

Iodine content of salt in the Union Territory of Andaman and Nicobar Islands, India

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Iodine is an essential micronutrient, deficiency of which causes a number of disorders including goitre and cretinism. Inadequate data are available on the iodine content of salt consumed by beneficiaries in Andaman and Nicobar islands. A systematic study was therefore, undertaken to assess the iodine content of salt to initiate intervention measures, if required, to improve the quality of salt. A total of 275 salt samples, collected from equal number of households constituted the study sample. It was found that 57.1% of the salt samples had an iodine content of 15 ppm and above, 16% had between 10 ppm to <15 ppm, 26.5% had less than 10 ppm and only one salt sample had nil iodine content. The results of the study indicate that there is a need for further strengthening and monitoring of the quality of iodised salt procured and distributed by traders in the Union territory in order to combat iodine deficiency disorders.

印度 Andaman 和 Nicobar 島聯邦領地 (Union territory) 食鹽的碘含量 摘要

碘是一種必需的微量營養素。碘缺乏會引發一系列疾病包括甲狀腺腫和克汀病。Andaman 和 Nicobar 島居民食鹽的碘含量仍未有足夠數據，因此作者進行了系統的研究。作者從 275 戶抽取 275 份食鹽樣品作為研究對象。結果發現 57.10% 的食鹽樣品碘含量相當於或高於 15 ppm，16% 食鹽樣品含碘量少於 15 ppm 至 10 ppm，26.54% 含碘少於 10 ppm，僅一個樣品不含碘。研究結果表明，為了減少碘缺乏病，對聯邦領地商人獲得和分發碘鹽的質量需要進一步強化和監控。

Introduction

Iodine is an essential micronutrient, deficiency of which causes a number of disorders including goitre and cretinism¹. A continuous deficient intake of iodine causes many crippling defects in children such as mental retardation, stunted growth, neuromuscular disorder, speech and/or hearing defects². The majority of these disorders are permanent, but are preventable by regular consumption of iodised salt which provides the recommended quantity of iodine¹.

Inadequate data are available on the iodine content of salt in Andaman and Nicobar islands. Therefore, a systematic study was undertaken.

Materials and methods

Seven government schools, located in Andaman and Nicobar Islands, in which students from all parts of the islands were studying, were selected by purposive sampling, keeping in view operational feasibility.

All students in the sixth to eighth standard grades were briefed about the aim of the study, in their respective class rooms. The students were requested to bring 15g of salt from their households in autoseal polythene packets. The identification data, name, age and place of residence of students was documented. The salt samples collected were analysed using the standard iodometric titration method³. Ten percent of samples were sent to the Indian Council of Medical Research (ICMR) iodine testing laboratory for quality control.

Results and discussion

A total of 275 salt samples were collected from an equal number of households. It was found that all families consumed powdered salt. The results of iodine estimation of salt revealed that 57.1% of the salt samples had an iodine content of more than 15 ppm while

42.9% of the salt samples had less than 15ppm of iodine. On detailed analysis it was found that 16% of salt samples had iodine content between 10 ppm to <15 ppm. Further analysis revealed that 26.5% of salt samples had less than 10 ppm of iodine. It was found that only one salt sample had nil iodine content (Table 1). The iodine content of all salt samples analysed at the Indian Council of Medical Research (ICMR) iodine testing laboratory for quality control, were within 10% of the values obtained at the All India Institute of Medical Sciences, which provided the research infrastructure for this project.

The results of the study indicate that there is a need for further monitoring of the quality of iodised salt produced at the manufacturer level in order to prevent iodine deficiency disorders.

Table 1. Prevalence of iodine contents of salt (n = 275).

		Iodine Content (ppm)					
		0-10		10 - < 15		≥ 15	
No	%	No	%	No	%	No	%
1	0.36	73	26.54	44	16.00	157	57.10

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