PATTERNS AND DETERMINANTS OF TUBERCULOSIS TREATMENT OUTCOMES AMONG PRISONERS IN BANGLADESH

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INTERNSHIP BACKGROUND

- To the internship, I worked with the USAID funded MTaPS project on Tuberculosis portfolio and prepared the report.
- A total 245 individual patient information was extracted from an electronic platform of the National Tuberculosis Program (NTP) hosted in DGHS server.
- The MTaPS project gave a verbal consent to analyze the data and to understand the tuberculosis patient treatment success and unsuccess rates of prisoners in Bangladesh but for any publication it needs a written consent from NTP.
- It was unpaid
- Length: June 2021 to September 2021

OUTLINE:

I Introduction

Introduction, Justification, Objectives, Operational Definition, Research Question

II Methodology

Conceptual Framework, Study Design, Sample Size, Inclusion & exclusion criteria, data collection tools, data management, quality control, ethical considerations, expected outcome

III Findings

Socio-demographic characteristics, Clinical characteristics, Treatment outcomes

IV Discussion

V Conclusion

01. INTRODUCTION

INTRODUCTION

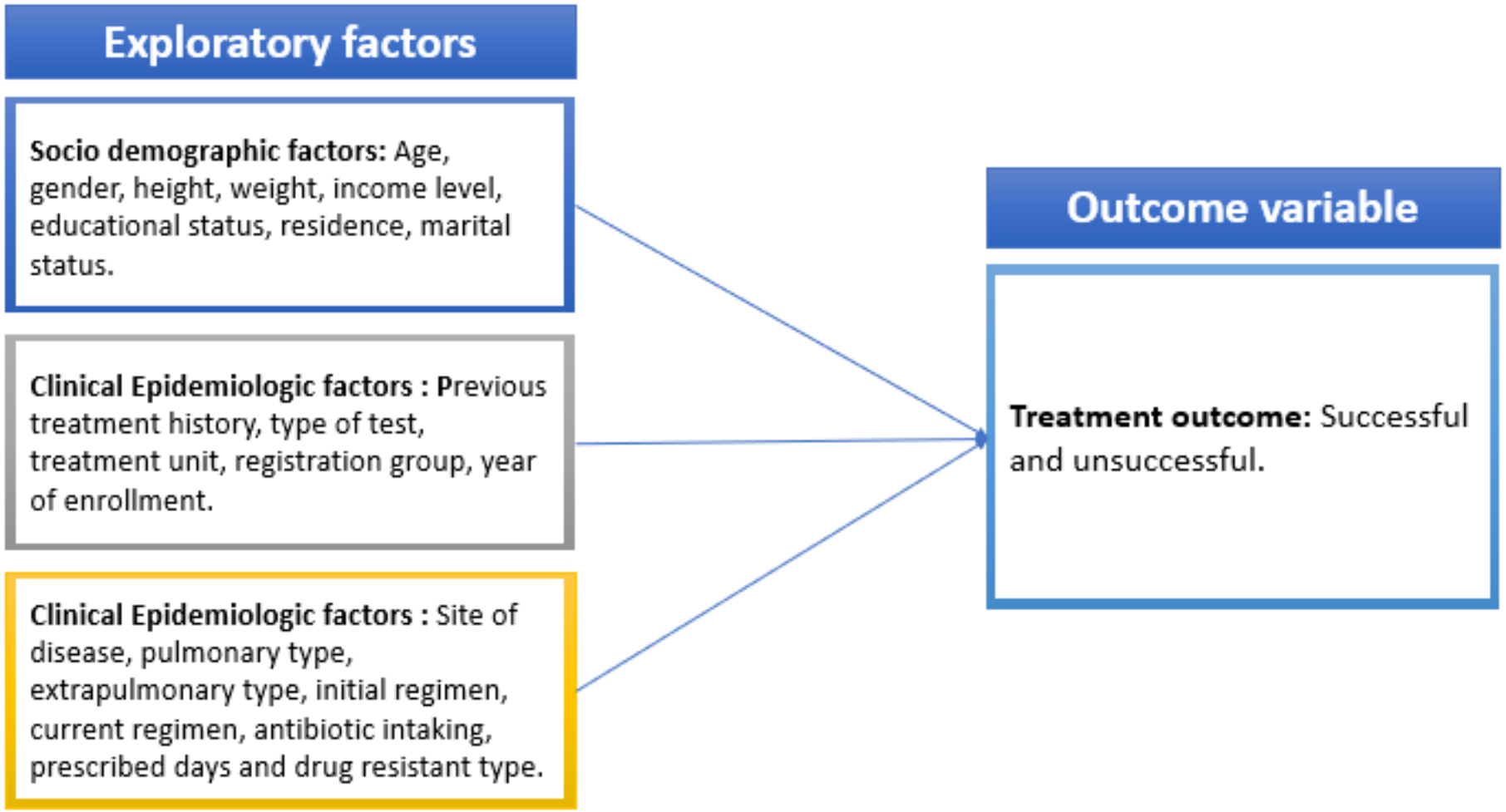
- Tuberculosis (TB) is one of the major causes of death in the world
- Sustainable Development Goals (SDGs) set the main target for global TB control
- Bangladesh is a high-burden country for tuberculosis
- Prison health is a critical part of public health as health problems within and outside prisons are interrelated
- A total number of 83107 inmates were incarcerated in 68 prisons across the country
- There are innumerable factors associated as determinants of tuberculosis in Prisons.

OBJECTIVES

The main objective of this study is to find out the pattern and determinants of treatment outcomes (successful and unsuccessful) among the prion’s inmates in Bangladesh.

II. MATERIALS AND METHODS

CONCEPTUAL FRAMEWORK



MATERIALS AND METHODS

Study Site and Period

- NTP, DGHS, Bangladesh
- Jan 2015-Dec 2019

Sample size & target population

- Convenience sampling
- 245 patients
- All prisons across the country

Inclusion and exclusion criteria

- All TB patients
- On treatment, poly resistant

Data collection tool

- Web based surveillance - eTB Manager
- Secondary source of data

Statistical Analysis

- Stata software V-16.0
- Chi-Squared test
- Logistic regression

Quality Control

- Ensured by eTBM
- Reviewed by TB experts

III. RESULTS

SOCIO-DEMOGRAPHIC CHARACTERISTICS

- A total number of 245 patients were registered in this study between 2015 and 2020 from the 5 divisions across the country.
- Of these 91.43% (n= 224) were males and 8.57% (n= 21) were females. Most cases were reported from 15-24 years (34.29%, n=84) and 25-34 years (22.04%, n=54) age group respectively.
- The overall mean age and standard deviation of the cohort was 38.37± 35 years. According to geographical distribution, highest number of the patients (56.73%, n=139) took treatment from the prisons of Rajshahi division (Table 1).

Characteristics	Frequency N= 245	Percentage (%)
Age group		
<=4 Years	1	0.41
5-14 Years	30	12.24
15-24 Years	84	34.29
25-34 Years	54	22.04
35-44 Years	38	15.51
45-54 Years	21	8.57
55-64 Years	17	6.94
>= 65 Years	1	0.41
Gender		
Male	224	91.43
Female	21	8.57
Geographical distributions		
Dhaka	11	4.49
Khulna	41	16.73
Rajshahi	139	56.73
Rangpur	7	2.86
Sylhet	47	19.18
Yearly patient enrollment		
2015	5	2.04
2016	32	13.06
2017	56	22.86
2018	47	19.18
2019	21	8.57
2020	84	34.29

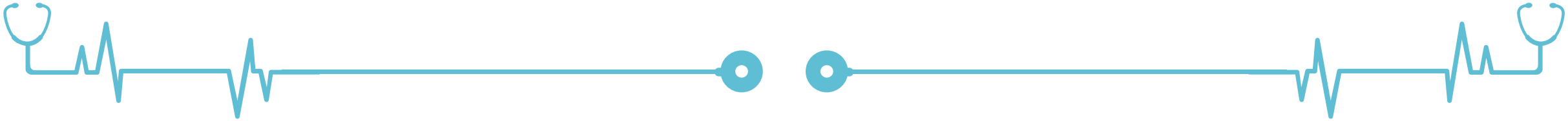
CLINICAL CHARACTERISTICS

- Among the TB patients, 92.65% (n=227) were the pulmonary and 7.35% (n=18) were extrapulmonary cases.
- Based on the latest treatment regimen, 80.41% (n=197) patients were Category-I, 13.47% (n=93) were Category-II, 3.67% (n=9) were Individualized, and only 2.45% (n=6) were from Retreatment (Table 1).
- Previous treatment history showed that a less number of the patients 2.45% (n=6) were taken at least one earlier treatment and 97.14% (n=238) were newly registered.

Characteristics	Frequency N= 245	Percentage (%)
Case definition		
Pulmonary	227	92.65
Extrapulmonary	18	7.35
Last treatment regimen		
Category I	197	80.41
Category II	33	13.47
Individualized	9	3.67
Retreatment for P+ve/EP (with Lfx)	6	2.45
Previous Treatment History		
No	238	97.14
Yes	6	2.45
Treatment outcome		
Cured	130	53.06
Died	11	4.49
Failed	11	4.49
Lost to follow up	25	10.20
Not evaluated	3	1.22
On treatment	15	6.12
Transferred out	19	7.76
Treatment completed	24	9.80
Waiting to start treatment	7	2.86

TREATMENT OUTCOMES

- The frequency distribution table (Table-1) shows that the majority (53.06%, n=130) of the patients were cured, 9.80% (n=24) were completed treatment, 4.49% (n=11) were died, 4.49% (n=11) were failed, 10.20% (n=25) were lost to follow-up, 1.22% (n=3) were not evaluated, 7.76% (n=19) were transferred out (transferred to another health facility), 2.86% (n=7) were waiting to start treatment, and 6.12% (n=15) were on treatment.
- As age of patient increased, the trend of treatment completion showed a decreasing pattern while death rate showed an increasing pattern.
- The death rate is higher (n=11) among the male patients compared to the female patients.



V. DISCUSSION

DISCUSSION

- Recent studies on tuberculosis control in Prisons stated that the barriers to tackling TB in prisons are complex and linked strongly to other aspects of both the health and criminal justice system, and with the cultural, historical and economic situation of each country (10).
- Our study revealed that the treatment success rate in all patients is 62.86% (n=154) as combined with cured and treatment completed.
- Conversely, the treatment unsuccess rate which is 37.14% (n=91) combined with died, lost to follow-ups, transferred out and not evaluated.
- The data suggest that pulmonary case findings are greater than extra-pulmonary this may happen due to the efficiency and commitment of the prison health workers or responsible authorities to implement systematic and effective TB-control strategies (5).

V. CONCLUSION & RECOMENDATION

- Results suggest that younger age and male gender may be independent risk factors for tuberculosis in prisons.
- National tuberculosis control programs may target to improve screening of all new prisoners before admiring, service scope, laboratory capacity and quality in the health centers as well as implementing appropriate interventions immediately.
- The NTP can also focus on monitoring, evaluation, data pertaining to the baseline characteristics, and the real time data collection can improve the TB program performance in prisons.

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Thank You

Stay home Stay safe