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## Typhoid Fever — Planned Immunization

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IMMUNIZATION is the term applied to the means by which specific immunity to microorganisms is acquired. In a programme of artificial immunization the aim is to induce immunity in the host prior to exposure to infection. All vaccines are tested for efficacy and safety prior to use. The immune response is usually measured by serum antibody determination but effectiveness is ultimately measured by exposing vaccines to the specific infection.

Protection can be calculated as:

$$\frac{U - V}{U} \times 100$$

U = Attack rate in unvaccinated

V = Attack rate in vaccinated

Another important factor in mass immunization programmes is the acceptance rate in the population. No vaccine is without side effects, therefore a balance between dangers of natural infection and side effects of the vaccine must be considered.

Dr. Fardan's paper highlighted a recent epidemic of Typhoid fever amongst children in Bahrain. The Department of Public Health reported an epidemic amongst the adult population covering the same period of 1982.

Minor epidemics of Typhoid fever are known to occur in the region during the Summer period, ie: May to September — of most years. These outbreaks are then followed by a programme of immunization on an emergency basis.

I strongly recommend a planned programme of immunization against Typhoid fever to be carried out during the months of Spring, ie: March and April of alternate years. The population shall then acquire immunity against Typhoid fever prior to the anticipated Summer epidemic.