

CURRENT SITUATION OF MANAGEMENT AND TREATMENT OF TUBERCULOSIS IN BAC GIANG PROVINCE IN THE PERIOD OF 2014-2018

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ABSTRACT

The study was conducted by analyzing data in book and reports of Bac Giang Tuberculosis and Lung Disease Hospital in the period of 2014-2018 to describe the situation of tuberculosis management and treatment in Bac Giang and evaluate the treatment results after 5 years of tuberculosis patients have been managed and treated in Bac Giang province for the period of 2014-2018. The study is based on the cross-sectional description method, taking all the numbers on the basis of collecting all information from books, reports on tuberculosis management activities of the whole province from 2014-2018. The study results showed that the number of tuberculosis detected AFB (+) newly decreased from 43.86 - 40.60, relapse increased from 3.94 - 13.23, tuberculosis increased 62.96 – 74.31. For R = 1.67, the detection was 50.55%, which is about ½ of the estimated number. The recovery rate of AFB (+) new pulmonary patients in the 2014-2018 period was 95.82%. Thus, the rate of detection of AFB (+) new tuberculosis decreased while the rate of tuberculosis recurrence and tuberculosis of all types increased over the years. The possibility of detecting new AFB (+) pulmonary tuberculosis in Bac Giang over 5 years was only about half of the estimated number. The cure rate of AFB (+) new tuberculosis patients in 2014-2018 period was higher than the National Tuberculosis Control Program.

Key words: Tuberculosis in Bac Giang; Bac Giang; tuberculosis management tuberculosis; treatment; AFB.

Received: 05/12/2019; Revised: 27/4/2020; Published: 28/4/2020

THỰC TRẠNG QUẢN LÝ VÀ ĐIỀU TRỊ LAO TẠI TỈNH BẮC GIANG GIAI ĐOẠN 2014-2018

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TÓM TẮT

Nghiên cứu được thực hiện trên toàn bộ sổ sách, báo cáo của Bệnh viện Lao và bệnh phổi tỉnh Bắc Giang giai đoạn 2014-2018 nhằm mô tả thực trạng quản lý và điều trị lao tại tỉnh Bắc Giang và đánh giá kết quả điều trị sau 5 năm của bệnh nhân lao đang được quản lý và điều trị tại tỉnh Bắc Giang giai đoạn 2014-2018. Nghiên cứu dựa trên phương pháp mô tả cắt ngang, lấy toàn bộ số lao trên cơ sở thu thập toàn bộ thông tin từ sổ sách, báo cáo hoạt động quản lý điều trị lao của toàn tỉnh thời gian từ 2014-2018. Nghiên cứu cho thấy số lao phát hiện: AFB(+) mới giảm từ 43,86-40,60, tái phát tăng từ 3,94 - 13,23, lao các thể tăng 62,96 - 74,31. Với R=1,67, phát hiện đạt 50,55% đạt khoảng ½ so với số ước tính. Tỷ lệ khỏi của bệnh nhân lao phổi AFB (+) mới giai đoạn 2014 - 2018 là 95,82%. Như vậy tỷ lệ phát hiện lao AFB (+) mới giảm qua các năm, tỷ lệ lao tái phát và các thể tăng qua các năm. Khả năng phát hiện lao phổi AFB (+) mới của tỉnh Bắc Giang qua 5 năm chỉ đạt khoảng ½ so với số ước tính. Tỷ lệ điều trị khỏi bệnh nhân lao phổi AFB (+) mới giai đoạn 2014 - 2018 cao hơn Chương trình chống lao quốc gia.

Từ khóa: Bệnh lao tại Bắc Giang; Bắc Giang; quản lý lao; điều trị lao; AFB.

Ngày nhận bài: 05/12/2019; Ngày hoàn thiện: 27/4/2020; Ngày đăng: 28/4/2020

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DOI: <https://doi.org/10.34238/tnu-jst.2020.05.2386>

1. Introduction

Tuberculosis (TB) is still one of the most common and fatal illnesses worldwide. According to estimates by the World Health Organization (WHO) in 2013, around 12 million people worldwide were currently infected with tuberculosis, and about 1.3 million people died of tuberculosis. Despite all human control and control efforts, tuberculosis has not been relieved and has become increasingly complex with the emergence of resistant strains of tuberculosis [1].

Tuberculosis in our country so far has not escaped from countries with high tuberculosis burden in the region, ranking 12th among 22 countries with high TB prevalence in the world, and 14th among 27 countries with the highest MDR-TB burden in the world [2]. In the past few years, the attention of the National Tuberculosis Control Program (NTP)-level committee, the local authorities and the tuberculosis prevention work of Bac Giang province has obtained certain results. The anti-tuberculosis network has been strengthened from provincial to commune levels; people's awareness and understanding of tuberculosis has improved; and tuberculosis services have been brought near to the people. The number of TB patients detected in the next year is higher than the previous year; the effectiveness of treatment is increasing; the mortality rate decreases compared to previous years. According to statistics of the Tuberculosis and Lung Disease Hospital in Bac Giang Province: in 2014, 712 new tuberculosis patients were detected, much larger than 2013 when only 534 new TB patients were found [3].

However, According to the annual report of the national anti-tuberculosis program, the situation of tuberculosis in mountainous provinces is still high and very complicated [4]. In recent years, the report on the tuberculosis prevention activities of the province has not been good. The situation of tuberculosis is still severe; people with tuberculosis have not been examined or

detected late; the treatment results are not high, leaving many sequelae. According to statistics of Bac Giang Tuberculosis and Lung Hospital, the number of tuberculosis patients treated in 2018 was 116. Tuberculosis tends to be complicated, tuberculosis/HIV, multi-drug resistant tuberculosis increase. Results of treatment completion in Lam Dong were high at 93.6%, especially in cases of AFB (+) pulmonary tuberculosis. Three-year death rate is 4.9% [5]. In order to achieve high TB treatment results then TB management should be well implemented. Adherence to the principles of TB treatment is a prerequisite for determining the outcome of treatment, reducing drug resistance[6]. To supplement previous state-of-art reviews on anti-tuberculosis treatment and to pave the way forward with reference to the current status, researchers systematically reviewed published literature on clinical research on tuberculosis (TB) over the past decade in the treatment of drug-susceptible and multidrug-resistant TB (MDR-TB), with a focus on drugs, dosing factors and regimens[7]. Tuberculosis treatment remains a challenge due to the need to consider, when approaching it, the context of individual and collective health. In addition, social and economic issues have been shown to be variables that need to be considered when it comes to treatment effectiveness[8]. Financial aid for the program is expected to decline this year as well as the coming years as Vietnam becomes a middle-income country. Assessment of TB management and treatment in Bac Giang province is essential.

Based on this fact, we conducted the project: "**Practical management and treatment of TB in Bac Giang province in the period of 2014-2018**" with the following goals:

1. Describe the situation of TB management and treatment in Bac Giang province in the period of 2014-2018.
2. Evaluate the treatment results after 5 years of tuberculosis patients being managed and

treated in Bac Giang province for the period of 2014-2018.

2. Subjects and methods of the study

2.1. Research subjects: Books, reports, forms of summarizing statistics on the situation of TB management and treatment of the health system of Bac Giang province from 2014 - 2018.

2.2. Location and study time:

- Research location: Tuberculosis and Lung Disease Hospital in Bac Giang province.
- Research period: From January 2019 to December 2019.

2.3. Research method and design:

- Research methodology: Use descriptive research method.
- Research design: Retrospective, cross-sectional research design, combined with quantitative.
- Research descriptive study to investigate the situation of management and treatment of tuberculosis patients in Bac Giang province in the period of 2014-2018 basing on collecting all information from books, reports on TB treatment management activities of the whole province from 2014-2018.
- Descriptive cross-sectional study to identify the current situation of TB treatment management in Bac Giang province.

2.4. Sample size and sampling techniques:

- Size of quantitative research samples:
 - + Sample size to assess the situation of TB treatment management in Bac Giang province in the period of 2014-2018.
 - + Sample size for survey of resources, equipment, infrastructure, hospitals, district health centers and health stations at Bac Giang tuberculosis and lung disease hospital, commune, ward and town in 2014 - 2018.
 - + Sample size to investigate the current situation of TB treatment management in Bac Giang province.
- Sampling:

- + Select quantitative research sample: select the target sample of the research sample to meet the set objectives.

2.5. Research targets:

- The detection rates over 5 years: new, recurring AFB (+) and other forms of tuberculosis.
- New AFB (+) TB detection indicators compared to estimates over 5 years.
- Results of treatment of tuberculosis patients over 5 years: Patients manage, recover, complete treatment, abandon treatment, death, treatment failure, transfer, do not evaluate.

2.6. Technical data collection: Collect quantitative data through the questionnaire.

2.7. Methods of data processing: Medical statistics.

3. Results and discussion

Table 1 presents situation of detection of TB patients from 2014-2018. TB detection tended to increase from 106.42/100,000 people (2015) to 119.04/ 100,000 people (2016). In the period of 2014-2018 the rate of TB detection in Bac Giang was 117.27/ 100,000 people. This rate is higher than the rate of TB detection in the National Occupational Standards of Vietnam in 2015 (110.88/ 100,000 people) [4]. In addition, our results compared with the results of Do Quang Hai (2013) in Dien Bien showed that the incidence of AFB (+) was 117/ 100,000 people [9]. That our results are higher than those can be explained by: (1) The epidemiology of tuberculosis in Bac Giang is higher than other regions so the rate of detection of new TB AFB (+) is higher. (2) Possibilities New TB detection in Bac Giang of tuberculosis prevention is higher than other regions.

In the period of 2014-2018, the rate of detection of recurrent TB was not as high as the general rate but it tended to increase gradually from 3.94/ 100,000 people to 13.23/ 100,000 people. It can be seen that the treatment management activities of the Anti-

Tuberculosis Program (CTCL) at this stage are not good. The highest incidence of tuberculosis in 2016 was 82.68/ 100,000 people; the lowest in 2014 was 62.96/ 100,000 people and the 5-year average was

71.88/ 100,000 people. In general, the rate of all TB detection is lower than the rate of TB detection in Vietnam NTP in 2015 was 110.88/ 100,000 people [10].

Table 1. *Situation of detection of TB patients from 2014-2018*

Year	Population	Tuberculosis AFB (+)				Tuberculosis of all types		Total	
		New		Recurrence		n	/10 ⁵	n	/10 ⁵
		N	/10 ⁵	N	/10 ⁵				
2014	1,624,456	712	43.86	64	3.94	1,022	62.96	1,798	110.76
2015	1,632,423	612	37.52	55	3.37	1,069	65.53	1,736	106.42
2016	1,653,397	532	32.17	74	4.48	1,378	82.68	1,984	119.04
2017	1,663,763	674	40.51	120	7.21	1,216	73.08	2,010	120.80
2018	1,670,000	678	40.60	221	13.23	1,241	74.31	2,140	128.14
Total	8,244,039	3,208	38.91	534	6.48	5,926	71.88	9,668	117.27

Table 2. *Detection capability against estimated epidemiological data*

Year	Population	New tuberculosis AFB (+)		
		Number of sufferers	Number estimate	% Compared to estimate
2014	1,624,456	712	1,251	56.91
2015	1,632,423	612	1,257	48.69
2016	1,653,397	532	1,273	41.79
2017	1,663,763	674	1,281	52.62
2018	1,670,000	678	1,286	52.72

Note: Epidemiological index estimated by NTP 77/ 100,000 people

Table 2 is detection capability against estimated epidemiological data. We see the possibility of detecting new AFB (+) pulmonary tuberculosis in Bac Giang over the years was only about half of the estimated number. The highest was in 2014 with 56.91% and the lowest was in 2016 with 41.79% compared to the estimate. Bac Giang has not reached the goal of the NTP (70% of the estimate) [11]. Thus, with about 50% of patients with pulmonary tuberculosis AFB(+) new undiscovered and managed for treatment, this was a dangerous source of infection for the community and a warning to TB detection in Bac Giang province. This result also shows that TB detection activity in Bac Giang in the period of 2014-2018 had many limitations or the epidemic in Bac Giang actually decreased compared to the national epidemic.

Table 3. *Treatment results for new AFB (+) pulmonary patients from 2014-2018*

Result	Year						Total	%
	2014	2015	2016	2017	2018			
Patient administered	712	612	532	674	678	3,208	100	
Off	687	591	510	645	641	3,074	95.82	
Complete treatment	11	10	9	10	15	55	1.71	
Discard treatment	1	1	2	3	4	11	0.34	
Dead	2	1	3	6	7	19	0.59	
Treatment failed	0	0	0	0	0	0	0.00	
Move	9	7	7	8	8	39	1.22	
No reviews	2	2	1	2	3	10	0.31	

Table 3 is treatment results for new AFB (+) pulmonary patients from 2014-2018. Obviously, the goal of TB treatment management is to have many patients cured.

The results of Table 3 shows that the recovery rate of patients with AFB (+) pulmonary tuberculosis in the period 2014-2018 was 95.82%. The cure rate of patients with AFB

(+) pulmonary tuberculosis who completed the 5-year average treatment was 1.71%. These results have surpassed the goals of the NTP (> 85% of patients with AFB (+) tuberculosis who had just been cured) [6]. Our results are higher than the rate of treatment from new AFB (+) patients in the 2015 CTCL Vietnam report of 89.5% [1]. Our results were higher than those of Luu Van Binh (2012) in Tuyen Quang with the new results of treatment of tuberculosis AFB (+): from 72.73% but lower than the rates of finished treatment 9.19%; 4.45% transfer; failure 3.06%; dropped 0.09%; died 1.98%; did not evaluate 8.5% [12]. This difference in our opinion is due to many factors such as differences in the study sites, the epidemiological characteristics of tuberculosis in the study sites, the patients, the professional quality of physicians or the differences of tuberculosis prevention network operation.

In summary, TB detection activity in Bac Giang was quite high and met the requirements of the NTP. Bac Giang needs to promote and make more efforts in the fight against tuberculosis. And the result of tuberculosis treatment in Bac Giang has met the goal of NTP with high quality of treatment which should be maintained and promoted in the period of 2019-2020. At the same time, Bac Giang tuberculosis industry needs to strengthen and actively monitor and promote the quantity and quality of tuberculosis management activities in the coming period.

4. Conclusion

The study of the situation of TB management and treatment in Bac Giang province has the following conclusions:

Regarding the rate of TB detection from 2014-2018: The number of detected TB: AFB (+) decreased from 43.86 to 40.60; the recurrence increased from 3.94 to 13.23 and

other forms increased from 62.96 to 74.31. The possibility of detecting new AFB (+) pulmonary tuberculosis in Bac Giang over 5 years was only about half of the estimated number. The recovery rate of AFB (+) new pulmonary patients in the 2014-2018 period was 95.82%. The recovery rate of AFB (+) new pulmonary patients in the 2014-2018 period was 95.82%. The cure rate of patients with AFB (+) pulmonary tuberculosis who completed the 5-year average treatment was 1.71%.

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