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## IODIZATION STATUS OF COMMON SALT IN DISTRICTS OF WESTERN UTTAR PRADESH.

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### ABSTRACT:

**Research Problem:** What is the amount of iodine in common salt samples.

**Objective:** To estimate the amount of iodine in common salt samples.

**Study Design:** Population based cross - sectional study

**Setting:** Randomly selected six districts of western U.P.

**Sample:** Two salt samples randomly collected from households of each block area of the district.

**Sample Size:** 152 salt samples.

**Study Variables:** Iodine content in salt samples.

**Statistical Analysis:** By chi - square test.

**Result:** Unsatisfactory level of iodine was found in 52% of the salt samples. Crystal salt samples were more poorly iodized (70.9%) than powder salt samples (41.2%).

**Recommendations:** Strict enforcement of ban on the sale of non-iodised salt.

**Key Words:** Iodine, Crystal salt, Powder salt.

### INTRODUCTION:

Nearly 54 million people are estimated to be suffering from goitre and 167 million people are living in areas exposed to I.D.D.<sup>1</sup> The most cost effective remedy for iodine deficiency is the universal iodization of edible salt, a goal the Govt. of India hoped to achieve by the end of 1995.<sup>2</sup>

To date 24 states and union territories have issued full ban notifications. U.P. Govt. announced a complete ban on non iodised salt on 2nd Oct., 1987.<sup>3</sup> The present study illustrates the status of availability of iodised salt in some districts of western Uttar Pradesh.

### MATERIAL AND METHODS:

The study was carried out on salt samples collected at consumer level from six districts viz. Bijnore, Bulandshahr, Ghaziabad, Haridwar, Meerut and Muzaffarnagar, during the year 1993-94. Two salt samples were randomly collected from households of each block area of the districts (3). The salt samples were analysed in the department laboratory using the kit method. The analysis report is being presented here.

### RESULT:

In all, 152 salt samples were analysed from these six districts, of which 55 (36.2%) were of crystal salt and rest 97(63.8%) were in powder form.

Iodization status of salt samples revealed that more than half (52.0%) samples were not containing minimum required level of iodine at consumer level. Crystal salt samples were more poorly iodised (70.9%) as compared to powder salt (41.2%), the difference being statistically significant ( $p < 0.001$ ) (Table - I).

Nine samples of crystal salt (16.4%) and ten samples of powder salt (10.3%) were not containing iodine at all. Districtwise iodization status of common salt did not show a statistically significant difference in interdistrict variations ( $p > 0.50$ ) (Table - II).

### DISCUSSION:

In spite of the complete ban on the sale of non-iodized salt for as long as 7 years in U.P., only 48% desired iodization at the consumer level just about a year prior to mid decade goal of

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universalization of iodized salt indicates a long journey for achieving the desired goal.

Two reasons can primarily be identified for iodization failure. Firstly, a dual market still exists in which non-iodized salt which is cheaper by a rupee or two per kg can be purchased and is even available loose in crystal form. In fact, due to wide spread poverty in the country, loose crystal salt is favoured by the majority who can not afford the scientifically packed salt. Secondly, the rules framed under the PFA Act which set the standards for quality are limited to iodized salt for human consumption only while the salt for animal consumption is not under the perview of PFA Act which largely replaces the salt for human consumption in rural community.

The comparatively low concentrations of iodine in crystal salt and the ideal storage and carriage conditions for it which are not usually followed also questions the reliability of crystal salt keeping the iodine concentration within the required level. Yet, it accounts for a little more than one third of the consumption of salt.

Therefore, not only the ban of iodized salt is essential at the source but it is equally essential to maintain the desired level of iodine in salt upto consumer level by regular monitoring at various levels in distribution system. As maintaining the quality of crystal salt is difficult as illustrated by this study, emphasis should be on universal access of powdered iodized salt by enforcing a ban on crystal salt for whatever purposes.

**REFERENCES:**

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**TABLE-I:**

**IODIZATION STATUS IN RELATION TO TYPE OF SALT.**

Iodine Content (PPM)	Type of Salt					
	Crystal		Powder		Total	
	No.	%	No.	%	No.	%
< 15	39	70.9	40	41.2	79	52.0
> 15	16	29.1	57	58.8	73	48.0
<b>Total</b>	<b>55</b>	<b>36.2</b>	<b>97</b>	<b>63.8</b>	<b>152</b>	<b>100.0</b>

$x^2 = 12.7$  d.f. = 1  $p < 0.001$

**TABLE - II :**

**DISTRICT WISE IODIZATION STATUS OF COMMON SALT**

District	Total Samples	Iodine Level			
		<15 ppm		> 15 ppm	
		No.	%	No.	%
Meerut	32	18	56.3	14	43.7
Bulandshahr	20	12	60.0	8	40.0
Bijnore	40	19	47.5	21	52.5
Ghaziabad	20	10	60.0	10	50.0
Muzaffarnagar	28	13	46.4	15	53.6
Haridwar	12	7	58.3	5	41.7
<b>Total</b>	<b>152</b>	<b>79</b>	<b>52.0</b>	<b>73</b>	<b>48.0</b>

$x^2 = 1.94$ , d.f. = 5  $p > 0.50$ .