Non-adherence to the prescribed treatment among diagnosed patients with non-communicable diseases

Introduction

Non-adherence to prescribe treatment is a leading problem for non communicable diseases (NCDs) worldwide. Usually it accounts 50% for medical treatment in developed countries. In developing countries this figure is much higher than developed countries.

Definition

Adherence is the extent to which a person's behaviour including intake of medication, diet control or making healthy lifestyle match with agreed upon recommendations of the provider. Medication adherence is the patient's agreement with the recommendations of provider with respect to timing, dosage and frequency of prescribed drugs.

Factors that affect adherence

NCDs are chronic diseases generally with slow progressiveness. Due to their chronicity people have to live with the disease itself or with its complications. The patients have to get treatment for longer duration in NCD than the other diseases. This might lead to non-adherence to treatment more in NCDs.

There are several factors for non-adherence to prescribed treatment. They can be categorized as socio-economic related, health system related, treatment related, condition related and patient related factors.

Socio economic factors

Socio economic factors stated to have a substantial effect on adherence. They include poor socioeconomic status, poverty, low education level, unemployment and lack of active social support, unsteady living conditions, long distance to health center, high transport cost and high cost of medication, culture and beliefs about illness.

Health system related factors

Health system related factors include non-availability of some drugs in the health care center, lack of knowledge and training of health care providers on managing chronic diseases, high workload of health care providers, short consultation periods and weak capacity of the system to educate patients.

Condition-related factors

Condition-related factors characterize severity of the disease, level of disability (physical, psychological, social and vocational), rate of progression and the accessibility of effective treatments.

Treatment related factors

They include complexity of the prescribed drug regimen, duration of treatment, previous treatment failures, frequent changes in treatment and immediate positive effects or side-effects.

Contents	*Page*

Patient-related factors

They signify the knowledge, beliefs and forgetfulness; psycho-social stress, anxieties about possible adverse effects and expectations of the patient.

Consequences of non-adherence to treatment

There are many consequences including poor treatment out-come, economic burden to the patient, family and the state and pressure to the health care system.

Improving patient adherence to prescribed treatments

No single intervention strategy can improve the adherence of all patients. Success depends upon tailoring interventions to the unique characteristics of the underlying factors.

Interventions can be categorized as simplifying the regimen, improve knowledge, modify patient beliefs and behavior , pro-vide communication and trust , leave the bias and evaluate adherence

Simplifying the regimen

- Adjust timing, frequency, amount and dosage

- Match regimen to patient's activities of daily living

- Recommend taking all medications at the same time of day

- Encourage use of adherence aids

Improve knowledge

- Focus on patient-provider shared decision making

- Keep the team informed (physicians, nurses and pharma-cists)

- Involve patient's family or caregiver if appropriate

- Advise on how to cope with medication costs

- Provide all prescription instructions clearly in writing and verbally

Modify patients beliefs and behavior

- Empower patients to self-manage their condition

- Ensure that patients understand the risks if they don't take their medications

- Ask patients about the consequences of not taking their medications

- Have patients restate the positive benefits of taking their medications

- Address fears and concerns

- Provide rewards for adherence to medication

Provide Communication and Trust

- Improve communication skills among service providers

- Provide emotional support to the patients and family

Leave the bias

- Understand health literacy and how it affects outcomes

- Examine self-efficacy regarding care of racial, ethnic and social minority populations

- Develop patient-centered communication style

- Acknowledge biases in medical decision making

Evaluating adherence

- Self-report

- Ask about adherence behavior at every visit

- Periodically review patient's medication containers, noting renewal dates

- Use biochemical tests—measure serum or urine medica-tion levels as needed

Sources

1. Medication Adherence, available from: *http://www.cdc.gov/primarycare/materials/medication/docs/medication-adherence-01ccd.pdf*

2. Adherence to long-term therapies: evidence for action, avail-able from :*www.who.int/chp/knowledge/publications/adherence report/en/*

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Table 1: Selected notifiable diseases reported by Medical Officers of Health   05th – 11th March 2016 (11th Week)

RDHS Division	Dengue Fever A	Dengue Fever B	Dysentery A	Dysentery B	Encephalitis A	Encephalitis B	Enteric Fever A	Enteric Fever B	Food Poisoning A	Food Poisoning B	Leptospirosis A	Leptospirosis B	Typhus Fever A	Typhus Fever B	Viral Hepatitis A	Viral Hepatitis B	Human Rabies A	Human Rabies B	Chickenpox A	Chickenpox B	Meningitis A	Meningitis B	Leishmaniasis A	Leishmaniasis B	WRCD T*	WRCD C**
Colombo	171	3978	2	32	0	0	1	13	0	1	4	41	0	2	0	8	0	0	16	101	2	10	0	0	88	94
Gampaha	42	1486	1	11	0	4	0	9	0	0	4	57	0	5	0	12	0	0	11	111	0	17	0	2	73	87
Kalutara	27	686	1	19	1	2	2	12	0	7	14	126	0	4	1	8	0	0	2	67	2	16	0	0	71	86
Kandy	29	589	0	29	0	8	0	8	1	14	2	53	3	21	1	22	0	0	4	34	0	12	0	4	96	100
Matale	9	108	0	9	0	1	0	4	0	1	2	38	0	9	0	6	0	0	0	10	1	19	1	12	69	92
NuwaraEliya	1	74	1	12	0	1	1	16	0	8	1	12	1	12	1	4	0	0	4	39	3	9	0	0	92	92
Galle	15	459	0	16	0	3	0	1	0	2	4	90	2	26	0	4	0	0	5	71	0	17	0	1	70	95
Hambantota	19	206	1	12	0	0	0	0	1	35	6	42	3	28	0	11	0	0	7	67	0	4	2	102	92	100
Matara	12	257	0	16	0	1	0	3	4	30	6	40	1	18	1	10	0	0	1	59	0	2	9	75	100	100
Jaffna	44	1011	7	64	0	1	1	27	0	14	0	7	12	452	0	4	0	0	3	69	1	8	0	0	100	100
Kilinochchi	0	30	0	12	0	0	0	14	0	0	0	7	1	14	0	0	0	0	2	2	0	3	0	0	50	100
Mannar	0	62	0	2	0	4	0	8	0	1	1	8	0	32	0	0	0	0	0	1	0	1	0	1	20	60
Vavuniya	1	100	0	2	0	0	0	5	0	8	0	9	0	6	0	2	0	0	3	9	0	0	0	2	50	50
Mullaitivu	1	56	1	6	0	0	1	11	0	4	3	8	0	4	0	0	0	0	0	1	0	2	0	4	60	60
Batticaloa	13	204	1	73	0	0	1	7	0	83	3	16	0	4	0	4	0	0	2	17	0	3	0	1	71	100
Ampara	0	55	0	4	0	0	0	0	0	0	0	12	0	0	1	4	0	0	0	12	0	0	0	2	14	57
Trincomalee	5	173	0	15	0	0	0	5	0	1	0	2	1	5	0	21	0	1	4	51	0	3	0	1	67	92
Kurunegala	15	439	1	46	1	4	0	1	0	5	2	45	0	6	2	11	0	1	3	76	0	8	2	25	74	93
Puttalam	8	376	1	12	0	0	0	3	0	0	0	21	6	49	0	0	0	0	1	22	0	10	0	0	31	77
Anuradhapura	1	170	0	22	0	1	0	1	0	20	2	124	0	11	0	9	0	0	5	53	0	10	5	55	47	84
Polonnaruwa	4	116	0	9	0	2	0	8	0	3	2	44	0	1	3	2	0	0	1	25	1	5	2	36	86	86
Badulla	5	142	0	24	0	7	0	2	0	2	0	38	2	21	0	33	0	0	1	41	0	55	0	0	59	82
Monaragala	4	95	0	12	0	1	0	2	0	0	7	91	1	31	1	37	0	1	0	18	0	11	0	7	64	91
Ratnapura	29	423	8	56	0	10	0	11	0	14	5	78	0	7	8	49	0	0	3	43	8	38	0	0	78	94
Kegalle	13	376	3	12	1	7	2	13	0	8	5	60	0	5	2	9	0	0	6	103	3	13	0	0	82	100
Kalmune	0	255	0	19	0	1	0	3	0	5	0	5	0	0	0	0	4	4	0	16	0	6	0	0	38	85
SRILANKA	**468**	**11926**	**28**	**546**	**3**	**58**	**9**	**187**	**6**	**266**	**70**	**1074**	**33**	**773**	**20**	**270**	**0**	**7**	**84**	**1118**	**21**	**282**	**21**	**329**	**71**	**90**

Source: **Weekly Returns of Communicable Diseases (WRCD).**

T=Timeliness refers to returns received on or before 11th March, 2016 Total number of reporting units 339 Number of reporting units data provided for the current week: 310 **C**=Completeness

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

Table 2: Vaccine-Preventable Diseases & AFP　　　05th – 11th March 2016 (11th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2016	Number of cases during same week in 2015	Total number of cases to date in 2016	Total number of cases to date in 2015	Difference between the number of cases to date in 20156& 2015
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	00	00	00	00	00	00	02	13	15	-13.3%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Mumps	00	00	00	02	00	00	00	00	00	02	03	92	79	+16.4%
Measles	00	00	01	01	00	06	00	00	00	08	52	162	386	-58.0%
Rubella	00	00	00	00	00	00	00	00	00	00	00	05	04	+25*
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	-33.3%
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	00	04	-100%
Whooping Cough	00	00	01	00	00	01	00	00	00	02	03	21	22	-5.1%
Tuberculosis	77	41	15	24	30	00	28	10	19	244	141	1896	1978	+4.1%

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
AFP and all clinically confirmed Vaccine Preventable Diseases except Tuberculosis and Mumps should be investigated by the MOH

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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