih phah hlah chuan thil r<nthlak tak vek an ni dawn tih i chiang ang u.

A in lam thuah chuan tupawh hian thingpui te, tui te kan in ber a. Thingpui te pawh hi in nasat lutuk chuan pumpui leh taksa in a zo lo thei a. Chuvangin a hun bik leh tawk chin neih a tha tih i hre reng ang u. Tui hi a thianghlim tawk lo, natna hrik pai te kan in thin avangin kan nat phah tam hle niin mi thiam ten an hria a, chu

bakah mi tam tak chuan kan taksain a mamawh tawk kan in thin loh avangin kal lam natna leh natna dang dang te a lo chhuah theih phah thin bawk a ni. Kan taksa hi tui hlawm a ni deuh ber a, a tlem zawk hi ruh leh tihrawl chauh a ni a. Kan taksa hian tui hi a mamawh em em reng a, thisen tih kal that nan te, kal lam hnathawh that nan te ni tin kan taksa hian tui thianghlim no 6-8 lai a mamawh reng a, chutih laiin a mamawh tawk mi tam takin kan in ngai lo va, chutih laiin mi tam takin a kan tui tlan kan in thin te hi tuikhur tui satliah emaw, PHE tui sem te, kan in pawp pawp zel a, a thianghlim anga kan ngaih laiin kan nat phah fo thin tih hriat tur a ni. A chhan chu kan dah khawlna kan lak kual velnaah khan natna hrik a lo kaiin a lo pawlhsawp leh thei a ni.

Tui thianghlim lo kan in chuan TUIHRI, Santen, Kawthalo, Mitliam, Rulhut chi hrang hrang, thin lam natna chi leh natna chi hrang hrang kan chhar phah thei a ni. Nat phah mai bakah thih phah pawh an

tam hle tawh a sawi a ni bawk. Tin, kan sawi tel leh duh pakhat chu tui thianglim pawh ni se, miin tui a in tlem lutuk chuan pumpui a chak lo va, ek a khal a, kal in hna a thawk tha thei lo va, kum rei lo t> chhungin kal hnathawk thei lovin a chhia a, kal zai ngai te,

kal thlak ngai hial te an awm thin a ni. Kal thlak nan cheng tam tak sen a ngai tawh a, a hautak em em a ni. Tui hian chuti taka mihring a awmzia a neih chuan tih tur leh tih loh tur kan hriat chian a kan zawm tlan hi HRISELNA leh DAMREINA a lo ni.

Mawitea huang!

E An khaw daiah khan sumdawng bungraw phur Vai truck kha a accident a, driver leh handyman an thi si a, an khaw nu ho khan rawngbawl pahin filter sikret an pet far mai a, naupang ho lah chuan khawlaiah sanghatin bur an lum sup sup mai nia...!

E A hreipui chher pawh kha a zeiloi mai mai awm asin. A deng ral te tial tial a, chemte atan a la \hat tho dawn hi tiin a deng chhonzawm zel a..... tulthir atan tal a la tlak alawm maw le, tiin an deng zui zel vei a, a tawpah toothpick atan tal a la tlak dawn hi tiin a tawp san nia....

@ Phone bo zawn dan:

I phone a bo a nih chuan, a hmasain i dah thinna vel kha uluk takin zawng hmasa la, i hmu lo a nih chuan i bul hnaia mite hnenah an lo hmuh leh hmuh loh i zawt leh ang, an lo hmu lo a nih chuan mi rinhlelhawm han ru duh mai awm i bul hnaia an lokal leh kal loh i zawt leh ang, chutiang mi pawh an awm lo fo a nih chuan mi dang phone hmangin i phone number kha i dial ang, chutah pawh i phone ring ri ila hriat loh fo chuan a ngaihna hriat a har tawh ngawt ang.

KA CHHUNG NATNA

Tun laiin mi tam tak ten ka chhung natna an vei thin a, a bik takin nausen hnute hne lai mekah a tam viau niin hriat a ni. He natna hi ho t> angin lang mah se, ka chhung hrisel hi a pawimawh em avangin ngaihthah mai chi chu a ni lo tih a chiang hle a ni. He natna hi a enkawlna hre lo tan pawh a natna lan chhuah dan kan lo hriat lawk chuan, mi tam tak tan \angkaina a neih ngei a rinawm a chuvangin a nat dan tlangpui lo sawi ila -

1. Chhan bik awm lo: Hei hi a tlanglawn ber a ni a. Ka chhungah hian rannung te tak t> t>, natna hrik ang chi, natna hrik ni si lo tam tak an awm a, ka chhung hriselah chuan an dam reng thei lo a, mahse ka chhung a lo bawlhhlawh chuan heng rannungte hi an lo pung chiam a, hahni leh ka chhung dang natna a siam thei ta thin a ni. Tin, khawsika nat avangin emaw taksa tichau thei chi leh thisen lam natna atang tein a awm ve thei a, hahnite a lo vungin a lo na thin a, a lo sen bawh thin a ni. Hemi enkawlna ber chu ka chhung vawnfai hi a ni mai.

2. A chi hnihnaah chuan naupang chaw tha tlachham zingah ha \o laiin a awm duh a, puitling zingah chuan mei zu tam te, zu in tam te, khawsika

damlo te, ha nget nasa tak nei te, damlo na tak ka chhung tifai ngai loten an vei duh hle a ni. Tin, chil neih tlem leh taksa atanga tui hloh tam (kawthalo vei) avang te pawhin a lo awm thei ve bawh. Hetiang chi ah chuan hahnite leh ka-te a lo na a, a lo sen a, lei a lo vungin a lo ro ta thin a ni; a lo nasat hle chuan thaw a rimchhe ta thin a ni. A enkawl dan chu a hma ami ang bawh a ka chhung vawnfai ni mai.

3. He natna hi chaw tlakchham vang liau liauin a lo awm thin, Vitamin B chi khat tlakchham vang a ni ber. Lei a lo sen a, a thapin a lo na thin. A lo nat rei hnu deuhah chuan lei a lo hn^wngin a fai hluau thei thin. Iron tlakchham vanga na a nih chuan kamsir p^nin a chunzawm duh hle. Vitamin

tlakchham vang a nih chuan, a bik takin Vitamin C tlakchham vangin hahni a lo vungin a lo dup a, a thi awl em em a ni.

4. A palina chu puitling chaw tha tlachham leh ka chhung vawngfai lote'n an vei ber a, hahni chu a lo p^n a, dang te, hmui leh biang chhunglam te pawh a khawih tel thei. A p^n chu rawng uk deuhvin a khuh a, a bul vel a lo sen thin. He natna hi hrik chi khat avanga lo awm a ni a, heng hrikte hi ka chhungah tlem azawng hlauhawm lovin a awm ve a, a veitu hriselna a lo tlakhniam deuhvin he natna hi a lo lang mai thin a ni. He natna hi inkaichhawn theih a nih avangin a veitu damlo chaw thleng i-lo chu ngun taka silfai a ngai a ni. Damlo chu a hma thei angin damdawi inah kapui vat tur a ni.

5. A chi ngana chu rannung (Fungus) vanga awm a ni a, he rannung pawh hi ka chhung natna siam lova awm ve thin a ni a, amaherawhchu miin damdawi chak tak a ei hnem chuan heng rannungte hi a tul aia tam an tipung thei a,

chu chuan natna a rawn siam ta thin a ni. Damlo rei tawhte leh hnute hnektir thin naupang/nausenten an vei duh hle a ni. Hahni, biang chhung lama pante chu rang varin a khuh thin a, a lo len chuan a khawk thei thin a, damlo chu damdawi inah a rang lama hruai thuai tur a ni.

6. A chi ruknaah chuan ka chhungah p^n pakhat emaw a aia tam emaw a lo awm a, a tirah chuan te tak tein a lo durh a, a lo thuk telh telh thin a ni. A p^n hi tam tak a awm ve thei a, ril lam natna nen a inkaihhnawih duh hle a, a na duh hle bawk a ni.

7. Heng bakah hian thisen lam natna avangtein ka na hi a lo awm thei thin a ni. T<r ei leh vun lam natna dangte avangin a lo na thei bawk.

Sawi tawh angin hetiang natna vei chuan a hma thei ang bera damdawi ina hruai emaw kal vat a tha ber a, enkawl na fumfe tak a ngai a ni. Enkaw loha rei tak a nat chuan damlo khan bawlhhlawh tam tak a ei reng tihna a ni a, a hrisel lo em em a ni. ■

H I V / A I D S

Aw le, tunlaia khawvela natna lar tak leh hlauhawm em em HIV/AIDS chungchang kan sawi dawn a ni. Kum 1981 khan Los Angeles, USA-ah mawngkawhur mi pariat teah natna danglam tak mai hmuhchhuah a ni a. He natna hi a tirah chuan eng natna nge hriat a ni mai lo va. Taksain natna a dona a tihniam/tihchhiat avang leh mawngkawhur zingah deuh chauh an hmuh avangin GRID (Gay Related Immune Deficiency) tih a ni a. Mahse he natna hmuhchhuah a nih a\anga rei lo te kum 25 chung lek hian mi maktaduai 30 bawr vel a suat hman der a ni.

He natna hi khawvelah a lo darh zau zel a, India-ah chuan kum 1986 khan Dr. Suniti Solomon chuan Madras (Chennai)-ah nawhchizuar hmeichhe parukte chu HIV Positive an ni tih a hmuchhuak a. Mizoramah chuan kum 1990 October thla a\ang khan hmuh ve \an a ni.

Awle, AIDS chu eng nge a nih? HIV nen eng nge a danglamna? AIDS chu 'Acquired Immuno Deficiency Syndrome's lim Disease' an tih bawk hia ni a. HIV hrikin natna thlen a ni. HIV chu natna hrik kha a ni a, natna hrik te tak t> mit lawnga hmuh theih loh a ni. He HIV natna hnathawh lo langchhuak hi AIDS chu a ni.

HIV hrik hi taksaa a lo luhin natna dotu chu nasa takin a tihniam/tichhia a, mihring taksa chuan natna engpawh awlsam takin an kai ta zung zung a, thihna hial a thlen phah ta \hin a ni. HIV hrik kai nazawng hi AIDS vei an ni nghal mai lo va, AIDS vei tur hian thla eng emaw zat a\anga kum 10 chung vel a duh a ni. HIV/AIDS vanga natna dotu a tlakhniam chhan ber chu White Blood Cells chi khat natna lo dotu T-helper cells/T-cells te zawi zawia an tlem telh telh tak vang a ni a.

Inkaichhawn dan :

HIV/AIDS hi heng a\ang te hian a darh deuh ber a ni.

1. Inpawlna : Hei hi HIV/AIDS darh dan tlanglawn ber a ni a 75% velin WHO chuan a chhut a ni. Mizorama HIV+ kai zingah pawh hian mi 4,721 zinga mi 2977 te hi hmeichhiat mipat hmanna a\anga kai an ni. Inpawlna him lo HIV hrik paiin an nei a nih chuan HIV hrik kai ve na chance sang tak a awm a. Mipat hmeichhiatna a\anga kai natna STD kan tihte hian HIV hrik chu awlsam takin a kaichhawntir thei a ni. STD vei zingah HIV inkai theihna chance chu a let 8-10 velin a sang a, mawngkawhur zingah inkai a awl em em baw. Tin, mipaten hmeichhia an kai theihna chance hi hmeichhiaten mipa an kai theihna chance aiin a tam fe zawk a ni. Hmeichhia thi neih laite hian an kai awl zual. Hmeichhe tleirawl leh thi hul tawh te hian kai theihna chance sang tak an nei a. Tleirawlah chuan chhul kawngka in HIV hrik leh natna hrik dang a lo dan theihna a hniam vang a ni, thi hul tawhah chuan serh chung tuamtu kha a lo pan tawh em vang a ni.

2. Thisen thianghlim lo atangin : Thisen thianghlim lo

dawn avanga HIV hrik kai hi 25% vel nia chhut an ni a. Mizoramah hian inchiuna thianghlim lo atanga kai chu mi 1400 an tling tawh a ni. Thisen thianghlim lo dawn emaw, inchiuna thianghlim lo in hman tawn vang emaw a ni tlangpui. Thisen thianghlim lo Unit khat (1) inpek avanga HIV hrik kai theihna chu 95% vel laia sang a ni. Hengte mai bakah hian bengverh, tattoo chhut te avanga kai theihna chance a sang em em baw.

3. Nu in nauteah : HIV kai nu in a naute paiah emaw, nau a hrin laiin emaw, hnute pek laiin naute chuan HIV hrik chu a kai ve thei a. Hnute tui pek lai hian nautein HIV hrik a kai theihna a sang em em a, a chhan chu nu hnute tuiah hian HIV hrik tam tak a awm vang a ni. Nu chu HIV kai tir emaw AIDS vei tawh a nih lek phei chuan naute chuan HIV hrik chu a kai awlsam em em a ni. Nautein HIV hrik a kai chuan AIDS natna thlen tur hian hun a duh rei lo hle a ni.

HIV hrikin danglamna taksaa a thlen chhuah dan :

He natna hrik kai tirh chuan nawmsam lohna, khawsik ser ser, hrawk thip, vun danglamna tih vel bak chu danglamna taksaah a awm lem lo. He natna kai 70% velah chuan a tir kum khat chhung vel chu an taksaah danglamna eng vak mah a awm lo. Taksa a hrisel \ha a, pangngai takin an lang a, mahse he natna an kai atang hian mi dang pawh an kai chhawng ve nghal thei tho tawh a ni.

AIDS related complex neih tawh chinah chuan kan taksaah natna dotu 'Immune System' kha nasa takin a lo chak tawh lo va. Chhan hriat loha thla khat aia rei kawthalo te, zawi ngawih ngawih te,

taksa rihna zaa sawm (10) aia tama tlahniam te, khawsik reh thei lo te, zana thlanchhuak, ka chhung pan leh taksa nawmsam lohna te an nei thin. Miin hengte hi a neih tawh chuan AIDS natna a vei chawpchilh nghal tihna a ni.

Miin AIDS a vei tawh chuan AIDS avangin cancer a nei thei a, thin opportunistic infections an tih heng - T.B., Pneumonia te, awmvel leh vun natna chi hrang hrangte ka chhung lawng te leh natna chi hrang hrang an vei awlsam em em a ni. Heng natnate hi taksa ral dotu a chak tawh loh avanga a dam hleih theih tawh \hin loh avangin thihna a thlen thuai \hin a ni.

Mawitea huang!

E Nuthlawi kha a luhkhung a, a chhungten an lo hau laih laih a, ani chuan "Ni tla seng lo a roreltu Edward khan nuthlawi vanga a lal\huthleng a ch^n ngam a nih chuan, kei ch^n tur pawh nei ve lo kan choka-ah pawh rorel thei lo hian engvangin nge nuthlawi ka iai bik ang" zuk ti a!

E Sunday zan inkhawm kha an han tlem awm mai mai asin, thusawitu khan Biak in chokider hnenah khan "Vuani pa, a hma lamah hian rawn \hu pheih ve rawh, in sawrbing dun deuh ila zai pawh a tui deuh ang..." zuk ti a!!

ZUNKAWNG HNAI/LAWNG

Hrilhfiahna

Zunkawng hn[^]i/l[^]wng han tih hian a awmzia tak chu a hming hian a hril thei mai awm e, chumi awmzia chu i zunkawngah khan natna hrik in bu khuarin, natna a thlen a nih chu. Zunkawng hian peng tam tak a nei a chung te chu Kal, zunkawng chung (ureters)phing, leh zunkawng hnuai (Urethra), heng hmun eng pawhah hian natna hrik in bu a khuar chuan zunkawng hn[^]i/l[^]wng kan ti mai thin, a tam zawk chu a hnuai lampang - phing leh zunkawng hnuai a te hian awm thin a ni.

Hmeichhia hi mipa aiin zunkawng hn[^]i/l[^]wng nei nasa zawk anga ngaih an ni. Phing l[^]wng bik hi a ninawmin a hrehawm viau thei a mah se natna hrik in kal a khawih tawh chuan hlauhawm khawpin he natna hi a thawk thei thin a ni.

Antibiotics hi he natna enkawl na bulpui ber chu a ni mai a, tin, he natna vei lo tur hian kan inveng ve thei a ni tih hriat a tha khawp baw ang.

A lan dan

Zunkawng hn[^]i/l[^]wng hi hriat mai si lohvin a awm ve reng thei a, thenkhatah phei chuan engtin nge i tlun hluah hluah loh zawk le te pawh kan ti fo. A lan dan tlangpui han tarlang ila:

- * Zun chhuak reng.
- * Zun zawnga na emaw sa em em.
- * Zun chhuak zing zung tam thei si lo.
- * (A hma a mi pathum khi Mizo chuan Zunin kan ti mai thin).
- * Zun rawng paw deuh phut.
- * Zun rawng sen deuh emaw coca cola rawng ang a dum uk deuh khuk-zunah thisen a tel tih lanna.
- * Zun rim chhe deuh emaw dang deuh.
- * Taina, a bikin hmeichhiaah.
- * Mawng bawr na, a bikin mipaah.

Zunkawng l[^]wng chi hrang

Zunkawng bung hrang theuhva natna hrik a awm

(l[^]wng) in an lan dan a hrang hret hreta a hnuai mi ang hian a tlangpui han thai lang i la.

Zunkawng bung/peng lawng lai	Lan chhuah dan
Kal (acute pyelonephritis)	<ul style="list-style-type: none"> • Nak nem lai na • Khawsik sang tak • Tlun(Khawsik tlun) • Luak chhuak nghulh • Luak • Tai nuam lo
Phing(cystitis)	<ul style="list-style-type: none"> • Pum hnuai lam nuam lo/na • Zunin • Zun thi
Zunkawng hnuai(urethritis)	<ul style="list-style-type: none"> • Zunin(zun zawng emaw zun zawh a sa/thip)

A awm chhan

Sawi tawh angin zun kawngah hian bung hrang tam tak a awm a, kal, zunkawng chung, phing leh zunkawng hnuai te an ni a, heng peng hrang hrang hrang hian an hnathawh ber chu taksa atanga bawhlawh paih chhuah a taksa tih thianglim hi a ni. Zunkawng l[^]wng/hn[^]i lo in\an dan tam zawk chu natna hrik zunkawng hnuai (urethra) atanga a luh a phinga a lo inthlah pun hian a ni. A nihna takah chuan hetiang a natna hrik lut lo tur hian kan zun kawng hi a inveng tha ve tawh hle a amaherawhchu, eng

thil emaw vangin he kulhbing hi natna hrik hian a tawn tlang zo ve hlauh thin a, chutiang hun a lo awm chuan natna hrik chu inthlah pungin zunkawng l[^]wng/hn[^]i a lo awm ta thin a ni.

Zunkawng l[^]wng/hn[^]i tam ber chu hmeichhiaah niin phing leh zunkawng hnuai hi a lanna hmun a ni ber bawk.

* Phing l[^]wng/hn[^]i (cystitis) hi natna hrik chi khat Escherichia coli (E. coli) vanga lo awm a ni tlangpui a, he hrik hi chaw kawng lamah a tlangpui chuan hmuh a ni ber. Mipat hmeichhiatna hman hian phing l[^]wng a awm thei a,

mahse hemi vang chauh hi a ni ziah kher lo tih hriat a tha. Hmeichhia reng reng hi an pianhmang avangin phing I^wng an nei awlsam bik a - zunkawng hnuai leh dailenna a inhnaih mai bakah an zunkawng hnuai hi a tawi bawk.

* Zunkawng hnuai I^wng/hn^i (urethritis) hi chaw kawng lama natna hrik awm thin te kan dailenna atanga zunkawng hnuai zawka an lo luh chhoh palh hian a awm thei, kan sawi tak ang khan hmeichhiaah dailenna leh zunkawng hnuai a in hnaih avangin sexually transmitted diseases (STDs), herpes, gonorrhoea leh chlamydia, te hian hei hi an thlen thei bawk a ni.

Zunkawng hn^i/I^wng nei duh bik te

Mi thenkhat mi dang aia zunkawng I^wng nei hma riau an awm a, he natna nei duh bik te chu:

* Hmeichhia. Kan sawi tawh ang khan hmeichhiaah he natna hi a tam bika a chhan pawh an pianken a ni kan tih

kha, hmeichhia reng reng hian an damchungin vawi hnih khat tal he natna hi nei turah ngaih an ni awm e.

* Hmeichhiat mipatna hman. Hmeichhia pasal nei emaw, nei kher lo pawh sex hmang thang chuan a hmang ngai lo aiin he natna hi an nei awlsam zawk.

* Indanna hman. Nau pai lo tura indanna thenkhat diaphragm leh spermicidal agents kan tih hmang thinah a sang hret mai thei.

* Thi hul. Thi hul hnuah he natna hi a tam phah mai thei, hmeichhe Hormone Estrogen a lo tlem tawh vanigin zunkawng a lo danglam hret a hei hian zunkawng lawng a ti tam thei.

* Zun kawng lama pian\o fel lo. Zun kawng lama pian\o fel loh vanga zun a luan dan turang a luan loh hian hetiang anga zunkawng pianto fel lovah hian a tam duh bik.

* Zunkawng ping/\ha lo. Zunkawng a lungte awm emaw mipaah prostate vung vangin zunkawng hn^i a awm thei.

* Taksa chak lo. Zunthlum emaw natna thenkhat taksain natna hrik a beih vena tihnam thei natna avangin a tam thei bawk.

* Pipe Vuah (Catheter). Eng vang emaw a mahnia zung theilo te hi a zun kawngah pipe vuah sak an ni thin a hei hian he natna hi a awmtir thei bawk a ni.

Harsatna dang awm thei

Enkawl ran chuan zunkawng hnai hian harsatna dang a thlen tlem hle a, mahse enkawl that loh erawh chuan nunna atan pawh a hlauhawm thei khawpin a nasa thei a ni.

Enkawl that lohva harsatna dang awm thei te chu, kal vung/l[^]wng-hei hian kal a tichhe vek thei a ni.

Nu nau paiah naupiang te (Low birth weight) emaw thla kim lova piang a thlen thei a ni.

Tests leh Diagnosis

Natna hriat chhuah nan heng test thenkhat hi an ti thin:

* Zun exam. Zun lak dawn hian hmeichhiaah chuan serh

biang kuta keu then phawt hnuah tlem zun phawt tur a ni a, zun vanglai (laihaw) vel tak kha dawh dur a ni.

* Zun Culture (Kui tiak). Hei hian kan damdawi hman tur chu natna hrik huat ber eng ni ang tih hrit theihna a ni.

* Ultrasound leh X ray. Zun kawngah chuan fel lo eng emaw a awm em anfiarna turin hei hi tih a ni chawk bawk thin.

* Phing en. Zunkawng hnai nei ngun lutuk i nih chuan Cystoscopy an tih hmangin phing en/exam a ngai mai thei bawk.

Enkawl dan

Antibiotics hi he natna enkawl dan ber chu a ni kan tih tawh kha. Damdawi ei rei zawng erawh chu i natna a nasat danah a innghat ang.

Natna naran

Zunkawng l[^]wng naran deuhah chuan heng te hi hman a ni tlangpui:

* Sulfamethoxazole-trimethoprim (Bactrim, Septran, etc).

- * Amoxicillin
- * Nitrofurantoin (martifur etc)
- * Ampicillin
- * Ciprofloxacin (Cipro)
- * Levofloxacin (Levoday etc)

A tlangpui chuan ni 5 atanga ni 7 velah hetiang hi chu a dam mai tura ngaih a ni.

He bakah hian nachhawk-na leh i zunkawng na hriatna ti tlem deuh tur damdawi chawh tel i ni mai thei bawk, zun rawng a danglam hret pawhin buai loh tur.

Zunkawng lawng/hnai nei zing

A hmaa kan tarlan tawh damdawi te kha hun rei zawk ei ngai pawh ani thei a, tin, damdawi tan hmain culture tih hmasak a tul thei, hei bakah hian a chhan zawn chhuah nan test dang kan sawi tawh te pawh kha tih a ngai phawt thei a ni.

Natna Nasa(Severe)

Natna a nasat chuan damdawi inah awmin damdawi chiu a ngai mai thei.

Tualchher damdawi

Cranberry Juice

Hei hi a Mizo tawngin eng nge ka hre mai bik lo va, he juice in hian zunkawng l^wng/hn^i a veng thei ni awmin study thenkhat chuan an tarlang.

Eng tianga in tur nge engzat a tam nge in tur tih pawh a chuang chuang lo va, a tui l tih zawng a nih chuan in thin la a pawina a tlem khawp mai, harsatna awm ve thei chu kua a ti nuam lo ve thei tih mi thenkhat chuan an sawi.

Amaherawhchu i lung lam vang emaw a warfarin/ acitrom etc i ei a nih chuan in loh a him ber tih hria ang che, thi put a siam vak thei.

Tih theih

Zunin hi a hrehawm viau thin a mahse tlema a zia awm ve dam chu:

* Tui in tam rawh to dilute your urine and help flush out bacteria.

* Coffee, zu, limbu tui in loh tur. Zun thip/sa a tizual thei.

* Tuilum ip. Tai na laia hma lam atangin hnung lam
tulum ip lum (sa lo se) dah hawi zawngin kut nuai thin ang
nuam mai thei. che (hmeichhe tan bik).

Inven dan

Heng te hi zunkawng
hnⁱ/l^wng laka inven theihna
awlsam te chu an ni:

* **Tui in tam.** Ni tin litre 2
tal a tlem berah in tum rawh.

* **Mawng sil dan.** I daikal
zawha i mawng i sil reng rengin

* **Nupa nun hman zawhin
zun tur.** Hmeichhe tan a
pawimawh zual.

* **In hnawih rimtui.**
Hmeichhe tam takin an kumkar
tih rimtui nan powder leh
hnawih chi thenkhat an hman
thin hi fimkhur a tha hle bawk.

**HRISELNA CHANCHINBU MAN PEK DAN
CHUNGCHANGA HRIATTIRNA**

Hriselna bu hi a la tawh (subscriber) ten kumtin
January thla chung ngeiin a renew-na pawisa, ` 60/- pek
ngei ngei tur a ni. Chanchinbu hi engtiklai pawhin a lak thar
theih reng a, a man hi a la thar leh renew tur tan kum hnih,
kum thum thleng pawhin a pek lawk theih a, chanchinbu
man hi ngai pawimawh hram hram turin Hriselna Editorial
Board chuan kan in ngenin kan in hriattir a ni e.

Aizawl pawn leh hmun hla deuhva awm la thar duh
leh renew duhte tan hetiang hian tih theih a ni e:-

Account neitu hming - Hriselna Chanchinbu.
Branch - Mizoram Rural Bank, Dinthar, Aizawl.
Account No.- 25055010453

Bank deposit an ti ngei a ni tih leh mahni address
kimchang nen Circulation Manager te hnenah whatsapp in
emaw, SMS/Call in emaw hriattir thin tur a ni.

ANXIETY DISORDER

Dr. Lalhriatpuia
Medical Officer
DMHP (Aizawl)

Anxiety Disorder kan tih hi Mizote zingah pawh kan hre lar chho hle mai. Anxiety Disorder kan tih hnuaiah hian Anxiety natna chi hrang hrang a awm, amaherawhchu, a lar zual leh harsatna siam nasa pahnih; Generalized Anxiety Disorder leh Panic Disorder kan tithe zirchianna kan nei dawn ani.

1. Generalized Anxiety Disorder:

Mizo \awngin he natna hming hi kan nei chiah lo naa, kan tawrh ngai loh natna erawh a ni hauh lo. He natna zirchiangtute chuan mi za zela panga vel hian kan damchhung ngeiin he natna hi kan nei tur anga chhut a ni. Mizo \awnga han sawi awlsam dan tur ber 'Rilru chawl lo' emaw 'Rilru thla bar reng' te pawh a tih thei awm e.

A lo lan chhuah dan tlangpuite chu:

(i) Rilru thlaphanna, rilru leh ngaihtuahnaa dawn chi hrang hrang kal zut zut. In leh lo, ei-zawna, inlaichinna, chhungkua leh fanau te a buaina lo awm theite dawn kual vak vak in an rilru a tithlabar a, an hlauthawng reng \hin a ni.

(ii) Chung rilru tithlabar tute chu ngaihtuah loh tum nasa hle mahse, dan zawh rual lovin a lo thawk \hin a ni.

(iii) Heng avang hian taksa leh rilru chu thil lo thleng thut tur awm ang maiin a inring lawk run a, hahdam takin an awm thei lo thin a ni. Ngaihtuahate a timang a, mi a ti haihawt thin a, mut te an harsat a, thin-chhiatnate a thlen a, taksa lam pawh a ti chak lo \hin a ni.

2. Panic Disorder:

A hmaa kan sawi Generalized Anxiety Disorder ang lo takin he natnaah hi chuan mahni chung a thil lo

thleng tur hlauhna nasa takin a rawn man thut a, darkar chanve atanga darkar hnih te a awh tlangpui \hin a ni. Mi thiamte chhut danin, mi za zela mi pahnih velin he natna hi kan damchhungin kan nei tur anga ngaih ani.

A lo lan chhuah dan tlangpuite chu:

(i) Vawi leh khatah hlauhna namen lovin emaw awm nawm lohna riau in a man thut zel a, chu chuan an tha te tisakin an lungphute a ti rang vak a, an taksa pum khur zawih zawihin a siam a, pum atanga rawn hnawh up up ang ten an inhre thin. An taksa hmawrte khawngin tlu mai tur ang ten an lu a hai thin. Heta hlauhna lo kal hi chu pawnlam va hlauhna ai mahin thih hlauhna, ^ mai dawn a inhriatna leh mahni chungu thil tha lo tak thleng tur hlauhna in an khat thin.

(ii) Hetia lungphu leh thawkte a khawih buai thin avang hian mi tam takin lung lam that lohna neiah an inngai thin a, amaherawhchu lunglam that lohna engmah an hmu ngai lo.

(iii) He natna hi a natna nasat dan azirin a chhuak zingin, a chhuah chang pawn a reiin a rei lo thei. Amaherawhchu a chhuah inkarah pawh hia 'A lo thleng leh mai ang a' tiin an rilru a kap reng thin ani.

Engvanga lo awm nge a nih?

'Hei vang hi a nih hi' han tih chat tur awm lo mahse, zirna hrang hrang a\anga mi thiamten a awm chhan bera an puh chu thluaka hriatna thazama chemicals chi hrang hrang in balance loh vanga ngaih a ni. Hei hi inthlah-chhawn vang emaw kan damchhunga kan thil tawn vanga awm a ni. Hetia thluak chak lo saa a lo awm hian harsatna eng eng emaw lo thlengin, rilru han sen zual ngaihna tur a awmin, thluak chak lo sa chuan a zo lo va, heng natna hi a lo chhuak thin a ni.

Engtia enkawl tur nge?

Heng natna pahnihte hi damdawi leh counseling chi hrang hrang hmanga enkawl dam theih a ni.

Amaherawhchu, a natna a nasat deuh chuan damdawi hmanga enkawl tur a ni.

Thluaka chemical in balance lo han siamrem thei damdawi chawh thin an ni.

Damdawi erawh rei deuh hlek chung eitir thin an

ni. Damdawi hian zawiin a tihrehsak a, damdawi thlah hma lutuk hian a rawn let leh

duh riau avanga rei deuh chung (thla 6) eitir thin an ni.

HMAI MAM LEH NO NEIH DUH TAN

Mitinten hmai mam leh no nalh tak put kan duh theuh a rinawm, Spa kal kher ngai lo leh sum tam tak sen ngai lo in a hnuai a kan tarlan dan ang hian lo chin ve teh le.

Kan mamawh te:

1. Baking soda tlem
2. Khawizu tlem
3. Lemon a phel
4. Apple cider vinegar fian 1

PAWLH DAN :

A hmasaberin khawizuah lemon phel hi sawr a Apple cider vinegar fian khat pawlh tur a ni.

Tichuan tui no chanve pawlha chawh tur a ni. Tichuan baking soda tlem a zawng pawlh a tha taka a kaw hma loh chu chawh tur a ni.

HMAN DAN :

Tui luma hmaiphih hmasak tur a ni a, hmai hrukhu hnuah cotton puff hmanga kan thil pawlha chu hmaiah hnawih mai tawh tur a ni. Minute 10 hnuah tui vawt a hmai phih leh tur a ni. A hmang tawh ten vawi khat hmanah pawh result tha tak a hmuh theih thu an sawi. Ni tin ti peih tan chuan hmai a no nalhin hmai a mam a hmai \huangvuakte pawh a tih reh mai bakah arngeng neite tan chuan damna leh hlimna thlen theitu tha tak a ni bawk. ■

HRISELNA ATANA TUI IN TAM PAWIMAWHNA POINT 10 - TE

Tui hi mihring taksa tana pawimawh tak pakhat a ni a. Mihring taksaah hian 55% - 78% tui a awm a. Kan taksa hriselna hi kan tui in tam leh tam lovah a innghat thui em em a, mi thiamte chuan ni tin tui no 8 - 10 tal in turin min duh a ni.

Tui in tam hlawknate :

1. Taksa chau a chhawk: Kan taksa a chau/kulcho fo a nih chuan, tui kan in tam tawk loh vang a ni tlangpui thin a, chuvangin tui in tam hian taksa chau tur a vengin, a nihna tur angin hna a thawhtir thei thin a ni.
2. Rilru put hmang a siam tha thin: Zir chianna a\anga a landan chuan tui in tam tawk loh vangin mihring hi kan rilru put hmang a lo danglam thei a, tui in tlem chuan rilru put hmang a lo hniamin, a ngaihtuahna a ti tawi thei a, chuvangin tui in tam hi a pawimawh hle a ni.
3. Lu na, lu na benvawn neite tan: Lu na leh lu na benvawn nei thinte hi taksain tui a tlakchham vang a ni fo va, a damdawi tha ber chu tui a tam thei ang ber in hi a ni.
4. Chaw pai \awih leh inthiarna kawngah min pui thui hle bawk a ni: Tui (a bikin tui lum) in tam hian taksa hna a thawh \hat tirin, chaw pai \awih kawngah nasa takin a pui a ni.
5. Rihna a tlakhniam tir thei: Cher duh tan chuan tui a \angkai hle. Tui kan in tam chuan chaw chakna kan nei tlem a, chaw kan ei tlem phah a. Chu chuan taksa rihna a tihnam thei a ni.
6. T<r paih faitu a ni: Tui hian kan taksaa t<r awm te, kan zun leh thlan hmanngten min paih chhuahsak a. Kal a tifaian, lungte awm tur a veng a, chuvangin kan mamawh tawk ang zelin tui in hi a pawimawh em em a ni.

7. Taksa lum leh vawh dan a vawng: Tui in tam hian kan taksa lum leh vawh dan hi inbuk tawka siamin, keimahni min ti harhvang a, taksa sil leh rawl te a veng a ni.
8. Vun a ti hrisel : Tui hian thisen zam kal dan ti mumalin, vun a tinung a. Ti mur a ti hriselin vun eng leh mam min neihtir a ni.
9. Zu in mi tan : Zu in tam chuan taksaah tui a titlemin taksa a tichau em em thin a. Chuvang chuan tui hi damdawi pawimawh tak pakhat a ni.
10. Thaw rimchhia a tireh : Tui in tam leh chaw eikhama mumal taka kam \huah hian ka a tifaiin natna hrik insiam theihna tur a veng a, thaw rimchhia kan neih loh phah thin a ni.
11. Heng bakah hian tui chauh ni lovin, thei leh thlai tui pai tam chi kan ei hian taksa tan a thain, min ti hrisel bawk thin a ni.

Source : Mizoram Medical Directory 2017

Mawitea huang!

E An \henawmnu hnenah khan, " | hiannu, keini chung pawh hi kan hausa ve \ep tawh asin," tiin a bekbawr su su a, a \henawmnu chuan, "A va lawmawm ve, mahse engtin?" a lo ti a, ani chuan "A...engdang ni lo ve, hmanlai upate khan khawihli neih hi hausakna an lo ti miao si a, hei tunah kan pa mawngtamah hian khawihli pui pathum ngawt a awm a, na chu tih hle mahse keini nufa ho erawh kan hlim teh asin, thil lei tur pawh kan hual lawk \euh tawh," zuk ti roh a!

E Bazara a kal lai khan a pum nuam lo lutuk kha bazaar ekinah a tlan lut a, a e dawn emaw tih nak alaiin sei deuhin a vawih p-u-t ringawt a, a pum chu a nuam ta huai a, chhuah pah a cheng 10 a pek pah in a, "Vawih man a va to duh \alh \alh ve" zuk ti a!

E | awngkam kha an thiam lo mai mai, mitthi a ral ve a, "Kha hman ni khan in fapa kha a lo thi deuh a ni awm a, thih manah hei cheng za hi," zuk ti a!

HMANGCHANG

I thawmhnawa mom-bati a far a nih chuan lehkhapuan chhe chi deuh entir nan Mizorama kan chanchinbu ang chi te, blotting paper ang chi te hi a chung leh hnuaiyah dah la istiri sa in nawt rawh. Lehkhapuan khan mawm kha a hip tawn a ni. Hemi hnuah sukfai leh mai tur.

Theihai hnai thawmhnawa a kai chuan tuia chiah lovin nisaah pho vat tur a ni. A rawng a lo danglam hnuah suk fai chauh tur a ni.

I thawmhnaw a chewing gum a kai chuan hmun vawtah, a theih chuan refrigerator-ah dah phawt la. Chewing gum kha a lo khal ang, kheuh thlak mai tur a ni.

I thawmhnaw a thir tui-ek rawng kai tihreh nan ser thur tui thlawr la, chi phul leh la, nisaah i pho leh dawn nia.

Thawmhnaw a rawng kai tam tak, a sen leh lehkhabu dum ang chi te tih reh nan tomato tui thur hi a \ha phian mai. A kai laiah khan tomato tuiin hruk vak mai a, darkar khat vel chiah a suk leh mai tur a ni.

Rawng tih rehna atana an siam tam takte hi hman hmain, kawr/puan hmawr khawilaiah emaw chhin phawt \hin a \ha.

Thisen thar lam hi tuivawtin sil ila a reh hma ber. Thisen hi a lo ro tawh a nih chuan tui litre khatah chi gram 30 vel telh la, chutah chuan darkar khat vel chiah leh la, tui vawtin suk leh mai tur, hetiang hian hmeichhe thlatin thi pawh tihfai mai tur a ni.

Fridge-te hi a chungka kan thil dahte a \hat rei nan, electric hmanga thil dah vawhna bawm a ni a. Fridge kan han on a, a chung pawh a vawh tur ang taka a vawh tawh hnu hi chuan, tivawt zual zel tura electric hman reng kha a ngai tawh lo va. Chuvangin a chungka electric OFF tu Switch an dah sa chuan

automatic in a off tawh mai \hin a. Mahse Fridge kawngka kan han hawn hian a chhungah boruak lum kan ti lut leh tihna a lo ni a. Kan hawn fo emaw, kan hawn rei fo pheh chuan Fridge chhung kha a lo lum thar leh a. Chumi tivawt leh tur chuan automatic in a Fridge khawl a lo in on leh ta \hin a. Chu chuan electric nasa takin a lo hman tam phah ta \hin a. Hemi pumpelh nan hian a ni a kawngka hawng sek lo leh khar thuai \hin a \ulna chhan chu ni.

Tin, electric bulb pangngai ai hian CFL (Compact Fluorescent Light) bulb hi to zawk mahse electric a heh lo va, a rei hnuah pheh chuan nasa takin senso a tlem zawk fe tih hriat a \ha.

Mawitea huang!

E Vawk chaw tur changel hi a lo chan hauh hauh a, "Khatiangte chu vawkin an ei duh em ni?" an rawn ti a, ani chuan, "A vulhtute pawhin kan duh zawng zawng kan ei ngai bik kher hlei nem," zuk ti a!

E "Thiannu tunlai chu ka rilru a hah lutuk," a ti a, a \hiannu chuan "Eng nge a chhan" tia a han zawh chuan, ani chuan "Ka hmai hi alawm a bawl nasa lutuk a" a ti a, a \hiannu chuan, "Engati nge i hmai chu a bawl vak a" a ti a, ani chuan, "Ka rilru hah vang hi a ni ang"zuk ti roh a!

E A bialnu' in a \hen thu kha a rawn hrilh a, hrehawm a ti lutuk a, "Aw...intihder ni tal ni hlauh se ka va han ti tehreng em!" zuk ti vawng zawng a!

E Camping chhuah dawn zan khan camper pakhat khan speaker hnenah "Ka pu pianthar hriatpuina lehkha min ziah sak teh chuti lo chuan ka chhungten min ring leh tak tak lo vang" zuk ti a!

**KAN LO HRISSEL ZAWK LEH THIANG HLIM NAN
HOTEL LEH RESTAURANT SIAMTUTE TAN**

TIH TUR

- Kut sil fai:
1 Ei tur siam dawn in
- Hnawm khawih zawhah
- Inthiar zawhin
- Thil tih fai zawhah
- Uniform hak:
- Ei tur siamtu
- Ei tur chhawpchhuaktu
- Bawlhhlawh bawm chhin nei
hman tur
- Ei tur chhawp nan hmanraw
mam leh tihfai awlsam hman tur
- Filter tui thianghlim chhawp tur
- Kut hrukna towel thlak fo tur
- Inthiarna vawn thianghlim tur
- Kutsil nan tui herh haw theih
ngei siam tur
- Fridge vawnfai tur
- Rannung leh bawlhhlawh lut thei lo
turin ei tur dahna bawm siam tur

TIH LOH TUR

- Ei tur siamna hmun leh dawr
chhungah:
- Zuk leh hmuam tih loh tur
- Tle reuh inbel, Zungbun bun,
Samthlah leh tin zuah loh tur
- Customer te ei bang belah chhun
luh loh tur
- Ei siamna hnai ah inthiarna dah
loh tur
- Chhuat ah ei siam tur leh siam sa
dah loh tur
- Fridge ah ei tur chi hrang hrang
insi a dah loh a tha
- Fridge chhungah sa chi hrang
hrang dah pawlh loh tur
- Chhang chi hrang hrang plate
khatah chhawp fin loh tur

Harsatna leh thurawn pe duh tan a hnuai ah hian thlen theih a ni:

- Directorate of Health Services, Dinthar, Aizawl
- District Chief Medical Officer tin a Food Safety Cell ah.



Issued by
Commissioner of Food Safety
Health & Family Welfare Department
Government of Mizoram



K E I M A H N I

t Mizoram Sorkar chuan tunhnai khan Health Worker mi 185 zet regular appointment in a la thar, heng lak thar te hi Hmeichhia 85 leh Mipa 100 te an ni a, heng a nghet a lak thar te hi Department chuan a lawmpui a, Sawrkar tan pawh a chhawr nahawm tak ni a, Mizoram hriselna dinhmun than zelna kawngah pawh a hnarkaitu an nih ngei kan beisei.

t Kum 1990 atanga kum 2017 March thla thleng a Mizorama HIV hrik pai hmuhchhuah tawh zat chu 14,632 ani. Kum 2011-2017 inkar a HIV hrik pai thi tawh zat mi 1,228 an ni. HIV hrik pai hi Aizawl district ah tam berin mi 10,570 an awm a Champhai District in dawt in 1489 an awm a, Lawngtlai district chu a tlem ber niin mi 198 an awm. HIV hrik pai te hi kum 23-34 inkar an ni ber a, mipat hmeichhiat hman vanga kai an tam ber a, hriau thianghlim lo in hmantawm vanga kai in a dawt a, nuin a

naute pai hnena a kai chhawn an awm nual bawk a ni.

t Ni 13.11.2017 khan Civil Hospital Conference Hall, Aizawl ah Health Minister Pu Lal Thanzara hovin World Antibiotic Awareness Week hawanna neih a ni. Kum 2017 thupui chu Antibiotics i hman hma in mithiam te rawn rawh tih ani a, Dr. F. Lallianhlira, Principal Director, H&FW Department chuan kaihhruaiin, Dr. Lalsawma, Jt. Director (F&D), Health Services hnen atangin sawi hawanna ngaihthlak a ni a. Dr. C. Zothanmawia, RIPANS leh Pi C. Malsawmtluangi, Assistant Professor, RIPANS te atangin antibiotics hman dan chungchanga hriattur pawimawh leh fimkhur a tulna te presentation ngaihthlak a nih bakah kalkhawmten antibiotics chungchang sawihona an nei bawk. Hun hi Dr. H. Lalchungnunga, Director, Health Services chuan lawmthu sawiin a khar a ni. Vawiin programme-ah

hian Health & Family Welfare Department a hotu leh thawktute leh hospital dang leh RIPANS, College of Veterinary Sciences & Animal Husbandry leh institution dang atanga mi sawm te an tel a ni.

t Ni 14 khan Lawngtlai District chungsa sentut hri danna pek beihpui thlak tur bul tan nan Don Bosco School Hall ah Measles Rubella Vaccination Camping neih ani. He hunah hian Lawngtlai District Immunization Officer (DIO) Dr S, Thaizi chuan sentut natna awmzia leh sentut natna laka inven dan tur a lem nen entir in a sawifiah.

t Ni 23.11.2017 khan Indian Medical Association, Mizoram Chapter in IMA Multipurpose Center, State Referral Hospital bul a sak an tum chu Pu Lalthanzara, Health Minister chuan a sak hna tan a nih theih nan Lung a phum. He hunah hian thu sawiin Medical College din tum, MIMER chu a hlawhtlin a beiseiawm thu leh Academic Session pawh 2018 - 2019 a\angin Batch hmasa

ber ten zirna an tan theih ngei beisei. Health Minister chuan MIMER Director tur atan Dr. L. Fimate, RIMS Director lo ni tawh chuan MIMER Director tur in a hna a zawm tawh thu a sawi bawh.

He Medical College-a thawktu tur Post 629 zet post lakna tur pawh Sawrkarin a remtih tawh thu tarlangin heng zinga pawimawh zual bik, Zirtirtu - Proffesor leh a hnuai lam mi thiam dang te chu lak thuai an nih theih nan a bik takin Single window clearance a ruahman thu a sawi bawh ani. State Referral Hospital pawh tih changtlun hna kalpui mup mup a ni a, hmanraw tha tak tak bun chhoh mek a ni bawh.

t Ni 23.11.2017 khan Mission Director, NHM Office Chamber-ah Mizoram State TB Control Society buatsaihin District hrang hrang a TB Officers te nen 3rd Quarterly Review Meeting neih a ni a, he hunah hian hna an thawh dan leh hmalak zel dan tur te sawihona hun neih a niin hlawk takin an hmang. ■