

Progress towards elimination of IDD in the Islamic Republic of Iran

A KAP survey of iodized salt consumption

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نحو القضاء على اضطرابات عوز اليود في جمهورية إيران الإسلامية
استقصاء لمعارف الناس ومواقفهم وممارساتهم تجاه تناول الملح المعالج باليود
ربابه شيخ الإسلام

خلاصة : أدركت جمهورية إيران الإسلامية منذ سنوات عديدة أن اضطرابات عوز اليود تمثل مشكلة صحية في البلاد . وفي عام 1989 انشئ برنامج للوقاية من هذه الاضطرابات . وبذلت جهود مكثفة للتغلب على العوائق التي كانت تحول دون تنفيذ هذا البرنامج . وتحاول هذه الدراسة كشف الصعوبات التي ووجهت ، والعوامل الشائعة المؤدية لانتشار عوز اليود ، والتقدم الذي تم إحرازه في مكافحة الاضطرابات المتصلة به ، ونتائج الحملة الوطنية لرفع مستوى الوعي بضرورة تناول الملح الميودن (المعالج باليود) . ويعرض الجزء الأخير منها الاستنتاجات والتوصيات العامة بهذا الشأن مما قد يعود بالنفع على البلدان التي تواجه مشكلة من هذا القبيل في مجال الصحة والتغذية .

ABSTRACT It has been recognized for a number of years that iodine deficiency disorders constitute a health problem in the Islamic Republic of Iran. A programme for the prevention of such disorders was established in 1989 and intensive efforts have been made to overcome obstacles hindering its implementation. This study investigates the difficulties encountered, common factors behind the prevalence of iodine deficiency, the progress made in combating it and the results of a nationwide campaign to raise awareness of the need to consume iodized salt. The final part of the study presents general conclusions and recommendations which may be of use to countries facing a similar problem in the field of health and nutrition.

Progrès vers l'élimination des troubles dus à une carence en iode en République islamique d'Iran: Enquête CAP sur la consommation de sel iodé

RESUME Depuis plusieurs années, les troubles dus à une carence en iode sont reconnus comme constituant un problème de santé en République islamique d'Iran. Un programme a donc été créé en 1989 pour prévenir ces troubles, et des efforts intensifs ont été déployés pour surmonter les obstacles entravant la mise en oeuvre de ce programme. Cette étude examine les difficultés rencontrées, les facteurs courants qui sont à l'origine de la prévalence de la carence en iode, les progrès réalisés dans la lutte contre cette carence ainsi que les résultats d'une campagne nationale de sensibilisation à la nécessité de consommer du sel iodé. La dernière partie de l'étude présente les conclusions générales et recommandations qui peuvent être utiles aux pays confrontés à un problème analogue dans le domaine de la santé et de la nutrition.

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Introduction

Iodine deficiency disorders (IDD) have been recognized for a number of years as a health/nutrition problem in the Islamic Republic of Iran. In 1989, an IDD Prevention Committee comprising specialists and related programme officers, was established in the Ministry of Health and Medical Education and compiled the first programme on the prevention of IDD. One of the main strategies of this programme was the production and distribution of iodized salt throughout the country, and extensive efforts were made to produce iodized salt and increase its accessibility in various parts of the country.

Based on the assessment of needs, and subject to the reports obtained from the provinces, this programme was reviewed to determine its weak and strong points. The new programme is aimed at specific targets based on mid-decade goals and on fulfilling the needs which will arise during the expansion of the programme.

The design and manufacture of the first iodine sprayer line was accomplished for the first time by Daru Pakshsh factory in 1990 for use as a model; the Ministry of Industries issued a circular prohibiting the issue of new licences for the production of ordinary salt throughout the country. However, the presence of many small producers of salt all around the country who were not interested in investing in iodized salt production posed a major problem. Training and encouraging these producers and supporting their interests by granting them the necessary permits were among the strategies used to increase the production of iodized salt. Nevertheless, production units which did not observe current criteria continued to operate without permits from the Ministry of Health and Medical Education.

Designing Ministry of Health permits in the form of a serial number or code, printed on the salt packets, was an effective step in motivating these producers to compete with one another in producing iodized salt of a better quality. Between 1990 and 1994 continued efforts were made to encourage the producers and by September 1994, a total of 26 iodized salt factories had been established throughout the country. These units were capable of producing iodized salt to meet the needs of the whole population. Increased provision of information, education and communication to the public resulted in an increased demand for iodized salt and this led to an increase in the number of new applications for iodized salt production licences. By May 1995, there were 40 iodized salt producing units in the Islamic Republic of Iran and their distribution throughout the country made this product accessible to all areas.

At present the following committees are responsible for laying down policies for the programme:

- the National IDD Committee in which ministers or their representatives participate; this committee is a policy-making body;
- the IDD Scientific and Planning Committee and subcommittees for production and distribution, education and research;
- IDD provincial committees, who implement the decisions made by the above committee and report on their regions;
- subcommittees in the provinces for production, distribution and education.

The following activities have been carried out to date.

- Surveys of the extent and magnitude of the problem, through an epidemiological survey of goitre in school-age chil-

dren throughout the country, in 1989 and 1994.

- Codification of the objectives of the programme and strategies (e.g. production and distribution of iodized salt and injectable iodized oil).
- Design and manufacture of an iodine sprayer line for salt, and a new initiative for the iodization of salt by Iranian experts.
- Increasing the accessibility of iodized salt, by encouraging factories to switch over from ordinary to iodized salt.
- Procurement of books and educational materials for physicians, mid-level officers and *behvarz* (community health workers).
- Use of mass media (radio and television, scientific magazines) to improve people's knowledge and promote the use of iodized salt.
- Preparation of video films for medical and paramedical students and the general public.
- Preparation of commercial films with scripts in simple language for children.
- Integration of the IDD programme in the national primary health care network, covering eight hyperendemic provinces in the first stage, and the rest of the country in the second stage, which started in 1995.
- Use of iodized oil injections in hyperendemic rural areas.
- One-day seminars in the provinces to increase the knowledge of health workers and encourage their participation.
- Training courses for employees of the food control laboratories in the field of quality control of iodized salt.
- Training seminars for technicians working in factories producing iodized salt.

- Promotion of improved quality of iodized salt through intersectoral cooperation and creation of an inspection group selected from the Ministries of Industry, Mines and Health and representatives of the producers of iodized salt.
- Control and monitoring of iodized salt during production by environmental health workers and food inspection departments.
- Training workshops on determination of urinary iodine for employees of provincial laboratories, with the help of experts from UNICEF and WHO.
- IDD education campaigns on national immunization days including distribution of small packets of iodized salt to families.
- Regional workshops, sponsored by UNICEF, at which the Islamic Republic of Iran has shared its experience in this field with other countries.

In May/June 1994, the Departments for Nutrition, Health and Family Planning, made plans for evaluating the three programmes on family planning, breast-feeding and use of iodized salt. It was then decided to carry out a knowledge, attitudes and practice (KAP) survey to assess the impact of the educational activities organized in the context of the programme.

Iodized salt KAP survey for assessing educational activities

A comprehensive questionnaire was prepared for the survey which evaluated three programmes: family planning, breast-feeding and use of iodized salt. Questions 12 to 17 of the questionnaire (see

Table 1 Questions in KAP survey on consumption of iodized salt**12. Literacy of eligible women**

1. Illiterate or can only read
2. Incomplete primary education
3. Completed primary education, but not secondary school
4. Completed secondary education, but not high school
5. High school certificate

13. Are you aware of iodized salt?

1. Yes
2. No

14. If you are aware where did you get the information from?

1. Radio
2. Television
3. Newspaper, magazine, book
4. Poster, placard, pamphlet
5. Health workers
6. Private physician
7. Friends and relatives
8. Others (please explain)

15. Being aware, do you use iodized salt?

1. Yes (always use it)
2. Yes (use it occasionally)
3. No (do not use it at all)

Those being interviewed should be requested, if possible, to show the salt being used along with the packet and then answer questions 16 and 17

16. Condition of the packet of salt

1. Packet with yellow-coloured plastic
2. Packet with a different colour
3. Packet of salt not available

17. Does the salt change colour to blue or purple after adding one drop of the solution?

1. Yes
2. No

Table 1) aimed at obtaining information on consumption of iodized salt. The questionnaire also involved the actual testing of iodized salt found in the home.

The study was carried out in all provinces and in both rural and urban areas. In each area, 50 clusters of 20 families each were systematically selected, and interviews were conducted with 2000 families in each province. The target groups were married women, 15–49 years of age, who were questioned about the availability of iodized salt, sources of information, the use of iodized salt and literacy level.

Results of the survey

Figures 1 and 2 show the knowledge and practice in the use of iodized salt by province in rural and urban areas. In 16 urban provinces more than 90% of household were aware of the availability of iodized salt and in 11 provinces more than 80% of households were using iodized salt. In 10 rural provinces more than 80% of households were informed about the availability of iodized salt but its consumption rate was less than in urban areas.

On average, 91% of households in urban areas and 71% in rural areas were aware of the availability of iodized salt, and 76% of households from urban areas and 52% of households from rural areas actually used iodized salt. The data in relation to consumption of iodized salt shown in Figures 1 and 2 are based on the tests carried out by the surveyors on iodized salt using rapid test kits for measuring iodine in salt.

In order to assess a family's tendency to actually use iodized salt, questions were put to women who were already aware of iodized salt. Out of 90.6% of households from urban areas who were already informed about iodized salt, 6.1% said they

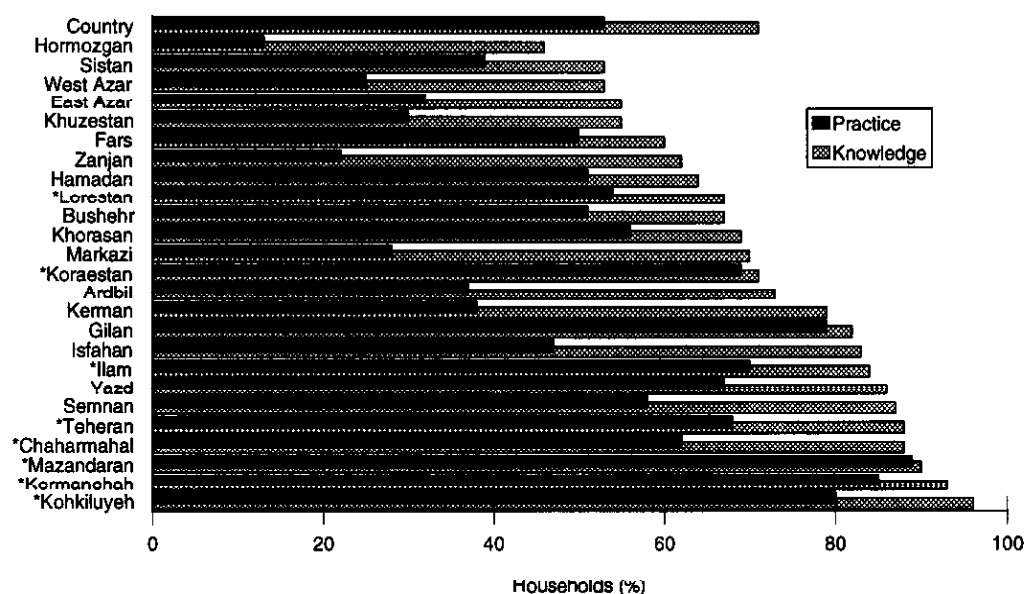


Figure 1 Knowledge and practice of iodized salt usage in rural areas, Islamic Republic of Iran, June 1994

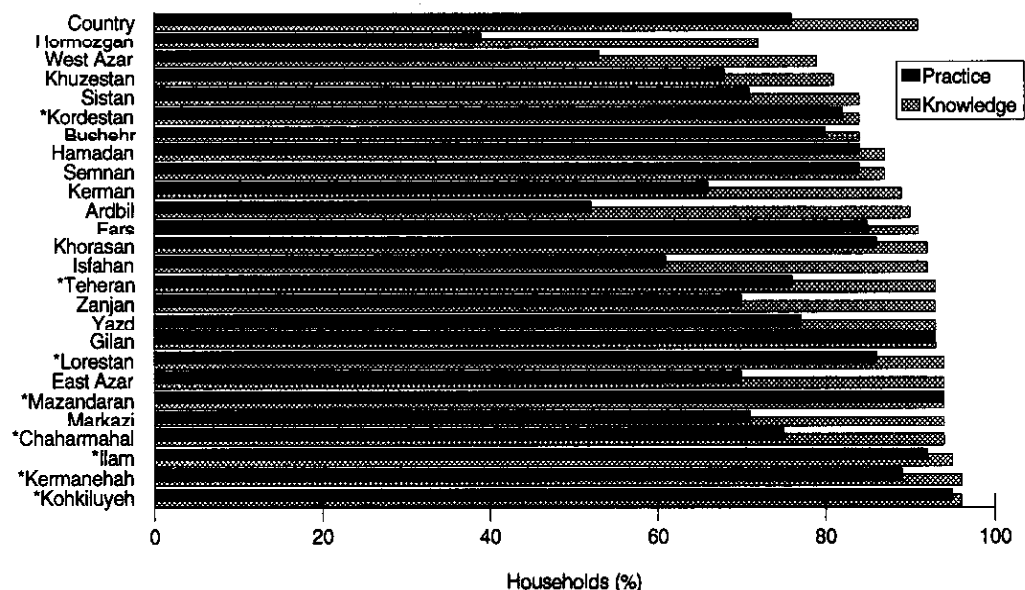


Figure 2 Knowledge and practice of iodized salt usage in urban areas, Islamic Republic of Iran, June 1994

* Hyperendemic provinces with IDD programme within primary health care

Table 2 Percentage of households using iodized salt, by literacy and frequency of usage in urban and rural areas, Islamic Republic of Iran, June 1994

Literacy	Never (%)	Often (%)	Always (%)
<i>Urban</i>			
Literate	5.1	19.7	69.3
Illiterate	8.1	22.5	49.3
Total	6.1	20.1	64.4
<i>Rural</i>			
Literate	11	20.9	52.6
Illiterate	11.9	19.1	34.8
Total	10.2	19.5	41.6

did not consume iodized salt at all, 20.1% consumed it sometimes and 64.4% always used iodized salt (Table 2).

In rural areas, out of 71.3% of women who were aware of iodized salt, only 41.6% said they always used iodized salt (Table 2). Information analysis, based on literacy, showed that in urban as well as in rural areas the percentage of literate women using iodized salt was higher than illiterate women. The number of literate women who use iodized salt was consistently 1.5 times higher than that of illiterate women.

Review of household information based on literacy showed that literacy has a significant effect on families' awareness of iodized salt. The rate of knowledge among literate women about iodized salt in urban areas was an average 94.1% compared with only 79.9% among illiterate women (Figure 3).

In reply to the question about their source of information about iodized salt, in rural areas some 40% said they were informed by health personnel, 13% by television, and 6% through the radio. In urban

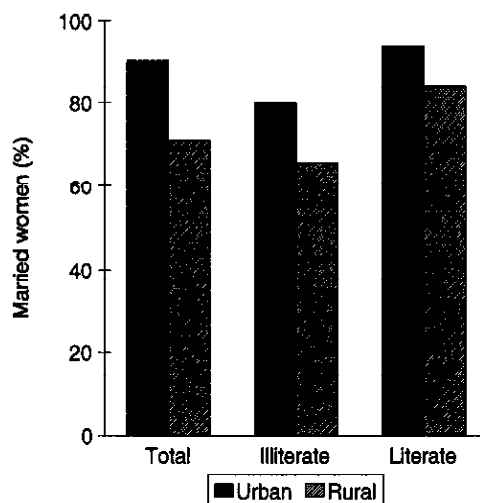


Figure 3 Percentage of married women aged 15-49 years who know about iodized salt, by literacy, Islamic Republic of Iran, June 1994

areas most people were informed by television (33%), followed by health workers (19%) and radio (13%).

Conclusion and recommendations

Married women between 15 and 49 years of age who were usually responsible for cooking and procuring food products were surveyed. In addition to questions on awareness and use, iodine levels of salt were also tested with iodine measuring kits. Awareness of the need to use iodized salt was higher in families where the women were literate. The main sources of information were health workers in rural areas and television in urban areas. The conclusions drawn from this survey, which also served

as a review of the IDD programme, led to the following recommendations.

- More attention should be paid to the ease of access to iodized salt in rural areas.
- Integration of IDD programmes in primary health care promote the consumption of iodized salt and such programmes should therefore be strengthened.
- The possibility of preventing the sale of non-iodized salt in shops should be explored.
- Training should be strengthened in provinces which show a low rate of consumption of iodized salt.
- Radio and television should be used as one of the main channels for communication and education.

Iodine deficiency is available from the Regional Advisor, Nutrition, Food Security and Safety, WHO Regional Office for the Eastern Mediterranean, PO Box 1517, Alexandria 21511, Egypt.

