WEEKLY EPIDEMIOLOGICAL REPORT

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Ministry of Health, Nutrition & Indigenous Medicine

231, de Saram Place, Colombo 01000, Sri Lanka
Tele: + 94 11 2695112, Fax: +94 11 2696583, E mail: epidunit@sltnet.lk
Epidemiologist: +94 11 2681548, E mail: chepid@sltnet.lk
Web: http://www.epid.gov.lk

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Human Papillomavirus (HPV) and Cervical Cancer Part II

This is the secound in a series of two articles on Human papillomavirus (HPV)

Clinical features of cervical cancer

Women with pre-cancerous lesions are usually asymptomatic while the symptoms develop when it becomes invasive cancer.

Early symptoms

- Vaginal discharge – sometimes smells foul.
- Irregular bleeding in women of reproductive age.
- Post coital spotting or bleeding in women of any age.
- Post-menopausal spotting or bleeding.
- Peri menopausal treatment not responding to treatment.

Late symptoms

- Urinary frequency and urgency
- Lower abdominal pain
- Severe back pain
- Weight loss
- Decreased urine output
- Leaking of urine or faeces through the vagina due to a fistula.
- Swelling of the lower limbs
- Breathlessness- due to anaemia, metastasis to lung or effusion

Risk factors for persistence of HPV and development of cervical cancer

- HPV genotype – High-risk types
- Co-infection with other sexually transmitted agents- herpes simplex, chlamydia and gonorrhoea
- Parity
- Delivering child at a young age
- Tobacco smoking
- Poor socio-economic status.
- Poor nutrition status.
- Poor hygiene.
- Prolonged use of oral contraceptive pills- more than 10 years
- Commencement of sexual activities at an early stage.
- Multiple sexual partners.
- Partner having multiple sexual partners.
- High parity.
- Age- Common warts occur mostly in children while genital warts occur most often in adolescents and young adults.
- Weakened immune systems- HIV/AIDS or immune system-suppressing drugs used after organ transplants.
- Skin that has been punctured or opened are more prone to develop common warts.
- Touching warts or not wearing protection before contacting surfaces that have been exposed to HPV at public showers or swimming pools.

Causes of HPV infection

- Genital HPV infections are contracted through sexual intercourse, anal sex and other skin-to-skin contacts in the genital region.
- In pregnancy, genital warts may cause infection in the baby. Rarely, the infection may cause a noncancerous growth in the baby's larynx.
- These viral warts are contagious and can spread through direct contact.

Global burden of cervical cancer

Cervical cancer is the fourth most frequent cancer in women worldwide. Estimated 570 000 new cases of cervical cancer have been diagnosed in 2018 representing 7.5% of all female cancer deaths. Out of the estimated 311 000 deaths from cervical cancer every year, more than 85% occur in less developed regions.
Developed countries have adopted programmes enabling girls to be vaccinated against HPV and women to get screened regularly. Effective screening and early treatment help in identifying pre-cancerous lesions in the early stage which could be treated early preventing up to 80% of cervical cancers in these countries.
Cervical cancer is often not identified until it has

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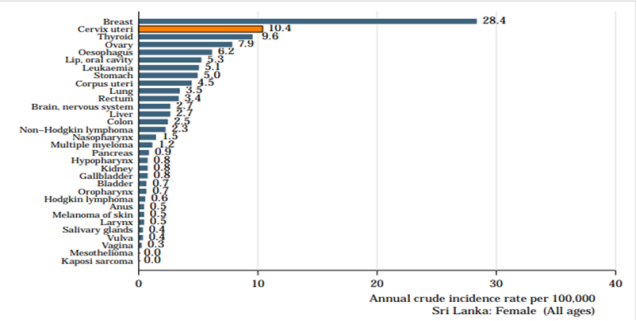
further advanced and symptoms develop in developing countries due to limited access to preventative measures. Limited access to treatment of late-stage disease as cancer surgery, radiotherapy and chemotherapy may result in a higher rate of death from cervical cancer in these countries.

The burden of HPV related cancer in Sri Lanka

According to the Human Papillomavirus and related cancers fact sheet 2018 ICO/IARC Information Centre on HPV and Cancer (https://hpvcentre.net/statistics/reports/LKA_FS.pdf) it is estimated that 8.21 million women aged 15 years and above are at risk of developing cervical cancer. Currently, it is estimated that 1136 women are diagnosed with cervical cancer while 643 die from the disease every year. Cervical cancer is the 2nd most common cancer among females while the 4th most frequent cancer among the 15 to 44 year old women. Comparison of cervical cancer incidence to other cancers in women of all ages in Sri Lanka (estimates for 2018) according to the human papillomavirus and related disease report Sri Lanka 2018 appears below.



According to the cancer incidence data of Sri Lanka in 2014 published by the National Cancer Control and Prevention crude incidence rate of HPV related cervical cancers are 9.8/100,000 women with the age standardisation being at 8.2/100,000 world population. According to the Human Papillomavirus and related cancers fact sheet 2018 ICO/IARC Information Centre on HPV and Cancer the crude mortality rate of cervical cancer is 5.9 /100,000 women with 4.2 age-standardized rate. Oropharyngeal cancer related to HPV has shown a crude incidence rate of 2.6/100,000 men and 0.7/100,000 women.

The Human Papillomavirus and related cancers fact sheet 2018 ICO/IARC Information Centre on HPV and Cancer states that the South Asia region is estimated that around 4.4% women in general population harbour the cervical HPV-16/18 infection at a given time. A research study done in the Gampaha district in Sri Lanka has shown the community prevalence rate of HPV infection among normal women as 3.3% with a prevalence rate of HPV genotype 16 and 18 as 1.2%. Prevalence of genotype 16 and 18 among cervical cancers account for 80%. The population risk attribution in developing cervical cancer by genotype 16 and 18 have accounted for 69% which is closely compatible with the global figure of 70%. (http://www.epid.gov.lk/web/images/pdf/HPV/hpv_reaserch_study_findings.pdf)

The research done by Gamage et al 2012 has indicated that to prevent one cervical cancer patient, the number of women needed to be screened was estimated as 1,739. The minimum cost required to screen 1,739 women for the prevention of one cervical cancer patient based was estimated at Rs. 535,925.00. Prevention of one cervical cancer attributed to HPV type 16 and 18 (through currently available vaccines) requires the vaccination of a minimum of 2,521 women before they commence sexual activity. The study had shown the importance of screening, especially for non-immune women.

Cervical cancer also causes a financial constraint to the government as well as the family. The research was done by Gamage et al 2012 estimated the minimum unit cost incurred by the government for management of cervical cancer stages 1a, 1b, and 11a which was the Radical hysterectomy [Werthime's hysterectomy] was SLR 13,670 and minimum unit cost of management of cervical cancer stages 11 b, 111 a, 111 b IV a, IV b, which were Chemo-radiation was SLR 23,340 during 2009 based on the rates calculated using government procurement, price and procedures. Considering the annual increasing treatment costs and the changes in treatment modalities, additional costs would be expected to the government every year. Additionally, un-estimated psychosocial and family burden caused by the premature death of the woman in the family needs to be accounted due to the highest cervical cancer incidence is in the active phase of the woman's life (40-49 years). Family, social and psychosocial agony due to cervical cancer, complications of treatment, recurrences and secondary cancers also need to be considered very important.

Compiled By :
Dr.T.D.Haputhanthri
Medical officer- Epidemiology Unit, Ministry of Health

Table 1 : Water Quality Surveillance
Number of microbiological water samples July 2019

District	MOH areas	No: Expected *	No: Received
Colombo	15	90	**60**
Gampaha	15	90	**NR**
Kalutara	12	72	**NR**
Kalutara NIHS	2	12	**NR**
Kandy	23	138	**NR**
Matale	13	78	**NR**
Nuwara Eliya	13	78	**NR**
Galle	20	120	**NR**
Matara	17	102	**NR**
Hambantota	12	72	**34**
Jaffna	12	72	**37**
Kilinochchi	4	24	**31**
Manner	5	30	**NR**
Vavuniya	4	24	**NR**
Mullatvu	5	30	**NR**
Batticaloa	14	84	**102**
Ampara	7	42	**NR**
Trincomalee	11	66	**NR**
Kurunegala	29	174	**108**
Puttalam	13	78	**48**
Anuradhapura	19	114	**NR**
Polonnaruwa	7	42	**61**
Badulla	16	96	**94**
Moneragala	11	66	**NR**
Rathnapura	18	108	**NR**
Kegalle	11	66	**28**
Kalmunai	13	78	**NR**

* No of samples expected (6 / MOH area / Month)
NR = Return not received

Table 1: Selected notifiable diseases reported by Medical Officers of Health 10th – 16th Aug 2019 (33rd Week)

RDHS Division	Dengue Fever		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Chickenpox		Meningitis		Leishmaniasis		WRCD	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**
Colombo	389	8441	1	35	0	8	0	15	0	50	1	145	0	8	0	7	0	0	4	328	0	35	0	4	**48**	**100**
Gampaha	362	6378	1	27	0	6	0	3	0	25	0	68	0	3	0	7	0	1	7	307	0	15	2	135	**51**	**98**
Kalutara	138	4003	2	55	0	6	0	15	0	56	6	364	0	4	0	4	0	1	9	481	3	78	0	3	**61**	**99**
Kandy	87	2415	3	78	0	10	0	3	0	14	1	52	0	69	0	3	0	2	3	192	0	46	1	36	**63**	**100**
Matale	10	378	1	21	0	3	0	0	0	6	1	40	0	5	0	6	0	2	2	65	0	4	3	159	**56**	**100**
NuwaraEliya	5	151	1	91	0	2	0	7	0	2	0	35	1	56	0	7	0	0	5	93	1	30	0	0	**26**	**100**
Galle	160	4269	0	35	0	7	0	3	0	5	2	286	1	32	0	37	0	0	6	316	1	37	0	3	**60**	**100**
Hambantota	49	1093	1	10	0	3	0	1	0	5	2	88	3	90	0	3	0	1	2	232	0	29	9	564	**73**	**100**
Matara	110	2026	1	17	0	4	0	2	0	13	2	258	1	29	0	16	1	1	11	221	0	14	4	378	**60**	**100**
Jaffna	19	2117	8	163	0	13	1	21	12	56	1	24	2	266	0	4	0	0	13	234	0	15	0	0	**23**	**93**
Kilinochchi	0	119	0	17	0	1	0	10	0	0	0	18	0	25	0	1	0	0	0	7	0	7	0	11	**49**	**100**
Mannar	0	78	0	3	0	1	0	8	0	1	0	1	0	8	0	0	0	0	0	0	0	1	0	1	**57**	**99**
Vavuniya	4	211	1	16	0	10	0	24	0	13	2	51	1	5	0	0	0	0	0	64	0	9	0	1	**55**	**100**
Mullaitivu	0	111	0	7	0	0	0	12	0	2	0	20	0	7	0	0	0	0	0	8	0	6	0	4	**30**	**89**
Batticaloa	22	1047	3	103	0	2	1	13	1	30	0	41	0	1	0	0	0	1	11	207	1	23	0	0	**51**	**100**
Ampara	7	171	2	52	0	2	0	0	0	8	0	32	0	1	0	10	0	0	7	215	1	8	0	4	**57**	**100**
Trincomalee	8	922	1	19	0	0	0	0	0	55	1	11	0	18	0	3	0	1	4	193	0	7	0	1	**31**	**100**
Kurunegala	55	1310	1	53	1	16	0	6	0	30	2	120	0	16	0	20	0	2	8	455	1	73	18	556	**59**	**100**
Puttalam	30	574	0	20	0	2	0	1	0	6	0	29	1	11	0	1	0	0	1	116	1	41	0	8	**60**	**100**
Anuradhapura	20	438	2	37	0	8	0	4	0	10	1	97	1	32	0	20	0	2	3	403	3	69	7	369	**41**	**100**
Polonnaruwa	14	245	0	21	0	2	0	1	0	1	0	60	0	4	0	16	0	2	7	242	1	15	8	204	**60**	**100**
Badulla	29	596	1	55	0	6	0	8	1	74	2	148	1	90	0	13	0	0	4	225	1	144	1	13	**62**	**100**
Monaragala	0	333	0	36	0	4	0	0	0	79	0	189	0	82	0	41	0	0	0	212	0	112	0	22	**60**	**94**
Ratnapura	74	1926	2	74	0	25	0	8	0	13	19	641	1	30	1	21	0	4	2	264	2	120	0	111	**45**	**100**
Kegalle	34	1094	1	32	0	17	0	2	1	28	3	158	2	42	2	86	0	0	7	341	2	41	2	31	**67**	**100**
Kalmune	4	573	1	55	0	1	0	1	17	55	1	26	0	3	0	4	0	0	3	176	1	17	0	0	**63**	**100**
SRILANKA	1630	41019	34	1132	1	159	2	168	32	637	47	3002	15	937	3	330	1	20	119	5597	19	996	55	2618	**54**	**99**

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 16th August , 2019 Total number of reporting units 353 Number of reporting units data provided for the current week: 333 C**-Completeness

A = Cases reported during the current week. **B** = Cumulative cases for the year.

Table 2: Vaccine-Preventable Diseases & AFP

10th – 16th Aug 2019 (33rd Week)

Disease	No. of Cases by Province									Number of cases during current week in 2019	Number of cases during same week in 2018	Total number of cases to date in 2019	Total number of cases to date in 2018	Difference between the number of cases to date in 2019 & 2018
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	01	02	00	00	00	03	01	50	39	28.2 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	02	03	01	00	01	02	00	00	00	09	06	232	230	0.8 %
Measles	00	00	00	00	01	00	01	00	00	02	03	225	84	167.8 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	00	04	0 %
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Tetanus	00	00	00	00	00	00	00	00	00	00	00	14	15	- 6.6 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Encephalitis	00	00	00	00	00	00	00	00	00	00	01	09	21	- 57.1 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	00	36	35	2.8 %
Tuberculosis	01	21	01	09	13	18	00	03	24	90	229	5345	5404	- 1.0 %

Key to Table 1 & 2

Provinces: **W**: Western, **C**: Central, **S**: Southern, **N**: North, **E**: East, **NC**: North Central, **NW**: North Western, **U**: Uva, **Sab**: Sabaragamuwa.

RDHS Divisions: **CB**: Colombo, **GM**: Gampaha, **KL**: Kalutara, **KD**: Kandy, **ML**: Matale, **NE**: Nuwara Eliya, **GL**: Galle, **HB**: Hambantota, **MT**: Matara, **JF**: Jaffna, **KN**: Killinochchi, **MN**: Mannar, **VA**: Vavuniya, **MU**: Mullaitivu, **BT**: Batticaloa, **AM**: Ampara, **TR**: Trincomalee, **KM**: Kalmunai, **KR**: Kurunegala, **PU**: Puttalam, **AP**: Anuradhapura, **PO**: Polonnaruwa, **BD**: Badulla, **MO**: Moneragala, **RP**: Ratnapura, **KG**: Kegalle.

Data Sources:

Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,

Special Surveillance: AFP* (Acute Flaccid Paralysis), Japanese Encephalitis

CRS =**Congenital Rubella Syndrome

NA = Not Available

Influenza Surveillance in Sentinel Hospitals - ILI & SARI

Month	Human				Animal		
	No Total	No Positive	Infl A	Infl B	Pooled samples	Serum Samples	Positives
August							

Source: Medical Research Institute & Veterinary Research Institute

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Comments and contributions for publication in the WER Sri Lanka are welcome. However, the editor reserves the right to accept or reject items for publication. All correspondence should be mailed to The Editor, WER Sri Lanka, Epidemiological Unit, P.O. Box 1567, Colombo or sent by E-mail to **chepid@sltnet.lk. Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication**

ON STATE SERVICE

Dr. SAMITHA GINIGE
DEPUTY EPIDEMIOLOGIST
EPIDEMIOLOGY UNIT
231, DE SARAM PLACE
COLOMBO 10