



WEEKLY EPIDEMIOLOGICAL REPORT

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

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Vol. 49 No. 47

19th – 25th Nov 2022

Infection and infertility

Infertility is a disease in the male or female reproductive system defined by the failure to achieve a pregnancy after 12 months or more of regular unprotected sexual intercourse. It could be primary or secondary. Primary infertility is the inability to achieve conception at all and secondary infertility is the inability to conception after having a previously successful conception. It is a global health issue affecting millions of lives all over the world.

According to the WHO estimates, there are about 48 million couples and 186 million individuals suffering from infertility.

Causes of infertility

Infertility can occur due to male factors, female factors, or a combination of male and female factors and may be unexplained.

Infections as a cause of infertility

Numerous studies have proven that there is a clear association between infections and infertility. And also there is evidence that it is influenced by genetic predisposition as well. Several viral, bacterial, and parasites are pathogens that have been proven to cause infertility. Some of them are sexually transmitted diseases. A few examples are here,

Viruses

- Mumps- At the very beginning of infection, the virus attacks the testes, destroying the testicular parenchyma and reducing androgen production. Therefore about 30% of males affected by mumps orchitis develop infertility.
- Human papillomavirus- It is a sexually transmitted virus. According to studies, it causes reduced sperm motility and changes the semen PH value. Hence, develops male infertility.
- Herpes simplex virus- is a proven cause of infertility for both males and females. In one study, there was a 6.3% of positivity rate for HSV among 279 females who were attending an infertility clinic. In another study, there was a 12% of HSV positivity rate among infertile men.

Bacteria

- Chlamydia trachomatis – is the most common sexually transmitted infection all over the world. Chlamydia infections cause great medical, economic, and even social problems. The establishment of a causal relationship between chlamydia and male infertility would have important effects on public health. But is more harmful to women's fertility rather than men's. It results in pelvic inflammatory disease in females. Consequently, the tubal blockage could occur. It is a significantly preventable infection.
- Neisseria gonorrhoea – also an STI. Proven to cause salpingitis and infertility

Parasites

- Toxoplasma gondii – is a zoonotic parasite. Zhou et al. found that Toxoplasma infection in infertile human couples was higher than that in fertile ones. It may be related to the anti-sperm antibodies that were higher in infected human couples. And also many other studies have established a relationship between T.Gondii infection and male fertility.

The impact of infections and infertility

Every human being has the right to enjoy the highest attainable physical and mental health levels. Individual couples have the right to decide on having children, the number of children, and the spacing of their children. Therefore couples with infertility have the right to address their issues and get treatment.

Equity should be maintained for all the people who seek fertility treatment/ infection treatment like married couples, older persons, individuals who are not having sexual relationships, people with medical conditions, disabled people, and cancer survivors. Other disparities in to access fertility service care like poverty, marital status, unemployment, education level, and minor population should be overcome.

There are significant negative impacts of infertility on couples, the community, and the economy.

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SRI LANKA 2022

NOVEMBER

STIs have a direct impact on sexual and reproductive health through stigmatization, infertility, and pregnancy complications and can increase the risk of HIV. Drug resistance is a major threat to reducing the burden of STIs worldwide.

Addressing infertility may mitigate gender inequality. Although, either women or men can be infertile, the woman is perceived as infertile if her partner is a man in most instances. Further, women are at greater risk of violence, divorce, social stigma, stress, depression, anxiety, and low self-esteem when they are infertile. In some settings, fear of infertility can deter women and men from using contraception if they feel socially pressured to prove their fertility at an early age because of the high social value of childbearing. In that situation, they should be educated about the determinants of fertility and infertility such as infections.

And also the stigma of people with STDs has a great impact on infertility. Because people don't seek early treatment for infections that can lessen the damage to testicles and fallopian tubes. Therefore, more chance to get sterility following genital tract infections.

On the other hand, infertility and infections have a negative impact on the economy also. Couples have to spend money on treatments that are quite expensive.

Addressing challenges

Some genital tract infections are silent and difficult to detect. Therefore it might damage the reproductive tract without knowing. And also it will transmit to the sexual partner too. Diagnosis of STIs also can be missed. While the high-economic countries have widely available screening and diagnosing methods for these infections, middle- and low-income countries may not have. Even available it is often not accessible and affordable. In most countries, availability, access, and quality of intervention and treatments remain a challenge. Infertility is not yet prioritized in national health policies and reproductive health strategies in most parts of the world. And also the treatments and diagnostic procedures are rarely covered through public health financing. Moreover, a lack of trained personnel and the necessary equipment and infrastructure, and the currently high costs of treatment medicines, are major barriers even for countries that are actively addressing the needs of people with infertility.

Currently, assisted reproduction technologies are largely unavailable, inaccessible, and unaffordable, particularly in low- and middle-income countries, even though they were developed and available for more than 3 decades. Roughly, more than 5 million children are born worldwide from assisted reproduction technologies.

Prevention and actions that needed to be taken to overcome infertility

- Making government policies to mitigate the many inequalities in access to safe and effective infection treatments and fertility care
- Establishing health policies to recognize that infertility is a disease that can be prevented, thereby reducing the need for costly and poorly accessible treatments
- Incorporating fertility awareness in national comprehensive sexuality education programmes, promoting healthy lifestyles to reduce behavioural risks, including prevention, diagnosis, and early treatment of STIs, preventing complications of unsafe abortion, postpartum sepsis, and abdominal/pelvic surgery, and addressing environmental toxins associated with infertility, are policy and programmatic interventions that all governments can implement. Despite considerable efforts to identify simple interventions that can reduce risky sexual behaviour, behaviour change remains a complex challenge.
- Enabling laws and policies that regulate 3rd party reproduction and ART to ensure universal access without discrimination and to protect and promote the human

rights of all parties involved.

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References

[https://www.nhs.uk/conditions/infertility/#:~:text=Infertility%20is%20when%20a%20couple,every%20%20or%203%20days\).](https://www.nhs.uk/conditions/infertility/#:~:text=Infertility%20is%20when%20a%20couple,every%20%20or%203%20days).)
<https://www.cdc.gov/reproductivehealth/infertility/publichealth.htm>
<https://www.who.int/news-room/fact-sheets/detail/infertility>

**Table 1 : Water Quality Surveillance
Number of microbiological water samples October 2022**

District	MOH areas	No: Expected *	No: Received
Colombo	15	90	NR
Gampaha	15	90	NR
Kalutara	12	72	NR
Kalutara NIHS	2	12	NR
Kandy	23	138	NR
Matale	13	78	0
Nuwara Eliya	13	78	NR
Galle	20	120	NR
Matara	17	102	NR
Hambantota	12	72	NR
Jaffna	12	72	NR
Kilinochchi	4	24	NR
Manner	5	30	3
Vavuniya	4	24	53
Mullatvu	5	30	NR
Batticaloa	14	84	NR
Ampara	7	42	35
Trincomalee	11	66	NR
Kurunegala	29	174	NR
Puttalam	13	78	NR
Anuradhapura	19	114	NR
Polonnaruwa	7	42	20
Badulla	16	96	NR
Moneragala	11	66	NR
Rathnapura	18	108	NR
Kegalle	11	66	4
Kalmunai	13	78	0

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

Table 1: Selected notifiable diseases reported by Medical Officers of Health 12th- 18th Nov 2022 (46th Week)

RDHS	Dengue Fever		Dysentery		Encephaliti		Enteric Fever		Food Poi-		Leptospirosis		Typhus		Viral Hepa-		Human		Chickenpox		Meningitis		Leishmania-		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	71	11719	1	8	0	4	0	1	0	7	10	225	0	1	0	5	0	2	1	50	2	13	0	4	17	98
Gampaha	76	8077	0	6	0	1	0	1	0	13	9	275	0	1	0	13	0	4	5	71	1	39	0	37	5	87
Kalutara	48	3967	1	37	0	1	0	2	0	6	20	478	0	4	0	9	0	4	6	117	1	32	1	3	2	7
Kandy	82	5008	1	24	0	1	0	4	0	13	7	187	0	35	0	8	0	0	4	87	0	14	1	45	13	100
Matale	42	1197	1	11	0	0	0	0	0	0	6	112	1	7	1	8	0	1	3	50	0	1	4	310	21	100
NuwareEliya	5	218	1	30	0	4	0	4	0	7	0	89	0	24	0	7	0	0	1	45	1	8	0	1	29	92
Galle	34	3329	1	14	0	1	0	1	0	1	16	514	3	40	0	6	0	0	4	85	2	27	0	0	15	100
Hambantota	21	1497	0	33	1	1	0	0	1	3	16	257	0	55	0	7	0	0	2	52	2	19	9	510	19	100
Matara	19	1621	0	14	0	2	0	1	1	9	9	296	0	18	0	3	0	0	1	56	0	8	3	238	34	100
Jaffna	79	3149	8	133	0	3	1	73	2	74	1	27	4	524	0	8	0	4	2	113	2	17	0	1	68	93
Kilinochchi	2	122	0	8	0	0	0	3	0	24	1	12	0	12	0	0	0	0	1	5	0	5	0	2	23	100
Mannar	15	229	0	6	0	0	0	1	0	0	4	33	1	8	0	2	0	0	0	7	0	18	0	0	18	80
Vavuniya	2	87	0	4	0	1	0	2	0	2	0	19	0	1	0	0	0	0	0	31	0	0	0	4	2	99
Mullaitivu	2	64	1	7	0	0	0	2	0	6	2	33	0	6	0	0	0	0	1	11	1	3	0	2	21	97
Batticaloa	13	1159	2	88	0	11	0	0	2	24	1	47	0	0	0	1	0	1	5	44	0	32	0	2	41	97
Ampara	2	164	3	17	0	2	0	0	0	22	6	106	0	1	0	2	0	0	0	52	0	41	0	15	10	100
Trincomalee	6	1105	0	26	0	0	0	1	0	2	2	37	0	3	0	4	0	0	4	51	0	10	0	8	14	98
Kurunegala	29	2503	0	25	2	4	0	0	0	4	47	250	1	37	2	6	0	3	2	112	4	48	6	457	11	99
Puttalam	49	2229	0	6	0	1	0	1	0	0	0	49	0	9	0	1	0	0	2	25	2	33	0	6	17	91
Anuradhapur	7	443	0	13	0	3	0	1	0	7	6	186	0	29	0	5	0	2	3	73	0	48	12	385	10	95
Polonnaruwa	0	143	2	8	0	1	0	0	0	2	0	109	0	1	0	5	0	0	2	25	0	5	14	480	17	94
Badulla	62	1170	2	28	0	3	0	1	0	14	4	253	1	64	4	155	0	0	4	67	0	21	1	29	22	100
Monaragala	5	484	0	10	0	2	0	4	0	22	2	283	0	35	0	62	0	0	0	68	1	67	6	154	13	98
Ratnapura	22	2731	0	51	0	6	0	3	0	35	20	980	2	24	3	29	0	1	3	82	5	74	6	195	15	94
Kegalle	28	2797	0	15	0	8	1	3	0	8	30	591	0	23	0	11	0	0	3	113	1	49	0	23	11	98
Kalmune	41	1194	0	31	0	1	0	3	0	6	2	31	0	1	0	1	0	0	0	75	0	36	0	0	31	99
SRI LANKA	76	56406	24	653	3	61	2	112	6	311	22	5479	13	963	10	358	0	22	59	1567	25	668	63	2911	19	96

Source: Weekly Returns of Communicable Diseases (esurveillance.epid.gov.lk). T=Timeliness refers to returns received on or before 18th Nov , 2022 Total number of reporting units 357 Number of reporting units data provided for the current week 280 C**=Completeness

Table 2: Vaccine-Preventable Diseases & AFP

12th– 18th Nov 2022 (46th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2022	Number of cases during same week in 2021	Total number of cases to date in 2022	Total number of cases to date in 2021	Difference between the number of cases to date in 2022 & 2021
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	01	00	01	00	00	00	00	00	01	03	04	73	60	21.6 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	00	01	00	01	01	00	00	00	00	03	01	84	64	31.2 %
Measles	02	01	00	01	00	00	00	00	00	04	02	31	13	138.4%
Rubella	00	00	00	00	00	00	00	00	00	00	00	00	00	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	01	05	05	0 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Encephalitis	00	00	00	00	01	00	00	00	00	01	00	10	04	150 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	00	01	00	0 %
Tuberculosis	00	08	04	05	12	15	09	00	01	54	83	6004	4481	33.9 %

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
November							

Source: Medical Research Institute & Veterinary Research Institute

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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