



# Journal of Medical Sciences

ISSN 1682-4474

**science**  
alert

**ANSI***net*  
an open access publisher  
<http://ansinet.com>

## Children Who Don't Like Fruit and Vegetables Are 13 Times More Likely to Be Constipated

*Primary school children who don't like eating fruit and vegetables are 13 times more likely to develop functional constipation than children who do, according to a study in the December issue of the Journal of Clinical Nursing. Drinking less than 400ml of fluid a day also significantly increases the risk.*

Dr Moon Fai Chan, assistant professor at the National University of Singapore, teamed up with Yuk Ling Chan, from the Hong Kong Polytechnic University, to study the diet and toileting habits of 383 children aged from eight to ten from a school in Hong Kong.

Fifty-one percent were boys and children who were on regular medication or who paid regular hospital or clinic visits were excluded. Seventy percent of the children who took part in the study were ten-years-old, 22 percent were nine and eight percent were eight.

"A number of studies have suggested that functional constipation -- which is due to dietary habits, environmental habits and psychosocial factors rather than a particular health problem -- is getting worse among school-age children" says Dr Moon Fai Chan from the Alice Lee Centre for Nursing Study at the University.

"It is estimated that functional constipation accounts for 95 percent of cases of constipation affecting children once they pass infancy. The condition has serious consequences, as it can cause a wide range of distressing emotional and physical problems such as stress, soiling, problems at school, damaged self-confidence and reduced social interaction."

### **Key findings of the study included:**

Seven percent of the children who took part suffered from functional constipation and there were clear dietary differences between the children who did and did not have problems.

\* Girls were more likely to have functional constipation than boys (8.2 versus 6.6 percent) and nine-year-olds were more likely to report problems (13.3 percent) than eight-year-olds (10 percent) and ten-year-olds (5.2 percent).

\* Children who only drank 200ml to 400ml of fluid a day were eight times more likely to experience problems than children who drank 600ml to 800ml and 14 times more likely than children who drank a litre or more.

\* Children who said they did not like fruit or vegetables were 13 times more likely to suffer from functional constipation than children who did.

\* Nine out of ten children refused to use the school toilets for bowel movements and the figure was the same for children with and without constipation.

\* The biggest problems with school toilets were that children preferred to go at home. They also cited lack of toilet paper and dirty toilets.

"When we compared our findings with previous studies we found that the levels of functional constipation among Hong Kong school children was higher than those in the USA and UK, but similar to Italy" says Dr. Chan.

The authors have made a number of recommendations that they feel would help to tackle the problem. They suggest that:

\* Primary schools should work with healthcare professionals to make children more aware of the problem, with regular healthcare education sessions in classrooms and at assemblies.

\* Parents need to be educated about functional constipation so that they can spot problems in their children and make sure that their diet provides sufficient fluid, vegetables and fruit. They should also remind their children to pay regular toilet visits at school.

\* School tuck-shops should stock high-fibre snacks such as popcorn, fresh food and dried fruit, instead of crisps and sweets.

\* Children should be encouraged to drink plain water during lessons and drinking fountains should be installed.

\* School toilets should be more user-friendly, private and well stocked with paper so that children feel more comfortable using them.

"We hope that this study will help to raise awareness of functional constipation, which can cause children real physical and emotional distress and seriously affect their quality of life" says Dr Chan.

**Journal Reference:** 1. Frances KY Wong, Moon Fai Chan, Susan Chow, Katherine Chang, Loretta Chung, Wai-man Lee, Rance Lee. What accounts for hospital readmission? Journal of Clinical Nursing, 2010; 19 (23-24): 3334 DOI: 10.1111/j.1365-2702.2010.03366.x