SHORT REPORT

Limited value of annual tuberculosis symptom reminders for health care workers

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Background (UK) National Institute for Health and Clinical Excellence tuberculosis (TB) guidance (2006) recommends that occupational health services send annual TB symptom reminders to staff at increased risk of occupational TB exposure.

Aims To evaluate the effectiveness of annual TB symptom reminders.

Methods Retrospective analysis of returns from 4 years’ annual TB symptom reminders compared with numbers of hospital staff diagnosed with active TB in the same time period.

Results There were 405 responses to symptom reminders received during the period studied that represented a response rate of 16%. None of the respondents declared TB symptoms. Twelve staff were diagnosed with active TB over the same period. From their work location, only two of these would have received TB symptom reminders according to local TB policy.

Conclusions Annual TB symptom reminders as currently used result in little direct benefit.

Key words Exposure; health services; occupational health; symptoms; tuberculosis.

Introduction

As part of tuberculosis (TB) control and awareness raising, (UK) National Institute for Health and Clinical Excellence (NICE) TB guidance (2006) [1] recommends that occupational health services (OHS) should send annual TB symptom reminders to health care staff in regular contact with TB patients or clinical material or who have worked in a high risk for TB clinical setting for ≥4 weeks.

Our OHS sends annual TB symptom reminders to staff at increased risk of occupational TB exposure (through regular contact with clinical material or patients at increased risk of TB) and those working with immunocompromised patients. Several staff indicated that they did not receive these, so in 2005, we added a return slip to confirm receipt by staff. This also asked them to indicate that they had had no symptoms that might suggest active TB or if they required an OHS consultation.

Given the resource involved in this annual process, we sought to evaluate the yield in terms of identifying staff with possible TB and compared this with the numbers of staff known to have developed active TB in the same period.

Methods

According to the local OHS policy for our acute London hospital, TB symptom reminders are sent to staff in 12 hospital areas (Appendix 1; available as Supplementary data at Occupational Medicine online). Because of staff turnover, names and numbers of staff who should receive reminders are not known precisely, so managers in these areas are asked how many paper forms they need and batches are sent by internal mail to managers for distribution to their staff. The reminder lists typical TB symptoms and asks staff to indicate that either they have not experienced any of these in the last year or to request an occupational health consultation to discuss TB.

Data from annual TB symptom reminders returned each year from 2005 to 2008 were retrospectively collected and analysed.

Hospital staff diagnosed with active TB were identified from the hospital TB clinic, OHS and Infection Control Committee data. All hospital staff with active TB were included in this analysis, irrespective of where they received treatment for TB.

As this was a retrospective evaluation of data relating to hospital infection control policy, independent ethical review was not sought.

Results

From 2530 questionnaires sent out, 405 (16%) were returned. Five respondents requested OHS consultations.
None of them had TB symptoms (two wanted to discuss occupational TB exposure, one gave a history of three respiratory infections that had responded to antibiotics prescribed by their general practitioner, one requested a bacillus Calmette-Gue´rin (BCG) scar check and one did not attend the appointment offered) (Table 1).

In the same time period, 12 staff were diagnosed with active TB. They comprised six nurses, three doctors, two clerical staff (one of whom had patient contact) and one laboratory technician. From their work location, only two of these would have received a TB symptom reminder according to our local TB policy (one because they worked in a high-risk area and one because they worked with immunocompromised patients).

Of the 12 members of staff diagnosed with TB, eight lived previously in high prevalence countries for TB (four in Asia and four in Africa) and one had recently returned from working in Africa. Seven of them had started work at the hospital in the 2 years preceding their diagnosis, one within 3 years and two within >5 years. Two had no start date recorded. None had any evidence of occupational transmission.

**Discussion**

The overall response rate to annual TB symptom reminders was poor (16%), and the number of staff prompted to attend OHS as a result of the questionnaire even lower. Known staff cases of active TB generally did not arise in those being sent annual TB symptom reminders.

This is the first UK study to investigate the value of annual TB symptom reminders in health care workers.

<table>
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<tr>
<th>Table 1. Symptom reminder questionnaire results, and number of staff diagnosed with active TB working at an acute London hospital, 2005-08</th>
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<tbody>
<tr>
<td><strong>Year</strong></td>
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<tr>
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<tr>
<td>Number of symptom reminders sent</td>
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<tr>
<td>Number returned (%)</td>
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<tr>
<td>Number of staff requesting OHS consultation</td>
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<tr>
<td>Number with TB symptoms</td>
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<tr>
<td>Number of staff diagnosed with active TB*</td>
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*This includes subjects diagnosed either at our hospital or elsewhere.

As numbers of staff who should receive reminders was not known precisely, the numbers of questionnaires sent to managers was used as the denominator, so response rates are approximate. Data were analysed retrospectively for 4 years and it is possible that ascertainment of active TB cases in staff was incomplete if some were diagnosed and treated elsewhere and did not tell their employer. If this were the case, then it would further diminish the yield obtained from the questionnaires.

In 2005, there were >105 cases of TB diagnosed in hospital-based health care workers in England and Wales. In line with our findings, most affected individuals were from high TB-prevalence countries, and the majority had pre-employment occupational health screening which did not detect infection [2].

NICE’s 2006 TB Guidance [1] recommended that OHS should send annual TB symptom reminders to staff. This is graded as a good practice point as NICE do not cite any evidence to support it. Despite being based in an area of relatively high TB incidence, and targeting staff most likely to be exposed occupationally to TB, over a 4 years period, the value of our approach seems limited. Response rates might have been affected by staff concerns about confidentiality. If so, greater reassurance might improve this. The reasons for the apparent increase in response rate in 2007 and 2008 are not known, but if genuine could be used to explore approaches that can enhance staff returns in future.

It is possible, though unlikely, that our reminders were effective and that they were noted by staff who then chose to seek advice for symptoms elsewhere. We have no evidence for this, and indeed, active TB was more likely to be diagnosed in subjects not receiving the information.

So what should we learn from this study? Our data suggest that the current approach is minimally effective. Hence, we could abandon using any form of annual reminder or improve its distribution and return, e.g. by attaching symptom reminders to payslips or using electronic communication directly to staff (rather than relying on their managers to distribute the reminders). The use of local ‘clinical champions’ may increase response rates, through encouraging form completion and co-ordinated surveillance of TB symptoms.

Taking a more public health-based approach, we could target subjects from TB-endemic parts of the world (irrespective of their work location or assumed occupational exposure).

Active TB disease (which is what the symptom questionnaire seeks to identify) is rare compared with latent TB infection, where symptoms are absent but skin or blood tests are positive. Other countries screen regularly for the latter, with an inevitably higher yield [3]. The recent NICE TB update [4] does not cover this issue, and we would welcome evidence-based guidance as soon as possible regarding the value of regular workplace assessments for both active TB disease and latent TB infection.
Conflicts of interest

None declared.

Key points

- National Institute for Health and Clinical Excellence tuberculosis guidance (2006) recommends that occupational health services send annual tuberculosis symptom reminders.
- Return rate from symptom reminders was poor and respondents did not declare tuberculosis symptoms.
- Hospital staff diagnosed with active tuberculosis generally did not work in areas with high risk of occupational exposure as specified in the local policy and would not have received the annual symptom reminders.

References