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Some Middle Eastern Breads, their Characteristics and their Production

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Abstract. In Middle Eastern countries, there are many traditional products which are made from wheat; bread is the most important one, and it is eaten with almost every kind of food. The goals of this study are to 1) in general, review major types of breads in the Middle East, and 2) specifically discuss Iranian breads. There are four major Iranian flat breads; all of these are fundamentally the same, and the dough in all of them consists of water, yeast, baking powder, and wheat flour, but they also have some ingredients which are specific to each product. The first of these breads is Barbari, which is thick and oval shaped. Barbari is baked in a curved oven whose interior is covered with bricks. The second type is Lavash, which is thin, flaky and round. Lavash can be found in other Middle East countries as well. The third is Sangak, which is triangle shaped; it can be very large in size. Sangak is baked in an oven which is covered with small stones. This bread is often topped with poppy or sesame seeds. The fourth bread is Taftoon, which is thin, but it is thicker than Lavash. It is also soft and round. Additionally, there are other kinds of breads in Iran, such as Shirmal, Ghandi and Tiri, but they are not as popular. This study represents the first stage of a larger research agenda, which is aimed at enhancing both

the nutritional and functional properties of traditional Middle Eastern breads, while at the same time preserving taste and consumer acceptability.

Keywords. *Barbari, Flat Breads, Iran, Lavash, Middle Eastern countries, Sangak, Taftoon.*

Introduction

Flat breads are very popular in Middle Eastern countries and they are a major source of dietary protein and fiber. Bread is a staple foodstuff, which is made and eaten in every the Middle Eastern country. Cereals are the most widely consumed food item in the Middle East, followed by fruits, vegetables, and dairy products (Gran et al., 2006). There are different types of bread which are consumed in different Middle Eastern countries. Each of these breads is made from different grain, thus the taste, texture, and even aroma are different in each of these breads. Flat bread products have evolved to take many forms, each based on different and distinctive characteristics. The character of flat breads depends heavily on the formation of a gluten network (Rubenthaler and Faridi, 1981). While there are many different bread making processes, they have the common aim of converting wheat flour and other ingredients into a light, aerated and palatable food (Najafian et al, 2008). All flat breads, basically, have the same production procedure. This includes mixing, proofing and baking. One of the important parts of production which is different for different kinds of flat bread is flattening and sheeting of the dough. The way the dough is flattened and shaped results in differences between flat breads. In Iran, for example there are four major types of flat breads (Barbari, Lavash, Sangak and Taftoon), which are all different in shape.

Middle East has the highest dietary energy surplus of the developing countries. But there are still problems with lack of food, especially in some of the Middle East countries. One of the countries which is in extremely poor condition is Afghanistan, which has 40% malnutrition. The diet in Iran has improved a lot but still the problem is the high dependence on bread as a major food especially among the lower socioeconomic sectors. Despite the fact that Iran consists of an agrarian economy, there is a high degree of malnutrition within the country. The peak of nutritional problems, in Iran is often in the second year of life, and the average growth rate slows down after 6 months of age in many cases. Although over 80% of the population is covered by an effective primary health care system, a nutritious food supplement is needed (FAO, 2009). Since bread is the major food eaten in Middle Eastern countries and it is also the cheapest source of food, adding value to bread is an ideal way to prevent malnutrition in these countries. Thus the objectives of this article are to 1) review major types of breads eaten in Middle Eastern countries, discuss their characteristics, and 2) discuss Iranian breads in depth. The information discussed in here will be used to add value to these breads and improve their nutritional characteristics.

Middle Eastern Countries

The Middle East is a region that spans southwestern Asia and northern Africa (Figure 1); it has no clear boundaries. The Middle East is where Africa, Asia and Europe meet. Opinions vary as to what countries

exactly make up the Middle East. Historically, Armenia and Azerbaijan have been associated with the Middle East, but in recent years, some sources now consider them to be more closely in Europe. The African country of Egypt is still thought to be in the Middle East, as well as northern African countries that border the Mediterranean Sea. Some core countries are always included as part of the Middle East, but there is disagreement about how far the region extends (<http://www.w3.org>). The following are those countries that are most often considered Middle Eastern countries:

Afghanistan, Algeria, Armenia, Bahrain, Cyprus, Djibouti, Egypt, Eritrea, Georgia, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, Turkey, United Arab Emirates, Western Sahara, Yemen.



Figure 1. Geography of the Middle Eastern region (from <http://mapoftheunitedstates.org>, 2009).

Middle Eastern Breads

There are many different types of breads in different Middle Eastern countries. These breads vary in ingredients, texture, shape and other characteristics. Table 1 summarizes some of these breads and their specific characteristics.

Table 1. Some examples of Middle Eastern breads.

Name of Bread	Kind of Flour	Country	Other Characteristics
Aish Mehahra ¹	Fenugreek & Maize	Egypt	Flat, wide loaves with 50 cm diameter
Baladi ²	Whole Wheat	Egypt	Round shaped, with 15-20 cm diameter
Barbari	Wheat	Iran	Oval shaped, with length of 67-75 cm
Bazlama ³	Wheat	Turkey	Round shaped, with diameter of 10-25 cm
Bolani ⁴	Wheat	Afghanistan	Flat bread stuffed with different vegetables
Harsha ⁵	Semolina	Morocco	Pan fried bread
Injera ⁶	Teff, Wheat, Corn	Eritrea	Pancake like bread
Lavash	Wheat	Iran	Thin round bread with 50-60 cm diameter
Malooga ⁷	Wheat	Yemen	Yeasted flat bread, eaten with egg, buttermilk
Matzo ⁸	Wheat & Spelt	Israel	Cracker like flat bread, can be made into round shape with a foot diameter
Pide ⁹	Wheat	Turkey	Soft, chewy texture, it is like Pita
Pita ¹⁰	Wheat	Common in different countries	It is a round, brown bread
Sangak	Whole Wheat	Iran	It is a large bread with the length of 70-80 cm
Taftoon	Wheat	Iran	Round bread with diameter of 40-50 cm
Yufka ¹¹	Wheat	Turkey	Thin round bread with diameter of 18 inch

1. <http://w.about.com>
2. <http://www.cookingwiththebible.com>, <http://members.cox.net>
3. <http://lakenelderfoodblog.blogspot.com>, <http://www.giverecipe.com>
4. <http://www.w3c.org>
5. <http://www.wikipedia.org>
6. <http://www.ethiopianrestaurant.com>
7. <http://www.blogger.com>
8. <http://www.wikipedia.org>, <http://www.whats4eats.com>
9. <http://www.epicuream.com>
10. <http://w.about.com>
11. <http://www.wikipedia.org>

Aish Mehahra

This is flat bread in modern Egyptian society driven from the traditional recipes used for bread making in the ancient and modern Middle East. It is made from fenugreek (Fenugreek, *Trigonella foenum-graecum*, is a plant in the family Fabaceae which can be used both as an herb and as a spice) and maize flour. Aish Mehahra has flat, wide loaves with approximately 50 cm diameter. This bread is very similar to the Lebanese flat bread Markouk.

Baladi

This is round bread with the diameter of 15-20 cm and thickness of 1-2 cm. Baladi is baked with whole flour and there are two types of this bread: one is hand-made Baladi and the other is machine-made Baladi. The hand-made form is often enriched with a thin layer of bran sprinkled on the lower layer. The ingredients used in baking Baladi are whole wheat flour, water, salt and dry yeast.

Bazlama

This is a traditional Turkish bread with a circular shape. Bazlama is leavened bread with thickness of approximately 1.5 to 2 cm and diameter of about 10-25 cm. Its color varies from brown to white, but most of the time it has a creamish yellow color. Generally, this bread is baked in villages over wood fire. The ingredients used in baking Bazlama are wheat flour, yogurt, water, yeast, olive oil, sugar and salt. Bazlama can be topped with sesame seed as well.

Bolani

This is a vegetarian flat bread dish from Afghanistan, Tajikistan and Uzbekistan, which has a very thin crust and can be stuffed with a variety of ingredients such as potatoes, spinach, lentils or leeks. Bolani is very similar to a Persian recipe called Sambooseh. The ingredients for baking a Bolani are whole wheat, dry yeast, water, yogurt, safflower or corn oil, salt and sesame seeds.

Harsha

This is popular bread during tea time or breakfast in Morocco. Harsha is pan fried bread made from Semolina flour, butter and milk. It looks like an English muffin, but the taste is more like corn bread. Recipes for Harsha may vary, and ingredients for making a Harsha can be semolina flour, sugar, baking powder, salt, soft butter and milk.

Injera

This is thin Ethiopian bread which is made from three simple ingredients: teff flour (teff is a fine grain, about the size of a poppy seed that comes in a variety of colors which grows predominantly in Ethiopia and Eritrea) water and salt. Injera preparation usually takes two or three days. Ethiopians wrap a piece of bread around hot food (for example variety of stews or sometimes salads) and tear it off, eating bread and food together.

Malooga

This is common yeasted flat bread in Yemen. Malooga is eaten with egg, buttermilk and fasoolia (it is a kidney bean dish mainly eaten for breakfast with bread). This bread is baked in an oven, called a Taboon. The ingredients for baking Malooga are water, yeast, wheat flour, salt, vegetable oil and semn. Semn is a

dark clarified butter which is added to flavor sweet dishes, it is like ghee but it is cooked until it reaches dark brown color.

Matzo

This is cracker-like flat bread which is similar in preparation to South West Asian Lavash. There are two major types of Matza: hard form and soft form. Soft Matzo is made by hand, it is thin in texture, and it is distinctively different in taste from hard Matzo. Machine-made Matzo is light and crispy in texture. The ingredients for making Matzo are wheat flour, salt and cold water.

Pide

This has a soft, chewy texture and it is pocket-less bread which has a golden crunchy crust and spongy texture inside. The ingredients for baking this bread are wheat flour, active dry yeast, sugar, water, salt, olive oil and eggs. Pide is very similar to pita in most of its characteristics.

Pita

This is very popular bread in the Middle East. Pita is the western name for the Arabic bread called Khubz. This bread is baked in brick ovens with high temperatures (up to 450°C), and due to this high temperature, the final product has two layers. The ingredients for baking a Pita are wheat flour, yeast, water, salt and sugar. Pita is used to scoop sauce or dips such as hummus and to wrap kebabs, gyros or falafel.

Yufca

This is thin, round, and unleavened flat bread similar to Lavash with a diameter of approximately 40-50 cm. Thin Pide is known as Yufca. This bread is made with special wheat flour, water and salt. Yufca is low in moisture content, thus it has a long shelf life. Before consumption of Yufca, it is moistened with water.

Iranian Breads

Iran has a wide variety of breads, with different tastes and textures; here we will concentrate more on Iranian breads, especially four major types of these breads, which are Barbari, Lavash, Sangak and Taftoon.

Barbari

Usage and characteristics

Perhaps the most famous and widely used bread in Iran is Barbari (Figure 2), which is a part of Iranian culture. A piece of Barbari with feta cheese and a cup of tea form the traditional Iranian breakfast. Barbari

is the most popular bread, especially in northern of Iran, where it first came into use. Historically, Barbari was brought to Iran many years ago by Russian people during the revolution in the Russia. It became popular among Iranian in the north part of Iran, but today, this bread is consumed in all parts of Iran. Barbari crust has the thickness of 1-2 mm; it has a length of 67-75 cm and width of 13.5-20 cm. A fresh Barbari can be chewed very easily but the most important disadvantage of this bread is that, it stales very fast, and this makes the chewing hard. Barbari is thick and oval shaped and is topped with poppy seeds, it has a golden color and the secret behind its golden color is the use of Romal. Romal is made from flour, baking soda, mixed in the boiling water, because the starch of the flour turns into dextrin in boiled water, it is the dextrin which makes the golden color; the Romal is then brushed on the shaped dough. Barbari has a special smell and the taste of Barbari depends on the amount of sour dough and baking time.

Methods of preparation

Ingredients:

For making two Barbari, ingredients are approximately:

-394 g of wheat flour (which is called Star flour in Iran, and its extraction degree is 77-82%, the moisture of the flour is 13.3%, and the ash is 0.82%),

-355 mL of water,

-one package of active dry yeast,

-sour dough which has to be left to rest for at least 3 h,

-baking powder,

-5 g of salt,

-poppy seeds, sesame seeds or black sesame seeds,

-Romal (14 g of flour, 14 g of baking soda, 474 mL water).

Preparation:

The sour dough, active dry yeast, half of the water, all of the salt and half of the baking powder should be mixed together; after that, all of the flour and the rest of the water should be added. Then it should be mixed to dough for 13-15 min and it should be left to rest for 7 min, then again mixed for 7-10 min. In the next step, you have to slightly sprinkle whole wheat flour on the baking sheet, so as to transfer the dough on the baking sheet. In order to prevent the dryness of the crust, it should be covered with whole wheat

flour and then leave it in a warm place for 1.30 h to rest. After that, divide the dough into oval pieces, then it should be left to rest for about 5-7 min for the inside fermentation. Meanwhile, the Romal can be made. Then it should be brushed on the dough pieces; then you have to dip your finger into the Romal and punch down the doughs, brush them with Romal one more time and sprinkle the poppy seeds on the top. Let them rest for 8-10 min for the final fermentation.

The oven in which Barbari is baked is a curved oven, whose interior is covered with a special kind of bricks, called “Russian Bricks”. Figure 2 and 3 are pictures of this kind of oven. The oven should be preheated to about 250°C. Put the dough pieces in the oven one by one, and bake them for about 30 min or until the color turns into a golden color. The baking time depends on the thickness of the dough, its weight and the temperature of the oven (Rajabzade, 1996).



Figure 2. Example of an oven used to bake Barbari.



Figure 3. Interior of a Barbari oven, which is covered with Russian bricks.



Figure 4. Preparation of Barbari.

Lavash

Usage and characteristics

Years ago, Lavash was consumed only in certain cities in Iran (like Tehran), and it was a small, round bread. It has become popular in other parts of Iran, and today it is consumed by everyone in Iran. Lavash is a thin, round, flaky bread (Figure 3) which can be preserved for even 6 months in a refrigerator, and it has a diameter of 50-60 cm, which can vary in every Lavash bread. It gets dry very fast and it should get moistened a little with water before it is eaten. One of the problems with this bread is that it gets thicker in outer edges of the bread and people do not eat these parts, so the bread waste increases a lot. Another problem with Lavash is its low iron bioavailability, but this can be increased by vitamin A supplementation. Increasing vitamin A intake can be considered as a method for increasing iron bioavailability, thus combating iron and vitamin A deficiencies simultaneously. The most distinctive character of Lavash is the existence of bubbles on the bread which are made because of the production of gas from the activity of yeasts. These bubbles are darker in the baked product than the bread itself, the reason is that, because these parts are thinner, they get cooked sooner. Desirable Lavash bread should be chewed very easily and it shouldn't stick to the teeth. The taste of Lavash depends on the methods used in the baking of the bread.

Methods of preparation

Ingredients:

For making 6 Lavash, ingredients are approximately:

-360 g of wheat flour (with extraction degree of 86-90%, 12.6% moisture and 1.01% ash),

-8 g of salt, the amount of salt used in the Lavash bread varies between 1.3% and 2%,

-sour dough, the amount of sour dough is 8-10% in winter and 2-5% in summer time,

-active dry yeast (which can be completely used instead of sour dough),

-baking soda, which is necessary in making the Lavash dough, because when the dough thickness gets to 2-2.3 mm, most of the gas, which is produced from the yeast activity, gets out of the bread, and if the baker doesn't use the baking soda, there won't be enough gas bubbles left in the bread,

-474 mL of water,

-7 g of sugar,

-toasted sesame seeds.

Preparation:

The baker will mix the flour with salt and baking soda, sugar, and then he adds water to the mixture, then all of the sour dough and active dry yeast which is already dissolved in the water. Then the mixture is mixed for 15-20 min, and then it is left to rest for 10 min and again mixed for 1-2 min until into the dough. Then the dough should be left to rest for 15-45 min, this time depends on the quality of the flour, temperature of the environment and the temperature of water. After that, the baker divides the dough into round pieces, this is the rounding step. Then he puts them on the table covered with flour and then he sprinkles flour on the round pieces, the amount of this flour is really important in prevention of fast staling in bread. Next step is to leave them for about 20-30 min for the inside fermentation. Once raised, the baker rolls the dough out to thin round ones with 5 mm thickness. They are now ready to be baked. There are types of ovens used in baking the Lavash, one is in the ground and the other is into the wall. The bread which is baked in the ground oven is usually 20-30 g heavier than the one, which is baked in the other type of the oven. The baker then, brushes the dough with water and sprinkles sesame seeds on the top. The breads are baked for 25-35 s in temperature of 200°C. The baking time depends on the type of fuel used in the oven and the amount of fuel. The weight of the produced Lavash bread is almost 165-170 g (Rajabzade, 1996).



Figure 5. Preparation of Lavash.

Sangak

Usage and characteristics

It is believed that baking of Sangak dates back to the era of Shah Abbas Safavi, who was the king of Iran during those days. This bread used to be baked on hot stones at homes, then its production improved over the years, today it is produced in modernized bakeries in every city of Iran. Sangak bread is the second most popular bread in Iran after Barbari (Figure 4). Sangak used to be baked in Iranian homes on hot stones and now it is baked in an oven, covered inside with small stones. That is why it is called Sangak, because “sang” in Farsi means “stone” and Sangak means “small stone”. Sangak is the healthiest bread among Iranian breads and it is richer in vitamins and protein. Sangak is the only traditional bread which is baked on a semi direct flame in the oven. This bread can be very large; usually it has a length of 70-80 cm and a width of 35-50 cm, thickness of 4-5 cm and it is shaped in triangle. The outer edges of the bread is thicker in compare to the center. Sangak has a dark brown color, and it has a fresh special smell. A piece of Sangak bread, with onion and a bowl of dizi would be a traditional lunch in Iran.

Methods of preparation

Ingredients:

For making 6 Sangak, ingredients are approximately:

-360 g of wheat flour(which used to be a whole wheat flour, but now in most of the cities in Iran, they use flour with extraction degree of 93%, moisture of 8.2%, and ash 1.40%),

-8 g of salt (the amount of salt which is used depends on the extraction degree of the flour; when the extraction degree is high the amount of salt which is used is low),

-starter from the previous batch, which is called ‘sarkesh ‘in Iran,

-14 g of active dry yeast,

-474 mL of water.

Preparation:

The baker mixes the water, all of the salt and all of the flour for about 10 min. Then, he leaves the dough to rest for about 20-25 min, after that, the sarkesh is added and also the active dry yeast. Then the dough is again mixed for 7-8 min. Depending on the environment temperature, amount of salt and water, the proofing time can be 1.30-3.30 h, in order for the dough to risen up. The whole resting time in Sangak

preparation is about 5-6 h. After the proofing time, the dough is divided into round pieces and then the dough is stretched by experienced hands on a flat surface near an open oven. The oven is a dome shaped hole with a surface of pebbles and stones. The baking time depend on the temperature of stones, and it can be 3-4.30 min. The baking temperature is about 350-500°C. For a better taste, the baker can sprinkle the top with black sesame seeds before he puts the bread in the oven (Rajabzade, 1996).

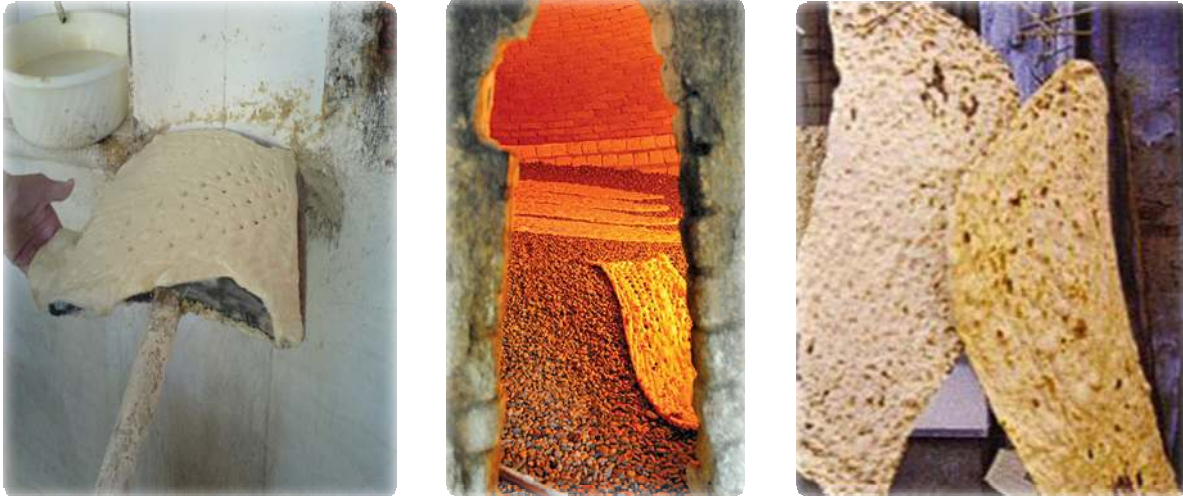


Figure 6. Preparation of Sangak.

Taftoon

Usage and Characteristics

Taftoon used to be popular bread only in some parts of Iran such as Isfahan and Khuzestan, and then its production was modified to today's Taftoon which is consumed by people all around Iran. This bread in some of the Arabic countries, such as Kuwait, is called "Tanoori". Taftoon is a round, thin bread (Figure 5) with the thickness of 3-5 mm and the diameter of 40-50 cm which varies in every Taftoon bread. This bread is thicker than Lavash but thinner than Sangak and Barbari. The crust is brown, but not dark brown. Taftoon has lots of bubbles on the surface just like Lavash. The more bubbles, the more desirable the bread is. It takes a longer time for Taftoon to stale in comparison to Sangak or Barbari.

Methods of preparation

Ingredients:

For making 6 Taftoon, ingredients are approximately:

- 360 g of wheat flour (which has no bran, and the extraction degree is 87-90%, with 1-1.3% ash),
- 8 g of salt (the amount of salt in summer is about 1-1.3%, and in winter is 0.7%),
- sour dough (the sour dough which is used in preparation of Tafton's dough is from the center of the prepared dough from the previous batch, so it has spent 4-5 h to ferment),
- one package of active dry yeast,
- baking soda.

Preparation:

The baker mixes the flour with salt, baking soda, sour dough or active dry yeast. Then the water, at 15-20°C is added and then it is mixed for about 15-25 min to shape the dough. After that the dough is left for about one hour to rest, this time can be 3.30 h during winter time. After the first proofing, the dough should be rounded. An amount of flour should be added to the dough by hand during the rounding. After that the pieces should be left to rest for about 10-25 min for the inside fermentation, in order to prevent the dryness of the crust, the baker sprinkles an amount of flour on the top of the pieces. After that dough is stretched and the baker rolls them out until the thickness is 4- 6 mm. Then the baker puts the flattened dough on to the special kind of surface and then into the oven. There are also two kinds of ovens for Taftoon bread; one is in the ground and the other into the wall. The interior surface of the oven is covered with clay. The baking time for Taftoon is about 45-100 s and the baking temperature is about 200°C (Rajabzade, 1996).



Figure 7. Preparation of Taftoon.

Other Types of Traditional Breads in Iran

There are also other types of breads eaten by Iranian people, but they are not as popular as these four kinds of breads already discussed. These other breads are eaten in various parts of Iran, and they are very different in shape and taste. These other breads include:

-Nan-e Shirmal: It is like Barbari, except with milk instead of water, in addition to a bit of sugar, and is eaten during breakfast.

-Nan-e Gandhi: Sweet bread made like Taftoon, it is eaten during breakfast or with tea.

-Nan-e Tiri: It is like Lavash but thinner.

-Nan-e Tokhme-ru: They are breads with sweet smelling seeds on them.

Each of these breads is specific to various parts of Iran, so they are not as common as the four major types (<http://www.w3.org>).

Industrial and Traditional Breads

A shift toward industrial bread production has occurred during the last few decades (<http://www.technopokhht.com>). Today, in large cities throughout much of the Middle East, most of the bakeries are now semi-mechanical, in which the dough preparation is done by hand and then the prepared dough is placed in tunnel ovens, which are very different from the previously explained ovens (i.e. those which are used in traditional bakeries). In these modern bakeries, large ovens are used in order to accelerate the production where the proofed dough is entered and the final product exits within a few minutes. The differences between these ovens and traditional ovens include the time of cooking, and also the use of indirect flames, which reduce the negative effect of direct flame on the bread products (<http://www.iranseda.ir>). Thus unwanted chemical reactions, over cooking, and loss of nutrients is decreased (<http://www.hamseda.ir>). In addition to these semi-mechanical bakeries, there are other factories which produce flat breads (and almost other type of breads such as loafs), using various machineries. In these factories, production of breads is completely industrialized. These breads are available in every food store. Today, people are encouraged to buy industrially-made bread because of its benefits. Bread wastes decrease due to the even texture of the bread. Studies show that, from three traditionally baked breads, half of one bread becomes waste and it is thrown away because it is not baked evenly and thoroughly (<http://www.farsnews.net>). In industrial breads, the time and temperature of baking can be monitored and controlled; also production of bread is done with complete hygiene in every step of production. However, most people still prefer to consume traditionally made breads, which are prepared in the manner explained

in this paper, because they believe that taste, texture, flavor and odor of these breads are distinctively better than those of industrial breads.

Fortification of Middle Eastern Breads

All breads are nutritious, but some more so than others. For example, one slice of enriched white bread has 76% of its calories from carbohydrates, 11% from fat, and 13% from protein. On the other hand, an average slice of whole wheat bread has 69% of its calories from carbohydrate and 15% from fat (Dalgethy et al., 2006). But, because cereals are the largest source of calories for many people, and because they are inexpensive as well, fortifying cereals, especially breads, is a very important topic among food scientists. Enriching different kind of breads with components such as thiamine, riboflavin, folic acid, etc, is a great help in developing healthier, nutrient-rich bread, especially for consumption by people of those countries which have high malnutrition (for more information on malnutrition refer to Pourafshar et al., 2010b). For more illustration, iron fortification of wheat breads is an optimal approach for reducing the high prevalence of iron deficiency in wheat eating, developing countries (Pourghasemi, 2006). Adding fiber to breads has beneficial physiological effects. Insoluble fiber results in a reduction in the risk of colon cancer. Along with dietary fiber, β -Carotene can also be effective in reduction of this disease. Adding a mixture of wheat fiber and psyllium husk fiber, plus ascorbic acid, and β -Carotene, can increase water absorption up to 25% and reduce caloric density (Park, 1997). Another component which has become important in bread is zinc. Zinc is an essential element for the maintenance of good health. It is also important for the activity of several enzymes involved in energy changes and protein formations. Thus, adding zinc to different kinds of breads can be advantageous as well (Khaniki, 2005). Another problem with bread is the loss of lysine during baking, which often varies from 9.5 to 23.8% in different kind of breads, depending on the baking conditions. Adding value to breads could be a great step in providing nutrient components to consumers, since today they increasingly understand the need for these components in their bodies. By adding certain nutrients, we can also change physical and chemical properties, the shelf life, the texture, and the production time of breads (Cauvain, 2003). Thus, enrichment of breads with components such as fiber and protein can be a great step in solving many different kinds of problems in bread consumption (for more information on fortification of breads, refer to Pourafshar et al., 2010a)

Conclusion

The objective of this study was to review traditional Middle Eastern breads. The ingredients used in these breads are basically the same; the differences among them are the amount of the ingredients, the way they are shaped, the temperature at which they are baked, etc. Each of these breads has its own history; and each is more popular in different geographic areas. Since bread is one of the most important foods eaten in Middle Eastern countries, it is of great importance to add value to these products in order to improve nutrition. Adding protein, fiber, and/or other nutrients would help to reduce malnutrition in these countries. For example, fortified breads could help children to have better nutrients from the basic food they eat every day. Thus, being acquainted with different kinds of traditional breads in the Middle East would help food scientists and engineers develop strategies about how best to enrich these foods. These improvements must be while simultaneously preserving taste, texture, and consumer acceptability.

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