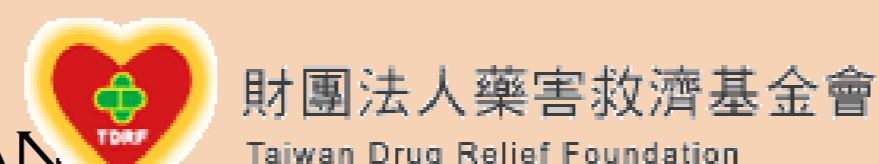


LIVER FUNCTION MONITORING

AMONG NEWLY DIAGNOSED TUBERCULOSIS PATIENTS

WHO INITIATED THEIR ANTI-TUBERCULOSIS TREATMENTS IN TAIWAN

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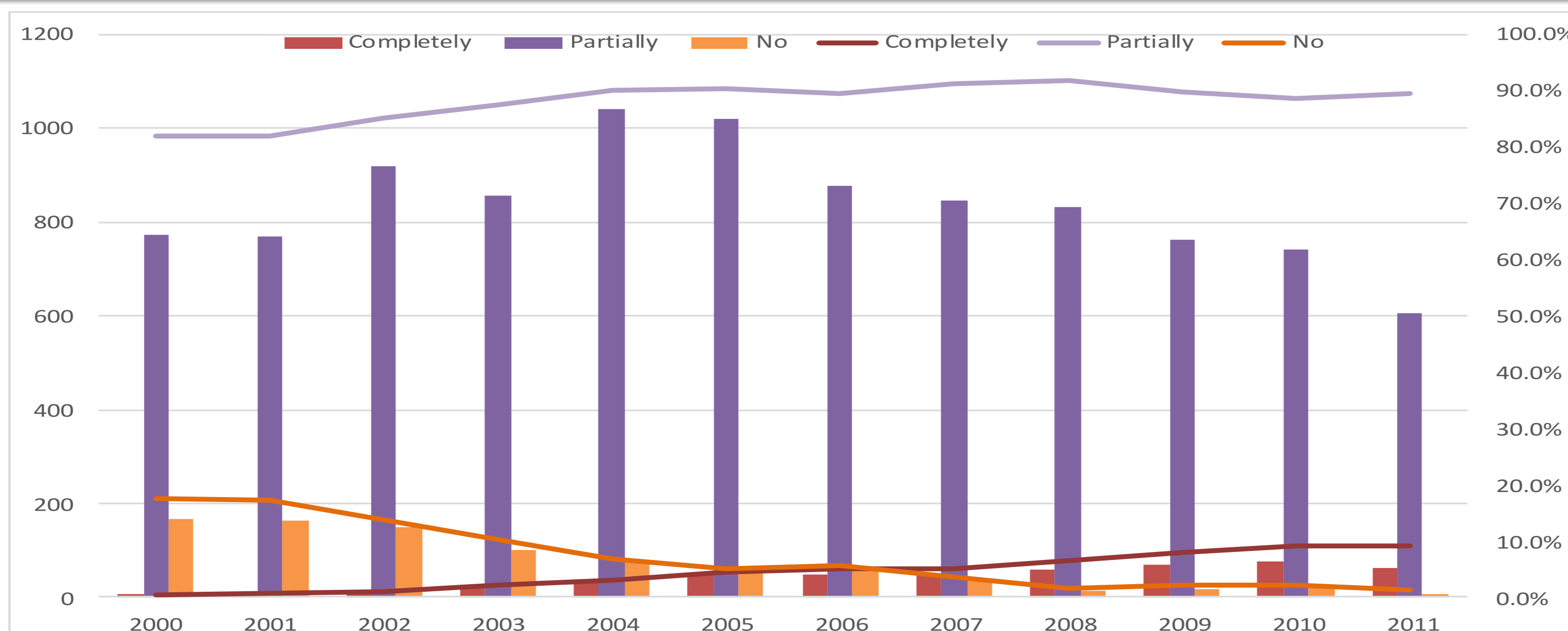
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TREND OF ADHERENCE RATE FOR LIVER FUNCTION MONITORING, 2000~2011



BASILINE CHARACTERISTICS OF NEWLY DIAGNOSED TB PATIENTS WHO INITIATED ANTI-TB TREATMENTS

	Adherent to the guideline						p
	Completely n=486		Partially n=10,049		Non n=862		
	n	%	n	%	n	%	
Gender, male	318	65.4	6,766	67.3	548	63.6	0.06
Age (year), SD±mean***	58.91±18.79		57.71±20.02		49.24±21.69		<0.0001
0-17	5	1.0	220	2.2	59	6.8	
18-64	274	56.4	5,454	54.3	539	62.5	
>=65	207	42.6	4,375	43.5	264	30.6	
Departments***							<0.0001
Chest medicine	294	60.5	4,674	46.5	254	29.5	
Thoracic surgery	3	0.6	150	1.5	7	0.8	
Tuberculosis	97	20.0	1,928	19.2	186	21.6	
Infectious disease	24	4.9	509	5.1	14	1.6	
Family Medicine	3	0.6	159	1.6	65	7.5	
Other dpt. of general medicine	50	10.3	1,838	18.3	202	23.4	
Other dpt. of surgery	4	0.8	137	1.4	12	1.4	
Others	11	2.3	654	6.5	122	14.2	
Medical condition in the prior year							
Liver disease***	55	11.3	956	9.5	24	2.8	<0.0001
Viral hepatitis***	19	3.9	254	2.5	2	0.2	<0.0001
Alcohol-related disease**	13	2.7	251	2.5	7	0.8	<0.01
Hospitalization***	104	21.4	2,750	27.4	65	7.5	<0.0001
Medication use in the prior year							
Acetaminophen***	288	59.3	5,382	53.6	347	40.3	<0.0001
NSAIDs***	271	55.8	5,346	53.2	343	39.8	<0.0001
Thiazolidinediones	9	1.9	134	1.3	4	0.5	0.05
Anti-epileptic agents*	15	3.1	263	2.6	7	0.8	<0.01
Anti-fungal agents**	2	0.4	81	0.8	7	0.8	0.63
Antibiotics***	278	57.2	5,242	52.2	324	37.6	<0.0001
HMG-CoA reductase enzyme inhibitors**	13	2.7	312	3.1	7	0.8	<0.01
Antiviral agents**	55	11.3	740	7.4	61	7.1	<0.01

SD: standard error; dpt.: department; NSAIDs: non-steroidal anti-inflammatory drugs

ANALYSIS OF POTENTIAL DETERMINANTS ASSOCIATED WITH THE ADHERENT RATE

	Adherent to the guideline					
	Completely			Partially		
	OR	95% CI	p	OR	95% CI	p
Gender (Ref.: male)	0.80	0.55-1.15	0.23	0.91	0.78-1.07	0.25
Age	1.02	1.01-1.03	<0.0001	1.01	1.01-1.02	<0.0001
Year (Ref.: 2000~2002)						
2003~2005	9.12	5.19-16.03	<0.0001	2.12	1.78-2.53	<0.0001
2006~2008	33.82	18.73-61.08	<0.0001	3.91	3.10-4.93	<0.0001
2009~2011	127.40	66.08-245.61	<0.0001	7.85	5.67-10.86	<0.0001
Departments (Ref.: Others)						
Chest medicine	4.59	1.91-11.05	<0.01	1.86	1.42-2.43	<0.0001
Thoracic surgery	0.85	0.10-6.99	0.88	1.57	0.70-3.55	0.28
Tuberculosis	2.55	1.01-6.40	0.05	1.40	1.06-1.85	0.02
Infectious disease	3.93	1.08-14.31	0.04	2.65	1.47-4.80	<0.01
Family Medicine	0.22	0.05-1.03	0.06	0.54	0.36-0.80	<0.01
Other dpt. of general medicine	2.68	1.03-6.95	0.04	1.61	1.22-2.13	<0.01
Other dpt. of surgery	1.53	0.24-9.77	0.66	1.20	0.61-2.34	0.6
Medical condition in the prior year						
Liver disease	4.36	1.92-9.87	<0.01	2.47	1.61-3.79	<0.0001
Viral hepatitis	9.39	1.47-60.19	0.02	3.70	0.90-15.18	0.07
Alcohol-related disease	1.84	0.51-6.67	0.35	1.98	0.91-4.33	0.09
Hospitalization	5.24	3.13-8.80	<0.0001	4.90	3.74-6.41	<0.0001
Medication use in the prior year						
Acetaminophen	1.34	0.82-2.20	0.24	1.21	0.96-1.52	0.11
NSAIDs	0.92	0.55-1.54	0.75	1.27	1.02-1.59	0.04
Thiazolidinediones	1.61	0.36-7.16	0.53	1.26	0.45-3.52	0.66
Anti-epileptic agents	1.58	0.38-6.63	0.53	2.13	0.97-4.64	0.06
Anti-fungal agents	0.21	0.02-2.28	0.20	0.92	0.41-2.09	0.85
Antibiotics	1.27	0.76-2.12	0.37	1.25	1.0-1.56	0.05
HMG-CoA reductase enzyme inhibitors	2.01	0.61-6.63	0.25	1.56	0.72-3.38	0.27
Antiviral agents	1.83	0.94-3.56	0.08	0.94	0.70-1.28	0.71

BACKGROUND

Monitoring liver function before anti-tuberculosis (TB) treatment and in the following 2nd, 4th and 8th week was suggested by "Taiwan Guidelines for TB Diagnosis and Treatment" issued by Center for Disease Control, Taiwan.

OBJECTIVES

- To investigate the adherence rate to the guideline, in terms of liver function monitoring among newly diagnosed TB patients who initiated anti-TB treatments
- To explore the potential determinants associated with the adherence rate

METHODS

- Retrospective cohort study
- Taiwan's National Health Insurance research database (NHIRD)
- 11,397 newly diagnosed TB patients who initiated their TB treatments between 2000 and 2011 were identified.
- Patients were categorized into:
 1. Completely adherent group
 2. Partially adherent group
 3. Non-adherent group.
- Patient's medical history and medication use in prior year of anti-TB treatment initiation were observed.
- Logistic regression

RESULTS

- The completely adherent rate increased from 0.5% in 2000 to 9.2% in 2011 while the non-adherent rate decreased from 17.5% to 1.2%.
- Compared to non-adherent group, patients with prior history of liver disease (odds ratio (OR) 4.36 [95% confidence interval (CI) 1.92-9.87]) and viral hepatitis (OR 9.39 [1.47-60.19]) had a higher odds to be completely adherent to the guideline.
- In addition, patients whose prescribing physicians were from departments in chest medicine (OR 4.59 [1.91-11.05]), tuberculosis (OR 2.55 [1.01-6.40]) and infectious disease (OR 3.93 [1.08-14.31]) had a higher odds to be completely adherent to the guideline.

CONCLUSIONS

- We found an increased adherent rate of liver function monitoring for newly diagnosed TB patients in the past decade in Taiwan.
- Our findings of potential determinants associated with completely adherent to the guideline could serve as an important reference for developing effective strategies to prompt compliance to the guideline.

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