

READY STEADY SPIT

- A COMMUNITY-BASED SCREENING FOR LUNG TUBERCULOSIS AMONGST HIGH-RISK GROUPS IN AALBORG, DENMARK

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INTRODUCTION

Spot sputum culture screening for TB amongst high-risk groups has proven a good method to catch infected individual in a less infective stage of the disease, increasing the likelihood of achieving infection control [1,2]. Individuals from these groups will seldom seek help when ill, and eventually due to delayed diagnosis, risk spreading the disease. Thus, active case finding in high-risk groups in low incidence countries is recommended by WHO. Only few other studies investigating the prevalence of TB in high-risk groups have been performed in Denmark [1,2].

AIM

To investigate the prevalence of lung tuberculosis amongst high-risk groups in the municipality of Aalborg, Denmark.

METHODS

On 4 occasions, from summer 2016 to spring 2019, a team of outreach nurses offered screening for lung tuberculosis to socially vulnerable individuals present at 17 locations in the municipality of Aalborg at the time of each visit (figure 1).

Characteristics of the study population was registered. Patients who could not be reached for follow up, despite help from the outreach nurse, were excluded. Collection of samples was supervised by the outreach nurses. All spot sputum samples were examined by microscopy (acid fast coloring with Auraminrhodamin), culture (liquid medium BD BACTEC MGIT 960 System and solid medium Löwenstein-Jensen). Then finally with genotyping, and nucleic acid amplification (PCR) at The International Reference Laboratory of Mycobacteriology, Statens Serum Institut, Denmark. If spot sputum sample proved positive, patients would be referred to the Department of Respiratory Medicine for further investigation and treatment.

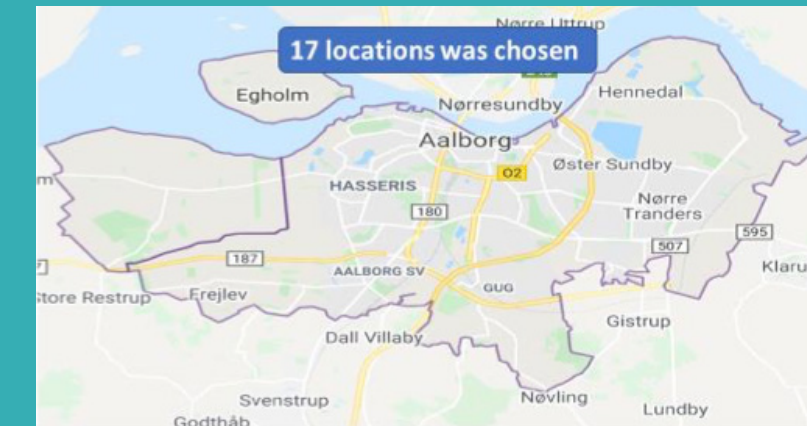


Figure 1 Municipal of Aalborg



Canister for sputum collection

RESULTS

From 2016-2019 230 individuals offered screening. In total, 316 sputum samples were collected.

Figure 2 demonstrates typical characteristics of a screened participant.

Figure 3 shows the diagnostic procedure.

In total 9 were diagnosed with pulmonary TB.

Of those, 7 (77.8 %) were identified by the first spot sputum screening of each participant. Basic demographics are demonstrated in Table 1.

The prevalence was therefore 3043/100000. All patients identified with active TB started treatment, which was reported successful in 8 out of 9 patients, one patient was noncompliant and eventually died.

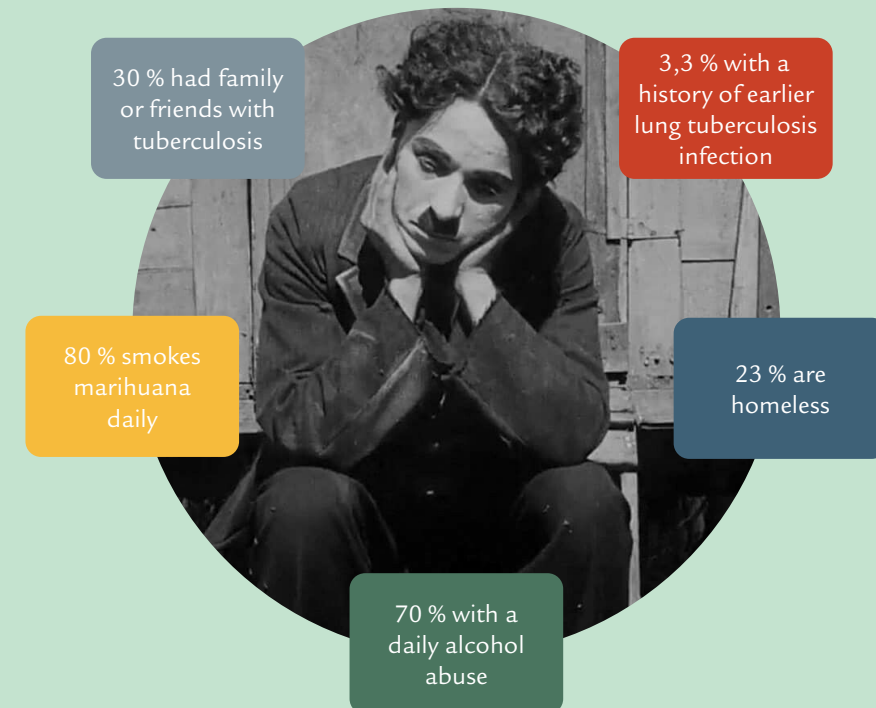


Figure 2 A typical study participant

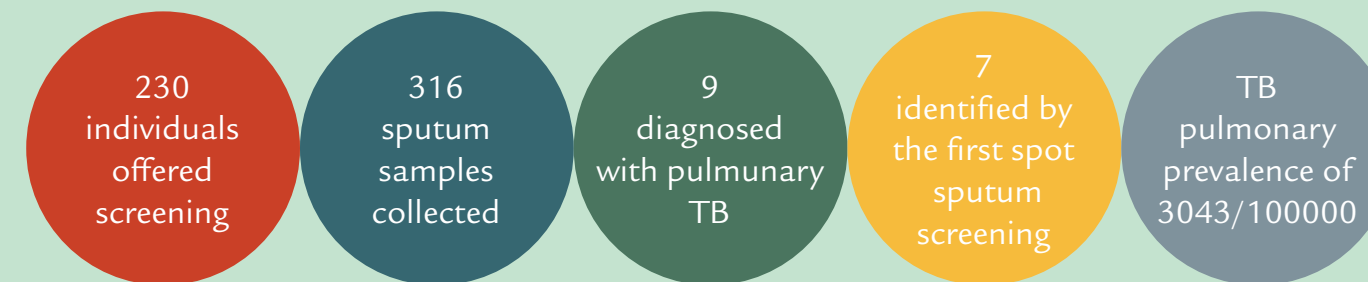


Figure 3 Diagnostic procedure

Table 1 Basic demographics and diagnostic profile of the 9 patients with active TB identified by screening

Age, median (IQR)	44 (32-59)	
Sex, female/male (N)	4/5	44,4 % female/55,5 % male
Smear-positive (N)	4	44,4 %
Culture positive (N)	9	100 %
PCR positive (N)	4	44,4 %
X-ray positive (N)	8	88,8 %

CONCLUSION

Prevalence of pulmonary TB was high and similar to comparable, previous studies. Half of the culture-positive patients were initially smear-negative, suggestive of a less infective stage.

This indicates that community screening for tuberculosis amongst high-risk groups, is an effective tool to gain infection control.

REFERENCES

1. Screening for TB by sputum culture in high-risk groups in Copenhagen, Denmark: a novel and promising approach. Jensen SG et al, Thorax 2015, 70 979-983
2. Impact of contact investigation and tuberculosis screening among high-risk groups in Denmark. Jensen SG et al, Int J Tuberc lung dis 20(12): 1580-1587

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