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Original Article

Analysis on Related Factors of Social Support, Self-efficacy, and Quality of Life in Tuberculosis Patients in Northern District of Taiwan, 2019

Jui-Hsin Chang^{1*}, Yih-Jin Hu², Tzu-Chi Lee², Fang-Tzu Chang¹, Yu-Wen Yang³, Kun-Bin Wu¹

Abstract

Tuberculosis (TB) remains one of the most important chronic infectious diseases threatening human health. In Taiwan, TB is a third-category notifiable infectious disease. Although TB is chronic, airborne transmissible, it can be effectively prevented and treated. The purpose of this study is to investigate the factors related to social support, selfefficacy, and quality of life of TB patients.

The subjects of this study were diagnosed with TB in 2019 and were under treatment. A total of 285 TB cases were enrolled in this study in the Northern District of Taiwan, including Taoyuan City, Hsinchu City, Hsinchu County, and Miaoli County. This study was conducted by a self-administered structural questionnaire.

The results showed that the average age of the subjects was 57 years old. Most of the subjects were male, with an education level of elementary school, married, having children, with a monthly household income of less than 30,000 New Taiwan Dollars, employed, and living in Taoyuan City. There were significant differences between education level, monthly household income, and social support. In self-efficacy, there were significant differences found related to gender, education level, monthly household income, occupation, place of residence, chronic diseases, and post-TB concerns. As for the quality of life, the monthly household income, occupation, chronic diseases,

¹ Northern Regional Center, Centers for Disease Control,	Corresponding author: Jui-Hsin Chang ^{1*}
Ministry of Health and Welfare, Taiwan	E-mail: jui9407@cdc.gov.tw
² Department of Health Promotion and Health Education,	Received: Sep. 30, 2021
National Taiwan Normal University, Taiwan	Accepted: Jan. 10, 2022
³ Division of Planning and Coordination, Centers for Disease	DOI: 10.6525/TEB.202312_39(23).0001
Control, Ministry of Health and Welfare, Taiwan	

side effects of TB treatment, and post-TB worries differed significantly. In summary, the subjects' ages, marital status, monthly household income, occupation, social support, and self-efficacy were the predictors of quality of life, of which social support and self-efficacy were the most explanatory. We recommended regularly assessing the self-efficacy of TB patients, providing relevant channels of assistance, and strengthening social support to improve their quality of life.

Keywords: Northern district of Taiwan, TB patients, social support, self-efficacy, quality of life

week 46-week 47, 2023 (Nov.12, 2023-Nov.25, 2023)

DOI: 10.6525/TEB.202312_39(23).0002 Weekly Data of Notifiable Inases (by week of diagnosis)

Disease Diagnosed	2023		202	23	20	רנ [.]
		2022	2023 2022 Total Imported Total Importe			
	2023		cases★	cases	cases★	cases
Plague	0	0	0	0	0	0
					-	0 0
					-	0 0
Cholera	Ő	0	1	Ő	1	0
Typhoid fever	0	0	8	6	3	1
Paratyphoid Fever	4	1	23	1		0
	-		-	-	-	0
	-					7
			-		-	61 0
6.0	-		-	-		0
	-				-	ŏ
	Ō	Ō	4	0	1	Ō
Poliomyelitis	0	0	0	0	0	0
Acute Flaccid Paralysis	1	1	55	0	28	0
	_					0
	-		-	-	-	0
					_	58 0
	-		-	-	-	1
Malaria	1	0	2	2	2	2
Chikungunya Fever	0	0	8	8	1	1
Hantavirus syndrome	0	0	6	0	4	0
Zika virus infection	0	0	3	3	0	0
						4
	-					0
			-			0
Acute Viral Hepatitis type E	Ō	Ō	12	5	11	Ō
Acute Viral Hepatitis, untyped	0	0	9	2	0	0
	-		-		-	0
						0
	ŏ	Ő	1	0	2	Ő
Japanese Encephalitis	0	0	26	0	19	0
Legionnaires' Disease			345		300	1
	-					0
						0
Tetanus	Õ	õ	5	Õ	7	Ő
Botulism	0	0	0	0	0	0
						0
				-		0
						0
Influenza Case with Severe Complications	21	1	934	12	4	1
Invasive Pneumococcal Disease	6	2	246	1	158	0
						0
Listeriosis Ityme Disease	-					01
Melioidosis	1	2	26	2	23	2
Q Fever	0	0	3	0	3	0
	3	4		0		0
	-		-			0
	-			-	-	0
Severe Pneumonia with Novel Pathogens						
Ebola Virus Disease	0	Ö	0	0	0	0
Lassa Fever	0	0	0	0	0	0
Marburg Hemorrhagic Fever	0	0	0	0	0	0
	0	0	0	0	0	0
Novel Influenza A Virus Infections	0	0	1	0	0	0
Rift Valley Fever	0	0	0	0	0	0
Yellow Fever	0	0	0	0	0	0
	Typhoid fever Paratyphoid Fever Epidemic Typhus Fever Shigellosis Amoebiasis Enterohemorrhagic E.coli Infection Anthrax Diphtheria Meningococcal Meningitis Poliomyelitis Acute Flaccid Paralysis Measles Rubella Dengue Fever West Nile Fever Acute Viral Hepatitis type A Malaria Chikungunya Fever Hantavirus syndrome Zika virus infection Mpox Acute Viral Hepatitis type B Acute Viral Hepatitis type D Acute Viral Hepatitis type C Acute Viral Hepatitis type C Acute Viral Hepatitis type E Acute Viral Hepatitis type C Acute Viral Hepatitis type E Acute Viral Hepatitis, untyped Congenital Synhilis Congenital Synhilis Congenital Synhilis Congenital Synhilis Disease Mumps Neonatal Tetanus Pertussis Tetanus Botulism Brucellosis Complicated Varicella Endemic Typhus Fever Herpesvirus B Infection Influenza Case with Severe Complications Invasive Pneumococcal Disease Leptospirosis Listeriosis Lyme Disease Melioidosis Q Fever Scrub Typhus Toxoplasmosis Tularemia Severe Fever with Thrombocytopenia Syndrome Severe Pneumonia with Novel Pathogens Ebola Virus Disease Melioidosis Q Fever Marburg Hemorrhagic Fever Marburg Hemorrhagic Fever Middle East Respiratory Syndrome Coronavirus Infections Novel Influenza A Virus Infections Rift Valley Fever Yellow Fever	SARS0Smallpox0Cholera0Typhoid fever4Epidemic Typhus Fever0Shigellosis12Enterohemorrhagic E.coli Infection0Anthrax0Diphtheria0Meningococcal Meningitis0Poliomyelitis0Acute Flaccid Paralysis1Measles0Rubella0Dengue Fever1,082West Nile Fever0Acute Viral Hepatitis type A3Malaria1Chikungunya Fever0Hantavirus syndrome0Zika virus infection0Mpox2Acute Viral Hepatitis type B4Acute Viral Hepatitis type C7Acute Viral Hepatitis type C0Acute Viral Hepatitis type C0Congenital Rubella Syndrome0Congenital Rubella Syndrome0Diapanese Encephalitis0Legionnaires' Disease7Mumps4Neonatal Tetanus0Pertussis0Botullism0Botullism0Bruellosis2Corpolicated Varicella2Endemic Typhus Fever0Herpesvirus B Infection0Japanese Encephalitis0Corpolicated Varicella2Endemic Typhus Fever0Herpesvirus B Infection0Influenza Case with Severe Complications1Influenza Encephalitis </td <td>SARS 0 0 0 Smallpox 0 0 0 Cholera 0 0 0 Typhoid fever 4 1 Epidemic Typhus Fever 0 0 0 Shigellosis 0 3 3 Amoebiasis 12 1 1 Enterohemorrhagic E.coli Infection 0 0 0 Anthrax 0 0 0 0 Pollomyelitis 0 0 0 0 Acute Flaccid Paralysis 1 1 1 Measles 0 0 0 0 Rubella 0 0 0 0 Acute Viral Hepatitis type A 3 0 0 Autaria 1 0 0 0 Chikungunya Fever 0 0 0 0 Acute Viral Hepatitis type B 4 2 0 Acute Viral Hepatitis type C 7 7</td> <td>SARS 0 0 0 0 Cholera 0 0 0 0 Cholera 0 0 0 1 Typhoid Fever 4 1 23 Epidemic Typhus Fever 0 0 0 0 Shigellosis 0 0 0 0 Annoebiasis 12 1 251 Enterohemorrhagic E.coli Infection 0 0 0 Anthrax 0 0 0 0 Meningococcal Meningitis 0 0 0 0 Poliomyelitis 0 0 0 2 Rubella 0 0 0 0 Dengue Fever 1,082 24,340 West Nile Fever 0 0 3 Malaria 1 0 2 354 2 Acute Viral Hepatitis type A 3 0 79 3454 Acute Viral Hepatitis type E 0 0 0<td>SARS 0 0 0 0 0 Cholera 0 0 0 0 0 0 Typhoid fever 0 0 0 0 0 0 Paratyphoid Fever 0 0 0 0 0 0 Epidemic Typhus Fever 0 0 0 0 0 0 Enterohemorrhagic E.coli Infection 0 0 0 0 0 0 Anthrax 0 0 0 0 0 0 0 Diphtheria 0 0 0 0 0 0 0 Acute Fraccid Paralysis 1 1 55 0</td><td>SARS 0 0 0 0 0 0 Cholera 0 0 0 1 0 1 Typhoid Fever 4 1 23 1 5 Epidemic Typhus Fever 0 0 3 60 1.2 72 Amoebiasis 12 1 251 100 181 Enterohemorrhagic E.coli Infection 0</td></td>	SARS 0 0 0 Smallpox 0 0 0 Cholera 0 0 0 Typhoid fever 4 1 Epidemic Typhus Fever 0 0 0 Shigellosis 0 3 3 Amoebiasis 12 1 1 Enterohemorrhagic E.coli Infection 0 0 0 Anthrax 0 0 0 0 Pollomyelitis 0 0 0 0 Acute Flaccid Paralysis 1 1 1 Measles 0 0 0 0 Rubella 0 0 0 0 Acute Viral Hepatitis type A 3 0 0 Autaria 1 0 0 0 Chikungunya Fever 0 0 0 0 Acute Viral Hepatitis type B 4 2 0 Acute Viral Hepatitis type C 7 7	SARS 0 0 0 0 Cholera 0 0 0 0 Cholera 0 0 0 1 Typhoid Fever 4 1 23 Epidemic Typhus Fever 0 0 0 0 Shigellosis 0 0 0 0 Annoebiasis 12 1 251 Enterohemorrhagic E.coli Infection 0 0 0 Anthrax 0 0 0 0 Meningococcal Meningitis 0 0 0 0 Poliomyelitis 0 0 0 2 Rubella 0 0 0 0 Dengue Fever 1,082 24,340 West Nile Fever 0 0 3 Malaria 1 0 2 354 2 Acute Viral Hepatitis type A 3 0 79 3454 Acute Viral Hepatitis type E 0 0 0 <td>SARS 0 0 0 0 0 Cholera 0 0 0 0 0 0 Typhoid fever 0 0 0 0 0 0 Paratyphoid Fever 0 0 0 0 0 0 Epidemic Typhus Fever 0 0 0 0 0 0 Enterohemorrhagic E.coli Infection 0 0 0 0 0 0 Anthrax 0 0 0 0 0 0 0 Diphtheria 0 0 0 0 0 0 0 Acute Fraccid Paralysis 1 1 55 0</td> <td>SARS 0 0 0 0 0 0 Cholera 0 0 0 1 0 1 Typhoid Fever 4 1 23 1 5 Epidemic Typhus Fever 0 0 3 60 1.2 72 Amoebiasis 12 1 251 100 181 Enterohemorrhagic E.coli Infection 0</td>	SARS 0 0 0 0 0 Cholera 0 0 0 0 0 0 Typhoid fever 0 0 0 0 0 0 Paratyphoid Fever 0 0 0 0 0 0 Epidemic Typhus Fever 0 0 0 0 0 0 Enterohemorrhagic E.coli Infection 0 0 0 0 0 0 Anthrax 0 0 0 0 0 0 0 Diphtheria 0 0 0 0 0 0 0 Acute Fraccid Paralysis 1 1 55 0	SARS 0 0 0 0 0 0 Cholera 0 0 0 1 0 1 Typhoid Fever 4 1 23 1 5 Epidemic Typhus Fever 0 0 3 60 1.2 72 Amoebiasis 12 1 251 100 181 Enterohemorrhagic E.coli Infection 0

Numbers of Mumps and Tetanus are based on reported cases and summed up by week of report.
 "Mpox" has been listed as a Notifiable Infectious Disease since June 23, 2022.
 "Severe Pneumonia with Novel Pathogens": The case definition has been revised to include patients who have both a positive test for SARS-CoV-2 and associated complications since March 20, 2023. Additionally, it has been modified from Category V to Category IV since May 1, 2023.

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Suspected Clusters

● Forty-nine clusters related to Upper respiratory tract infection (25), Diarrhea (18), Varicella (4), and TB (2) were reported during week 46.

Imported Infectious Diseases

There were 19 imported cases from at least 8 countries/areas during week 46.
Dengue Fever: 13 cases from Indonesia (4), Vietnam (4), Cambodia (2), China (1), Myanmar (1), and the Philippines (1).
Amoebiasis: 2 cases from Indonesia.
Severe Pneumonia with Novel Pathogens: 1 case from Indonesia.
Acute Viral Hepatitis type A: 1 case from Indonesia.
Mpox: 1 case from Japan.
Malaria: 1 case from Ethiopia.

During week 1–46, the imported cases of notifiable diseases. The top three were Severe Pneumonia with Novel Pathogens(18,143), Dengue Fever(247), and Amoebiasis(100).
During week 1–46, imported cases of notifiable diseases were from at least 50 countries/areas. The top three were China(3,180), Japan(730), and Thailand(211).

Summary of Epidemic

●Influenza: The epidemic has decreased and is still in an epidemic period.

• Dengue Fever: The epidemic has decreased, but the risk of transmission persists.

Case diagnosis year			eek 47		Week 1–47		
Classification	Disease Diagnosed	2023	2022	2023 2022			
			2022	Total cases★	Imported cases	Total cases★	Importe d cases
	Plague	0	0	0	0	0	0
Category I	Rabies	0	0	0	0	0	0
	SARS	0	0 0	0	0	0 0	0
	Smallpox Cholera	0	0	1	0	1	0
	Typhoid fever	1	1	9	7	4	2
Category II	Paratyphoid Fever	Ō	1	23	1	6	Ő
	Epidemic Typhus Fever	Ō	ō	0	ō	Ō	Ō
	Shigellosis	0	5	60	12	77	7
	Amoebiasis	3	2	254	102	183	62
	Enterohemorrhagic E.coli Infection	0	0	0	0	2	0
	Anthrax	0	0	0	0	0	0
	Diphtheria	0	0	0	0	0	0
	Meningococcal Meningitis	1	0	5	0	1	0
	Poliomyelitis	0	0	0	0	0	0
	Acute Flaccid Paralysis	1 0	1	56	0	29	0
	Measles Rubella	0	0 0	2	2 0	1 0	0
	Dengue Fever	852	0	25,191	251	79	59
	West Nile Fever	0	0	0	0	0	0
	Acute Viral Hepatitis type A	1	1	80	6	116	1
	Malaria	ō	ō	2	2	2	2
	Chikungunya Fever	1	ŏ	9	9	1	1
	Hantavirus syndrome	0	0	6	0	4	0
	Zika virus infection	0	0	3	3	0	0
	Мрох	1	0	355	15	4	4
	Acute Viral Hepatitis type B	1	7	128	6	96	0
	Acute Viral Hepatitis type C	4	15	461	1	445	2
	Acute Viral Hepatitis type D	0	0	0	0	0	0
	Acute Viral Hepatitis type E	0	0	12	5	11	0
	Acute Viral Hepatitis, untyped	1	0	10	2	0	0
	Congenital Syphilis	0	0	0	0	0	0
Catagony III	Congenital Rubella Syndrome	0 0	0 0	0 14	0	0 0	0
Category III	Enteroviruses Infection with Severe Complications Haemophilus Influenza type b Infection	0	0	14	0	2	0
	Japanese Encephalitis	0	0	26	0	19	0
	Legionnaires' Disease	7	15	352	8	315	2
	Mumps	6	18	264	7	274	Ő
	Neonatal Tetanus	Ő	0	0	0	0	Ő
	Pertussis	0	0	0	0	1	0
	Tetanus	0	1	5	0	8	0
	Botulism	0	0	0	0	0	0
	Brucellosis	0	0	0	0	0	0
	Complicated Varicella	1	0	43	0	30	0
	Endemic Typhus Fever	0	3	24	0	15	0
Category IV	Herpesvirus B Infection	0 11	0	0	0 12	0 10	01
	Influenza Case with Severe Complications Invasive Pneumococcal Disease	3	6 4	945 249	12	162	0
	Leptospirosis	4	3	74	0	62	0
	Listeriosis	0	0	171	2	128	0
	Lyme Disease	Ő	Ö	0	Ő	120	1
	Melioidosis	1	õ	27	2	23	2
	Q Fever	0	0	3	0	3	0
	Scrub Typhus	6	1	188	0	254	0
	Toxoplasmosis	0	2	23	2	26	0
	Tularemia	0	0	0	0	0	0
	Severe Fever with Thrombocytopenia Syndrome	0	0	0	0	1	0
	Severe Pneumonia with Novel Pathogens	230	104,717	1,394,947	-	8,250,673	
Category V	Ebola Virus Disease	0	0	0	0	0	0
	Lassa Fever	0	0	0	0	0	0
	Marburg Hemorrhagic Fever	0	0	0	0	0	0
	Middle East Respiratory Syndrome Coronavirus Infections	0	0	0	0	0	0
. ,	Novel Influenza A Virus Infections	0	0	1	0	0	0
	Rift Valley Fever	0	0	0	0	0	0
	,	0	0	0	0	0	0
	Yellow Fever	0	0	U	0	0	0

Weekly Data of Notifiable Inases (by week of diagnosis)

X The weekly and cumulative total numbers include indigenous and imported cases of notifiable infectious diseases.
 MDR-TB, Tuberculosis, Syphilis, Gonorrhea, HIV Infection, AIDS, Hansen's Disease and Creutzfeldt-Jakob Disease are

excluded from the table.

3. Numbers of mumps and tetanus cases are summed up by the week of report.

4. "Mpox" has been listed as a Notifiable Infectious Disease since June 23, 2022.

5. "Severe Pneumonia with Novel Pathogens": The case definition has been revised to include patients who have both a positive test for SARS-CoV-2 and associated complications since March 20, 2023. Additionally, it has been modified from Category V to Category IV since May 1, 2023.

Suspected Clusters

• Thirty-seven clusters related to Diarrhea (20), Upper respiratory tract infection (12), TB (3), and Enterovirus (2) were reported during week 47.

Imported Infectious Diseases

There were 9 imported cases from at least 8 countries/areas during week 47.
Dengue Fever: 4 cases from Vietnam (2), the Philippines (1), and Malaysia (1).
Typhoid fever: 1 case from Thailand.
Severe Pneumonia with Novel Pathogens: 1 case from UAE.
Chikungunya Fever: 1 case from India.
Mpox: 1 case from Cambodia.
Amoebiasis: 1 case from Indonesia.

- ●During week 1–47, there were 18,602 the imported cases of notifiable diseases. The top three were Severe Pneumonia with Novel Pathogens (18,144), Dengue Fever (251), and Amoebiasis (102).
- During week 1–47, imported cases of notifiable diseases were from at least 50 countries/areas. The top three were China (3,180), Japan (730), and Thailand (212).

Summary of Epidemic

- •Influenza: The epidemic has decreased.
- Dengue Fever: The epidemic has decreased.

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