CONTROL AND MANAGEMENT OF BURULI ULCER DISEASE

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SUMMARY

A total of 460 cases of Buruli ulcer disease in various stages of development have so far been identified from 11 of the 18 districts of Ashanti Region, Ghana. This paper describes experiences gained in the control and management of the disease and mentions some lessons for the control and management of other chronic communicable diseases in developing countries. It suggests that owing to the low socio-economic status of the people usually affected, services should be provided free of charge and near to where they live. The paper notes that the management and control of Buruli ulcer is difficult and frustrating and requires a team of dedicated health workers to sustain it.

Key Words: Buruli ulcer, lessons for control, Ashanti.

INTRODUCTION

One of the potentially most debilitating skin diseases is that caused by Mycobacterium ulcerans.

Ever since the disease was described in Australia\(^1\) and later as Buruli ulcer in Uganda\(^2\), cases have been reported in many parts of the tropical and sub-tropical world including Zaire\(^3\), Nigeria\(^4\), Benin\(^5\), Malaysia\(^6\), and Mexico\(^7\). In Ghana, Bayley published a possible case in 1971\(^8\) while van der Werf \textit{et al} described 96 cases of Buruli ulcers in the Ashanti-Akim district in 1989\(^9\). Both series were however hospital-based.

Since then the epidemiology of the disease in Amanse West district, Ghana has been well described by Amofah \textit{et al}\(^10\). This paper describes experience gained in the control and management of the disease in Ashanti Region and mentions some lessons learned for the control and management especially of chronic communicable diseases in developing countries.

MATERIAL AND METHODS

Following reports of admitted cases of Buruli ulcer in some district hospitals in Ashanti region, surveys were conducted among the communities of those districts to determine the extent of the disease.

\textit{Interventions and services provided}

Community surveillance systems were set up through District Health Management Teams
(DHMTs) using village volunteers for detection and early reporting of suspected cases. Two local dressers were trained to man a newly constructed dressing station at Tontokrom (the most endemic village in Amansie West district) and three others were trained in Ashanti Akim North district to provide "mobile wound dressing" for patients scattered over the Afram plains portion of the district. Supplies and treatment were offered at no cost to the patient.

Support from the regional level was provided monthly for Amansie West district by health workers including doctors, nurses and disease control officers drawn from the Regional Health Administration, Komfo Anokye Teaching Hospital (KATH), Mampong hospital and other health facilities. Quarterly visits were also paid to the Asante Akim North district by the team whilst the local dressers submitted monthly reports of their activities to the district health office.

A number of services were provided during these visits. Wound dressing was done daily by dressers using EUSOL or Acriflavin lotions. Each patient was given an initial full course of oral Amoxicillin and Co-trimoxazole/Seprin. In order to avoid cross resistance to the tubercle bacilli Rifampicin was given to only special cases on admission. Children under two years of age were given all the childhood vaccines including BCG. Pre-ulcerative lesions were excised under local anaesthesia and the wound sutured. Some of the large ulcers were referred for skin grafting at the Komfo Anokye Teaching Hospital (KATH) or Agroyesum District Hospital.

Health education was provided to the inhabitants of the communities usually focusing on proper personal and environmental hygiene and early reporting especially of pre-ulcerative nodules. The immediate household vicinities of identified patients were usually disinfected through spraying with a disinfectant.

### RESULTS

Up to the end of December 1994, a total of 460 cases of Buruli ulcer disease in various stages of development had been identified from various communities in Ashanti Region.

About 39%, n=450 were below 15 years while 14% n=450 were above 50 years. Cases have so far been identified in 11 of the 18 districts of the regions with 62% coming from Amansie West and 18.5% from Ashanti Akim North districts (Table 1 and Maps in Fig. 1).

### DISCUSSION

Firstly, the survey reiterates the essence of looking beyond the hospital to assess the prevalence of a communicable disease in the community. There is invariably under-reporting in hospitals due to a variety of socio-cultural and economic factors. Only one case of Buruli ulcer on admission in a hospital led to the identification of 450 cases.

<table>
<thead>
<tr>
<th>District</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amansie West</td>
<td>285</td>
<td>62.0</td>
</tr>
<tr>
<td>Ashanti Akim North</td>
<td>85</td>
<td>18.5</td>
</tr>
<tr>
<td>Kwabre</td>
<td>50</td>
<td>10.9</td>
</tr>
<tr>
<td>Afigya-Sekyere</td>
<td>14</td>
<td>3.0</td>
</tr>
<tr>
<td>Atwima</td>
<td>11</td>
<td>2.4</td>
</tr>
<tr>
<td>Sekyere East</td>
<td>7</td>
<td>1.5</td>
</tr>
<tr>
<td>Ahafo Ano North</td>
<td>3</td>
<td>0.7</td>
</tr>
<tr>
<td>Ashanti Akim South</td>
<td>2</td>
<td>0.4</td>
</tr>
<tr>
<td>Kumasi</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Ejura-Sekodumasi</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>Ejisu-Juaben</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>460</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
the research team initially to undertake a community survey that led to the discovery of about 90 additional cases.

Secondly, the importance of the physical accessibility in the utilisation of services by patients with Buruli ulcer and other chronic communicable diseases cannot be over-emphasised. Before the construction of the dressing station at Tontokrom, patients had to travel over 25 miles to the nearest health facility for simple wound dressing. Since this had to go on for months, naturally, almost all of them could not go there. There is conflicting evidence from several studies regarding the relationship between physical accessibility and utilisation of services. The importance of providing services literally at the doorsteps of such patients becomes paramount.

Another issue is the price elasticity of demand. Some studies have questioned it while others have confirmed it. In the case of Buruli ulcer, the patients are very poor, disadvantaged and cannot afford the cost of treatment. Furthermore, the cost of long confinement to hospital is too much for these mostly subsistent farmers to bear. There is therefore the need for some form of exemption from payment if they are expected to utilise the services.

Thirdly, if there should be exemption from payment at the point of service, then it is important to develop a system to pay for the bills at the local health facility, in order not to collapse the services provided there.

Lastly, it needs dedicated health workers to provide services to such patients who are usually in very inaccessible areas. The trips to the Afram plains of Asante Akim North district, involved being on the move from 6 O’clock in the morning to 9 O’clock in the night, often along what can best be described as “death traps”. Even under these hard conditions it was realised that health workers can be motivated if senior colleagues showed some concern.

In conclusion, the management and control of Buruli ulcer in the community is difficult, frustrating and at the same time challenging. Even though it can discourage the most dedicated public health worker, the Ghana experience has shown that it can provide some useful lessons for the control of other chronic communicable diseases in developing countries. Some of these have been highlighted. It is hoped that the lessons shall be of some help to others faced with similar problems.

REFERENCES


