PRELIMINARY COMMUNICATION ON THE INCIDENCE OF EPIDERMOPHYTOSIS IN ARMY RECRUITS

BY

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An investigation was started at the Army School of Health into the incidence of fungus infection in the feet of Army recruits.

One has here an opportunity of examining a large number of subjects giving a fair cross-section of the younger members of the population. The troops examined were from: The Basic Training Unit and Troops in Transit.

It was first necessary to decide on a type of classification showing the degree of severity of the condition, so that a more detailed summary could be produced, rather than just placing in "Infected" and "Non-infected" groups. The usual classification on clinical grounds—(1) Inter-triginous; (2) Vesicular; (3) Hyperkeratotic—was not thought to be adequate for our purpose and we decided to introduce a classification which would define the appearance and extent of the lesions.

The system adopted was:

(1) Nil.—No obvious signs of fungus infection, no cracking between the toes, or gross scaling. On microscopic examination of scrapings there was no evidence of the fungus. To date we have not used cultural methods.

(2) Minimal.—Here there was scaling and cracking between the toes, the skin having the appearance of blotting paper. The extent of the infection was confined to one, or at the most, two, interdigital spaces. It was noted that the fourth to fifth interdigital space was by far the commonest site. It was possible in a selection of cases to demonstrate the fungus microscopically, but again cultural methods were not used.

(3) Moderate.—There was cracking and scaling with sodden skin between all toes of both feet. In some of the cases the skin of the interdigital space was denuded and the patients complained of sore feet. One case had a moderate infection confined to one foot, the other foot being completely clear. The fungus was confirmed in the affected foot but not at any time in the other.

(4) Severe.—In this type the infected area was spreading up on the sole of the foot. The patients complained of itching and smarting and sometimes of the smell of their feet. The fungus was usually profuse microscopically, but,
however, in a few cases we were unable to show any fungus. Cultural methods 
will perhaps demonstrate it.

This classification although not absolutely ideal does permit of classification 
to degree of infection.

In order to get an idea of the background of each case, a small questionnaire 
was prepared asking civil occupation, previous history of foot trouble and any 
family history of athletes foot. It will be noticed that it was decided not to ask 
frequency of bathing or of changing socks, as this would almost certainly intro­
duce false figures. At the time of examination each person was asked if they 
suffered from excessively sweaty feet.

It can be seen that not only were we trying to show the incidence of fungus 
infection but trying to find the effect of occupation, if any, and of the degree 
of sweatiness of the feet.

In the first month 300 men were examined, of these 200 were recruits, and 
100 transitees all of whom had been in the Army six to twelve months.

RESULTS

**TABLE I.—SHOWING INCIDENCE OF FUNGUS INFECTION IN EACH GROUP**

<table>
<thead>
<tr>
<th>No. examined</th>
<th>Nil</th>
<th>Minimal</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>183</td>
<td>79</td>
<td>25</td>
<td>13</td>
</tr>
<tr>
<td>100%</td>
<td>61%</td>
<td>26.33%</td>
<td>8.33%</td>
<td>4.33%</td>
</tr>
</tbody>
</table>

**TABLE II.—SHOWING PERCENTAGE OF COMPLAINTS OF SWEaty FEET IN EACH GRADE OF FOOT INFECTION**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Nil</th>
<th>Minimal</th>
<th>Moderate</th>
<th>Severe</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number complaining of sweaty feet</td>
<td>51</td>
<td>35</td>
<td>19</td>
<td>11</td>
<td>116</td>
</tr>
<tr>
<td>As an approximate percentage of the total number complaining of sweaty feet</td>
<td>45</td>
<td>30</td>
<td>17</td>
<td>9</td>
<td>100</td>
</tr>
<tr>
<td>As an approximate percentage of the total number in each grade</td>
<td>27.7</td>
<td>44.3</td>
<td>76</td>
<td>84.6</td>
<td>38</td>
</tr>
</tbody>
</table>

**TABLE III.—COMPARING THE INCIDENCE OF FUNGUS INFECTION IN RECRUITS AND TRANSITEES (SERVICE SIX TO TWELVE MONTHS)**

**Recruits (Service 0)**

<table>
<thead>
<tr>
<th>Grades</th>
<th>Nil</th>
<th>Minimal</th>
<th>Moderate</th>
<th>Severe</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number in each grade</td>
<td>133</td>
<td>46</td>
<td>15</td>
<td>6</td>
<td>200</td>
</tr>
<tr>
<td>Percentage in each grade</td>
<td>66²/₃</td>
<td>23</td>
<td>7²/₃</td>
<td>3</td>
<td>100</td>
</tr>
</tbody>
</table>

**Transitees (Service Six to Twelve Months)**

<table>
<thead>
<tr>
<th>Grades</th>
<th>Nil</th>
<th>Minimal</th>
<th>Moderate</th>
<th>Severe</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number in each grade</td>
<td>44</td>
<td>34</td>
<td>10</td>
<td>7</td>
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<td>44</td>
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<td>100</td>
</tr>
</tbody>
</table>
The Incidence of Epidermophytosis in Army Recruits

This result may be shown more satisfactorily in graphic form.

Diagram I

Diagram showing incidence of Fungus Infection in 300 people examined, also incidence of Sweaty Feet.

It was noticed on comparing the figures of the R.A.M.C. recruits with those of the R.A.P.C. (all of whom had served six to twelve months) that there is a slight difference in the percentage of infection.

It will be seen that a higher percentage in the transitees have infection, i.e. those who have served six to twelve months. Whether this is a real or apparent difference it is too early to decide, but many more cases will be examined and compared.

This may be represented graphically (see Diagram 2).

We are proposing to show that this is a real difference by examining recruits on entering the Army, and again ten weeks later at the end of their course.
Diagram 2.—Comparing the Incidence of Fungus Infection in (1) Recruits, (2) Transitees after 6—12 months service.

In our next paper further figures will be collected showing the incidence of foot infection, and also endeavours to show the industrial and social distribution. Comparison of the various types of treatment will be outlined.
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