CHAPTER 15

Food, nutrition, and health in Moldova

Rodica Sturza and Aliona Ghendov-Moşanu
Faculty of Food Technology, Technical University of Moldova, Chisinau, Moldova

15.1 Introduction

The Moldovan cuisine represents a synthesis of the natural richness of the region—cereals, vegetables, and fruits. The specific location of the Republic of Moldova (RM) between countries with different cultures has influenced the food system of its people in different periods of history. Moldovan cuisine has been preserved for centuries, absorbing all the best from Greek, Slavonic, Byzantine, and Mediterranean cuisines. Turkish (Ottoman) cuisine had a great influence on Moldovan culinary art. As a result, today Moldovan meals attract through a palette of tastes. Moldovan cuisine has developed as an original and special one, and it has individual specific characteristics, managing to fuse culinary methods and product combinations incompatible at first sight (e.g., meat with fruit, desserts with wine, marinated fruits, etc.). There are few Moldovan dishes in which vegetables are not used. Vegetables are boiled, baked, braised, fried, and salted. They are consumed as separate food and as a garnish. Vegetables are prepared in combination with many types of meat (e.g., beef, pork, lamb, poultry, fish). They are also used as filling for traditional baking (e.g., "învârtite"—swirls, "plăcinte"—pies, "saralii"). Garlic, black pepper, and paprika are some of the spices used in Moldovan cuisine. Moreover, fresh vegetables, dill, parsley, leek, celery are also used abundantly. Also, Moldovans are fond of cooking food on the grill. Thus all types of meat, usually marinated in wine, fish, vegetables, and even fruits, are prepared in this way. In order to preserve their juice and give them aroma, certain dishes are baked in vine leaves, walnuts, and cabbage. The dessert dishes of Moldovans are no less original. The large variety of fruits, dessert wines, and nuts appear in a large number of combinations in the form of jellies, juices, jams and compotes, fruits filled with nuts, fruits in wine, dumplings, pies, and baked goods.

15.2 Historical overview

Each era brings new elements to the national cuisine, each generation adds a plus of experience, and each family personally collects inherited or innovative elements. Food is considered the end of the thread that connects the past and the present. Thus one can notice the existence of an ancient food system that has resisted the passage of time.

Nutritional and Health Aspects of Food in the Balkans
DOI: https://doi.org/10.1016/B978-0-12-820782-6.00021-9

Moldovan ancestors, the Geto-Dacians (Niculiţă, 2010), had a specific way of life, a mostly vegetarian diet that corresponded to their agricultural resources, but they were also breeders of animals and meat consumers. Coarse-grained cereal broth, millet porridge to which milk was added, and meat broths were used by Dacians for many centuries. Beside cultivated plants, fish and meat of domestic animals, the edible plants of spontaneous flora (e.g., mushrooms, garlic, orache, stevia) were used, too. A series of herbs and culinary products, such as lentil, broad beans, onion, and olives, were brought by Greek merchants. Also, milk-based dishes and cheeses with different types of curd (e.g., smoked cheese, urda) can be mentioned. An important fact was that the Moldovan ancestors exchanged agricultural products and food with neighboring peoples. However, they did not introduce oriental spices in their own cuisine. The Dacianas only adopted those foods and preparation techniques that were in accordance with their own taste already created as a result of own life experiences with the environment and some contacts with the Greek world. The traditions of medieval Moldovan cuisine are attested in later times. Significant similarities between current practices and those recorded in medieval documents are found in the preparation of baked goods (e.g., "plăcinte"), the preparation of cheeses, the smoked meats, the drying of vegetables and fruits, the wine making. In the 18th century some oriental influences also took place due to the commercial links with the Ottoman Empire (Eremia, 2018). Princes of foreign origin came with their own cooks who promoted new dishes, which over time entered the Moldovan cuisine (e.g., pilaf, meat with fruit). Thus the traditional cuisine of the Moldovans from the earliest times has managed to maintain a unitary and diverse ensemble, following a natural process of historical evolution. Currently the Moldovan cuisine is characterized by a great variety of dishes, ingenuity, minimal dosage of spices, which reflect the secular traditions closely related to the psychology of the people (Fala, Pântea, Sava, & Cibotari, 2018).

15.3 Geography and the natural agricultural landscape

The RM is located in the central part of Europe, in the north east of the Balkans, on a territory of 33,843.5 km^2. To the north, east, and south it is surrounded by Ukraine and to the west separated from Romania by the Prut river. The RM is part of the group of the Black Sea basin countries. Its southern border extends to near the Black Sea; the exit to the sea is through the Nistru river mouth and the Danube river. The physicogeographical position of the RM determines the various particularities of its natural conditions. The relief of the country is a hilly plain, inclined from north west to south east with an average altitude of about 147 m above sea level. The climate of the RM is temperate continental, characterized by long periods without frost, short and mild winters, long hot summers, modest rainfall, and long dry periods in the southern districts. The average annual rainfall varies between 600–650 mm in the north and center and 500–550 mm in the south and south east. The hydrographic

network includes over 3000 rivers and brooks, 10 of which are over 100 km long. The flora of the RM is varied and rich, and it includes over 5500 species of wild plants. Forests occupy about 11% of the territory of Moldova. The soil in Moldova is fertile and varied, consisting of more than 745 varieties; chernozems make up about 75% of the country's surface (Republic of Moldova Official Website, n.d.). Although agriculture is the main branch of activity in the RM, its contribution to the formation of the gross domestic product (GDP) varies between 10% and 12%. Table 15.1 presents the average values of the sown areas and the multiannual plantations of the

Table 15.1 The average values of the sown areas and of the multiannual plantations of the agricultural crops, thousand of hectares (Kha), and average number of animals, thousand of pieces (Kpcs) for the years 2008–18.

Name	Average values sown areas/ multiannual plantations (Kha)	Name	Average values sown areas/multiannual plantations (Kha)
Cereals		**Vegetables and beans**	
Corn	460.1	Potatoes	24.5
Wheat (autumn and spring)	350.3	Peppers and other vegetables	15.6
Sunflower	303.8	Different cabbage	13.9
Barley (autumn and spring)	102.7	Pumpkins and Gourds	10.9
Soy	47.7	Dried onion	5.8
Oat	2.0	Tomatoes	5.4
Buckwheat	0.3	Cucumbers	2.5
Fruits, berries, and nuts			
Apples	61.5	Berries	2.1
Plums	22.3	Table grape varieties	19.7
Peaches	7.4	Other grape varieties	119.8
Cherries	3.9	Nuts	17.9
Average number of animals (Kpcs)			
Birds of all species	3438.4	Cattles	199.8
Sheeps and Goats	863.6	Cows	140.7
Swines	407.1	Bee families	119.4

agricultural crops, and the average number of animals for the years 2008–18 (National Bureau of Statistics of the Republic of Moldova, 2018).

For the RM, rurality is not only an administrative component of territorial organization, but it is mainly a "lifestyle," "a way of thinking," and "a specific routine." As a result of the pedological substrate, the hydroatmospheric, and biotic potential, the physical-geographical placement, and the particularities of the tradition, the rural landscapes are noticed for their local agricultural models, the productive valorization of the territory, and the spiritual manifestations of the people.

15.4 Culture and traditions

The Moldovan people are the authors of a material and spiritual culture accumulated over the centuries. Holidays and customs carry valuable symbols inherited from ancestors, through which the national identity is strengthened. Religious holidays are an important category of the cycle of the calendar, dedicated to Jesus Christ: Nativity (Christmas), the Baptism (Epiphany), the Resurrection (Easter), Ascension, etc. There are also religious celebrations that mark the days of the Saints Fathers: St. Basil, St. George, St. Constantin, and Elena. It is also important to mention the Patron Saint (Hramul), which is the celebration of the patron saint of church. It is precisely in this category of holidays that the most spectacular traditional customs and rituals, various manifestations with folkloric and picturesque character have been preserved, which have profound significance for the Moldovans whether regarding their relations with nature and/or with the surrounding world. Old customs have been preserved; however new ones have also emerged that have been transmitted verbally, as with any tradition. Traditions and customs are closely linked to traditional food. There is a classification of the dishes according to certain celebrations, feasts, or occasions when these are especially prepared in larger quantities. Many of the dishes in the family ceremony differ from those prepared each day in number, quality, and technique of preparation, but also their function. Some dishes and food are used to achieve certain rituals. The list includes (1) cold dishes: poultry or pork trotters jelly (*răcitură*), *saltison*, pastrami (*pastramă*), roulades, forcemeat, salads, stuffed fish, etc.; (2) hot dishes: *sarma* (*sarmale*), meat loaves, steaks, *cighir*, stuffed chickens, pies (*plăcinte*), "dark baba" (*baba neagră*), "white baba" (*baba albă*) (Fig. 15.1), sweet rice (*plachie*), etc.; and (3) a large and varied number of homemade cakes, boiled stuffed plums with walnuts, baked apples, etc. Traditional dishes are always prepared according to traditions and customs. Hot dishes have an important role at the holiday table and most of them are prepared using meat.

From ancient times the bread for the holidays (round braided bread—*colaci*) had a special place on the table and a very important role in the family ceremony, but also during calendar holidays. There are large, round 4-, 6-, and 8-strand braided loaves for grooms, godparents, and in-laws that perform different functions. Round braided bread for winter holidays

(A) (B)

Figure 15.1 "Dark baba" (*baba neagră*) (A) and "white baba" (*baba albă*) (B).

are different from the Easter ones. On holidays such as Christmas, New Year, patron saint of the village (city), they are prepared along with many meat dishes, assorted vegetables, etc. During winter holidays many pork dishes are cooked, but at Easter the baked, stuffed, or roasted lamb is served, as well as fresh sheep's curd and many other typical dishes. At Easter, *pasca* (a Easter bread with cheese) plays the most important role, followed by the Easter lamb, the *cozonac* (a type of sweet leavened bread), and the red eggs.

Many Moldovan dishes are known today beyond the borders of the country, namely *sarmale*, *plăcinte*, *învârtită* with sheep's cheese, wine, etc. Beside these, preserved fruits, vegetables, and berries using different techniques have always had an extremely important share in the nutrition of the population from the territory of the RM. At present, although the method of preservation by freezing has become accessible, all other techniques continue to be used. Each family, from rural or urban area, prepares in the season its reserves of fruits, vegetables, berries, spices, and herbs for the winter.

15.5 Typical foods and food products

Throughout centuries, all social groups, all generations, and all communities collaborated in the elaboration, improvement, and promotion of the food and drink recipes that formed Moldova's cultural background. From this social cooperation, a food system rich in knowledge, skills, and practices resulted that has kept its actuality to this day. Unfortunately, very few of the Moldovan products were registered in the database of geographical indications/designations of origin submitted by the national procedure (AGEPI, 2020). Recently the State Agency for Intellectual Property has launched the Map of traditional Moldovan products with protected geographical indication (PGI), protected designation of origin (PDO) and traditional specialty guaranteed (TSG) of the RM (AGEPI, 2018). Among these are *Brînză de Popeasca* (a cheese type, PDO-0017) (Fig. 15.2), *Dulceaţă din petale de trandafir Călăraşi*

(A) (B)

Figure 15.2 *Brînză de Popeasca* cheese (A) and *Zăbriceni* tea (B).

(a rose petal jam, PGI-006), *Zăbriceni* tea (dried plants and fruits tea, PGI-007) (Fig. 15.2) and *Prune umplute cu miez de nucă* (walnut stuffed prunes, TSG-001).

Depending on the distribution area and current frequency of preparation and consumption, the dishes can be divided into several categories: traditional (daily) foods, holiday foods, and dishes associated with certain rituals and religious holidays.

15.5.1 Traditional (daily) foods

15.5.1.1 Green borsch (borș)

Onion, carrot, celery (minced and fried in oil), potatoes, chopped sorrel, and cabbage are added in hot water. At the end of the preparation, whisked egg and cream mixture, herbs (dill, parsley, lovage), crushed garlic, and salt are added.

15.5.1.2 Chicken soup (zeamă) with homemade noodles

Cut and boiled meat, onion, carrot, and parsley root cut into cubes, peppercorns, and salt are added. At the end of the preparation, tomatoes and bell pepper chopped into cubes are added, along with sour borsch (bran) to taste, noodles, thyme, dill, parsley, and lovage. The noodles are made from egg and wheat flour (hard dough, sprinkled with flour).

15.5.1.3 Moldovan ghiveci

To the cut and roasted pork, the onions, potatoes, zucchini, tomatoes, and carrots cut into cubes, salt, pepper, and bay leaves are added along with water and left to boil in the oven. At the end of the preparation, crushed garlic is added. It is served with chopped parsley.

15.5.1.4 Mashed (broad) beans/peas

The (broad) beans or peas are soaked. The broad beans are cleaned first of the shell. The water is drained and the beans are boiled, then cut carrot is added. The boiled

beans are homogenized and salt is added. It is served with a garnish prepared from fried onion with tomatoes, and crushed garlic.

*15.5.1.5 Pie baked on a hearth (*Plăcinte/vărzare*)*

Yeast dough is made from yeast, sugar, eggs, salt, flour, and water. The dough is kneaded and left for 2–3 h in a warm place. The dough is divided into pieces, balls are formed and left for 5–7 min to rest. Then the dough is stretched into sheets with a thickness of 7–10 mm, in the middle of each sheet the stuffing is added, the edges are stuck together. *Plăcinte* are baked in the oven in oiled trays greased with egg. *Vărzare* is baked in trays sprinkled with flour without oil.

15.5.2 Holiday foods

15.5.2.1 Sautéed lamb in white wine

Lamb meat is cut into pieces in which small incisions are made and filled with sliced garlic. A mixture of salt, spices, and crushed garlic is rubbed over the meat that is afterwards sprinkled with white wine and marinated for 12–24 h. A layer of cut vegetables (onion, carrot, bell pepper) is put at the bottom of a saucepan, on top the lamb pieces are added, then a mixture of bouillon and white wine (50:50). The dish is sautéed for 30–50 min and then the boiled meat is roasted in the oven.

*15.5.2.2 Poultry or pork trotters jelly (*Răcitură*)*

Rooster/turkey/pork meat is divided, washed, boiled, and the foam removed. Salt, pepper, and bay leaves are added. The bouillon is cooled separately from the meat, crushed garlic is added and excess fat removed. The liquid is strained and poured over the meat from which the big bones were removed. It is served cold with parsley or boiled carrot as garnish.

15.5.2.3 Învârtită *with cheese*

The dough is kneaded from flour, water, egg, oil, and salt to form a ball that is left to rest for 30 min. This is then divided into pieces and stretched into thin sheets. After greasing them with melted butter, cheese and dill are sprinkled before rolling them into spirals. The dish is baked in the oven in oiled trays greased with egg.

*15.5.2.4 Dark baba (*Baba neagră*)*

Eggs are whisked with sugar, then oil, honey, sodium bicarbonate dissolved in lemon juice, milk, and flour are added and mixed well. The dough with a thick consistency is put in an oiled cauldron and baked in the oven.

*15.5.2.5 White baba (*Baba albă*)*

Eggs, sugar, salt, vanillin, melted butter, and scraped raisins are mixed with boiled noodles, poured into the greased pan and baked in the oven.

*15.5.2.6 Sweet rice (*Plachie*)*

Eggs are whisked with sugar, then wholemilk, butter, white raisins, vanilla sugar, and rice are gradually added, then mixed and boiled in a cauldron.

15.5.3 Dishes associated with certain rituals and religious holidays

15.5.3.1 Prepared for Christmas

15.5.3.1.1 Saltison

The pork head along with the vegetables (onions, carrots) and spices are boiled until the bones can be easily removed from the meat. The boiled meat is finely chopped, then crushed garlic and meat bouillon are added. The pork tripe is filled with stuffing, sewed with white thread and boiled in the same mixture of water and bouillon in which the head was boiled. Once prepared, it is placed on a flat dish under a weight, cooled and stored in the refrigerator.

15.5.3.1.2 Borsch (Borș scăzut)

The pickled cabbage cut into pieces, the onion, the carrot cut into slices, and spices are placed in a saucepan, altering the layers with pork or duck meat. It is covered with water, then boiled in the oven.

15.5.3.2 Prepared for Easter

15.5.3.2.1 Moldovan Easter bread (*Pasca* with cow cheese)

Yeast dough is made from yeast, flour, sugar, eggs, salt, milk, and oil. The dough is kneaded and left for 2–2.5 h in a warm place. The dough is divided into two parts. Half of the dough is shaped round and placed in a tray sprinkled with flour. A braided round bread and a cross are made from the rest of the dough. The twisted round braided bread is placed in the tray around its edges, then a filling prepared from cow's milk cheese, raisins, sugar, eggs, semolina, baking powder, and vanilla sugar is added. Two small rolls are twisted in the middle, one above the other in the form of a cross. *Pasca* is greased with whisked egg and then baked.

15.6 Sustainability and environment

The Moldovan agriculture is inefficient. The productivity of the sector is 2–3 times lower than in Europe, which is comparable to that of Europe in the 1970s. Domestic agricultural producers have become uncompetitive on the external and even local market, while the imports of agri-food products have increased. Agriculture in the

RM has a potential for natural and human development, but less for economic growth. There are large gaps in technical endowment, labor productivity, fertilizer use, and innovation in the field. The agriculture is vulnerable and exposed to risks such as erosion, landslides, and natural disasters. In addition, agricultural producers are facing other difficulties like the commercialization on domestic markets of fresh produce. The services for collecting, storing, and transporting agricultural products are poorly developed. Moreover, the sustainability of the agri-food system is affected by climate change. The effects of high temperatures have led to a 20% decrease in the areas of active vegetation (UNDP Moldova, 2009). There are no irrigation systems, which could provide the expected results. Statistical data show that only 5%–10% of the previously irrigated land (over 200,000 ha, before 1990) are irrigated at present (FAO, 2012). Poor pumping stations and distribution systems do not encourage the private sector to invest in new, small-scale irrigation equipment. This largely contributes to the bankruptcy of farmers and ultimately to the abandonment of agricultural acitvities. At the same time there is a lack of labor force, caused by low wages of farmers. In the RM there is also a poor management of waste, including that resulted from the processing of agricultural raw materials. In 2008, as a result of the activity of agro-industrial enterprises, a total amount of 2841.7 Kt of waste was generated. Most of it, about 1570 Kt, is waste related to the food and beverage industry. Only about 30% of production waste was used as animal feed, 50% was disposed of at landfill, and 20% remained on the premises of businesses, being stored or incinerated, which pose significant environmental risks—water, soil, and atmosphere pollution (GD no. 248, 2013). The sustainability of food systems in the RM is closely linked to the socio-cultural and historical context, but also to climate and environmental changes, and to the agricultural management practices.

15.7 Present nutritional conditions

Various investigations on the state of nutrition carried out during the last decades have highlighted several important problems.

15.7.1 Iodine deficiency

In the last 15–20 years the incidence of iodine deficiency has increased in the RM by 8–10 times. Women of childbearing potential, breastfeeding women, and children are the most susceptible groups to iodine deficiency. Deficiency in iodine during prenatal and early childhood decreases IQ by 5–13 points causing mental retardation, which affects 9%–9.6% of children aged 5–12 (NSPCPM RM & ORC Macro, 2006). The number of children and adolescents that manifest endemic hyperplasia of the thyroid gland reaches 33%–47%, endemic goiter that is manifested by the appearance of visible nodules is recorded at 2.8%–5.7%, while 1.5%–4.2% suffer from hyperthyroidism. There is a worrying increase in cases of thyroid gland cancer. The main cause of this

phenomenon lies in the fact that the natural environment of the RM is characterized by reduced values of iodine content: 4.5–5.3 mg/kg in soil, 40 mg/L in water, and 0.03–0.22 mg/kg in vegetable products. Studies have shown that the iodine content in the urine of children (7.84 mg/dL compared to 10 mg iodine/dL—the lower limit indicating iodine deficiency) is the lowest in the European countries (GD No. 46, 1998). A recent study found that iodine consumption was adequate for 40.9% of participants, while 30% had excessive intake, and 28.6% had insufficient intake (WHO, 2018). At the same time, only 32% of families consume adequate iodized salt, as it has a low warranty term, after which it loses its healing qualities (NSPCPM RM & ORC Macro, 2006). Since 1998 there had been implemented three consecutive national programs, aimed at eliminating and preventing disorders due to iodine deficiency by iodizing salt intended for human consumption (GD No. 730, 2014). Although some progress has been made in preventing iodine deficiency disorders, the objective of their sustainable elimination is yet to be achieved and maintained. Since iodine deficiency is determined by low levels found in the environment, sustained interventions are needed to supplement iodine for the population in order to prevent iodine deficiency disorders.

15.7.2 Iron deficiency

Another major problem characterizing the nutritional status in the RM is anemia. Iron deficiency leads to decreased immunity and increased incidence of infectious diseases, and anemia. In 2002 the WHO presented iron deficiency as one of the most important health risks that can be prevented (WHO, 2002). The frequency of anemia in pupils in the RM is 30%–32%, being higher in preschoolers and especially in children up to 2 years old—anemia affects about 47% of children aged between 6 and 12 months. According to the same study, 20% of women of reproductive age and 20% of children up to 1 year old suffer from anemia. Only well-thought-out corrections can remedy these disorders. The diet of women between ages of 18–45 provides only 23%–53% of the daily iron requirement (NSPCPM RM & ORC Macro, 2006). The average iron consumption does not reach the level of 100% of the nutritional needs for any population category (Deseatnicov, Motruc, Sturza, Ciumac, & Ciobanu, 2005). The impact of iron deficiency is affecting not only human health, but also the country's economy. The average value of missed profit as a result of impaired cognitive ability and reduced productivity of the workers, conditioned by iron deficiency, constitutes 0.9% of the country's GDP. During 2015–17 certain efforts were made to implement the National Program for reducing diseases determined by the deficiency of iron and folic acid (GD No. 171, 2012). However, without the implementation of the basic intervention—the fortification of the flour with iron and folic acid, the objectives set out in the mentioned program were not achieved (MSMPS, 2020).

15.7.3 Nutritional problems: impact and control measures

The burden of disease caused by poor nutrition is high and continues to grow in the RM. The distribution of the micronutrients and macronutrients in the country and among population groups is often uneven, resulting in undernutrition on the one hand, and obesity on the other. The deficiency of micronutrients is amplified by the increasing use of refined foods with a high degree of extraction, which reduces their biological value. The RM is facing the double burden of malnutrition (GD No. 730, 2014). About 6% of children under 5 years of age have statural retardation, conditioned by chronic energy insufficiency, and a fifth of children 6–59 months of age (21%) suffer from anemia (UNICEF, 2014). Half of the adult population is overweight or obese. About two-thirds of the population over 40 years of age, apparently healthy, have high values of blood pressure and total cholesterol. Poor diet and its associated risk factors are responsible for annual loss of 50% of the healthy life years for women and 35% for men. Over 80% of the annual deaths registered in the RM are conditioned by noncommunicable diseases. Annually, 55%–57% of the recorded deaths are caused by cardiovascular diseases, 14% by cancer, and about 10% by diseases of the digestive tract (GD No. 730, 2014).

There is no data that can be used for estimating the adequacy of food consumption for all essential nutrients, including energy. According to FAOSTAT data, dietary energy intake per capita between 1992 and 2010 varied between 3200 and 2600 kcal/day (GD No. 730, 2014). This consumption is higher compared to the estimated consumption needs. Between 2006 and 2010 the estimated energy consumption from lipids, in families with children, varied between 32% and 33%, exceeding the maximum limit of 30% recommended by the WHO. Salt consumption exceeds twice the WHO recommended value of 5 g/day per person. The average salt intake for men is 11.5 ± 5.4 g/day and for women 10.3 ± 4.6 g/day with bread being the largest contributor. About 6 out of 10 households in the RM consume iodized salt adequately, with a significantly higher proportion among people with a higher education level, the urban population, and those with a higher wealth index (WHO, 2018). Between 2005 and 2007 the energy provided by the consumption of simple carbohydrates constituted 12%, also exceeding the maximum limit recommended by the WHO of 10%. Overall, only 49.7% of the Moldovans are consuming adequate amounts of potassium (>90 mmol/day). So, public policies must be targeted toward encouraging increased consumption of fruits, vegetables, legumes, and nuts to enhance potassium consumption to at least 90 mmol/day (GD No. 730, 2014).

Saturated fats and trans fats, which have pronounced atherogenic properties, are widely used in the food industry. The purpose of the National Program in the Field of Food and Nutrition (NPFFN) for the years 2014–20 is to reduce the burden of morbidity, preventable disability, and avoidable premature mortality caused by noncommunicable diseases related to diet, malnutrition, and nutritional deficiencies (GD No. 730, 2014).

The specific objectives of the program include: (1) reducing the consumption of added saturated fats and sugars by 3% and 5%, respectively, as a fraction of the total energy consumption; (2) reducing the consumption of trans fatty acids to less than 1% as a fraction of the total energy consumption; (3) reducing the consumption of sodium/salt by 30% (less than 8 g/day); and (4) a zero increase in the prevalence of obesity in children and adults. According to estimates, achieving these goals will help reduce the impact of metabolic risk factors for noncommunicable diseases as follows: (1) the average value of hypertension in the adult population by 2–3 mm Hg; (2) the average value of total blood cholesterol in the adult population by 5%; (3) the average value of blood glucose in the adult population by 5%; (4) the prevalence of hypertension by 10% in adults; and (5) the prevalence of high blood glucose by 15% in adults (GD No. 730, 2014).

15.8 Future perspectives

The WHO recommended a 30% reduction in salt intake by 2025 to prevent and control noncommunicable diseases. In the RM, a comprehensive program for reducing salt consumption among the population must be implemented at national level through systematic efforts, including by raising public awareness and changing behaviors through communication (e.g., via medical workers and school education). Additionally, structured programs must be implemented to: (1) reformulate processed foods; (2) establish a framework of action for the food industry; (3) introduce appropriate labels (e.g., color-coded) to highlight high salt content in foods; and (4) to monitor and evaluate salt intake at population level. Those food groups that contribute the most to a high salt intake should be particularly targeted (GD No. 730, 2014). A program to encourage the reduction of salt consumption among the population can also be regarded as an opportunity to review criteria for food fortification (e.g., with iodine) and to address current nutrient deficiencies in the country (WHO, 2014).

15.9 Concluding remarks

Dietary changes over the past few decades are partly the result of changes in global food systems. In the RM, nutrition is a relatively new field. The National Action Plan on Food and Nutrition is in its implementation process. It is foreseen that once completed, it will help reduce the burden of preventable morbidity, disability, and premature mortality caused by noncommunicable diseases related to diet, malnutrition, and nutritional deficiencies. Some of the expected results are promoting nutritional health, reducing the consumption of cooking salt, and reformulating processed foods without trans fats and added sugars. The overarching purpose of this plan is to reduce obesity, especially in the young population, lower blood pressure, cholesterol, and blood glucose levels, as well as to promote a healthy lifestyle. In this context, traditional Moldovan foods should be further explored and their bioactive components valorized.

References

AGEPI. (2018). *Map of potential geographical indications*. Retrieved from <http://harta-ig.agepi.gov.md/#Map>.

AGEPI. (2020). *Database. Geographical indications*. Retrieved from <http://www.db.agepi.md/GeogrIndications/ListeDOIG.aspx>.

Deseatnicov, O., Motruc, N., Sturza, R., Ciumac, J., & Ciobanu, C. (2005). *About the intake of some micronutrients in nutrition of institutionalized children*. Paper presented at the 30th Annual Congress of the American Romanian Academy of Arts and Sciences. (in Romanian).

Eremia, I. (2018). *History of Romanians: Medieval epoch: Course notes*. Chisinau, MD: CEP USM. (in Romanian).

Fala, A., Pântea, M., Sava, P., & Cibotari, V. (2018). *The study regarding the identification of products, beverages, dishes and handicrafts that can be registered as Geographical Indications, Designations of Origin and Traditional Specialties Guaranteed in the Republic of Moldova*. Chisinau, MD: Tipografia Centrala, AGEPI, SARDPI. (in Romanian).

FAO. (2012). *Assessment of the situation regarding agriculture and rural development in the Eastern Partnership countries*. Republic of Moldova. Retrieved from <http://www.fao.org/3/aq675ro/aq675ro.pdf>. (in Romanian).

GD No. 46. (1998, January 16). *Regarding the National Program for the eradication of iodine deficiency diseases until 2004*. Retrieved from <https://www.legis.md/cautare/getResults?doc_id = 49762&lang = ro>. (in Romanian).

GD No. 171. (2012, March 19). *Regarding the approval of some measures to reduce the diseases caused by the deficiency of iron and folic acid until 2017*. Retrieved from <https://ansp.md/wp-content/uploads/2014/06/HG_171-2012_Privind_reducerea_deficit_de_fier_si_a._folic.pdf>. (in Romanian).

GD no. 248. (2013, April 10). *Regarding the approval of the Management Strategy waste from the Republic of Moldova for 2013–2027*. Retrieved from <http://www.legis.md/cautare/getResults?doc_-id = 67104&lang = ro>. (in Romanian).

GD No. 730. (2014, September 8). *Regarding the approval of the National Program in the field of Food and Nutrition for the years 2014–2020 and the action plans regarding its implementation*. Retrieved from <http://lex.justice.md/index.php?action = view&view = doc&lang = 1&id = 354645>. (in Romanian).

MSMPS. (2020). *Informative note. The progress on the implementation of the National Program in the field of Food and Nutrition for the years 2014–2020 and the Action Plan, for the year 2017*. Retrieved from <https://msmps.gov.md/ro/content/nota-informativa-progresul-privind-realizarea-programului-national-domeniul-alimentatiei-si>. (in Romanian).

National Bureau of Statistics of the Republic of Moldova.. (2018). *Statistical yearbook of the Republic of Moldova*. Chisinau, MD: Tipografia Centrală. Retrieved from <http://statistica.gov.md/public/files/publicatii_electronice/Anuar_Statistic/2018/1_AS.pdf>.

Niculiță, I. (2010). The beginnings of history. The ancient period. The Thracians and ancient civilizations (VIIth-Ist centuries BC). Establishment of the first state formations. In V. Dergaciov (Ed.), *History of Moldova: The prehistoric and ancient epoch (until the 5th century)* (pp. 432–458). Chisinau, MD: Tipografia Centrală, ASM. (in Romanian).

NSPCPM RM & ORC Macro. (2006). *Demographic and health study of the Republic of Moldova 2005*. Maryland: NSPCPM RM & ORC Macro. (in Romanian) Retrieved from <https://dhsprogram.com/pubs/pdf/FR178/FR178-Romanian.pdf>.

Republic of Moldova Official Website. (n.d.). *Geography*. Retrieved from <https://moldova.md/en/content/geography>.

UNDP Moldova. (2009). *Climate change in the Republic of Moldova. Socio-economic impact and policy options for adaptation*. Retrieved from <http://hdr.undp.org/sites/default/files/nhdr_moldova_2009-10_rom.pdf>. (in Romanian).

UNICEF. (2014). *Monitoring the situation of children and women. Study of Multiple Indicators in Nests for the Republic of Moldova 2012, Final Report*. Chisinau, MD: Tipogr. "Elan Poligraf". Retrieved from <https://cnpdc.gov.md/sites/default/files/document/attachments/2012_moldova_mics_final_ro.compressed.pdf>. (in Romanian).

WHO. (2002). *The World health report: 2002: Reducing risks, promoting healthy life*. Retrieved from <https://apps.who.int/iris/bitstream/handle/10665/42510/WHR_2002.pdf?sequence = 1>.
WHO. (2014). *European food and nutrition action plan 2015–2020*. Retrieved from <http://www.euro.who.int/__data/assets/pdf_file/0008/253727/64wd14e_FoodNutAP_140426.pdf>.
WHO. (2018). *Dietary salt intake survey in the Republic of Moldova, 2016*. Retrieved from <http://www.euro.who.int/__data/assets/pdf_file/0009/386694/mda-salt-intake-eng.pdf?ua = 1>.