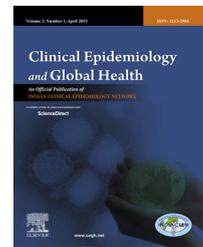


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## Original Article

## Prevalence of communication disorders in a group of islands in India

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## ABSTRACT

**Background:** Lakshadweep is a union territory of India which is a socially and geographically secluded part from the main land giving rise to increased inbreeding; one of the causes for the communication disorders. Information about prevalence of communication disorders is essential for the prevention, policy decision making and providing effective rehabilitation services. The study was conducted as a part of fieldwork by staff and students of the AIISH to estimate the prevalence of communication disorders in Lakshadweep.

**Method:** A door to door survey was conducted in 5 islands (surveyed population: 22,558) of Lakshadweep to identify the population at risk for communication disorders. Those who were at risk were screened to identify the same in the second phase. Screening was conducted in camps held at three islands. The prevalence of communication disorders was then estimated for the at-risk population.

**Results:** The percentage of individuals who were at-risk of communication disorders as estimated from the survey data was found to be 3.63%. Among those who appeared for the screening camp 42.64% of individuals were found to have ear related problems and 57.36% individuals had speech–language disorders. Also, males had higher prevalence of ear related (53.77% against 46.23%) and speech language related problems (60.29% against 39.71%).

**Conclusions:** The prevalence of hearing loss was lesser and the prevalence of speech–language disorders higher compared to the mainland. Among the communication disorders, speech and language disorders were more prevalent. Males were more prone to the communication disorders than females.

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## 1. Introduction

Communication is a basic need of human beings and is necessary for the emotional and social well-being of a person. ASHA<sup>1</sup> states communication disorder as “an impairment in

the ability to receive, send, process and comprehend concepts or verbal, nonverbal and graphic symbol systems”. Communication disorders not only limit a person's ability to convey information, but also hinder his/her social participation and results in stigmatization. In addition, high incidence and prevalence of communication disorders can have impact on

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the social, economic and productive life of a country due to its adverse effects.<sup>2</sup> Prevalence of communication disorders is the number of people in a population who have the disease of interest in a particular time period. Information on prevalence of communication disorders is crucial for a country as it can indicate the measures to be taken to reduce the burden of effect of communication disorder on individuals. The information of prevalence may also be essential for policy makers to create policies which can assist the individuals with communication disorder to get integrated in main stream through rehabilitation programmes and to provide them a life with dignity and identity.

India is the second largest populated country in the world and is still a developing nation. Prevalence of communication disorders in India is found to be higher in comparison to that of developed countries.<sup>3-7</sup> In their study Konadath et al.<sup>8</sup> has revealed prevalence of at risk population for communication disorders to be 6.07% in the rural part of India in a population size of 15,441. The study also revealed a higher proportion of the population to have hearing related disorders (90.58%) than speech language disorders (9.42%). The review article written by Garg et al.<sup>2</sup> about the prevalence of hearing loss in India also reveals prevalence to range from 6% to 9%. In comparison, the studies conducted in developed countries like New Zealand, United Kingdom, United States, show a lower prevalence of communication disorders. Studies conducted in developed nations show prevalence of speech-language disorders to range from 0.5% to 7%<sup>3-6</sup> and they noted prevalence to decrease with age. The prevalence of hearing loss in developed nation is found to range from 0.05% to 0.23%<sup>7</sup> which is lower than that found in developing nations like India.

In an international context the difference in prevalence of communication disorders may be attributed to the economic status, population size, race, ethnicity, access to health care facilities and methodological factors like definition of communication disorder and age range of subjects,<sup>8</sup> However, when a country like India is considered with high diversity, we can expect difference in prevalence across different parts of India owing to the cultural, social and the geographical factors. In India there is dearth of studies exploring these effects on the prevalence of communication disorders. In addition, Lakshadweep is a rural part of India which is geographically and socially separated from the mainland. Hence, the current study is conducted to see the differences and similarities in the distribution of communication disorders in Lakshadweep (which is a group of islands off the coast of south-western part of India) in comparison to the mainland.

## 2. Method

The study was conducted with the aim to estimate the prevalence of communication disorders in six islands of Lakshadweep. Lakshadweep is the smallest union territory of India under direct administration of the Central Government. The total population of Lakshadweep is 64,429 according to the 2011 Census of India.<sup>9</sup> The Islands that were covered in the study included Andrott, Amini, Agatti, Kavaratti, Kiltan and Kadmat with a total population of 46,951 (24,078 males and 22,873 females).<sup>9</sup> The islands were selected based on the

convenience of coverage of islands and as these islands had higher population among other islands.

The study was carried out in two phases. In first phase door to door survey (in five islands) to identify the individuals who were at the risk of communication disorders was carried out and in second phase evaluation camps were carried out (in three islands) to screen the identified population who were at risk. Both door-to-door survey and camp were conducted in two islands namely Andrott and Kiltan. Stated otherwise, individuals identified to be at risk having communication disorders as per the survey in Amini, Agatti and Kadmat were referred to camps conducted at Kiltan and Kavaratti as these islands had smaller population and the participants had easy access to the camp locations. In Kavaratti survey was not conducted due to time constraints. The door to door survey, the evaluation and habilitation/rehabilitation services to the participants who attended camp was given with the financial support provided by All India Institute of Speech and Hearing (AIISH), Sarva Shiksha Abhiyan (SSA), Lakshadweep and NSS, University of Mysore.

### 2.1. Participants

A total population of 22,558 individuals were surveyed for the presence of communication disorders. The participants of the study were native residents of Lakshadweep islands and individuals in the age range from birth to 100 years participated in the study. During survey information was collected from individuals above the age of 5 years. For children (<15 years of age), the information provided was substantiated by the adults in the household. Participants from Andrott, Amini, Agatti, Kiltan and Kadmat participated in door to door survey and individuals referred from all the six islands took part in the evaluation camp conducted in Andrott, Kiltan and Kavaratti.

### 2.2. Procedure

In phase I of the study, door to door survey was conducted by 48 NSS volunteers and six staffs of AIISH. The volunteers were graduate (BASLP) and post-graduate (Audiology/Speech-language pathology) final year students. The staff involved in the survey belonged to different departments of the institute with educational background of either Masters in Speech language pathology or Audiology or Clinical Psychology except the ear mould technician. An orientation regarding the information to be collected during the survey was given to all team members before the commencement of survey by the Camp in-charge.

The survey was conducted to identify the population who were 'at risk'<sup>b</sup> of communication disorders in the aforementioned islands with the help of a general questionnaire prepared for the same (Appendix I). The general questionnaire was used to collect information regarding the number of residents in the house, and the number of members at risk of communication disorders. When the presence of a person who

<sup>b</sup> At risk population was defined as those who had potential pre, peri or post natal risk factors (in children <2 years of age) or as those who had minimum more than 1 signs and symptoms of communication disorders as included in the screening checklist.

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