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Colombo Twin and Singleton Study (CoTASS): A description of a population based twin study of mental disorders in Sri Lanka

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Abstract

Background: The Sri Lankan twin registry is one of the first to be established in a developing country, and its design has ensured sampling from a wide range of environmental conditions. It thus has great potential to examine environmental and genetic influences on diverse phenotypes, including psychiatric disorders, in the context of a diversity of environmental exposures, which may not have been fully explored in previous twin studies in developed countries. This paper presents the rationale for the study, describes its context, and the methods for twin ascertainment and data collection.

Methods: A population-based twin register was established in the Colombo district of Sri Lanka using infrastructure designed to periodically update the electoral register. We invited a subsample from this register to participate in the project on common mental disorders, using random ascertainment. A separate non-twin sample was randomly selected from the geographical areas where twins were found. Home interviewers collected diagnostic information on common mental disorders, as well as environmental exposures including life events, socio-economic conditions, and the impact of the civil war and the Tsunami of 2004.

Results: We identified 19,302 individuals in the creation of the population based twin register. We randomly selected a subsample, of whom 4,387 were eligible to participate and 4,024 agreed to be interviewed (including data on 1,954 complete pairs of twins and 5 sets of triplets). Those who refused consent had a similar mean age and sex ratio to those who were interviewed. We invited 2,485 singletons to participate and 2,019 were interviewed.

Conclusion: Initial exploration of the data suggests the samples are very representative of the Colombo district of Sri Lanka, so we have created a unique resource for understanding the influences on mental disorders in developing countries, and to compare to the influences found in developed countries.