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Pre-treatment practices among patients attending an Animal Bite Management clinic at a primary health centre in Haryana, North India

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Abstract

A cross-sectional study was carried out at the Animal Bite Management (ABM) clinic in a primary health centre in the Faridabad district of Haryana. Information about socio-demographic characteristics, animal bite exposure and pre-treatment practices was obtained. Clinical examination determined the severity of the bite. All 619 patients who reported to the ABM clinic during January 2011 to December 2012 were included. Out of the total, 38% had applied chilli-oil paste, and 4% antiseptics to the wound as pre-treatment; only 30.6% had washed the wound with water. There was a direct association between traditional pre-treatment practices and delay in seeking treatment for animal bites which was statistically significant ($P = 0.01$). Health education of the general population with culturally appropriate Information, Education and Communication material is therefore a necessary strategy to reduce delay in seeking appropriate treatment.

Keywords

Animal bites, Rabies, Native/traditional treatment practices, Rural, India

Introduction

A multi-centric study in 2004 reported the annual incidence of animal bites in India as 1.7% with higher rates in rural areas.[1] In India, approximately 20,000 deaths due to rabies occurred annually, accounting for 36% of the global, and 65% of the Asian total.[1] In India, only post-exposure prophylaxis (PEP) with anti-rabies vaccine (ARV) given intra-muscularly on days 0, 3, 7, 14, 28 and 90 is provided as a rabies prevention measure.[2] However, out of all animal bite cases, only 50% receive PEP in India.[1]

In India, lack of animal bite management facilities at peripheral health institutions, such as primary health centres (PHCs), contribute significantly to animal bite patients resorting to home remedies, care from traditional healers and rural medical practitioners. Hence, patients often do not receive timely and standard care, thus putting them at risk of rabies. We started a new initiative to provide intra-dermal (ID) PEP services at a rural PHC Chhainsa in Ballabgarh block of Faridabad district, Haryana at the Animal Bite Management (ABM) clinic. The present study aimed at exploring the pre-treatment practices among patients suffering from animal bites, attending our ABM clinic in a rural area of Haryana.

Methods

This study facility was a part of the Comprehensive Rural Health Services Project (CRHSP), Ballabgarh, of the All India Institute of Medical Sciences,

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Table 1. Socio-demographic characteristics of patients attending ABM clinic.

Variable	Frequency	Percentage
Age group (years)		
<=18	303	48.9
19–59	273	44.1
>=60	43	6.9
Sex		
Male	436	70.4
Female	183	29.6
Distance of residence from study facility (PHC) (km)		
<5	245	39.6
>5	374	60.4

New Delhi.[3] The ABM clinic was set up towards the end of 2010. A guideline-based optimal protocol was followed.[4] A two-site (both deltoid regions), four-dose (at 0, 3, 7 and 28 days), intradermal regimen (the 'modified Thai regimen') was followed for patients who were receiving ARV for the first time. A two-dose (at 0 and 3 days) regimen was employed for previously vaccinated cases.[5] Information about the socio-demographic characteristics of patients, previous bite incident(s), biting-animal characteristics and pre-treatment practices were obtained by clinicians. Clinical examination determined the bite severity and other wound features. Cases with active or suspected rabies, requiring Rabies Immunoglobulin were referred to the district hospital.

Data were collected systematically from January 2011 to December 2012.

Results

The socio-demographic profile of the patients is described in Table 1.

Some form of pre-treatment was reported by 432 (69.8%) patients. Applying chilli-oil paste directly on the bite wound was reported by 236 (54.6%). Of these, 206 (87.5%) applied the paste themselves, and the remainder had this traditional remedy prescribed by a healthcare worker. Other pre-treatment practices included washing the wound with soap (24.1%) or running water (6.5%), and applying antiseptics at the site of the bite (4.0%). Only 100 (16%) patients had received anti-*Tetanus toxoid* injection and only a few patients (2.7%) had been started on intra-muscular anti-rabies PEP by a private healthcare provider before arrival at the ABM clinic.

The delay (>48 h) in receiving a first dose of PEP was higher among patients who reported pre-treatment practices as compared to those who did not (28.8% *vs.* 18.0%) (OR = 1.8, 95% CI 1.3–2.9) ($P = 0.01$).

The majority (80%) of patients were bitten by dogs and 8% by a monkey. Other animals involved were cats, squirrels and mongoose. For the majority of patients (97%), the bite was a first-time occurrence. Nearly 80% of the wounds were open (Class III). In approximately 16%, the skin was minimally lacerated (Class II) and in 4% the skin was intact (Class I). The most commonly affected body part was the lower limb (60%) followed by the upper limb (37%) and trunk area (3%).

Discussion

The age and sex distribution of patients was similar to that reported in other studies from different parts of India.[6,7] We found that a majority of patients had resorted to traditional practices or homemade remedies, at least for wound management, before coming to the hospital, particularly the application of a chilli-oil paste. Furthermore, the proportion of patients having received tetanus prophylaxis or having washed the wound with water following the bite was low. This too was found elsewhere.[1,7–9]

The present study confirmed a direct relationship between pre-treatment practices and delay in starting standard rabies prophylaxis treatment. This has been documented by Malini *et al.* in their study in Berhampur.[8]

Gaps in healthcare providers' knowledge regarding the correct management of animal bites have been documented in India.[10] This may result in the recommendation of unproven remedies. This could be prevented if primary care providers, who are usually the traditional healers in rural areas, are suitably informed about correct animal bite management. Lack of awareness among the general populace regarding rabies and its proper care is a major contributing factor.[8]

This was a hospital-based study, and therefore the participants were self-selective in nature. However, since the study site was a PHC catchment area, the results may be considered to be at least locally representative.

The study findings highlight the need for eliminating delay in accessing appropriate treatment for animal bites. The availability of a dedicated ABM clinic may go a long way in reducing the delay in obtaining appropriate treatment. Such ABM clinics should be introduced at all PHCs.

Declaration of conflicting interests

None declared.

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