The prevention of tuberculosis in prison staff

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The Joint Tuberculosis Committee of the British Thoracic Society (BTS) recommends that all new prison staff be screened for tuberculosis (TB) as 'at risk' health workers. This study of prisons in the West Midlands area of England shows that there are considerable variations in the practice of TB control amongst prison staff and that the recommendations of the BTS committee are not routinely implemented. The study highlights the need for a routine and robust system of TB surveillance and prevention amongst prison staff which can be applied nationwide.

Key words: Tuberculosis control; prisons; screening.

INTRODUCTION

Prisons are a high-risk environment for the transmission of tuberculosis and prison staff are considered to be at particular risk of contracting tuberculosis (TB) in the course of their employment. The Joint Tuberculosis Committee of the British Thoracic Society (BTS) therefore recommends that new prison staff ‘should be screened as for at-risk health workers and offered BCG vaccination if tuberculin negative’. The catchment area of the general hospital in Stafford includes at least five prisons. Anecdotal experience when dealing with occasional cases of suspected TB in prisoners suggested that practice and knowledge regarding TB prevention amongst prison staff varied considerably. In co-operation with HM Prison Health Service, it was not uncommon to be dealing with prison officers who were unsure of their immunity to TB and their risk of contracting the disease from inmates. This study therefore included some aspects of occupational screening and TB prevention in detail amongst prison staff in one prison in the Staffordshire area, and a telephone survey of ten other prisons in the West Midlands area.

METHODS

As many staff from the local prison as possible were interviewed. Relevant information was obtained via a brief questionnaire (Appendix 1) administered by one of the investigators (RRP). The staff were also examined for a BCG scar (the size of the scar was not measured) by the same investigator, who is experienced in the field of TB screening and prevention. The same investigator telephoned ten other prisons in the West Midlands area and sought information on policies regarding TB prevention.

The study was approved by the local ethics committee and received the support of the governors of the local prisons in the Staffordshire area.

RESULTS

Two hundred and sixty-five of 350 (76%) staff were administered the questionnaire and examined. Those who did not participate in the study included those on holiday, in shift work, and in areas not immediately accessible during the period of the study. There is no reason to believe that the sample of responders was in any way biased towards any particular relevant characteristic under study. The mean age of the sample was 42.1 years (range 24–66 years). The mean length of service was 10 years (range 1 day to 32 years). Eight officers (3%) identified themselves as being from an ethnic minority.

Four of the 265 (1.5%) had suffered from, or had been treated for, TB. One of these had a BCG scar. One hundred and forty (53%) of the staff considered themselves at greater risk of TB than ‘average’, while 94 (35%) considered their risk to be less than with other professions. Thirty-one (12%) said they did not know what their risk to TB was.
With regard to TB screening, only 45 (17%) of the staff recalled having been screened (tuberculin testing or chest X-ray), while 220 (83%) did not recall being screened. The more recent employees were the ones more likely to recall having been screened. Of the 265 employees examined, 176 (66%) had a discernible BCG scar. Of the 89 who had no BCG scar, 25 (28%) were certain that they had previously received BCG, while 35 (39%) were certain that they had not received BCG. Twenty-nine (33%) were unsure.

Subsequent to this study in one prison, ten other prisons in the West Midlands area were contacted for details of their practices regarding TB control. Practices varied, with some prisons requiring evidence of pre-employment BCG vaccination, while for others TB screening was not a routine part of pre-employment health assessment. Amongst the local prison health services that were contacted, the BTS recommendations on TB control were not widely known or explicitly implemented as recommended practice.

DISCUSSION

Although there is no documented increase in the incidence of TB in prisons, given the high rate of imprisonment in the UK, together with the overcrowding in its prisons and the experience in other countries, it would appear prudent to consider prison workers, like workers in the health services, as 'at-risk' from TB. Based on this premise, the recommendations from the Joint Tuberculosis Committee of the British Thoracic Society on TB prevention amongst prison staff are simple and suggest screening of new prison staff in a manner similar to workers in the health service. However, currently there appears to be no secure mechanism or resources in place to ensure that these recommendations are carried out. In contrast to the National Health Service, where all the TB screening is carried out by a dedicated occupational health service in each trust or hospital, to a set protocol, practices vary significantly among prisons in the same region. It is possible, indeed quite likely, that the current study carried out in different prisons might yield very different results. This variability will be reflected, as in our study, by the variable immune status of prison staff with regard to TB and their knowledge of their own immune status.

The identification of a potential case of TB in the prison often gives rise to a genuine concern amongst prison staff about contracting the illness. Having in place a routine and robust system of TB prevention at the workplace would, in addition to decreasing the risk of prison officers contracting the disease, greatly diminish the potential for misinformation and anxiety in these situations. It is suggested therefore that all prison staff undergo a brief investigation of their TB immune status (history and BCG scar check) as part of their initial pre-employment medical assessment. In the absence of facilities for sputum testing and BCG vaccination within the auspices of HM Prison Health Service (as is currently the case), clear channels of referral should be established between the HM Prison Health Service and the local TB screening services (the local respiratory department perhaps via the NHS occupational health services). In some areas, during the time this study has been in progress, this scenario has come into practice while in others, prison staff are required to provide proof of TB immunity before commencing employment. However, given that the nature of the problems relating to TB prevention and treatment in prisons is likely to be similar in all areas, it would be advisable to have didactic, clearly laid out national protocols, similar to the guidelines that already exist in general for the management of TB. These could be generated by the British Thoracic Society Tuberculosis Committee, in collaboration with HM Prison Health Service. It is hoped that this study will act as a catalyst for the formulation of such a protocol, which ensures uniformity in the practice of TB prevention amongst prison staff.

ACKNOWLEDGEMENTS

During the course of this study we were greatly heartened by the degree of interest and co-operation we received from the prison staff and HM Prison Health Service. In particular, we wish to thank Dr Shan Biswas, HM Prison Health Service, who volunteered a discussion and his support for the project; the governors of the prisons in the Staffordshire area for their permission to carry out the study and to Dr Christopher and the prison health staff at HMP Featherstone.

REFERENCES


Appendix 1. Questionnaire on TB prevention amongst prison staff

<table>
<thead>
<tr>
<th>Sex:</th>
<th>Age:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnic origin:</td>
<td></td>
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<tr>
<td>Years in prison service:</td>
<td></td>
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<tr>
<td>To your knowledge, have you ever had TB or treatment for TB?</td>
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<tr>
<td>Compared with other professions do you consider yourself to be at a greater risk for infection such as TB?</td>
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<td>Since joining the service, do you recall having:</td>
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<tr>
<td>● tests for checking immunity to TB?</td>
<td></td>
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<tr>
<td>● a chest X-ray?</td>
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<tr>
<td>Do you recall being vaccinated against TB? (Have you had a BCG vaccination?)</td>
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BCG scar: present/absent* 
("If there was doubt in the mind of the examiner as to the presence of the BCG scar, then 'absent' was recorded.")