WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health, Nutrition & Indigenous Medicine

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Food safety

The world has certainly changed in the last few decades. It is now possible to source products and ingredients from around the globe without even thinking about it. However, with the great change come complex problems. Now as never before, we must be aware of potential contamination incidents and sources of contamination that may affect the safety and quality of our foods.

Food safety is about handling, storing and preparing food to prevent infection and help to make sure that our food keeps enough nutrients for us to have a healthy diet. This definition covers a number of ways that need to avoid food from potential health hazards. This includes industry to market and then from the market to the consumer.

Even though food safety is considered to be a basic human necessity, nowadays everyone is exposed to food borne health risks, more vulnerable being the poor. It is estimated that 2.2 million people mostly children die annually due to food and water borne diarrhoeal diseases which is the most common food borne disease.

Not only the consumers, food handlers too need to identify the importance of food safety and ways to ensure food safety because most of them do not have access to food safety education despite the important role they have in producing safe food for the community . Knowing how to grow and handle products safely, store and cook them properly, and make wise choices is absolutely vital to protect health.

Major food borne illnesses and causes

Food borne illness is caused by consuming contaminated foods or beverages. Many different disease-causing microbes or pathogens can contaminate foods. Unsafe food containing harmful bacteria, viruses, parasites or chemical substances, causes more than 200 diseases and there are many different types of food borne illnesses which can cause severe diarrhoea or debilitating infections including meningitis which may even lead to long lasting disability and death

Even though most food borne diseases are infections caused by a variety of bacteria, viruses, and parasites, there are diseases due to poisoning caused by harmful toxins or chemicals that have contaminated food. Examples of unsafe food include uncooked foods of animal origin, fruits and vegetables contaminated with faeces, raw shellfish containing marine biotoxins and any food item that is touched by a person who is ill with vomiting or diarrhoea, or who has recently had such an illness.

Most of the food borne pathogens can be acquired through drinking water, from contact with animals or their environment, or through person-to-person spread.

The incubation period for food borne diseases (the time between exposure to the pathogen and onset of symptoms) can range from several hours to 1 week.

Bacteria:

Salmonella, Campylobacter, and Enterohaemorrhagic Escherichia coli are among the most common food borne pathogens that affect millions of people annually – sometimes with severe and fatal outcomes. Symptoms due to food borne diseases are fever, headache, nausea, vomiting, abdominal pain and diarrhoea.

Examples: Food borne cases with *Campylobacter* are mainly caused by raw milk, raw or undercooked poultry and drinking water.

Enterohaemorrhagic Escherichia coli is associated with unpasteurized milk, undercooked meat and fresh fruits and vegetables.

Death of newborn babies and miscarriages in pregnant women can be caused by infection with Listeria. Even though the occurrence is relatively low, the infection can be severe, sometimes being to fatal health consequences, particularly among infants, children and the elderly and count them among the most serious food

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borne infections. The pathogen can be found in unpasteurized dairy products as well as various ready-to-eat foods. It also can grow at refrigeration temperatures.

Symptoms of Vibrio cholera infection which infects through contaminated food and water, include abdominal pain, vomiting and profuse watery diarrhoea, which may lead to severe dehydration and even death.

Antimicrobials are essential to treat infections caused by bacteria but antimicrobial resistance is one of the main threats to modern medicine.

Viruses:

Hepatitis A virus which spreads through raw/undercooked seafood can cause long-lasting liver disease. Food handlers are the main source food contamination and the disease is characterized by nausea, explosive vomiting, watery diarrhoea and abdominal pain.

Parasites:

Some parasites, such as fish-borne trematodes, *Echinococcusspp* and *Taeniasolium*, may infect people through food or direct contact with animals. *Ascaris, Cryptosporidium, Entamoebahistolytica* or *Giardia* can also enter the food through water or soil.

Prions:

Prions are infectious agents which are associated with specific forms of neurodegenerative disease. e.g.: mad cow disease. Consuming bovine products e.g. brain tissue is the most likely route of transmission to humans.

Chemicals:

When chemicals are present in foods at levels that can be hazardous to humans this type of hazards will occur. Contamination may occur through the environment (air, soil, water), Intentional use of chemicals, such as pesticides (fly sprays and rat poisons), manufacturing processes and also when addition of food additives.Out of them most concern for health are naturally occurring toxins and environmental pollutants.
Examples for naturally occurring toxins are mycotoxins, marine biotoxins, cyanogenic glycosides and toxins occurring in poisonous mushrooms. Foods like corn or cereals can contain high levels of mycotoxins, such as aflatoxin and ochratoxin which can affect the immune system, normal development and will cause cancer.

There are compounds known as persistent organic pollutants (POPs) which are unwanted byproducts of industrial processes and waste incineration and will accumulate in the environment and human body through food chains. Known examples are dioxins and polychlorinated biphenyls (PCBs). Dioxins are highly toxic and can cause reproductive and developmental problems, damage the immune system, interfere with hormones and may even cause cancer.

Contamination with heavy metals (lead, cadmium and mercury) in food occurs mainly through pollution of air, water and soil and may cause neurological and kidney problems

The burden of food borne diseases

Diarrhoeal diseases are the most common illnesses resulting from the consumption of contaminated food, causing 550 million people to fall ill and 230 000 deaths every year. This number could be underestimated due to underreporting and difficulty to establish causal relationships between food contamination and resulting illness or death.

WHO has introduced the following five key areas to keep food safe which be can used by all of us.

1. Keep clean
2. Separate raw and cooked
3. Cook thoroughly
4. Keep food at safe temperatures
5. Use safe water and raw materials

Implementation of food safety in Sri Lanka

Food Act No 26 of 1980 which controls manufacture, importation, transport, sale, distribution, advertisement & labelling of food. Medical Officers of Health, Public Health Inspectors and Food and Drug inspectors are the Authorized Officers under the food act. These authorized officers have powers to arrest persons who commit offences under the act without a warrant. All stakeholders need to contribute and improve food safety throughout the food chain. In addition, we as health sector personnel can empower food handlers in preventing food borne diseases, make safe and informed choices, and have a voice to push for a safer food supply.

Sources:

Foodsafety,availableathttp://www.qualityassociation.org/info center.
www.who.int/mediacentre/factsheets/fs399/en/

Compiled by Dr. A.M.U.Prabha Kumari of the Epidemiology Unit.

Table 1: Selected notifiable diseases reported by Medical Officers of Health 23th– 29th Sep 2017 (39thWeek)

RDHS Division	Dengue Fever		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Chickenpox		Meningitis		Leishmania-sis		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	185	30718	5	50	0	3	0	25	0	32	3	106	0	2	0	14	0	0	11	305	0	25	0	1	**21**	**94**
Gampaha	162	28571	1	29	0	13	0	16	0	8	0	50	0	12	0	14	0	1	3	229	0	25	1	3	**7**	**100**
Kalutara	90	9550	0	48	0	3	0	16	1	52	14	275	0	7	1	9	0	1	3	445	3	123	0	1	**2**	**100**
Kandy	182	11746	1	61	1	5	1	7	0	10	1	43	3	112	1	12	0	1	4	212	0	34	0	11	**13**	**100**
Matale	22	2565	1	19	0	4	0	1	0	10	0	30	0	2	0	7	0	0	0	42	0	52	0	6	**12**	**100**
NuwaraEliya	3	804	2	23	0	8	0	31	0	53	2	47	0	156	0	18	0	0	0	264	1	38	0	0	**58**	**100**
Galle	36	5458	0	44	0	13	1	19	0	16	16	291	3	59	0	5	0	1	3	329	3	61	0	1	**17**	**100**
Hambantota	51	2979	0	21	0	7	0	7	0	24	0	43	4	62	1	9	0	1	7	173	0	19	17	315	**10**	**100**
Matara	64	5794	2	32	0	8	0	3	8	13	7	174	0	23	2	8	0	1	3	196	1	7	5	126	**10**	**100**
Jaffna	97	4061	23	275	1	19	0	31	1	55	1	28	3	411	0	3	0	0	5	170	0	34	0	0	**42**	**88**
Kilinochchi	5	441	3	22	0	1	0	11	0	1	0	4	0	14	0	2	0	0	0	3	0	10	0	3	**24**	**100**
Mannar	0	507	1	7	0	0	0	2	0	1	0	2	0	2	0	0	0	0	0	14	0	0	0	0	**15**	**100**
Vavuniya	16	787	1	18	0	0	1	64	0	6	0	26	0	9	0	7	0	0	2	31	0	3	0	9	**12**	**100**
Mullaitivu	7	314	3	15	0	3	0	4	0	5	0	18	0	4	0	1	0	1	0	16	0	5	0	1	**8**	**100**
Batticaloa	21	4639	7	115	1	9	2	15	1	23	0	22	0	0	0	4	0	1	0	157	0	27	0	1	**23**	**100**
Ampara	17	800	10	32	0	2	0	1	0	1	0	16	0	1	0	4	0	0	0	164	1	39	0	4	**33**	**100**
Trincomalee	20	4713	4	26	0	2	0	12	0	21	4	23	0	12	0	17	0	0	1	139	1	22	0	10	**19**	**100**
Kurunegala	73	9592	6	73	0	10	0	3	0	53	1	59	0	24	0	18	1	3	6	427	0	64	2	129	**11**	**100**
Puttalam	89	5168	4	44	0	2	0	2	0	9	0	25	0	11	0	1	0	0	3	126	0	40	0	3	**10**	**100**
Anuradhapur	18	2492	0	32	0	3	0	1	1	13	3	62	1	16	0	13	0	1	8	336	1	63	5	201	**7**	**100**
Polonnaruwa	12	1216	0	16	0	5	0	9	2	8	0	36	0	7	0	8	0	0	4	195	4	18	2	112	**4**	**100**
Badulla	44	3231	3	92	0	8	0	8	0	5	9	105	2	103	0	53	0	1	7	320	10	178	0	13	**7**	**100**
Monaragala	41	2262	1	63	0	3	0	1	0	9	0	115	3	113	1	18	0	1	1	81	1	63	0	17	**28**	**100**
Ratnapura	123	10470	2	134	0	78	0	12	0	8	20	507	0	27	2	68	0	0	3	251	1	138	1	21	**10**	**100**
Kegalle	103	8775	0	33	0	11	0	5	0	21	2	84	2	65	0	12	0	0	4	242	0	60	1	10	**10**	**100**
Kalmune	17	2208	7	88	0	6	0	4	0	284	0	9	0	0	1	3	0	0	2	127	2	28	0	0	**12**	**100**
SRILANKA	**1498**	**159861**	**87**	**1412**	**3**	**226**	**5**	**310**	**14**	**741**	**83**	**2200**	**21**	**1254**	**9**	**328**	**1**	**14**	**80**	**4994**	**29**	**1176**	**34**	**998**	**16**	**99**

Source: esurveillance.epid.gov.lk

*T=Timeliness refers to returns received on or before 29thSeptembert , 2017 Total number of reporting units 344 Number of reporting units data provided for the current week: 341C**-Completeness

Table 2: Vaccine-Preventable Diseases & AFP

23rd– 29th Sep 2017 (39thWeek)

Disease	No. of Cases by Province									Number of cases during current week in 2017	Number of cases during same week in 2016	Total number of cases to date in 2017	Total number of cases to date in 2016	Difference between the number of cases to date in 2017 & 2016
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	00	00	00	00	00	00	01	50	53	- 5.6%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Mumps	01	00	02	01	00	02	00	00	00	06	05	243	301	- 19.2%
Measles	01	00	00	00	00	00	00	01	00	03	03	174	329	- 47.1%
Rubella	00	00	00	00	00	00	00	01	00	01	00	10	08	25.0%
CRS**	00	00	00	00	00	00	00	00	00	00	00	01	00	0%
Tetanus	00	00	00	00	00	00	00	00	00	00	00	16	08	100%
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	00	21	15	40%
Whooping Cough	00	00	00	01	00	00	00	00	00	01	02	18	54	- 66.7%
Tuberculosis	32	39	20	16	02	20	00	03	09	141	107	6261	7013	-10.7%

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

Dengue Prevention and Control Health Messages

Look for plants such as bamboo, bohemia, rampe and banana in your surroundings and maintain them

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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

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