

# Doctors warn that using domestic spoons to give children medicine increases overdose risk

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This is the cover of the IJCP August issue. Credit: Wiley-Blackwell 2010

Medical experts have warned parents that using domestic spoons to dispense children's medicine could lead to overdoses after discovering that some hold two to three times as much as others.

The study in the August issue of IJCP, the [International Journal of Clinical Practice](#), looked at 71 teaspoons and 49 tablespoons collected from 25 households in Attica, Greece.

It found that the capacity of the teaspoons ranged from 2.5ml to 7.3ml,

with an average and median volume of 4.4ml. The capacity of the tablespoons ranged from 6.7ml to 13.4ml, with an average of 10.4ml and a median of 10.3ml.

"The variations between the domestic [spoon](#) sizes was considerable and in some case bore no relation to the proper calibrated spoons included in many commercially available children's medicines" says Professor Matthew E Falagas, Director of the Alfa Institute of Biomedical Sciences in Athens, Greece.

"A parent using one of the biggest domestic teaspoons would be giving their child 192 per cent more medicine than a parent using the smallest teaspoon and the difference was 100 per cent for the tablespoons. This increases the chance of a child receiving an overdose or indeed too little medication."

The 25 women who took part in the study were aged between 24 and 84 with an average age of 48. Most had between one and three different teaspoons and tablespoons in their house, but two women had as many as six different teaspoons and one of those also had five different tablespoons.

"We not only found wide variations between households, we also found considerable differences within households" says Professor Falagas.

The researchers were also keen to see whether there were any differences when five of the women were asked to dispense liquid from a calibrated 5ml medicine spoon. They found that only one dispensed the correct dose of liquid, with three dispensing 4.8ml and one 4.9ml.

As a result of their findings, the researchers, from Athens and Boston, USA, are urging parents to use calibrated medicine syringes to dispense liquid medication to [children](#). This method is also more effective if

children are very young or reluctant to take medicine, as a spoon can be pushed away and spilt, leaving the parent unsure about how much the child has actually taken.

"Dosing and administering medication to children is different from adults" says Professor Falagas. "Paediatric dosages need to be adjusted to age and body weight and, as a result, children are considered to be more vulnerable to dosage errors than adults.

"Our research clearly shows that using domestic teaspoons and tablespoons can result in children receiving considerably more or less medicine than they need.

"Low-cost medicine syringes are widely available from pharmacists, very easy to use and will give parents greater confidence that they have dispensed the correct dose."

The authors also suggest that adults avoid using domestic spoons for themselves.

"Although adults do not face the same risk levels as children, we would still advise them to use properly calibrated spoons or cups if they take any liquid medicine."

**More information:** Inaccuracies in dosing drugs with teaspoons and tablespoons. Falagas et al. *IJCP*. 64.9, pp1185-1189. (August 2010).

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