

Household Wealth and Iodised Salt Consumption: Iodised Salt at Any Price?

Simon Wheeler and Frits van der Haar

EXECUTIVE SUMMARY

July 2004

**Emory University Rollins School of Public Health
Department of Global Health
1518 Clifton Rd., N.E., 7th floor,
Atlanta, GA 30322, USA
Telephone: +1 (404) 727-2427 • Fax: +1 (404) 727-4590**

Salt iodisation is a proven strategy to prevent and alleviate iodine deficiency, yet a significant section of the world's populations still does not consume iodised salt despite the efforts of governments and the salt industry to the contrary.ⁱ Population surveys almost invariably show that poorer households are less likely to buy and use iodised saltⁱⁱ, although until now there has been little detailed analysis of the question as to why this occurs.

In the present study, we made an analysis of DHS survey data from seven developing countries to explore the relationships between iodised salt consumption, household wealth, urban-rural status, educational attainment, administrative region and, where possible, the type of salt on sale in the markets.

Fortunately, the survey data collected in India and Benin data indicated which type of salt was found in households. In these countries, the type of salt proved to be by far the most influential factor in determining IS consumption.

In India, the consumption of iodised salt in the poorest 50% of households was 16% lower than in the wealthiest 50%. Coarse, or common, salt was generally less likely to contain iodine than refined salt and, because the price in markets of coarse salt was cheaper, it was more likely to be purchased by poorer households.

After analysing the Indian dataset by salt type, no wealth effect was apparent among coarse salt users and it was reduced to almost insignificant levels among refined salt users. The association between household wealth and iodised salt use in India therefore appeared to operate by proxy whereby household wealth - an indicator for purchasing power - appeared to influence the choice for a certain salt

type rather than a conscious household decision to buy iodised salt *per se*.

In Benin, the analysis of salt type was less straightforward. Initially for the entire country, an inverse association was found between the household consumption of iodised salt and wealth, although after adjusting for regional variation this relationship assumed a more conventional format. In the more affluent coastal Department of Atlantique there appeared to be a higher availability of uniodised salt compared to the poorer inland Departments such as Atacora and Borgou where almost all the coarse household salt was iodised. The major cause of uniodised salt use in Atlantique Department appeared to be the supply of coarse, uniodised salt from many small-scale sea-salt harvesting businesses located near the capital Cotonou. Conversely in the coastal Mono Department, which borders on Togo, virtually all the coarse salt was iodised and refined salt was the main problem. Anecdotal reports suggest that this was due to the importation of uniodised refined salt from Ghana across the Togolese border.

The data of the Armenia survey allowed the testing of any effects of knowledge of the benefits of iodised salt and the storage conditions under which it was kept. Neither variable was found to be very significant, and "good storage" produced only a minimal effect (<5%) in raising the likelihood of household salt containing iodine. However, in provinces where iodised salt consumption was lower such as Shirak and Lori, knowledge of the beneficial effects of iodised salt may have had a much larger effect. Unfortunately low statistical power at provincial level precluded a definitive answer to this question.

Elsewhere data from Egypt, Malawi, Haiti and Tanzania generally showed positive wealth effects, though the lack of variables other than wealth, educational attainment and urban-rural status, combined with a general paucity of information about the salt production and supply situation in these countries made it difficult to determine what the underlying reasons may have been for these effects, especially in Tanzania where low sample size precluded a more detailed statistical analysis. In Egypt, wealth seemed to be the primary factor in determining IS consumption, whereas in Malawi it seemed to play only a minimal role after adjusting for educational attainment, region and urban-rural status. Interpreting the results from these countries was therefore more problematic than in countries where additional salt-related variables and background data were available.

In all countries, educational attainment and urban-rural status were shown to have at most a minimal association with household IS consumption. Therefore, whilst it cannot be denied that less educated, rural households are generally

those most likely to use uniodised salt, it would appear that this disparity is mostly a product of poverty rather than a direct association with education or urban-rural status variables.

Overall, the results of this study indicate that in countries such as India where significant differences between the iodisation rates of coarse and refined salt exist, the resulting differences in household IS consumption will reflect household economic status – and thus purchasing power - in association with differences in the price of salt in the markets. From a policy perspective, an increase in the iodisation of coarse salt would be more likely to benefit poorer households in such cases, whereas increasing the iodisation of refined salt would benefit affluent households first and foremost. On the basis that poorer households are generally more likely to suffer from the consequences of iodine deficiency and malnutrition, public nutrition policy aimed at the reduction of inequity should be directed at removing the obstacles that prevent the iodisation of coarse salt rather than increasing the availability of refined salt.

ⁱ WHO/UNICEF/ICCIDD. Progress towards the elimination of iodine deficiency disorders (IDD). Geneva: World Health Organization; 1999. Document WHO/NHD/99.4. <http://www.who.int/nut/publications.htm#idd> (accessed 2 July 2004)

ⁱⁱ MI/UNICEF. Vitamin and Mineral Deficiency: A Global Progress Report. Ottawa: The Micronutrient Initiative; 2004. <http://www.micronutrient.org/reports/report.asp?cntry=Full> (accessed 2 July 2004)