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Editorial

Scientifical Solutions for Nutrition Labelling of Menus - A New Challenge for the Catering Industry

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The menu nutrition labelling needs to be developed and implemented in European Union countries according to the Regulation (EU) No 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council [1].

The implementing of the nutrition labelling or nutrition declaration in the catering industry is a mandatory requirement in some European countries [2]. In the present research study, the proposed procedure of developing and expressing menu's nutrition declaration were strictly according with the Annex XV of Regulation (EU) NO. 1169/2011 requirements [1], in a classic format (listed in the menu, as a nutritional statement) and in electronical format (QR code).

The scientific-based solutions proposed, as strategic objective of the present research study, involves the formulation of a technical procedure ensuring the maximum degree of compliance in public and commercial catering units with the mandatory legal requirements for nutrition labelling of menus, culinary items and beverages.

The operational iteration in developing compliant nutrition menu's labelling in catering units is as following:

- O1. The development of scientific-based solutions for establishing the caloric and nutritional profile of menus, culinary items and beverages;
- O2. The performance analysis of the scientific-based solutions for establishing the caloric and nutritional profile for menus, culinary items and beverages;
- O3. The configuration of compliant nutrition labelling format and expression for menus, culinary items and beverages in case of the best performance science-based solution.

The research activities carried out within each stage involve the following methodology:

- O1.1 The formulation of three scientific-based solutions for establishing the caloric and nutritional profile of menus, culinary items and beverages:

A. The culinary production balance method, which involves the using of international databases regarding the composition of raw materials (recipe ingredients) and the culinary processing technological losses (cooking yield) for the calculation of the quantity of finished culinary product and the nutrients retention, as basis of mandatory nutrition informations provided in menus for the finished product;

B. The algorithms method for automatic calculation and development of the menus nutrition labelling mandatory information's included in the nutrition declaration of the finished product;

C. The method of finished product standard development, involving all the informative elements related to the standard recipe, culinary routine, standard service and quality characteristics of the finished product (organoleptic, physic – chemical and microbiological characteristics), mandatory constituents of the menus nutrition label, technical information's obtained through analytical determinations of the finished product composition carried out in certified laboratories.

- O1.2 Application of the three proposed solutions for establishing the caloric and nutritional profile of menus, culinary items and beverages from three representative catering units: restaurants, canteens, hotels with event facilities.

The research studies need to be carried out on representative menus from the relevant catering units included in areas with touristic and commercial impact.

The three technical solutions (iterative, algorithmic and analytical) need to be applied for restaurant à la carte menus, canteen table d'hôte menus and banquet menus (extended table d'hôte) for social events.

The proposed Method A of iterative calculation is performed on a panel of at least ten menus, each with at least three items, with a results report per finished product declared in menu and per component of the finished product.

The chemical composition of the raw material and ingredients will be considered from the Food Composition Database and the technological losses those from the reference intervals of the national standards. The calculations will be made in the total and partial balance of nutrients included in the nutrition declaration per portion and per 100g of the finished product. The proposed Method B is based on using international algorithms for direct calculation of the nutritional label elements, based on the standard recipe for each dishes and beverages item:

- https://www.verywellfit.com/recipe-nutrition-analyzer-4157076
- https://www.oneingredientchef.com/how-to-get-nutrition-facts/
- https://www.nutritionvalue.org/nutritioncalculator.php [3-6].

For a minimum panel of ten menus, each with a minimum of three items, the standard recipes of the public catering units will be used for the analyzed menus, with the standard nomination of the raw materials and the weight per portion. The results being automatically generated for the components of the nutrition declaration of the finished product, integrating information's from the international databases regarding the composition of the raw materials and the technological losses at each culinary process stages.

The Method C involves an analytical assessment of the compositional profile for the finished preparation served to the client, with laboratory analytical determinations for the mandatory nutrition labelling components: energy value, amount of the following nutrients: fat (saturated, mono-unsaturated, poly-unsaturated) fatty acids, proteins, carbohydrates, fibers, salt, vitamins or minerals listed in point 1 of Part A of Annex XIII, and present in significant amounts as defined in point 2 of Part A of Annex XIII [1]. The laboratory analytical determinations included in the nutrition labelling of the finished product need carried out in National Reference Laboratories, agreed by the National Authorities of Consumer Protection.

The results of method C represent part of the product standard, a reference document created by the economic operator for quality certification in front of customers and control bodies.

O2. The analysis of the performance of scientific-based solutions for establishing the caloric and nutritional profile for menus, culinary items and beverages

The comparative analysis of the methods performance is proposed to be carried out based on the following four criteria:

1. The relevance of the results obtained through the three scientific methods for the nutrition declaration of menu and dishes in relation with the reality of the nutrition quality of the dishes received by the customer via the menu list;
2. The cost of compliance through the application of the three methods that involve specialized staff (dieticians, foodservice engineer, foodservice economist) in the case of method A, the software license in the case of method B, respectively specialized staff for the certified analysis and standard development of the finished product, in the case method C.
3. Accessibility, implied by the easy-to-use and rapidity implied by the compliance methods with the mandatory requirements for nutrition labelling of menus and dishes;
4. The benefit for the consumer regarding the clear and correct declaration of the informative elements mandatory included in the nutrition labelling of the menus and dishes.

O3. The configuration of the nutritional label for menus, dishes and beverages for the scientific-based solution with optimal performance

In the present research study, the proposed procedure of expressing and designing the menu's nutrition declaration were strictly according with the Annex XV of Regulation (EU) NO. 1169/2011 requirements [1], in a classic format (listed in the menu, as a nutritional statement) and in electronical format (QR code).

The developing and implementing menus nutrition labelling or nutrition declaration involves a scientific-based method agreed by the National Authorities of Consumer Protection and unitary applied by the catering industry operators, in order to reach its final goal of correct consumer information and its rights protection.

Bibliography

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