WEEKLY EPIDEMIOLOGICAL REPORT

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

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WEER SRI LANKA 2021

Vol. 48 No. 19 **01st – 07th May 2021**

Physical Inactivity – Part iii

This section explains evidence related to different factors influencing physical activity (PA) and how different chronic non-communicable diseases are being affected by it. In addition to social and individual factors for physical activity elaborated here, this provides current literature on how government policies and urban designs do support increased activities among local citizens of the states.

Research evidence for the effect of a sedentary lifestyle and less physical activity for ischaemic heart diseases

It is a fact of not having adequate physical activities lead to making individuals more at risk for heart diseases. Any level of physical activity during leisure time is consistently associated with a lower risk for acute myocardial infarction. A systemic review and meta-analysis of Association of all-cause and cardiovascular mortality and 33 studies: 883 372 participants Follow-up: 4-20 years Risk reduction: 35 % cardiovascular mortality, 33% all-cause mortality (Nocon, 2008).

Research evidence for the effect of a sedentary lifestyle and less physical activity for diabetes Mellitus

ACSM/ADA-2016 recommendation for physical activity in the treatment of Type 2 Diabetes Mellitus (DM)

1. Persons with type 2 DM should undertake at least 150min/week of moderate to vigorous aerobic exercise spread out during at least 3 days during the week, with no more than 2 consecutive days between bouts of aerobic activities.
2. In addition to aerobic training, a person with type 2 DM should undertake moderate to vigorous resistance training at least 2-3 days/ week
3. Supervised and combined aerobic and resistance training may confer additional health benefits, although milder forms of PA (such as yoga) have shown mixed results.
4. Persons with type 2 DM are encouraged to increase their total daily unstructured PA. Flexibility training may be included but should not be undertaken in place of other recommended types of PA.

Strong evidence indicates that physical activity helps to prevent type 2 diabetes; the risk for active people is about 30% lower than that for inactive people. Both moderate- and vigorous-intensity physical activity reduce the risk but must be taken regularly (WHO-Europe).

Research evidence for the effect of a sedentary lifestyle and less physical activity for Cancer

Physical activity is well revealed it's associated with a reduction in the overall risk of cancer. Numerous studies have shown the protective effect of physical activity on the risk of colon cancer. The risk for active people is around 40% lower. Physical activity is also associated with a reduced risk of breast cancer among post-menopausal women, and some evidence shows that vigorous activity may provide a protective effect against prostate cancer in men (WHO, Europe).

Research evidence for the effect of a sedentary lifestyle and less physical activity for Chronic obstructive pulmonary disease (COPD)

A study was conducted to assess the association between physical Activity and COPD Mortality by prospective cohort study. The assessment was done by GOLD (Global Initiative for Chronic Obstructive Lung Disease) stages I (n 534), II (n 557), III (n 543), and IV (n 536) at Pulmonary Research Institute at Hospital Grosshansdorf, Grosshansdorf, Germany. The abso-

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lute risk of 4-year mortality for very inactive, sedentary, and active patients was 31%, 9%, and 0%, respectively (Benjamin Waschki, 2011). Another study also showed a similar type of findings, which was that association between Physical Activity and Morbidity- The objective measurement of the daily physical activity in patients with COPD using an accelerometer constitutes an independent prognostic factor for mortality and hospitalization due to severe exacerbation (Francisc G, 2012).

What factors influence physical inactivity?

- Social factors

As we already discussed in previous articles, socioeconomic conditions influence physical activity in many ways. Participation in leisure-time physical activity tends to be directly related to socioeconomic status. Social environment and Communities can strongly influence people's levels of physical activity, particularly through the social support offered, and cultural attitudes towards and stereotypes of different forms of activity. The Eurobarometer survey showed the variations across the European Union in the extent to which people recognize support for activity in their local areas. For example, 90% of people in the Netherlands agreed that "local sports clubs and other providers offer many opportunities for physical activity", compared to 45% in Portugal and 54% in Italy (European Opinion Research Group. Physical activity. Brussels, European Commission, 2003).

Finally, the image of physical activity can have an important influence. Activities such as golf or squash may be more likely to be associated with high social status, and some people view walking or cycling for transport as a low-status activity. Young people in some countries see walking or cycling as what they must do until they are old enough to get a car or a motorcycle (WHO-Europe).

- **Individual factors**

Personal factors that are positively associated with physical activity include: (Trost SG, Medicine and Science in Sports and Exercise, 2002)

1. self-efficacy (belief in one's own ability to be active)
2. intention to exercise
3. enjoyment of exercise
4. level of perceived health or fitness
5. self-motivation
6. social support
7. the expectation of benefits from exercise
8. perceived benefits

- **Other barriers**

People are less likely to be active if they recognize many barriers. A review showed the key barriers to physical activity to include :(Allender S, 2006)

1. perception of lack of time;
2. the perception that one is not "the sporty type" (particularly for women);
3. concerns about personal safety;
4. feeling too tired or preferring to rest and relax in spare time;
5. Self-perceptions (for example, assuming that one is already active enough)

Policy involvement of countries for promotion of physical activity

Urban design:

Development of environment for physical activity for public use is formulated with the support of local authorities by the central government in various countries. Most of the developed countries have combined the environment development conducive for physical activity as policy implementation. It includes investigations of the influence of the built environment (such as street connectivity and town layout) and the natural environment (such as access to green, open space). A growing evidence base supports the relationship between the environment and physical activity. Attributes such as aesthetics, convenience and access are associated with an increased likelihood of physical activity. Perceived convenience of facilities for walking (pavements, trails), accessibility of destinations (shops, parks), and perceptions about traffic and busy roads are associated with walking for particular purposes (Badland H, Schofield G. Transport, urban design, and physical activity: an evidence-based update. Transportation Research Part D, 2005).

Transport method:

After the project targeting for promoting public transport as a method of increasing physical activity level, the Travel Smart study in Perth, Australia found a shift of 5.5% of all trips from car travel to walking, cycling or public transport in the intervention area after six months, compared with a 2% shift towards the car in a neighbouring control area.

Odense was Denmark's official National Cycle City from 1999 to 2002. The Ministry of Transport and the National Road Directorate invested significant funding to demonstrate how coordinated effort could increase cycling. In addition, some evidence indicates that health impact assessment can be used to emphasize the health-enhancing aspects of transport policy.

Workplace

The workplace is one of the four places where physical activities should be promoted. In particular, the workplace appears to have the potential to promote physical activity by providing facilities and implementing policies to encourage walking and cycling to work (Mutrie, 2002).

Schools can provide many opportunities for physical activity through pursuing the core physical education curriculum, opening up playing fields and gymnasia for use by the wider community and providing a focus for initiatives such as programmes for safe routes to school. These combine infrastructure changes (such as installing cycle parking) with promotional programmes, such as a walk-to-school day, and policy changes, such as school travel plans (School travel plan. Bristol, Sustrans, 2006).

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Table 1: Selected notifiable diseases reported by Medical Officers of Health 24th – 30th Apr 2021 (18th Week)

RDHS	Dengue Fever		Dysentery		Encephaliti		Enteric Fever		Food Poi-		Leptospirosis		Typhus Fe-		Viral Hep-		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	125	1134	0	8	0	0	0	2	0	1	3	89	0	1	0	2	0	2	0	19	0	6	0	0	**58**	**89**
Gampaha	27	595	0	1	0	1	0	1	0	0	2	115	0	2	0	3	1	2	0	12	0	5	0	3	**36**	**75**
Kalutara	27	416	1	10	0	1	0	0	0	0	4	260	0	3	0	1	0	1	3	52	0	9	0	0	**43**	**100**
Kandy	12	256	0	13	0	1	1	1	0	1	5	71	2	21	0	1	0	0	1	24	2	8	6	16	**60**	**100**
Matale	4	37	0	3	1	4	0	0	0	0	3	33	0	4	0	1	0	0	0	9	0	1	0	100	**61**	**100**
NuwaraEliya	2	23	4	10	0	1	0	1	0	0	0	31	1	29	0	1	0	0	3	14	0	4	0	1	**36**	**92**
Galle	4	98	0	2	0	1	0	5	0	4	13	341	0	20	0	2	0	0	0	24	0	17	0	1	**49**	**97**
Hambantota	6	126	0	6	0	2	0	2	0	4	5	112	0	35	1	6	0	0	1	28	0	12	3	189	**75**	**100**
Matara	7	147	0	3	0	0	0	1	0	0	3	119	0	11	0	2	0	0	0	34	0	3	3	157	**38**	**100**
Jaffna	2	96	0	31	0	3	0	11	14	25	0	11	3	406	0	0	0	1	2	23	0	2	0	2	**19**	**88**
Kilinochchi	0	20	0	12	0	0	0	0	0	8	0	36	1	51	0	0	0	0	2	8	0	0	0	1	**50**	**100**
Mannar	1	19	0	0	0	0	0	3	0	0	0	23	0	1	0	0	0	0	1	3	1	8	0	1	**51**	**80**
Vavuniya	0	27	0	2	0	1	0	0	0	0	0	17	0	2	0	1	0	0	0	5	0	1	0	1	**38**	**100**
Mullaitivu	0	3	0	1	0	0	0	0	0	0	1	21	0	6	0	0	0	0	1	8	0	4	0	0	**24**	**100**
Batticaloa	57	2819	0	16	0	2	0	2	0	13	0	28	0	0	0	1	0	0	0	7	0	17	0	0	**46**	**100**
Ampara	0	17	0	5	0	0	0	1	0	0	2	34	0	0	0	1	0	0	0	24	0	8	1	3	**61**	**100**
Trincomalee	5	90	0	0	0	0	0	0	0	0	1	3	0	0	0	2	0	0	0	10	0	2	0	0	**42**	**85**
Kurunegala	21	431	0	10	0	3	0	0	0	3	1	153	0	7	0	0	0	0	1	27	2	69	4	181	**46**	**97**
Puttalam	6	180	0	1	0	1	0	0	0	0	0	15	0	14	0	0	0	1	0	12	0	21	0	7	**50**	**94**
Anuradhapur	4	78	0	8	0	0	0	0	0	3	5	173	0	20	0	2	0	0	0	19	0	18	0	97	**33**	**85**
Polonnaruwa	3	28	0	2	0	0	0	1	0	1	9	63	0	2	0	1	0	0	0	16	0	1	11	190	**38**	**100**
Badulla	8	48	0	9	0	0	0	1	0	0	4	148	4	22	0	5	0	0	2	24	0	11	0	12	**50**	**96**
Monaragala	2	46	0	5	0	0	0	2	0	3	8	162	0	13	0	30	0	0	4	19	1	30	0	10	**42**	**100**
Ratnapura	7	232	1	18	1	5	0	0	0	4	13	411	1	16	0	5	0	1	2	32	2	40	3	39	**39**	**99**
Kegalle	10	201	0	4	0	6	0	0	0	0	3	136	0	7	0	1	0	0	5	50	1	12	1	9	**45**	**100**
Kalmune	11	210	3	9	0	1	0	1	0	1	0	14	0	0	0	2	0	2	2	8	1	5	0	2	**41**	**100**
SRILANKA	**351**	**7377**	**9**	**189**	**2**	**33**	**1**	**35**	**14**	**71**	**85**	**2619**	**12**	**693**	**1**	**70**	**1**	**10**	**30**	**511**	**10**	**314**	**32**	**1022**	**46**	**95**

Source: Weekly Returns of Communicable Diseases (esurvillance.epid.gov.lk).

*T=Timeliness refers to returns received on or before 30th April , 2021 Total number of reporting units 357 Number of reporting units data provided for the current week: 352 **C****-Completeness

Table 2: Vaccine-Preventable Diseases & AFP

24th – 30th Apr 2021 (18th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2021	Number of cases during same week in 2020	Total number of cases to date in 2021	Total number of cases to date in 2020	Difference between the number of cases to date in 2021& 2020
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	00	00	00	00	00	00	00	19	11	72.72%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Mumps	00	00	00	01	00	00	00	00	00	01	06	38	62	-38.70%
Measles	00	00	00	00	00	00	00	00	00	00	00	08	25	-68%
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	00	02	03	-33.33%
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	00	06	-100%
Whooping Cough	00	00	00	00	00	00	00	00	00	01	00	00	04	-100%
Tuberculosis	62	20	18	05	02	01	02	13	07	130	00	2260	1455	55.32%

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

Covid-19 Prevention & Control
For everyone's health & safety, maintain physical distance, often wash hands, wear a face mask and stay home.

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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