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Dementia: a global health priority

Dementia is a progressive chronic syndrome in which there is a deterioration of the cognitive function beyond what might be expected from normal ageing. It affects memory, thinking and social functions severe enough to affect the daily functions of the person.

Cognitive changes include memory loss, difficulty in communication, difficulty in thinking and problem solving, difficulty in handling complex tasks etc. The impairment in cognitive function is commonly accompanied, by deterioration in emotion and behaviour, including personality changes, depression, anxiety, paranoia, agitation and hallucinations.

The syndrome of dementia may be caused by various underlying diseases, each characterized by a specific group of signs. Alzheimer's disease (AD) is the most prevalent cause of dementia which is a neurodegenerative disorder. The second most prevalent cause of dementia is vascular dementia (VaD), which may be caused by various types of vascular pathology in the brain, such as "large vessel" (large territorial or strategical infarctions) and "small vessel" (lacunes and white matter hyperintensities) disease. Other frequent causes of dementia include frontotemporal lobar degeneration and dementia with Lewy bodies.

Dementia is one of the major causes of disability and dependency among older people worldwide. It is overwhelming not only for the people who have it, but also for their carers and families. There is often a lack of awareness and understanding of dementia, resulting in stigmatization and barriers to diagnosis and care. The impact of dementia on carers, family and societies can be physical, psychological, social and economic.

Epidemiology

Worldwide, around 50 million people have dementia, estimated to reach 75.63 million in 2030 and 135.46 million in 2050 which shows that the burden of dementia will be tripled over next 30 years. Nearly 60% of people with dementia are living in low- and middle-income countries. Every year, there are nearly 10 million new cases.

The estimated proportion of the general population aged 60 and over with dementia at a given time is between 5 to 8 per 100 people.

Numbers of new cases have increased and then declined with increasing age in each region; in Europe and the Americas peak incidence is among those aged 80-89 years, in Asia it is among those aged 75-84, and in Africa among those aged 70-79. Population ageing is the main driver of projected increases. Since population ageing is occurring at an unprecedentedly fast rate in low- and, particularly, middle-income countries, the bulk of the increase in numbers through to 2050 will occur in those regions. The net effect is to further reduce the variation in prevalence between world regions.
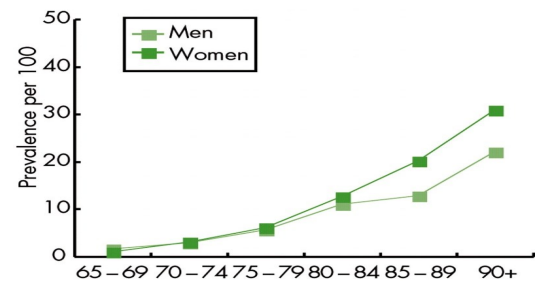
Signs and symptoms

Figure 1 Prevalence of Dementia by age and sex

Dementia affects each person in a different way, depending upon the impact of the disease and the person's personality before becoming ill. The signs and symptoms linked to dementia can be understood in three stages.

Early stage: the early stage of dementia is often overlooked, because the onset is gradual. Common symptoms are forgetfulness, losing track of the time, becoming lost in familiar places.

Middle stage: as dementia progresses to the middle stage, the signs and symptoms become clearer and more restricting. Symptoms include becoming forgetful of recent events and people's names, becoming lost at home, having increasing difficulty with communication, needing help with personal care, experiencing behaviour changes, including wandering and repeated questioning.

Late stage: the late stage of dementia is one of near total dependence and inactivity. Memory disturbances are serious and the physical signs and symptoms become more obvious. Symptoms are becoming unaware of the time and place, having difficulty recognizing relatives and friends, having an increasing need for assisted self-care, having difficulty walking, experiencing behaviour changes that may escalate and include aggression.

The global economic cost of dementia

The estimated annual global cost of dementia is US$ 818 billion, equivalent to more than 1% of

Contents	Page

global gross domestic product. The total cost includes direct medical costs and indirect medical cost including social care and informal care (loss of income of care givers). The costs are driven mainly by social care needs; health care costs account for a small proportion of the total, given the low diagnosis rate, limited therapeutic options, and the underutilization of existing evidence-based interventions.

By 2030, the cost is expected to have more than doubled, to US$ 2 trillion, a cost that could undermine social and economic development and overwhelm health and social services, including long-term care systems.

Low-income countries accounted for just under 1% of total worldwide costs (but 14% of the prevalence of dementia), middle-income countries for 10% of the costs (but 40% of the prevalence of dementia) and high-income countries for 89% of the costs (but 46% of the prevalence of dementia).
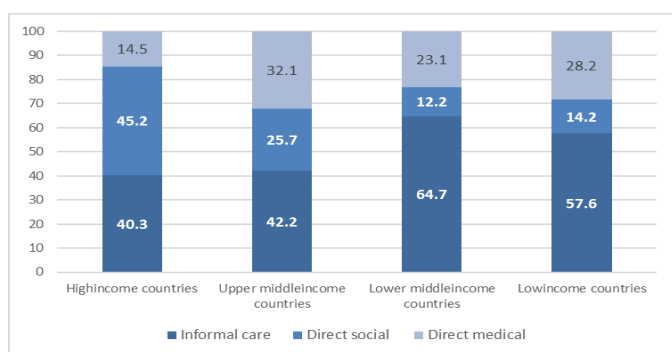
Figure 2 Distribution of global societal costs of dementia, by country income status.

In all world regions, informal care provided by family, friends and the community is the cornerstone of the care system. In LAMIC these informal care costs predominate, accounting for 58% of all costs in low-income and 65% of all costs in middle-income countries, compared with 40% in high-income countries. Conversely, in high-income countries, the direct costs of social care (professional care in the community, and the costs of residential and nursing home care) account for the largest element of costs – 42%, compared with only 14% in LAMIC where such services are not generally available.

Impact on families and carers

Dementia is overwhelming for the families of affected people and for their carers. Physical, emotional and economic pressures can cause great stress to families and carers, and support is required from the health, social, financial and legal systems.

In LAMIC, high dependency rates of both youngsters and elderly persons, there is a high economic burden on family caregivers. Typically, around a fifth of caregivers have cut back on paid work, and paid care workers are becoming common in some cities, adding to the economic burden. Moreover, compensatory benefits are practically non-existent.

Risk factors and prevention

Although age is the strongest known risk factor for dementia, it is not an inevitable consequence of ageing. Further, dementia does not exclusively affect older people – young onset dementia (defined as the onset of symptoms before the age of 65 years) accounts for up to 9% of cases. Some research has shown a relationship between the development of cognitive impairment and lifestyle related risk factors that are shared with other non-communicable diseases. These risk factors include physical inactivity, obesity, unhealthy diets, tobacco use and harmful use of alcohol, diabetes, and midlife hypertension. Additional potentially modifiable risk factors include depression, low educational attainment, social isolation, and cognitive inactivity.

It is well known that brain changes typically begin years before people show symptoms of dementia, which suggests a window of opportunity to prevent or delay the onset of these conditions. Though several interventions have been suggested for the public health to prevent or delay the onset of dementia, those interventions are yet to be proven clinically and epidemiologically. A systematic review done by Agency for Healthcare Research and Quality, United States, identified no specific interventions that are supported by sufficient evidence to justify mounting a firm public health campaign to encourage people to adopt them for preventing dementia. The systematic review did, however, find some degree of support for the benefit of three classes of intervention:

1. cognitive training
2. blood pressure management in people with hypertension,
3. increased physical activity.

WHO response for Dementia

WHO has recognized dementia as a public health priority. In May 2017, the World Health Assembly has endorsed the Global action plan on the public health response to dementia 2017-2025. The Plan provides a comprehensive blueprint for action – for policy-makers, international, regional and national partners.

An international surveillance platform, the Global Dementia Observatory, has been established for policy-makers and researchers to facilitate monitoring and sharing of information on dementia policies, service delivery, epidemiology and research.

WHO has developed iSupport for dementia (https://www.isupportfordementia.org/en), an e-health solution that provides information and skills training for carers of people living with dementia. The first study of the usability and effectiveness of iSupport is taking place in India.

Dementia is also one of the priority conditions in the WHO Mental Health Gap Action Programme (mhGAP), which aims to scale-up care for mental, neurological and substance use disorders, particularly in low- and middle-income countries.

A range of actions has to be taken from public health sector to improve care and services for people with dementia and their caregivers. Public awareness-raising and advocacy to the relevant authority and stakeholders, developing and implementing dementia policies and plans, health system strengthening to cope the current and future needs of dementia including medical and supportive services, capacity-building, supporting caregivers and research are some of the main areas to be strengthened. Same time the actions need to be context-specific and culturally relevant.

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Table 1: Selected notifiable diseases reported by Medical Officers of Health   16th– 22nd Sep 2017 (38thWeek)

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	216	30533	0	45	0	3	0	25	1	32	7	103	0	2	0	14	0	0	3	294	2	25	0	1	21	94
Gampaha	196	28409	2	28	0	13	0	16	0	8	2	50	0	12	0	14	0	1	5	226	0	25	0	2	6	100
Kalutara	63	9460	1	48	0	3	0	16	0	51	16	261	1	7	2	8	0	1	7	442	6	120	0	1	2	100
Kandy	198	11564	0	60	0	4	1	6	0	10	1	42	4	109	0	11	0	1	15	208	2	34	0	11	13	100
Matale	32	2543	1	18	0	4	0	1	1	10	0	30	0	2	0	7	0	0	2	42	1	52	1	6	12	100
NuwaraEliya	9	801	1	21	0	8	0	31	0	53	0	45	2	156	0	18	0	0	1	264	1	37	0	0	57	100
Galle	81	5422	0	44	0	13	0	18	0	16	16	275	2	56	0	5	0	1	4	326	2	58	0	1	17	100
Hambantota	55	2928	2	21	0	7	4	7	4	24	0	43	4	58	0	8	0	1	10	166	0	19	5	298	10	100
Matara	88	5730	0	30	0	8	0	3	0	5	8	167	2	23	0	6	0	1	4	193	0	6	4	121	9	100
Jaffna	64	3964	11	252	0	18	0	31	0	54	1	27	2	408	0	3	0	0	4	165	0	34	0	0	42	88
Kilinochchi	1	436	2	19	0	1	0	11	0	1	0	4	0	14	0	2	0	0	0	3	0	10	0	3	25	100
Mannar	0	507	1	6	0	0	0	2	0	1	0	2	0	2	0	17	0	0	0	14	0	0	0	0	15	100
Vavuniya	12	771	0	17	0	0	3	63	0	6	0	26	0	9	0	7	0	0	9	29	1	3	3	9	13	100
Mullaitivu	4	307	1	12	0	3	0	4	0	5	1	18	0	4	0	1	0	1	0	16	0	5	0	1	8	100
Batticaloa	23	4618	10	108	0	8	0	13	2	22	0	22	0	0	0	4	0	1	6	157	4	27	0	1	23	100
Ampara	10	783	1	22	0	2	0	1	0	1	0	16	0	1	0	4	0	0	1	164	2	38	0	4	32	100
Trincomalee	13	4693	0	22	0	2	0	12	0	21	0	19	0	12	0	17	0	0	2	138	1	21	2	10	19	100
Kurunegala	92	9519	2	67	0	10	0	3	8	53	4	58	0	24	0	18	0	2	9	421	1	64	3	127	11	100
Puttalam	61	5079	3	40	0	2	0	2	0	9	0	25	0	11	0	1	0	0	2	123	0	40	0	3	10	100
Anuradhapur	10	2474	0	32	0	3	0	1	0	12	1	59	0	15	0	13	0	1	4	328	2	62	2	196	7	100
Polonnaruwa	7	1204	1	16	0	5	0	9	0	6	1	36	0	7	0	8	0	0	3	191	2	14	2	110	4	100
Badulla	53	3187	7	89	0	8	1	8	0	5	4	96	8	101	0	53	0	1	4	313	7	168	0	13	7	100
Monaragala	67	2221	8	62	0	3	0	1	0	9	4	115	5	110	0	17	0	1	5	80	2	62	1	17	28	100
Ratnapura	102	10347	1	132	2	78	2	12	0	8	13	487	1	27	0	66	0	0	6	248	1	137	0	20	10	100
Kegalle	102	8672	0	33	0	11	1	5	3	21	5	82	3	63	0	12	0	0	8	238	1	60	0	9	10	100
Kalmune	29	2191	4	81	0	6	0	4	0	284	0	9	0	0	0	2	0	0	2	125	3	26	0	0	12	100
SRILANKA	**1588**	**158363**	**59**	**1325**	**3**	**223**	**8**	**305**	**19**	**727**	**84**	**2117**	**34**	**1233**	**2**	**319**	**0**	**13**	**108**	**4914**	**41**	**1147**	**18**	**964**	**15**	**99**

Source: esurveillance.epid.gov.lk

*T=Timeliness refers to returns received on or before 22nd September, 2017 Total number of reporting units 344 Number of reporting units data data provided for the current week: 341 **C****-Completeness

Table 2: Vaccine-Preventable Diseases & AFP   16th– 22nd Sep 2017 (38thWeek)

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	52	- 3.8%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Mumps	01	00	01	00	01	00	00	02	00	05	01	237	293	- 19.1%
Measles	00	00	00	01	00	00	00	00	00	01	01	172	324	- 46.9%
Rubella	00	00	00	00	00	00	00	00	00	00	01	09	08	12.5%
CRS**	00	00	00	00	00	00	00	00	00	00	00	01	00	0%
Tetanus	02	00	00	00	00	00	00	00	00	02	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	03	00	00	00	00	00	00	00	00	03	00	17	52	- 67.3%
Tuberculosis	62	06	14	02	11	10	00	06	05	116	140	6120	6906	-11.3%

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

Number of Malaria Cases Up to End of September 2017,

06

All are Imported!!!

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**

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