

EDITORIAL**MANAGEMENT OF INFECTIOUS DISEASES IN CLOSED AND SEMI-CLOSED COMMUNITIES**

The term 'closed community' is used to refer to a population of people living together continuously with limited contact with others outside that specific community. They share social amenities such as toilets, recreation facilities, wash rooms, water supply and at times sleeping places. They are in close contact with minimum interruption for long periods. Typical examples include military camps, ship crew on extended period at sea, refugee camps, mental hospitals and prisons. Boarding schools are examples of semi-closed communities. Similarly, some patients in hospital wards could be viewed as semi-closed communities. The term 'closed community' must not be confused with 'gated community' which refer to residential community containing strictly controlled entrance with a closed perimeter wall but otherwise live independent of each other with no shared social facilities.

The management of infectious diseases in closed and semi-closed communities poses serious challenges. Under normal circumstances, one of the strategies used in controlling infectious diseases is to isolate the infected individuals to minimize the spread of the disease. Among such infectious diseases are cholera, meningococcal infections, Group A *Streptococci*, typhoid, mycoplasma pneumonia, primary *Herpes simplex* virus (HSV) type I, methicillin resistant *Staphylococcal aureus* (MRSA), influenza virus (swine flu, bird flu), tuberculosis, infectious hepatitis, upper respiratory tract infections (URTI) and scabies.

For boarding schools, it is recommended that schools should be closed for a limited period at the first sign of outbreak of some of the contagious infections listed above. However, such a strategy would be impracticable in refugee camps and prisons. Some refugee camps such as Daadab in Northern Kenya accommodate over 500, 000 people within a small area, the majority being from the war-torn, Somalia. Sending prisoners home (some of them serving life sentences) is not an option and yet many prisons in African countries hold more than 10 times the numbers they were built for.

For those in closed and semi-closed communities where isolation is not possible, the second best option is to administer chemoprophylaxis where effective drugs are available. Unfortunately chemoprophylaxis as a tool of managing infectious diseases in closed communities is very controversial. A report entitled 'Interim UK guidelines for management of closed community contacts of Invasive group A streptococcal disease' based on Strep-EURO programme casts serious doubts on the effectiveness of antibiotic prophylaxis (Commun. Disease and Public Health 2004; 7(4) 354-361). The problem is in logistics and timing rather than availability of effective antibiotics. In the case of group A streptococci there is a wide range of bacteria causing illness ranging to the more serious invasive necrotising fasciitis. In the case of meningococcal infections caused by *Neisseria meningitidis*, there are at least 13 antigenically distinct serogroups even though the majority of the outbreaks are associated with group A, B and C.

In management of infections in closed communities many strategies are adopted simultaneously and it is difficult to state with certainty the actual contribution of each of these measures. For example in the case of cholera outbreak, the patients are given tetracyclines antibiotic as well as infusions. For those not infected, they are given cholera vaccine and tetracycline antibiotics. The mortality rate in cholera outbreak is high and it is difficult to evaluate the benefit of chemoprophylaxis. Usually, the use of drugs to abort an epidemic in closed communities is based

on speculative assumptions which often do not materialise. This was the case when vaccine was administered in anticipation of a swine flu pandemic. Later, there was suspicion that the information was manipulated to boost sales of swine flu vaccine, a fact alluded to obliquely by the World Health Organisation. The promoters of these vaccines argued that in matters of life and death it is better to err on the side of caution and adopt the worst case scenario. In some countries, new military recruits are given meningococcal meningitis vaccine. In other cases, prophylaxis oral acyclovir is used in outbreak of primary *Herpes simplex* virus infections in closed and semi-closed communities. Clearly the management of infections in closed and semi-closed communities presents serious challenges with no easy options. An article in this issue of the journal by Jande *et al.* discusses the management of tuberculosis in inmates within Dar es Salaam prisons, Tanzania and brings out some of the problems involved in management of infections in closed and semi-closed communities. Re-infection with TB among prisoners who are cured is a distinct possibility.

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