SHORT REPORT

Police officer anxiety after occupational blood and body fluid exposure

K. Dunleavy¹, A. Taylor¹, J. Gow¹, B. Cullen² and K. Roy²

¹Institute for Applied Social and Health Research, School of Social Science, University of the West of Scotland, High Street, Paisley PA1 2BE, UK, ²Health Protection Scotland, Clifton House, Clifton Place, Glasgow G3 7LN, UK.

Correspondence to: K. Dunleavy, Institute for Applied Social and Health Research, School of Social Science, University of the West of Scotland, High Street, Paisley PA1 2BE, UK. Tel: +44 (0)141 848 3482; fax: +44 (0)141 849 4264; e-mail: karen.dunleavy@uws.ac.uk

Background
In the course of their work, police staff are at risk of exposure to blood and body fluids (BBF) and potentially at risk of acquiring a blood-borne viral infection.

Aims
To examine levels of anxiety among Scottish police staff following an occupational exposure to BBF.

Methods
Police staff who reported an incident of exposure to their occupational health (OH) provider were invited to complete a postal questionnaire about their levels of self-reported anxiety after the incident and after contact with medical services (namely, OH and accident and emergency (A&E)).

Results
Seventy exposed individuals (66% of those invited to take part) completed a questionnaire. Participants’ self-reported anxiety after the incident varied widely. Levels of anxiety reduced over time and following contact with medical services. A&E staff were more likely to be the first point of medical contact for the most anxious individuals. Pre-incident training was not associated with post-incident anxiety.

Conclusions
The findings suggest that contact with medical services helps to alleviate post-exposure anxieties among police staff.

Key words
Accident and emergency; anxiety; blood; blood-borne virus; body fluids; occupational exposure; occupational health; police.

Introduction
In the course of their work, police may be exposed to blood and body fluids (BBF) typically from spits, bites and splashes, which are likely to have a low risk of infection [1–3]. Despite this, the fear of acquiring a blood-borne viral (BBV) infection following an exposure can be a cause of work-related anxiety [4].

To minimize any physical and psychological harm from such exposures, high-standard health care is needed [5]. The psychological consequences of BBF exposure have received little research attention, and the limited number of studies have involved health care workers (HCWs) [6–8]. These studies indicate that significant anxieties can be experienced after an occupational exposure to BBF and that psychological reactions need to be addressed by appropriate post-incident counselling.

To date, there have been no published studies of post-incident anxieties in police staff. This article examines the levels of self-reported post-incident anxiety following exposure to BBF.

Methods
The data described here were drawn from an evaluation of the post-incident management of occupational exposure to BBF in Scottish police forces carried out between March 2007 and December 2008 [9]. Part of this evaluation involved a postal survey of police staff who had approached occupational health (OH) after their incident and had consented to participate. An anonymous questionnaire, a consent form, an information leaflet and a stamped envelope addressed to the researchers were
forwarded to each respondent’s home address by the OH departments/units within the eight Scottish police forces. This maintained the respondent’s anonymity from the researchers and, by returning directly to the researchers, ensured the confidentiality of the data. The respondent was asked to complete the questionnaire approximately 4 weeks after their incident. This period allowed time for any treatment to have been offered; however, any blood test results would not have yet been received. If a completed questionnaire was not received within 2 weeks of the completion date, OH staff were asked to remind the individual and where necessary send out another copy.

Respondents retrospectively self-reported their anxiety by marking on a scale of 0 = not at all anxious to 10 = extremely anxious at four time points: (i) immediately after the incident, (ii) after attending the first point of medical contact, (iii) after OH consultation and (iv) at the time of completing the questionnaire.

Data were analysed with Statistical Package for Social Scientists 13. Ethical approval for the evaluation was granted by the University of the West of Scotland (formerly University of Paisley) Research Ethics Advisory Group.

**Results**

A total of 105 exposures to BBF were reported to OH by police staff over the data collection period. Of these, 70 (65%) staff, from seven of the eight police forces, returned questionnaires.

The 70 respondents were significantly older by 8 years (median = 37 years) than the non-responders (median = 29 years) \( P < 0.01 \), but there were no significant differences in gender, years of police service experience, types of exposure or the first point of medical contact after the exposure.

Sixty-four per cent (45) of the 70 respondents were male and 80% (58) were police constables. The mean age was 36.6 years (range 21–55 years) and length of service ranged from 0.4 to 29 years, with an average (median) of 6 years. The commonest types of incidents reported were spits (29%, \( n = 20 \)), bites (26%, \( n = 18 \)) and blood splashes (23%, \( n = 16 \)).

OH had been the only medical service contacted after the incident for 31% (22/70) of the respondents; 56% (39) attended A&E first, while 9% (6) and 4% (3) first attended a police doctor and a general practitioner respectively. Table 1 shows that the anxiety levels significantly reduced over time, and between each time period, for those individuals who contacted A&E prior to OH (\( P < 0.001 \)) and reduced over time for those who contacted OH only (\( P < 0.001 \)), in particular between time periods (i) and (iii).

Those who attended A&E were more anxious at the time of the incident than those who attended OH only (\( P < 0.001 \)); this may be explained by exposure type.

<table>
<thead>
<tr>
<th>Table 1. Average anxiety levels over time by first point of medical contact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time</strong></td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>i) Immediately after incident</td>
</tr>
<tr>
<td>ii) After attending A&amp;E</td>
</tr>
<tr>
<td>iii) After attending OH</td>
</tr>
<tr>
<td>iv) At time of completing questionnaire</td>
</tr>
</tbody>
</table>

\( a \) Anxiety measured on a scale of 0–10, where 0 = no anxiety and 10 = extremely anxious.

**Table 2. Average anxiety levels over time by type of exposure**

<table>
<thead>
<tr>
<th>Time</th>
<th>Punctured or broken skin or mucous membranes, ( n = 52 )</th>
<th>Intact skin only, ( n = 18 )</th>
<th>( P )-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Immediately after incident</td>
<td>6.5</td>
<td>2.0</td>
<td>***</td>
</tr>
<tr>
<td>ii) After attending first point of medical contact if not OH</td>
<td>5.0 (( n = 42 ))</td>
<td>1.0 (( n = 6 ))</td>
<td>**</td>
</tr>
<tr>
<td>iii) After attending OH</td>
<td>3.75</td>
<td>1.0</td>
<td>***</td>
</tr>
<tr>
<td>iv) At time of completing questionnaire</td>
<td>3.25</td>
<td>0.5</td>
<td>***</td>
</tr>
</tbody>
</table>

\( a \) Anxiety measured on a scale of 0–10, where 0 = no anxiety and 10 = extremely anxious.

\( b \) Mann-Whitney test conducted to compare anxiety levels across exposure type.

\( c \) Includes those who attended another medical service prior to OH and those who attended OH only.

\( ** P < 0.01, *** P < 0.001 \)

Those individuals who had experienced a punctured/broken skin/mucous membrane exposure were more likely to attend A&E \( (P < 0.001) \). Eighty-seven per cent (34/39) of those who initially attended A&E had experienced such an exposure compared with 43% (9/21) of those who attended OH only. The individuals with the former type of exposure were more anxious immediately after the incident than those who had exposures involving intact skin \( (P < 0.001) \). In general, these individuals reported higher levels of anxiety at later stages (Table 2).

Approximately, half of the respondents had received BBV infection training/information before the incident (53%, 36/68). There were no significant differences in the level of anxiety after the incident by whether or not training/information had been received.
Discussion

This study found that police staff reported higher levels of anxiety following BBF exposures with higher levels of BBV infection risk. A&E was likely to be the first point of medical contact for the most anxious individuals. In all cases, reported anxiety reduced over time and following contact with a medical service.

This evaluation provides the first evidence of the anxiety experienced by police after exposure to BBF. Other research has also shown that anxiety following such an incident can be variable [6, 7]. A causal ‘anxiety-lowering’ effect of services cannot be shown by this study, but the results reflect those from a UK study of HCWs who reported an exposure incident to OH, which found that initial anxiety was related to ‘perceived’ transmission risk and that after information and counselling was provided, anxiety reduced and knowledge increased [6]. However, there were no significant differences in anxiety levels at the time of the incident between those who had BBV infection training/information prior to the incident and those who had not. It may not be the occurrence of training per se that is important but the quality and frequency of the training. Dillon and Allwright [10] suggested that poor-quality BBV infection training was provided to Irish prison officers as they found that training had little effect on prison officers’ knowledge or perception of BBV infections. The impact of prior BBV infection training on post-incident anxiety merits further research.

Acknowledgements

The authors would like to thank all the police force staff who completed a questionnaire and the OH staff providing services for their help with data collection.

References


Key points

- Accident and emergency were more likely to deal with the most anxious exposed individuals.
- Anxiety levels did decrease over time.
- Pre-incident training was not associated with post-incident anxiety levels.

Funding

Scottish Government Directorate-General for Justice and Communities.

Conflicts of interests

None declared.