

## LETTER TO THE EDITOR

# Improving quality in school canteens: *Un fiore in mensa* (A flower in canteen) project from ATS Val Padana (Italy)

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## Keywords

Children • Health behavior • School • Food • Quality

Dear Editor,

It is known that dietary behaviors in childhood track into adulthood and are predictive of future chronic disease [1-3]. For this reason, the WHO recommends the implementation of food and beverage policies as a strategy to improve the nutrition of children [4, 5]. Children usually spend many hours at school each day, including lunchtime, so the school environment could be considered an important out of home setting where children consume at least one main meal a day. Given the influence that the environment can exert on students' food choices, it is crucial to create a healthy food environment in schools that facilitates students to choose healthy food products. In this way, students are enabled to develop healthy eating habits from which they can benefit the rest of their lives [6-8].

The foods offered in school canteens have an increasingly important role to ensure that children could have a consistent opportunity to choose healthy foods [9].

In Italy several children bring their lunch from home, but the majority of schools (especially primary, and middle schools) have a canteen; this phenomenon is also described in other parts of the world [10].

The project called *Un fiore in mensa* (A flower in canteen) was conceived by ATS (Agenzia di Tutela della Salute - Health Protection Agency) Val Padana as an acknowledgment given to the quality of the school catering service that could contribute to:

- improve the quality level of school catering service;
- stimulate teachers to live the meal at school as an educational moment;
- actively involve children by educating them in a healthy and correct diet;
- achieve children's autonomy;
- stimulate local administrators, or private managers to achieve a common goal which is the psycho-physical well-being of children.

The aim of the project is to assign an award – *The Flower* – on the basis of the evidences emerged from an inspection. The inspection should be performed at school (without any notice) by health personnel during lunch. Each room, tackle and food should be examined as well as the entire lunch (from preparation of meal to the consumption).

In particular the health personnel should evaluate:

1. quality of the menu;
2. organization and cleaning of the kitchen and/or other locals;
3. collaboration of the teachers;
4. general presentation of the refectory (cleanliness, brightness, furnishings, tables...);
5. collaboration between all the personnel during lunch;
6. children's behavior.

During the inspections, the health personnel should use a questionnaire divided in 6 sections (see Appendix), assigning different scores for each item (max 10 points for each section).

It is necessary to reach at least 30 points to have the “flower”, but these points should be achieved in 3 essential sections (and therefore “petals”):

1. quality of the menu;
2. organization and cleaning of the kitchen and/or other locals;
3. collaboration of the teachers.

The complete flower (with 6 petals) could be reached with 60 points (corresponding to 4 - general presentation of the refectory; 5 - collaboration between all the personnel during lunch; 6 - children's behavior).

At the end of the inspection, a brief report should be written and sent to the local administrators (e.g. mayors) or private managers involved in school catering.

In the first edition of the project (school year 2014-2015) 17 on 28 schools (60.7%) obtained the flower.

In particular: one school obtained a 3-petals certificate; 5 schools obtained a four-petals certificate (4 obtained the petal 4, 1 obtained the petal 5); four schools obtained a five-petals certificate (2 obtained the petals 4 and 5, 1 the petals 4 and the 6 and 1 obtained the petals 5 and 6); seven schools met all the requirements and obtained the complete six petals certificate.

Among the 17 schools that obtained the flower, nine were kindergartens and eight elementary schools. Moreover, five had an internal kitchen and twelve the refectory only.

81.8% (9 out of 11) kindergartens and only 47% (8 out of 17) of elementary schools obtained the flower. 83.3% (5 out of 6) of schools with internal kitchens and only

54.5% (12 of 22) of schools with the refectory obtained the flower.

It is pivotal to say that these results are limited to the schools sited in the territory of ATS Val Padana (situated in Northern Italy) and certainly studies on larger areas, involving a greater number of schools could confirm or deny what we observed.

However, in our experience, we observed in the schools with an internal kitchen several problems: the locker rooms and the toilets dedicated to the canteen personnel were often unsuitable (dirty, or with lockers insufficient for all the workers); in the pantry we often found unsuitable foods such as wine, non iodized salt, bouillon cubes, snacks, precooked foods. In some cases we found a poor collaboration of the teachers.

The better results reported by the kindergartens could be partially explained by their general management: they were often small schools, with a limited number of children and the most of them had a private management.

In the first edition of the project we observed, during the year, a progressive improvement in canteens quality and a progressive growth in the awareness about the project. Some schools that have not received the full flower contacted us to try to resolve some critical aspects and this is certainly an important confirmation of the utility of the project that we encourage to use also in other realities.

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## Conflict of interest statement

The authors declare no conflict of interest.

## Authors' contributions

GT wrote the article, MS had the idea of the project, MLC had the idea of the project, EF contributed to the

data collection, AMF helped to conceptualize the ideas, VC helped to conceptualize the ideas.

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## Appendix

### Questionnaire used during the inspection

*(Failure to comply with even one of the requirements will result in failure to attribute the petal)*

<p><b>1. Quality of the menu:</b></p> <ul style="list-style-type: none"> <li>• validation of the menu by ATS with distinction between winter and summer menus and special diets for clinical reasons (2 points);</li> <li>• variety and quality of menu (type of used foods, presence of seasonal fruit and fresh products) (2 points);</li> <li>• quality of special diets (variety and possibility of substitutions) (2 points);</li> <li>• compliance with the planned menu and the presence of bread with a reduced salt content (1.7% salt) (2 points);</li> <li>• portions appropriate to age, pleasant tasting, correct use of condiments, attention to the use of salt (iodized and in appropriate quantity) (2 points).</li> </ul>
<p><b>2. Organization and cleaning of the kitchen and/or other locals:</b></p> <ul style="list-style-type: none"> <li>• absence of previous inspections with a negative result by ATS or fulfillment of the changes imposed by ATS (3 points);</li> <li>• adequate space and equipment in the kitchen, in the refectory and in the pantry (2 points);</li> <li>• hygiene of workers, hygiene of spaces and hygiene of equipment (cookware, stove, oven...) (3 points);</li> <li>• presence and application of the self-control plan (HACCP) (2 points).</li> </ul>
<p><b>3. Collaboration of the teachers:</b></p> <ul style="list-style-type: none"> <li>• behavior of the teachers during the meal (they eat with the children or with each other, they encourage the tasting of food, they behave in a polite and kind way with the children) (4 points);</li> <li>• meal management as an educational moment (4 points);</li> <li>• vigilance on special diets (2 points).</li> </ul>
<p><b>4. General presentation of the refectory (cleanliness, brightness, furnishings, tables...):</b></p> <ul style="list-style-type: none"> <li>• brightness, furniture and adequate spaces of the refectory (2 points);</li> <li>• table setting (2 points);</li> <li>• use of non-disposable plates and cutlery (1 point);</li> <li>• presentation of dishes (1 point);</li> <li>• relationship between the diners and the workers who distribute the meal (2 points);</li> <li>• punctuality of the served meal and duration of the meal (2 points).</li> </ul>
<p><b>5. Collaboration between all the personnel during lunch:</b></p> <ul style="list-style-type: none"> <li>• communication and collaboration during the meal (for example clearing away with the help of children, reporting some problems relating to the meal...) (3 points);</li> <li>• consumption of the same meal by teachers and children (4 points);</li> <li>• general harmony during the meal (peaceful atmosphere, respect for roles, etc.) (3 points).</li> </ul>
<p><b>6. Children's behavior:</b></p> <ul style="list-style-type: none"> <li>• table education (2 points);</li> <li>• correct use of cutlery (2 points);</li> <li>• acceptance of the meal (tasting of unwelcome foods) (2 points);</li> <li>• correct consumption of bread (2 points);</li> <li>• correct consumption of fruit (preferably mid-morning) (2 points).</li> </ul>