Front-of-pack labelling: Nutri-score in the quicksands of the Latin American octagonal model and NutriInform?*

Alfredo Ferrante

1.– Introduction and approach

The health of citizens is paramount and this is demonstrated by the fact that the European Union sets out the need for mandatory provision of nutrition declaration1 - often in a tabular format with the numbers aligned - and the comprehensive listing of all ingredients in descending order of weight2. Also, Codex Alimentarius Guidelines on nutrition labelling essentially go in the same direction, stressing the need for the presence of a nutrient declaration and a nutrition claim3. However, this information is not considered adequate for the buyer/consumer to make critical decisions in favour of a "healthier" diet, an aspect which, if carried out properly, could contribute to reducing the rate of obesity, especially in children. Hence, the common international impulse to consider this information as not entirely sufficient and the desire to complement it with front-of-pack labelling, which is much more visible than the information often included on the back. The European Union has therefore given Member States the option - and not the obligation - to incorporate such labelling4. The invitation has been taken up and this option has given rise to several models5.

In this context, the Nutri-score model inaugurated by France6 seems to be taken as a point of reference in parts of Europe, having influenced coun-
tries such as Belgium\textsuperscript{7}, the Netherlands\textsuperscript{8}, Germany\textsuperscript{9}, Luxembourg\textsuperscript{10} or Switzerland\textsuperscript{11}. Even countries - such as Spain - which, although it wants to support its implementation, officially and publicly recognizes that "it is not perfect labelling\textsuperscript{12}", even though it has tried to validate it with previous studies\textsuperscript{13}.

In partial counter-trend to the European phenomenon, a legislative phenomenon is developing in Latin America with a model of mandatory front-of-pack labelling. Thus, a traffic light label model is used in Ecuador, followed by Bolivia, or the use of octagon-shaped labels. The latter, implemented for the first time by Chile, has been the predominant point of reference for other legislation such as that of Peru and Uruguay or México, although other models have also been used, for example in Colombia and Brazil\textsuperscript{14}.

The recent approval of the Argentinean law on healthy nutrition\textsuperscript{15} opts to incorporate a front-of-package food labelling model influenced by the Chilean octagonal model\textsuperscript{16}. The Italian model of NutrInform Battery\textsuperscript{17} decides to move away from the European trend towards the French Nutri-
score model. These two aspects give the opportunity to make some comparative reflections on some aspects related to this issue, in particular on the octagon-shaped labels model, Nutri-score and the Italian model. Although there seem to be common goals, such as the predisposition for greater consumer protection and information or the predisposition for measures to help reduce non-communicable diseases such as obesity, there are also deeper reasons behind them, including those related to the market economy. Hence, implementing one model or another means indirectly introducing on the market a different type of product to consumers’ perception and even increasing or decreasing sales or import/export of certain products. Thus, the choice of a front-of-pack labelling model has clear economic implications. The proof is that both the Agence nationale de santé publique and the Ministero dello Sviluppo Economico have registered the trademark, also in its graphic representation “Nutri-score”\(^{18}\) and “NutriInform Battery”\(^{19}\) respectively at the European Union Intellectual Property Office. In this sense, thus they can claim a certain protection and ownership in these contexts. Critical reflections are important because the European Union seems to have decided to change course from its initial decision\(^{20}\): so, it is considering the future standardization of front-of-pack labelling model as well. Thus, in the “Farm to Fork” strategy - implemented since 2020 - it plans to introduce within the fourth quarter of 2022 a “proposal for a harmonized mandatory front-of-pack nutrition labelling to enable consumers to make health conscious food choice”\(^{21}\). To carry out this task, the European Food Safety Authority (EFSA) has been asked by the European Union\(^{22}\) to provide scientific advice to inform harmonized front-of-pack labelling and restriction of claims on foods, which has now resulted in a draft submitted for public consultation\(^{23}\). Moreover, the solution as to what the model should be seems to be undecided because it appears that several institutions or studies are heterogeneously, in favour of one or the other labelling model. In this context, scientific studies are somewhat self-reported\(^{24}\) and therefore do not contribute to a clear picture. In this context, scientific studies have a certain self-referentiality and therefore do not contribute to a clear picture of the landscape. Thus, there are studies that push in favour of the Nutri-score model\(^{25}\). There are also studies that validate the effectiveness of NutriInform Battery by stating that it would be

\(^{(\ast)}\) In relation to the name: Trade mark number 1513536, Date of receipt 13 February 2020; in relation to the graphic representation: date of receipt 20 February 2017 and 13 February 2020: Trade mark numbers: 004112415-0001, 004112415-0002, 004112415-0003, 1513936: https://euipo.europa.eu/eSearch/#basic/1+1+1+1/100+100+100+100/nutri-score.  
\(^{(\ast\ast)}\) In relation to the name: Trade mark number 018213570, date of receipt 23 March 2020. In relation to the graphic representation: date of receipt 25 March 2020, Trade mark number 018215138: see https://euipo.europa.eu/eSearch/#basic/1+1+1+1/100+100+100+100/nutrinform.  
\(^{(\ast\ast\ast)}\) Art. 35 Regulation (EU) 1169/2011, cit.  
\(^{(\ast\ast\ast\ast)}\) As! “The Commission will propose harmonised mandatory front-of-pack nutrition labelling and will consider to propose the extension of mandatory origin or provenance indications to certain products, while fully taking into account impacts on the single market. The Commission will also examine ways to harmonise voluntary green claims and to create a sustainable labelling framework that covers, in synergy with other relevant initiatives, the nutritional, climate, environmental and social aspects of food products”: point 2.4 Communication from the Commission to the European Parliament, the Council and the Committee of the Regions. A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system, COM(2020)381 final, 20 May 2020.  
\(^{(\ast\ast\ast\ast\ast)}\) This has been granted in December 2020, giving 14 months for the report to be issued: European Commission Directorate, General for Health and Food Safety, Request for a scientific advice on the development of harmonised mandatory front-of-pack nutrition labelling and the setting of nutrient profiles for restricting nutrition and health claims on foods, SANTE(E1/AVIS/ko (2020))8242215, 14 December 2020.  
\(^{(\ast\ast\ast\ast\ast\ast)}\) Public Consultation PC-0108, stated on 15 November 2021 and finished 7 January 2022: European food Safety Authority, Draft Scientific Opinion advising on the development of harmonised mandatory front-of-pack nutrition labelling and the setting of nutrient profiles for restricting nutrition and health claims on foods, (EFSA-Q-2021-00026_Draft opinion_Nutrient profiles), at https://connect.efsa.europa.eu/RMs/publicconsultation2/a01v00000E877g/p0108.  
\(^{(\ast\ast\ast\ast\ast\ast\ast)}\) As evidenced in Storksäckel, et al., Front-of-Pack Nutrition Labelling Schemes...; cit.; Molteni, Decisioni impegnative..., cit., p. 5.  
\(^{(\ast\ast\ast\ast\ast\ast\ast\ast)}\) See Gouvernement français, Nutri-Score Assessment Report, cit.
more correct under the scientific profile than the Nutri-score and would even prove that the Italian system would be more informative than the Nutri-score. Other studies have shown that the Latin American warning system is the most effective. They have also demonstrated that with the Chilean octagon-shaped labels model, sales of products have been reduced and the quantities of calories, sugars, fats and sodium in foodstuffs have also been reduced, without affecting the employment rate, with a lower economic impact for the companies.

It should also be recalled that UNESCO has already declared since 2010 the “Mediterranean diet” as intangible world heritage of humanity (including it in the Representative List of the Intangible Cultural Heritage of Humanity) and the food pyramid of the Mediterranean diet seems not necessarily to be combined with the Nutri-score mechanism. This is because the latter foresees the use of olive oil as the main added fat, sausages or the importance of the consumption of dairy products which would sometimes be less healthy according to the French model, hence the debate on whether or not to apply the Nutri-score mechanism only to certain products.

In partial contradiction to this, the World Health Organisation has promoted September 2021 the use of the Nutri-Score claiming that it reduces the risk of non-communicable diseases such as cancer, however no comparative study has been provided regarding the more or less favourable effects compared to other types of front-of-pack labelling. Furthermore, it should be recalled that the Codex Alimentarius Commission for Food Labelling - trying to give a definition to front-of-pack labelling at its 46th meeting working group on FOPNL - opts for a very broad definition of labelling, stating that it should be a simplified mechanism that can have a combination of sym-


(**) Although the study is conducted on 200 respondents: M.F. Mazzù, S. Romani, A. Gambicorti, Effects on Consumers’ Subjective Understanding of a new Front-of-Pack Nutritional Label: a Study on Italian Consumers, in International Journal of Food Sciences and Nutrition, vol. 72, n. 3, 2020, p. 1 et ss.


(6) Further information and the pyramid on the Mediterranean diet can be found for example at https://dietamediterranea.com/nutricion-saludable-ejercicio-fisico/.


(8) Front-of-pack nutrition labelling is “a form of supplementary nutrition information that presents simplified, nutrition information on the front-of-pack of pre-packaged foods. It can include symbols/graphics, text or a combination thereof that provide information on the overall nutritional value of the food and/or on nutrients included in the FOPNL. This definition excludes nutrition and health claims”: Joint Fao/Who Food Standards Programme Codex Committee on Food Labelling, Forty-sixth Session Virtual 27 September –1 October and 7 October 2021, See https://www.fao.org/who-codexalimentarius/sh-proxy/sif7/sh-proxy/sif7?/mkey=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcode%252FM%252FMeetings%252FCX%252FSummary_of_responses_to_CL202119OC5FL%2520final.pdf.

(9) The Nutri-Score is a Front-of-Pack Nutrition Labelling scheme and measures the nutritional quality of foods and food products, with ratings from A (low) to E (high). It was developed by the French Ministry of Health and the French Food Safety Agency (HAS) in collaboration with the French National Institute of Consumer Research (INR) and other French authorities. The Nutri-Score is based on a scientific evaluation of the nutritional profile of foods, taking into account the levels of nutrients that are important for health, such as fat, saturated fat, sugars, sodium, and fiber. The Nutri-Score is an easy-to-understand tool that helps consumers make healthier food choices by providing a clear indication of a food’s nutritional quality.
The following are some brief considerations on the Italian and French models from an iconographic and nutritional point of view.

A. Iconographic model

NutriInform Battery provides a nutritional logo showing the content of each standard portion in grams/ml

The model applies to all types of products with some exceptions, such as PDOs, PGIs and TSG products according to the Regulation No 1151/2012, and packaged foods in which the lar-

bols, graphics or text ending with nutritional information. It should be noted that, in the definition provided, “nutrition and health claims” are expressly excluded. This reference hides an express reference to Regulation n. 1924/2006 on nutrition and health claims made on foods. It must therefore necessarily be interpreted in conjunction with Regulation n. 1169/2011 on the provision of food information to consumers. From what has been seen, it can be observed that the panorama is moving on some shifting sands that do not allow for a sufficiently firm footing. The proof, in this sense, is that both the Argentine and Italian legislators are fleeing from the Nutri-score model, respectively taking inspiration from the Chilean model or choose their own model. In view of this, it is appropriate to make some legal analysis of the current situation.

2.- Nutri-score and NutriInform Battery: a brief parallel


(6) This varies depending on the food as established by the Centro i ricerca alimenti e nutrizione: Consiglio per la ricerca in agricoltura e l’analisis dell’economia agraria, Linee Guida per una sana alimentazione, at 2018, so for example the standard portion will be 50 grams for bread, 80 grams for pasta, etc: see point n. 25 Manuale d’uso de NutriInform Battery, cit.

(7) Energy: 8400 KJ/2000Kcal; fat 70 g; saturated fats 20 g; sugars 90 g, salt 6 g; Annex A, Decreto 19 nov 2020, cit.

(8) Protected designations of origin (PDOs) or protected geographical indications (PGIs) or “traditional speciality guaranteed’ (TSG): Regulation (EU) No 1151/2012 of the European Parliament and of the Council of 21 November 2012 on quality schemes for agricultural products and foodstuffs.
gest surface area is less than 25 square cm\(^2\).

NutrInform as well as Nutri-Score are characterized to adopt chromatic models. The former adopts the monochromatic blue nutritional label\(^{43}\). In the French model there is the identification of five colors associated with letters, where the letter A is associated with dark green, B with light green, C with yellow, D with orange, and finally the letter E associated with red. On this scale, the healthiest product is the one associated with the letter A and the color dark green. The color labeling is deliberately chosen because of the influence it can have on psychology and decision making\(^{44}\). It has been also suggested to predispose the Italian battery model with different colors depending on the percentage values\(^{45}\). However, the polychromatic model could find some disagreements with other European regulations such as the Regulation No 1924/2006\(^{46}\).

However, the Italian monochromatic model, contrary to the Nutri-score model, does not induce in the decision (by stating what is healthy or less healthy), something that the French model does by providing a classification of foods based on colors and letters.

Generally, it should also be noted that (if certain requirements are met\(^{47}\)) the European legislation allows the product to be labelled as “low energy”, “energy-reduced”, “low-fat”, “low-saturated fat”, “low sugar”, “low sodium/salt”, “very low sodium/salt”, among others, which may indicate negative statements such as “fat-free”, “saturated fat-free”, “sugar-free”, “with no added sugar”, “sodium-free” o “salt-free”. However, it should be noted that the values are not absolute but relative, and it may be possible to indicate these on condition that there are really small quantities\(^{48}\).

B. Nutrients and Nutrient Profile Model

The French and Italian front-of-pack labelling are based on the elaboration of a different nutritional profile models. While the Italian model takes as a reference the values set by Regulation No 1169/2011\(^{49}\), the French model reworks an algo-

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\(^{42}\) Art. 1.6 Decreto 19 nov 2020, cit.; punto n. 25 Manuale d’uso de NutrInform Battery, cit.

\(^{43}\) Point n. 18 Manuale d’uso de NutrInform Battery, cit.

\(^{44}\) However, although there is undoubtedly a decisional influence in relation to colour scales, this can be subject to margins of subjectivity; for example, one study found that blue and yellow evoked positive emotions and associations with health and naturalness (to a lesser extent green and red), while pink and celadon suggested an artificial and therefore unhealthy product see: G. Wasowicz, M. Styk-Kunkowska, K.G. Grunert, The Meaning of Colours in Nutrition Labelling in the Context of Expert and Consumer Criteria of Evaluating Food Product Healthfulness, Journal of Health Psychology, 20/6, 2015, pp. 907 y ss. Véase en relación con el Nutri-Score: L. Bairati, E. Grassi, Lire ou regarder? Les couleurs dans l’étiquetage alimentaire et l’information du consommateur, in Contrats Concurrence Consommation, 2019, No 10, p. 1 et ss.

\(^{45}\) Molteni, Decisioni impegnative…, cit., p. 6.

\(^{46}\) See Molteni, Decisioni impegnative…, cit., p. 3.


\(^{48}\) These are indicative values, as it is possible to place such an indication “fat-free” if where the product contains no more than 0,5 g of fat per 100 g or 100 ml (However, claims expressed as ‘X % fat-free’ shall be prohibited). It may also be indicated saturated fat-free also where the sum of saturated fat and trans-fatty acids does not exceed 0,1 g of saturated fat per 100 g or 100 ml; “Sugar-free” where the product contains no more than 0,5 g of sugar per 100 g or 100 ml. “Sodium-free” and “Salt-free” can be used also where the product contains no more than 0,005 g of sodium, or the equivalent value for salt, per 100 g: see Annex Regulation (CE) n. 1924/2006, cit. From the Italian law perspective see: V. Rubino, Il claim “senza zuccheri aggiunti” nel nuovo regolamento 1924/06 :problematiche interpretative ed applicative, in Alimenta, 2007, n. 1, p. 99 y ss; G. Spoto, Tutela del consumatore, etichette a Semafaro e informazioni “negative”; in this Riv. www.rivistadirittoalimentare.it, No 2-2018, p. 28 et ss.

The algorithm is achieved through calculations that mix certain scores that receive the amounts of nutrients in 100 grams, looking at energy, simple sugars, saturated fatty acids, salt on the one hand, and fruits, vegetables, nuts, fibres and protein on the other hand. The French system provides some modifications in relation to beverages, fats and cheeses, whose scoring algorithms differ from the UK model. These different approaches to analysis stem from the fact that the European level is characterized by a general lack of clear-cut direction in relation to some aspects of the values associated with front-of-pack labelling. The proof is that the specific nutrient profiles, which are of undoubted help to improve public health and which should have been set by the European Union in 2003, are still to be defined, although they have been put back at the center of the debate in 2020.

Therefore, in addition to an iconicographic heterogeneity of front-of-pack labelling, there is also a scenario with various nutrient profiles models within and outside the European Union. For example, in addition to the “Nutri-score”, “NuritInform Battery” or the quality index derived from the British Food Standard Agency (FSA), there is also the Healthy Eating Index (HEI) developed by the US Department of Agriculture or the Nutrient Rich Food Index (NRFI).

3.- The Chilean octagon-shaped front-of-pack labelling model and its evolution

The Argentine law on healthy nutrition, which adopts the octagon-shaped front-of-pack labelling model, has not only been modelled on its main Chilean model, but also but has been influenced by Peruvian, Uruguayan and Mexican regulations.
Although they had all opted for the iconographic warning model based on a black octagon with a white border and white letters, there is a certain evolution in the legal transplant\textsuperscript{60}, as some aspects are valued differently in each national context. Although the Reglamento of Argentinean law is still pending, some aspects should be noted. Thus, the iconographic models derived from the Chilean model, together with the octagonal label, have tended to evaluate 1) which components to indicate within the octagon; 2) the introduction of the warning message within the octagon: such as “\textit{alto en}” or “\textit{exceso}”; 3) the possibility of incorporating, in addition to the octagon label, new complementary warning message labels; 4) which values or nutritional profile to adopt.

The iconographic model will be analysed first, followed by some reflections on the nutritional profile aspects.

A. Components to indicate within the octagon

The Chilean legislator considers that the consumer must have a necessary knowledge about the levels of content of four aspects: “sugars”, “sodium”, “calories” and “saturated fats”. This model\textsuperscript{61} is refined in other countries by adding or substituting some of these factors. For this reason, Peru and Uruguay consider it necessary to maintain the information on four values but decided to keep only the first three Chilean values, to eliminate the octagon related to “calories” and replace it with another one. In this sense, the Peruvian regulation\textsuperscript{62} eliminates the “calories” octagon and replaces it with the “trans fats”\textsuperscript{63} octagon, while the Uruguayan regulation eliminates the reference to “calories” and replaces it with an octagon related to “total fats”, so that there are two indicators of fat warnings (saturated fats and total fats)\textsuperscript{64}.

However, the other two legislators that subsequently adopted the model considered appropriate to raise the reference octagons from four to five. Thus, both Mexico and Argentina agree in repeating the four Chilean values\textsuperscript{65} but differ in the choice of the fifth octagon to be incorporated. If Mexico\textsuperscript{66} incorporates a fifth octagon related to “trans fats” (essentially joining the Chilean-Peruvian model), Argentina\textsuperscript{67} opts not to incorporate this last aspect and incorporates a fifth octagon related to “total fats” (essentially joining the Chilean-Uruguayan model).

As can be seen, therefore, while the octagonal model of warnings is unanimously chosen, the legislative formant differs, resulting in a partially


\textsuperscript{61}It should be noted that there is also a Parlatino model law: Parlamento Latinoamericano e Caraíbico, \textit{Ley modelo de etiquetado de productos alimenticios procesados y ultraprocesados para el consumo humano y protección a la salud}. It does not pronounce itself on the iconographic model but it does advocate the warning system and as a nutrient profile qualification it is associated with those of PAHO: https://parlatino.org/pdfs/leyes_marcos/leyes/ley-modelo-etiquetado.pdf. This is recorded in the draft of the Argentinean Law (Proyecto 4826-D-2019 at https://www.hcdn.gob.ar/proyectos/textoCompleto.jsp?exp=4826-D-2019&tipo=LEY.

\textsuperscript{62}Note that in the Peruvian model the reference is to “sugars” and not to “sugar”, this may lead to different legal perceptions of this value: see Ferrante, \textit{El etiquetado frontal…}, cit., p. 156 et ss.

\textsuperscript{63}“Sugars”, “sodium”, “calories” y “saturated fats” and “trans fats”.

\textsuperscript{64}“Sugars”, “sodium”, “calories” y “saturated fats” and “trans fats”: Art. 4.5.3.4.1. Appendix A Norma Oficial Mexicana.

\textsuperscript{65}“Sugars”, “sodium”, “calories” y “saturated fats” and “trans fats”: art. 4 Ley n. 27.642, cit.
harmonized transplantation influenced by previously developed regulations at the international level.

Essentially, the mismatch hinges on the choice of whether to introduce or exclude mandatory warnings about “calories” (eliminated by Peru and Uruguay) and the information to be given on fat levels, whether to indicate only “saturated fats” (Chile) or to complement this information with an octagon also related to “total fats” (Argentina) or “trans fats” (Mexico and Peru). Anyway, a contrario, it is true that any of these models, are aware that the level of fat is not necessarily harmful to health, as there are healthy fats such as monounsaturated and polyunsaturated fats or Omega 3. It can certainly be observed that the choice of which octagons to choose hides rather deep economic-legal policies related to certain market aspects that cannot be dealt with here. However, it is only fair to say that determining a homogeneous or heterogeneous model can also influence certain aspects of international economic policy. This can influence the import/export of products to a greater or lesser extent. A single model for the countries would favour more import and export flows between countries, otherwise it could lead to stagnation in certain cases: where mandatory labelling regulations are introduced in the country of reference that are different from those of the exporting country.

B. Numerical front-of-pack labelling in Mexico

An important evolution of the Chilean model has undoubtedly been initiated by Mexico68 and not yet followed by Argentina: the introduction of octagonal numerical labelling on very small packaging. This decision is due to the fact that the previous octagonal model would otherwise be difficult to read in these types of packaging. The numbers one to five will therefore replace respectively "sugars", "sodium", "calories" and "saturated fats" and "trans fats". These mini-octagons shall be placed on products whose principal display area is ≤5 square centimeters69. The Mexican solution is clear and aims to raise awareness for all types of packaging. This is in stark contrast to the exemption from all kind of labelling, for example in the Italian model, for food in packaging or containers the largest surface of which has an area of less than 25 square centimeters70. It is worth remembering here that Italian model is inspired by Regulation n. 1169/2011 which exempts this type of food from the requirement of mandatory nutrition information71.

C. “Alto en” or “exceso en”

In addition to the indication of the Ministry of Health72, an effective warning has been inserted into the octagon next to the component. The Chilean model was inspired by the model of the “stop73” road signs and replaced this warning with the “high in “ (“alto en”) warning. The Chilean model is followed by the Peruvian model74, for example the indication “high in sodium” (“alto en sodio”).

In subsequent legislation, a second model of war-
ning is adopted. The word "excess" ("exceso") is preferred - adopted by Uruguay and Mexico - with the variant "excess in" ("exceso en") in the Argentine version\(^{(75)}\), although in the latter case it should rather have been "exceso de"\(^{(76)}\).

In this second model, a more daring warning is observed, which in part takes up a different value judgment from the first. In fact, the interpretation "alto en", although in Spanish language it plays on the double meaning of "alto" as the "stop" road sign and álto en as "high in", is only to note that certain threshold values are exceeded, compared to the recommended values. In this sense, the Chilean regulation identifies only this aspect. On the other hand, the Peruvian legislator adds another complementary reference: that of "evitar su consumo excesivo" ("avoid its excessive consumption") - in the case of saturated fats, sugar and sodium - and a more categorical one that states "evitar su consumo excesivo" ("avoid its consumption") in the case of trans fats.

The incorporation of these new complementary warning labels further subjective consumers' perception, as it gives a clear induced command not to consume high quantities of products with these values, which becomes blunt in the case of trans fats.

**D. Complementary warning message labels**

The supplementary labels introduced by Peru (see above) have undoubtedly influenced subsequent regulations, with the exception of Uruguay, which conforms to the single octagon model as in Chile. Following the Peruvian trend, Mexico also realises that it is appropriate to offer a system of complementary labels, but different from the first one.

For this reason, it opts (as in the Chilean model) not to add complementary labels like the Peruvian ones ("evitar su consumo consumo excesivo" or "evitar su consumo"), considering sufficient the substitution of the word "alto en" ("high in") by the expression "exceso" ("excess"), not present in the Chilean and Peruvian models.

However, in order to protect the diet of minors in particular, it introduced two new additional labels: "contiene cafeína evitar en niños" ("contains caffeine - avoid for children") and "contiene edulcorantes- no recomendables en niños" ("contains sweeteners - not recommended for children")\(^{(77)}\). This choice is based on the observation that sugar has been replaced by sweeteners in the other countries that have adopted the octagonal warning system. This more rigid solution also makes it possible to differentiate between products that previously might have had the same labels (in calories and sugars), such as a carbonated soft drink and a yoghurt. In this way, the former can be given more warning labels thanks to the introduction of these two complementary labels\(^{(78)}\). In this way, the new regulation clearly provides the consumer with a better critical view. This improvement convinces the Argentinean legislator\(^{(79)}\) who decides to incorporate it specifying that the reference should be to "niños/niñas" and not considering the term "niños".

\(^{(75)}\) Cf, for Uruguay Annez IV Decreto n. 272/2018 y manual (passim), for Mexico art. 4.53 y 4.5.3.4.1, 4.5.3.4.6, Appendix A, Norma Oficial Mexicana, and for Argentina: art. 4 Ley 27.642, cit.

\(^{(76)}\) Indeed, if we can say "alto en" ("high in"), exceder is not governed by the preposition "en" but "de". Thus it is stated that exceder "admits two constructions: a transitive one, in which the limit is expressed by a direct complement (...); an intransitive one, in which the limit is expressed by a complement introduced by "de": Real Academia española, Diccionario panhispánico de dudas, Espasa, Madrid, 2005, also in www.rae.es.

\(^{(77)}\) Arts 4.5.3.4.7; 7.1.3; 7.1.4, Appendix A Norma Oficial Mexicana.

\(^{(78)}\) In this regard, it is worth noting the important observations of Barquera. The example can even be seen visually in S. Barquera Etiquetado de advertencia para comida chatarra en México: experiencia, in United Nations Organization (Argentina), Jornada de legislación sobre etiquetado de advertencias en Argentina..., cit.

\(^{(79)}\) Art. 4 Ley 27.642, cit.
as a neutral gender.

4.- Reference values and nutrient profile model associated with the warning label

However, the iconographic panorama shown above also differs in some aspects on the substance, in that the reference parameters for setting the reference thresholds associated with the warning labels are different. In this sense, two macro-blocks can be observed, an octagonal warning model that takes as a reference the Pan American Health Organization Nutrient Profile Model (PAHO)\(^\text{80}\) - based on kcal - and a separate one that adopts as a unit of measurement a system based on 100 g or cubic centimeters (cc). The first two regulations belong to this second block - the Chilean and Peruvian models - but with some important differences between them. At the time of the incorporation of both regulations, the PAHO nutritional profile was not yet consolidated, given that it dates from 2016, although some studies from 2003 were taken up\(^\text{81}\). There were, however, some 2010 PAHO recommendations\(^\text{82}\), which at that time were based on the unit of measurement based on 100 g or cubic centimeters (cc), as expressed Recommendation number 10\(^\text{83}\). Chile, as the PAHO nutritional profile did not yet exist and there are only a few recommendations, opted to adopt the same unit of measurement of the recommendations with less rigid criteria\(^\text{84}\). When the Peruvian regulation was enacted in 2012, the PAHO nutritional profile did not yet exist, but the legislator is clear in expressly stating since 2013\(^\text{85}\) in the Peruvian Law on Healthy Nutrition that its reglamento, when enacted, must follow the PAHO recommendations. However, the reglamento comes a few years later to adopt less rigid parameters, which some believe is due to pressure from the industry\(^\text{86}\). This model is opposed to the one based on the 2016 PAHO nutritional profile\(^\text{87}\), which takes as reference thresholds those associated with Kcals, and is followed by Mexican\(^\text{88}\), Uruguayan\(^\text{89}\) and Argentinean\(^\text{90}\) legislators and whose introduction has been sponsored in Peruvian legislation\(^\text{91}\). In this sense, models with different thresholds and/or parameters are created. However, the evolution of subsequent legislators and the tendency to standardize the criteria by pushing towards a different nutritional profile can be


\(^\text{81}\) It should be noted that, as has been highlighted, this model takes as a criterion the transcription into food of the population nutrient targets defined by the World Health Organisation in its Technical Report 916 (2003): Cepea, Perfiles nutricionales..., cit., p. 11.


\(^\text{83}\) Paho, Recommendations, cit., p. 13 et seq.

\(^\text{84}\) For a comparison of Chile and Peru values and their progressive implementation see A. Ferrante, El etiquetado frontal..., cit., p. 160 et ss.

\(^\text{85}\) Según lo que dispone la Primera Disposición transitoria complementaria. Ley n. 30021/2012, cit.

\(^\text{86}\) It is considered that “the regulation approved by the Executive approved much more tolerant parameters in favour of the industry”: Delgado Zegarra J., Seis meses para adaptarnos a estándares más exigentes en los alimentos, 11 January 2022, at https://saludconlupa.com/opinion/seis-seis-meses-para-adaptarnos-a-estandares-mas-exigentes-en-los-alimentos/.

\(^\text{87}\) The criteria can be seen in PAHO, Nutrient profile models, cit., p. 17 y ss.

\(^\text{88}\) Art. 4.5.2.4.16; 4.5.3; articulo transitorio Norma Oficial Mexicana.

\(^\text{89}\) Anexo II Decreto N° 272/2018 and Manual para la aplicación (p. 13 y ss).

\(^\text{90}\) Art. 6 Ley 27642/2021, cit.

observed. In this context, the imminent evolution of the Peruvian parameters should also be noted. Indeed, the Peruvian Supreme Court, in a ruling of August 2021 and filed in November\(^{92}\), urged the executive branch to bring the existing technical parameters into line with the 2010 PAHO Recommendations within a reasonable period of six months. The reference to these parameters is expressly provided for in the Peruvian law of 2013, which had been in place since the first draft law\(^{93}\). The draft was presented in April 2012\(^{94}\) and parameters were subsequently eliminated during the legislative process. However, this pronouncement presents some peculiarities. On the one hand, it will lead to an improvement of the system, since the criteria\(^{95}\) of 2010 PAHO Recommendations are lower, and therefore stricter, than those currently envisaged for the last phase of implementation of the Peruvian law.

On the other hand, it should be noted that these values are still linked to the unit of measurement by grams or cubic centimeters (cc), because, since 2016, PAHO has partially changed the criteria by adopting nutritional profiles based on Kcal. For this reason, it would therefore be desirable that, for the sake of a systematic and integrative interpretation, if the values were to be updated, this should be done in relation to the current nutritional profile, otherwise the legislation would be updated with parameters that PAHO itself considers could be improved. What is certain is that, in any case, the Peruvian legislator will move towards more rigid parameters with respect to the current ones. Thus, the Chilean regulation, which seemed terribly severe at the time of its implementation, has evolved in subsequent legal formants from being tendentially one of the most rigid (with respect to front-of-pack labelling models other than octagons) to be tendentially with a lower level of exigency with respect to the others that adopt the same octagonal warning system, by values or criteria. This is a clear example of the evolution and function of legal transplants which tend to aim, by means of gradual modifications, at a perfection of the system, although sometimes there may be imbalances or delays due to the need to give effect to legal pronouncements that move on late perspectives within the normative/legislative evolution that has existed. In this sense, no recrimination can be made against the Chilean legislator, given that they have paved the way without having had (useful and multiple) previous points of reference in the creation of their models. So, whoever decides to transplant, in a kind of legal Darwinism, tends to evolve and improve the model, although some mishaps may occur\(^{96}\). In this context, political and economic decisions also


\(^{95}\) Recommendation n. 10.2.b establish that “Do not exceed the following amounts of sugars, saturated fats, trans fatty acids (TFA), or salt”: • total sugars: ≤ 5.0 gr / 100 gr of solid food or ≤ 2.5 gr / 100 ml of beverage, • Saturated fats: ≤ 1.5 gr / 100 gr of solid food or ≤ 0.75 gr / 100 ml of beverage, • Trans fatty acids (industrially produced TFA): 0.0 gr / 100 gr of solid food or 100 ml of beverage, • Salt ≤ 300 mg / 100 gr of solid food or 100 ml of beverage”, naturally occurring nutrients such as sugar and saturated fat in milk products do not count against these limits set. The recommendation also provide that beverages containing noncaloric sweeteners cannot be advertised to children.: PAHO, Recommendations, cit., p. 13 et ss.

\(^{96}\) In this sense the values for example, although there is the same octagon, the results may be different because the reference standards are quantified differently. For some critical considerations, reference is made to Ferrante, El etiquetado frontal..., cit., p. 141 et ss.
necessarily interact, which in this case, as we have seen, are also manifested in adopting or choosing certain octagons and excluding others (see supra).

5.- (continued) exclusions of certain foods

Adopting the PAHO nutrient profile model also means automatically excluding certain foods from the labelling profile assessment. The PAHO system is based on the NOVA food classification (derived from the Brazilian "new"), which classifies foods in four groups: group 1. Unprocessed or minimally processed foods, group 2. Processed culinary ingredients, group 3. Processed foods, group 4. Ultra-processed foods. Here, importance is given to the profiling of critical foods, the first two groups are excluded and the third and fourth groups are taken as a reference and the use of sweeteners in food and beverages is considered as a negative factor.

It is true that PAHO nutritional model is one of the most rigid and demanding, and in this sense it mainly protects the consumer by differentiating between ultra-processed and non-ultra-processed products, an aspect that is not present in the Nutri-score or NutrInform Battery. In the latter, the exemption is based on criteria relating to certain products or the size of the packaging (see above). This measure is completely antithetical to the Mexican measure, which aims to protect consumers even in the case of small packages by introducing numerical labelling. Therefore, the front-of-pack labelling associated with PAHO nutrient profile seems to considerably narrow the scope for economic freedoms in relation to the less healthy products, which are essentially processed and ultra-processed products, at least according to the NOVA classification.

The rigidity of the model can be seen for example in the case of the reference to sodium amounts. Both the Italian NutrInform model and the PAHO nutrient profile are based on the measurement of sodium over a total daily intake of 2,000 kcal, however the ratio is nevertheless different since for the PAHO nutrient profile the amount of sodium (mg) in any given amount of product and energy (kcal) is equal or greater than 1:1 and should therefore be 2 grams, while for the Italian model it is 2.4 grams per day. Indeed, the conclusion that 6 grams per day is allowed under Italian law should not be misleading, as it refers to salt and not sodium. Given that the Italian regulations adopt the values of Regulation n. 1169/2011, it should be borne in mind that “salt’ means the salt equivalent content calculated using the formula: salt = sodium × 2,5” (annex I), same ratio as adopted by the PAHO nutrient profile.

Therefore, applying the ratio would mean that the 6 grams of salt per day of the Italian model is equivalent to 2.4 grams of sodium. In other words, the Italian model still allows a higher sodium intake than the other models, but not as much as it seemed. As can be seen, the comparisons are...
not simple and sometimes not clear\textsuperscript{104}. Complementing the example, in the Chilean and Peruvian cases the sodium values should not be less than or equal to 400 mg/100 g in solid food and less than or equal to 100 mg/100 ml in beverages\textsuperscript{105}. However, it should be recalled that the exclusions of foods subject to the regulation are different in the Chilean and Peruvian case as they do not adopt the NOV\textsuperscript{A} classification. In Chile, for example, natural foods without the addition of these nutrients and others are excluded\textsuperscript{106}. Without dwelling on this issue, some considerations should be made, given that the Peruvian Supreme Court has expressly ordered that the so-called breast-milk substitutes be subject to the warning labelling regime. In this regard, Supreme Court established that the exceptions provided for in the Peruvian law\textsuperscript{107} do not allow for “undefined exceptions\textsuperscript{108}” and that therefore, in accordance with Article 4 of the \textit{Reglamento}\textsuperscript{109}, as these processed foods must be included. Therefore, the first supplementary transitional provision of the Reglamento of the Law\textsuperscript{110} is considered void insofar as it expressly provided for exclusion of breast-milk substitutes\textsuperscript{111}.

The Supreme Court has thus considered that the regulation violated the Law, denaturalizing it, a constitutionally prohibited aspect\textsuperscript{112}. The Peruvian regulation excludes from the warning system foods and non-alcoholic beverages in their natural state not subject to industrialization processes, foods of primary or minimal processing, foods for culinary preparation and foods of special diets subject to the Codex Alimentarius\textsuperscript{113}. For these reasons it can be observed that the front-of-pack labelling models move on complicated technical profiles that even make it difficult to understand at a comparative level given the heterogeneity of possible scenarios.

6.- A necessary awareness of a “private food law” and the need for interdisciplinary harmony

Front-of-pack labelling was born out of several demands, one of which was the idea of being able to contribute to reducing non-communicable diseases\textsuperscript{114}, first and foremost obesity and with particular attention to obesity in children, although this last aspect seems to have been more of a concern for Latin America. The normative regulation of this phenomenon has to deal with different

\(\textsuperscript{104}\text{ Sometimes the interpretation of the same Regulation (EU) No 1169/2011 is not clear, since art. 30 of the regulation states that “Where appropriate, a statement indicating that the salt content is exclusively due to the presence of naturally occurring sodium may appear in close proximity to the nutrition declaration”.

The problem is further complicated by the fact that in Regulation (EC) No 1924/2006 the values between sodium and salt in Regulation 1924/2006 seem to be different since “A claim that a food is sodium-free or salt-free, and any claim likely to have the same meaning for the consumer, may only be made where the product contains no more than 0,005 g of sodium, or the equivalent value for salt, per 100 g”: Annex Regulation (EC) No 1924/2006 cit.


\(\textsuperscript{106}\text{ Art.120 bis lett. A-D RgSA, cit., in relation to infant food see, in particular, point C.

\(\textsuperscript{107}\text{ Art. 2 Ley 30021/2012, cit.

\(\textsuperscript{108}\text{ Literally it is stated that Art. 2 of the law “no abarca supuestos indeterminados”: point 4.8) Corte Suprema, 26 august 2021, cit.

\(\textsuperscript{109}\text{ Art. 4 Decreto Supremo n. 017-2017-SA, cit.

\(\textsuperscript{110}\text{ First Supplementary Transitional Provision Ley n. 30021/2012, cit.

\(\textsuperscript{111}\text{ It does not matter if the reform of the regulation in 2019 (dated 15 June 2019) led to a change in the wording of the provision by replacing the reference to such substitutes with “foods of special diets subject to the Codex Alimentarius”.

\(\textsuperscript{112}\text{ Pursuant to art. 118 n. 8 Peruvian Constitution: points 4.9 et seq Corte Suprema, 26 august 2021, cit.

\(\textsuperscript{113}\text{ First Supplementary Transitional Provision. Decreto Supremo n. 017-2017-SA, cit.

factors where, alongside lawyers, doctors, nutritionists, statisticians, psychologists, economists and politicians, among others, play a key role. In this context, the front-of-pack labelling and food law in general must necessarily help consumers to better understand the information so that they can consciously enter into certain contractual transactions without indirect pressure. This is often biased or altered by certain behaviors in order to promote the products themselves in a more appropriate way. For example, the need to foresee appropriate regulations concerning the "food environment" where products are sold has also been mentioned. Thus, the practice of hiding the front-of-pack labelling of the product on the shelf, the low placement of products with more warning labels or the creation of imaginary figures of people (prohibited on the packages) by placing the products on the shelves has become evident, as very interestingly has been evidenced. For this reason, commercial law and private law need to be harmonised, given that the regulation of labelling or advertising aspects often do not have an adequate dialogue because they are supervised by different structures or bodies that do not always dialogue coherently with each other. This is also because such behavior clearly also leads to unfair competition practices between companies. This is why an adequate and coherent "private food law" is necessary, i.e., to predispose a private law that - in its commercial, civil and consumer facets - operates efficiently. It is for this reason that the Argentine legislator expressly refers to the integration of the rules of the Law for the Promotion of Healthy Nutrition with the Consumer Law and the Decree on Fair Trade and the need to harmonize the Argentine Food Code properly. The pending regulation (Reglamento) of the new law will be a great opportunity to hopefully balance many of these aspects.

7.- Conclusion

Different front-of-pack labelling models have been reviewed and it is true that, depending on the culinary culture of each country or the influence of the multidisciplinary factors outlined above, each country may try to tailor the model to its own needs. However, I believe that the Nutri-score model, although it seems to be tending to consolidate in Europe, should necessarily make a critical effort to confront itself with other emerging models, such as NutrInform Battery and even more with the octagonal warning model, which seems not only to consolidate but also to be gradually refined. In this sense, self-reported studies (see above) should broaden their critical vision. So too should the European Union, which, for the moment, does not seem to have taken Latin American models into consideration. If an effective front-of-pack labelling model to achieve an adequate reduction of non-communicable diseases is to be effectively incorporated, it must necessarily begin to broaden a broader viewpoint and approach. In this sense, the feasi-
bility of a model similar to the octagon-shaped labels model could also be studied, albeit with the necessary adaptations.

Using the system based on 100 g or cubic centimeters (cc) as the unit of measurement means disregarding the age of the consumer, be it a minor or an adult, while the unit system based on Kcal, such as the PAHO or Italian system, is based on the calorie model needed for an average adult.

However, the analysis carried out or the model analysed is inherently relative to the type of person who is consuming the product and their daily life habits, as a sedentary person has different demands than a sportsperson.

Responsible consumption applies in any case. Although it cannot be dealt with here, it should be noted that some regulations have developed specific educational activities, especially in the case of minors, in order to raise awareness of a healthy lifestyle. Perhaps there is also a need for measures of laboral law that would allow for a less frenetic lifestyle and a relaxed and leisurely eating environment.

It is worth remembering here that the "Mediterranean diet", as recognised by Unesco, does not refer exclusively to culinary aspects but is manifested in a certain way of eating and living, which requires appropriate physical exercise and the dedication of adequate time to eat together, as the saying goes “a tavola non si invecchia” (sitting at the table you don’t get old).

Undoubtedly there is still much to be done, apparently more so in Europe than in Latin America, where new models of mandatory front-of-pack labelling have been born and are under criticism for improvement.

**ABSTRACT**

A comparative study is carried out on the consolidation of the Chilean front-of-pack labelling model and its implementation in other countries. In contrast to the progressive stabilization and improvement of this model, there is still an unclear vision in Europe, where there is a desire to impose models such as the Nutri-score or Italian model of NutrInform Battery, which seem less rigid when it comes to assessing certain parameters.