
LITHIUM LEVELS IN DRINKING WATER, SUICIDE MORTALITY AND SUICIDE PREVENTION

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Introduction: Lithium is a natural trace element present in drinking water. At the same time it is one of the oldest drugs in neuropsychopharmacology with well-documented antisuicidal effectiveness in bipolar and unipolar depression.

Aim: To review the relation between lithium's levels in drinking (tap) water and suicide rates across various geographical regions.

Method: Literature review on PubMed. Keywords: Lithium, drinking water, suicide mortality, suicide rates.

Results: The majority of the studies show that there is an inverse association between lithium's levels in drinking water and suicide rates. It has to be mentioned that lithium's total diurnal intake from drinking (tap) water is submultiple that of the minimum dose used in treating psychiatric disorders. This could imply that lithium's antisuicidal effectiveness is distinct from its mood-stabilizing or its antidepressant-augmenting actions, being evident even at very low doses. Limitations of the various studies are that they have not controlled for demographic and psychosocial factors or for lithium intake from other sources -e.g. vegetables, dried nuts or bottled water. It is also possible that duration of exposure to a specific level of lithium in drinking water -several years or even tens of years- could have also played a role. However, there are also some studies showing no association between lithium levels in drinking water and suicide mortality.

Conclusion: Primary prevention of suicides is challenging. 'Lithiation' -enrichment of drinking water with lithium- can provide a valuable help in this direction provided that the limitations of the previous studies will be addressed by further research.