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Bisphenol A concentrations in Canadians, 2012 and 2013

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. not available for any reference period
.. not available for a specific reference period
... not applicable
0 true zero or a value rounded to zero
0^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
^{p} preliminary
^{r} revised
x suppressed to meet the confidentiality requirements of the *Statistics Act*
^{E} use with caution
F too unreliable to be published
* significantly different from reference category ($p < 0.05$)

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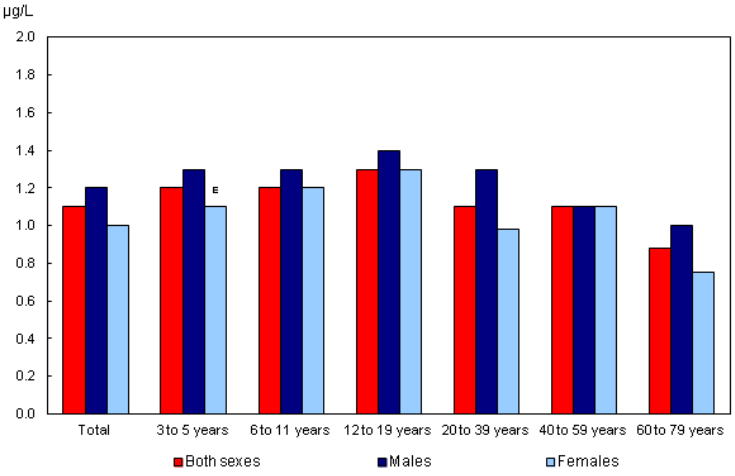
Bisphenol A concentrations in Canadians, 2012 and 2013

Results from the 2012 and 2013 Canadian Health Measures Survey indicate that bisphenol A (BPA) was detected in the urine of 90% of Canadians aged 3 to 79.

The average urine concentration was 1.1 micrograms per litre (µg/L) (Chart 1). Males tended to have higher concentrations of BPA compared with females of the same age, although the differences were not significant. In general, children and youth aged 3 to 19 had significantly higher concentrations of BPA compared with adults 20 years of age and older (data not shown). The highest average urine concentration (1.4 µg/L) was found among young males aged 12 to 19 and the lowest (0.75 µg/L) was found in women aged 60 to 79 years (Chart 1).

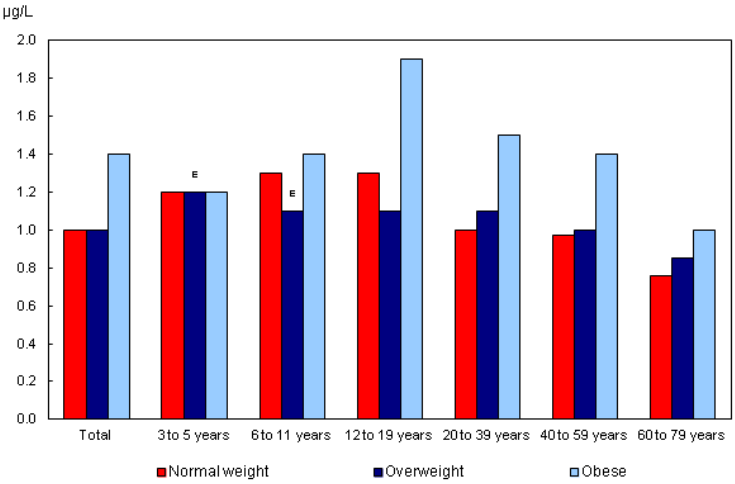
Chart 1
Total bisphenol A concentration in urine (µg/L) of Canadians aged 3 to 79, by sex and age group, household population, Canada, 2012 and 2013



E use with caution (data with a coefficient of variation from 16.6% to 33.3%)
Note: Concentrations are presented as a geometric mean, which is a type of average that is less influenced by extreme values than the traditional arithmetic mean. The geometric mean provides a better estimate of central tendency for highly skewed data. This type of distribution is common in the measurement of environmental chemicals in blood and urine.
Source: Canadian Health Measures Survey, 2012 and 2013

Variations in urine concentrations of BPA were seen across body mass index categories. Significantly higher BPA concentrations were seen in obese individuals (1.4 µg/L) compared with normal weight individuals (1.0 µg/L) and overweight individuals (1.0 µg/L) (Chart 2).

Chart 2
Total bisphenol A concentration in urine (µg/L) of Canadians aged 3 to 79, by age group and body mass index, household population, Canada, 2012 and 2013



E use with caution (data with a coefficient of variation from 16.6% to 33.3%)
Note: The measure of central tendancy presented is the geometric mean, which is a type of average that is less influenced by extreme values than the traditional arithmetic mean. The geometric mean provides a better estimate of central tendency for highly skewed data. This type of distribution is common in the measurement of environmental chemicals in blood and urine.
Source: Canadian Health Measures Survey, 2012 and 2013

About bisphenol A

Bisphenol A (BPA) is a chemical used in the production of polycarbonate plastic and epoxy resins. It does not occur naturally in the environment. Polycarbonates are used in manufacturing items such as plastic food and beverage containers.[1, 2] Epoxy resins are used in the interior protective coating of metal food and beverage cans.[1, 2] Ingestion of BPA is the primary form of exposure, which occurs due to its transference from containers into the foods or beverages contained within them.[3] Exposure to bisphenol A can also occur from skin contact with thermal paper (e.g. receipts, tickets, labels) or from environmental exposure (e.g. indoor air, drinking water, soil, and dust).[2]

In 2012, Health Canada's Food Directorate[4] reported that the current dietary exposure to BPA through food packaging is not proven to pose health risks to the general population, including newborns and infants; however, it is still recommended to limit exposure.[1]

BPA concentrations were measured in urine and are reported in micrograms per litre (µg/L). Concentrations are presented as a geometric mean, which is a type of average that is less influenced by extreme values than the traditional arithmetic mean. The geometric mean provides a better estimate of central tendency for highly skewed data. This type of distribution is common in the measurement of environmental chemicals in blood and urine.

Data

Additional information on bisphenol A and many other environmental substances are presented in Health Canada's *Third Report on Human Biomonitoring of Environmental Chemicals in Canada*.

Additional information is available at Canadian Health Measures Survey.

For more information on the Canadian Health Measures Survey, please contact Statistics Canada's Statistical Information Service (toll-free 1-800-263-1136; 514-283-8300; infostats@statcan.gc.ca).

Notes

1 Health Canada. 2014. *Bisphenol A - Packaging Materials - Food Safety*. (accessed April 2015).

2 Health Canada. 2013. *Second Report on Human Biomonitoring of Environmental Chemicals in Canada.* Health Canada, Catalogue no. H128-1/10-601-1E-PDF. Ottawa; (accessed April 2015).

3 Canadian Food Inspection Agency. 2014. *2011 – 2012 Bisphenol A in Canned Foods.* (accessed April 2015).

4 Health Canada. 2012. *Update on the Food Directorate's Risk Management Commitments for Bisphenol A as Part of Canada's Chemicals Management Plan*. (accessed June 2015).