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Rock Samphire (*Crithmum maritimum* L.) as a Functional Food: Awareness, Consumption Habits and Culinary Use

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ABSTRACT

Functional foods are the name given to food groups that, when consumed, have beneficial effects such as promoting and maintaining metabolic health and preventing diseases, rather than just meeting nutritional needs. Rock samphire (*Crithmum maritimum* L.), is a plant that grows naturally in the Mediterranean and Aegean regions of Turkey and on the coasts of Cyprus, has been consumed in these regions for many years. The consumption of the rock samphire, which draws attention with its high iodine and bioactive component content, has been limited to the regions where it grows. In this study, the local consumption habits, recipes of the rock samphire plant and the awareness of its functional properties were determined. In the study, six different recipes were obtained from the local people. Traditional products prepared according to the recipes were photographed by the authors. In addition, twenty local people were interviewed and it was determined that consumers were informed about the functional properties of the rock samphire and that these properties motivated consumers to consume the plant. As a result of the study, it was concluded that the integration of locally-consumed rock samphire into the daily diets by introducing them into non-regional cuisines would contribute positively to the general public health and the economy of the region.

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Introduction

The concept of functional foods is defined as foods with functions that go beyond serving physiological roles (Diplock et al., 1999).

The leading consumer motive for purchasing functional foods is to optimize health, either to help prevent chronic diseases such as Alzheimer's and osteoporosis, or to optimize health by, for example, increasing energy, strengthening the immune system, and creating well-being (Khan et al., 2013). A general classification of functional food can be made as, i-plant origin: Oat, soy, flaxseed, tomato, garlic, broccoli and similar vegetables, citrus fruits, blueberries, tea, wine, and grapes; ii-animal origin: Fish, milk, and dairy products and meat (Guven and Gulmez, 2006). Functional substances with high biological usefulness in these foods are antioxidants, phenolic substances, dietary fibers, oligosaccharides, probiotics and prebiotics, vitamins, PUFA, sulfur-containing compounds, plant sterols, and phytoestrogens (Meral et al., 2012).

The first step in the research and development of functional food is to identify the interaction between one or more components of the food and a function in the organism that is beneficial for health. Increasing, adding, removing or modifying the concentration of a specific functional component of a food with known bioavailability; or more simply, making this food more frequently included in daily consumption, integrating it into diets, creating standard recipes or protecting previously established standard recipes is essential for protecting public health (Roberfroid, 1999). Despite the advances in health practices and technological developments in today's societies, there is an increase in chronic diseases due to intense stress, air pollution, unhealthy foods and many other factors.

Thanks to technological advances, more and more food ingredients are now known to have a positive or negative impact on human health. Consumers worldwide are therefore becoming increasingly aware of the relationship between food and health and are turning to more nutritious diets. In addition, rising health costs and changes in the food industry, which affect product supply and demand,

have led to an increased interest in maintaining a healthy lifestyle through diet and the consumption of foods that are beneficial for the body in addition to basic nutrition (Salmeron et al., 2015). However, the world's population is growing, which necessitates a return to the limited food resources and functional foods that have been consumed for a long time. This need has led to one of the fastest-growing food sectors, with an average annual growth rate of 8.6%. The functional foods portion of this market alone is worth USD 168 billion in global market, 2.5 times the size of vitamins and dietary supplements (Euromonitor, 2010a; Euromonitor, 2010b).

Consumers today are more interested in traditional recipes that have been consumed for many years and are known for their health benefits, rather than modern processed or ready-to-eat packaged foods. Traditional foods are often identified with a particular local area, with specific cooking and consumption methods that are passed down from one generation to the next. If the consumption of such foods is limited to certain regions, they may be forgotten. Developments in the food sector with technology, industrialization and capitalist expansion have led to the introduction of mass-produced and fast-food style foods into diets instead of healthy traditional foods. At this point, a return to healthy traditional foods has become very important in terms of functional nutrition and preserving national culinary cultures. The development of traditional food industries has a positive impact on employment and local economic development. Traditional food sector developments are important in preserving inventories, transferring them to future generations and promoting these foods (Cumhur, 2017; Kocatepe and Tırıl, 2015).

Today, there are widespread problems such as desertification, soil salinization and water scarcity due to various natural and man-made factors, especially in arid regions. Research conducted by the Food and Agriculture Organization of the United Nations (FAO, 2005) estimates that an average of 200 million hectares of agricultural land will be required to produce enough food for the world's population in the coming decades. Therefore, to overcome these problems, there is a need to research and utilize nutritional functional foods that are resistant to harsh conditions and can grow on their own under natural conditions e.g. halophytes. (Atia et al., 2010). Halophytes are specific plants that can develop adaptations to problems such as moisture deficit stress and soil salinization. They can tolerate and reproduce viable seeds at concentrations not lower than 200 mM NaCl (Flowers and Colmer, 2008). Halophytes are salt-tolerant species that can be grown in saline soil or using seawater due to their mechanisms of utilizing inorganic ions such as Na^+ and Cl^-. There is a growing interest in the use of some halophytes as human food and animal feed to address potential future food shortages. In addition, studies showing that high salinity reduces microorganism growth and extends shelf life are among the factors that make halophytes advantageous (Polit, 2013; Varol, 2021). Several halophyte species show high potential and *Crithmum maritimum* L. is one of the promising halophyte species (Atia et al., 2011).

Rock Samphire

The rock samphire is a succulent, aromatic, perennial, erect, or semi-recumbent halophyte that grows naturally on rocks and sometimes on sandy beaches near the sea. This aromatic plant belongs to the *Apiaceae* family of the genus *Crithmum* and is widespread around the Mediterranean and coastal areas of the Atlantic Ocean. It has significant nutritional value and economic potential. Previous studies have described the taste of rock samphire as 'pungent, similar to fennel and anise' (Sarrou et al., 2019). The name *Crithmum maritimum* L. is derived from the Greek words krithe, meaning barley, due to the similarity of its seeds to barley, and maritimum, meaning belonging to the sea, indicating its natural habitat (Renna, 2018). This green-leaved plant, which grows spontaneously on the seashore, in rock crevices and stony sandy areas open to the breeze and wave tides, blooms umbrella-shaped yellow-green flowers from July until the end of October (Clapham et al., 1962). Shakespeare (1623), in his play King Lear, mentioned the dangers of collecting rock samphire on the rocky cliffs by the sea with the phrase "halfway along, there hangs a man gathering grove; what a dreadful business!".

Since rock samphire grows near the sea, it contains high levels of iodine. Its tolerance to salt has caused it to attract high interest in scientific studies. Various studies have been carried out to reveal the potential of rock samphire as a functional food, but its consumption has not reached the desired levels (Sarrou et al., 2019). Rock samphire is also used for medicinal and antimicrobial applications due to its high content of carotenoids, polyphenols and other bioactive components. It is also rich in volatile compounds such as sabinene, γ-terpinene, ᵖ-cymene, thymol methyl ether, dilapiol. The plant also contains water-soluble compounds such as sugar, organic acids and minerals (Özcan et al., 2001). The composition (/100 g) of rock samphire is shown in Table 1.

Table 1. Composition of rock samphire (FAO, 2017)

Component	Amount
Water (g)	88.87
Protein (g)	0.31
Lipid (g)	0.39
Carbohydrate (g)	2.48
Dietary fiber (g)	5.7
Ash (g)	2.25
Ca (mg)	225
Fe (mg)	2.29
Mg (mg)	46
P (mg)	22
K (mg)	313
Na (mg)	368
Zn (mg)	0.26
Vitamin A (µg)	74
ß-carotene (µg)	883
Vitamin C (µg)	10

Iodine is a key component of the hormones produced by the thyroid gland. Thyroid hormones and therefore iodine is essential for mammalian life. Iodine is mostly found in ocean waters. The iodide in the water evaporates into the atmosphere and returns to the soil through rainfall.

This cycle is called the Iodine Cycle. Crops grown in areas where the iodine cycle is weak are low in iodine, and people in these areas suffer from iodine deficiency. Places where iodine deficiency is intense are mostly mountainous areas. Iodine deficiency in populations residing in these areas can be relatively well treated by ensuring that iodine enters the food chain by adding iodine to foods (e.g., iodizing salt) (Woeber, 1991).

Foods of marine origin are richer in iodine than other foods because marine plants and animals concentrate iodine in seawater. Iodine in organic form is found in high amounts in seaweeds. People whose diets include large amounts of seafood and who live in coastal areas have very high iodine intakes. Recent recommendations to reduce table salt for a healthy lifestyle have led to the prediction that iodine intake will also decrease (Teng et al., 2006). Iodine intake status throughout life is a major determinant of thyroid disorders. Severe iodine deficiency causes goiter (abnormal enlargement of the thyroid gland) and hypothyroidism. In these diseases, iodine deficiency prevents the secretion of thyroid hormone, while the activity of the thyroid gland is too high for iodine uptake and cycling. This is seen as a trigger for many diseases such as thyroid cancer. Therefore, optimizing iodine intake for public health is an important component of preventive health care to reduce the prevalence of thyroid disorders (Lind et al., 1998).

The most important reason that emerges in the studies on why rock samphire is not sufficiently preferred by consumers is the characteristic taste of the plant. It has been reported that rock samphire generally has a taste that people either like very much or do not like at all. Other reasons for the lack of industrial and traditional adoption of the plant are studies limited to local areas and local researchers, its presence in niche markets and its limited growing area (Renna, 2018). According to the study carried out by Tan et al. (2017) in the Aegean Region, it was also determined that rock samphire is called sea lettuce, sea grass, island cowpea, genevir and celery grass by local people in the region. In addition, it was determined in the study that the annual per capita consumption of samphire in the region was 3.5 kg on average.

Effects of Rock Samphire on Health

The history of medicinal plants dates back to the beginning of human history. Early humans learned to obtain medicines from the medicinal plants they collected or cultivated with the help of some simple methods. Thus, plants became both the basic food sources and the first sources of medicine (Baydar, 2007). Ethnobotanical practices are among the methods that are still found in many segments of societies today and are frequently used in daily life.

Hippocrates mentioned rock samphire in the 4th century and recommended it as a medicine against urinary tract diseases. Due to the antiscorbutic properties of the plant thanks to its high vitamin C content, sailors took care to use the leaves of rock samphire in their meals (Mucuk, 1999). In Italy, the decoction of rock samphire was used against cystitis, prostatitis and colitis, while its infusion was used in stomach and digestive diseases. In Spain, it was reported that the extract prepared by the decoction method was used to protect liver health (Cornara et al., 2009). Rock samphire is also rich in polyphenols such as chlorogenic acid and flavonoids such as rutin and quercetin (Houta et al., 2015). Essential oil components of the plant have been shown to inhibit the growth of foodborne bacteria such as *E. coli, Staphylococcus aureus, Bacillus subtilis, Pseudomonas aeruginosa, Listeria innocua* by showing antimicrobial effect (Souid et al., 2021).

In general, volatile compounds found in medicinal and aromatic plants have been documented as health-promoting substances. For example, essential oil and phenylpropanoids such as dillapiol, a characteristic volatile compound of rock samphire, have recently been shown to reduce blood pressure by dilating blood vessels and exhibit anticancer activities (Mekinić et al., 2016; Sarrou et al., 2019). Souid et al. (2020) reported that hydro-methanol extracts from rock samphire leaves showed significant in vitro antioxidant activity and exhibited in vivo protective effects in the liver of rats against carbon tetrachloride-induced toxicity. In the same study, it was found that administration of water suspension of rock samphire leaves to rats with liver toxicity decreased the activities of enzymes such as alanine aminotransferase (ALT) and aspartate aminotransferase (AST) used as markers of liver damage (Karkanis et al., 2022).

Maoloni et al. (2022) reported in their study that artificially acidified rock samphire sprouts in brine can be an excellent vehicle for delivering probiotics to humans. It was determined that the probiotic strains used were attached to the plant tissues of rock samphire and adapted well. The data from this study showed that probiotic-enriched rock samphire can provide the probiotic benefit provided by dairy-based probiotic foods such as yogurt or fermented milk.

This study aims to investigate the awareness of the rock samphire, which has high iodine content and nutritional values, in the region where it grows naturally and to question the local consumption patterns and culinary use to integrate the plant into daily diets.

Material and Methods

This study was conducted between November 1 and December 30, 2022, using the interview technique with people living in Silifke district of Mersin and Alanya district of Antalya, where the rock samphire is frequently consumed (Özcan, 2000). Interview is one of the effective research methods for determining the insights, sensitivity and awareness of people about a subject (Yıldırım and Şimşek, 2006).

Following the literature review, an appropriate list of questions was created in line with the determined purpose. The interview questions were adapted from Halıcı (2001), taking into account the purpose of the research, the participant profile and the main theme of the study. In this context, interviews were conducted with 20 participants, all of whom lived in Mersin and Antalya and familiar with the rock samphire plant. The participants were coded between P1 and P20. In the first stage of the research, the participants were asked 4 demographic questions that examined gender, age, occupation and educational status (Table 2).

Table 2. Descriptive information of participants

Participant	Gender	Age	Occupation	Education
P1	Female	38	Academician	PhD
P2	Female	28	Academician	Master's degree
P3	Male	27	Private sector employee	Undergraduate
P4	Male	23	Private sector employee	High school
P5	Male	23	Private sector employee	High school
P6	Male	37	Private sector employee	High school
P7	Male	38	Private sector employee	High school
P8	Female	45	Private sector employee	High school
P9	Female	55	Civil servant	Bachelor
P10	Male	27	Academician	Master's degree
P11	Female	27	Private sector employee	Master's degree
P12	Female	58	Private sector employee	Primary school
P13	Female	54	Retired	Undergraduate
P14	Female	46	Private sector employee	High school
P15	Female	53	Unemployed	High school
P16	Female	31	Civil servant	Undergraduate
P17	Female	74	Retired	Primary school
P18	Female	62	Retired	Primary school
P19	Female	52	Private sector employee	Primary school
P20	Female	53	Private sector employee	Primary school

Table 3. Open-ended semi-structured interview questions asked to the participants

1	Do you know the rock samphire?
2	Have you ever consumed rock samphire?
3	If so, in what form did you consume it? (e.g. raw, pickled, etc.) Can you share your recipes with us?
4	How often do you consume rock samphire?
5	Do you know in which regions/areas the plant grows?
6	How do you obtain rock samphire?
7	If you collect it yourself, do you have a specific collection period/time?
8	Do you know the health effects of rock samphire consumption?

In the second stage, data were obtained using a questionnaire consisting of 8 interview questions. The research questions asked to the participants are given in Table 3.

The information obtained was interpreted and documented in accordance with qualitative analysis methods. In the last part of the study, different suggestions were made for more consumption of traditional functional foods and especially rock samphire.

Results and Discussion

When the demographic characteristics of the participants were analyzed, it was determined that they were between the ages of 23-74. 25.0% of the participants graduated from primary school, 35.0% from high school and 40.0% from an associate degree or higher education program. The demographic characteristics of the participants are given in Table 4.

After the demographic questions, the research questions on rock samphire were started. Questions 1 and 2 were included in the interview to record in written form the questions about rock samphire awareness that were asked verbally during sampling, to increase the reliability of the subsequent questions and to provide double control. As expected, the responses showed that all participants were familiar with the rock samphire plant and had consumed it at least once before. When the rock samphire consumption of the participants was analyzed, it was found that 50.0% of them consumed rock samphire once a month, 35.0% once a year and 15.0% once a week. In response to the question "Do you know in which regions rock samphire grows?", detailed answers were obtained as "on rocks and coastal edges in the Mediterranean and Aegean regions, bays in the Aegean and Mediterranean, sea slopes and sometimes sandbanks". It was found that 35.0% of the participants obtained rock samphire from their acquaintances, 30.0% bought rock samphire from market, bazaar or roadside vendors, 30.0% collected the plant themselves and 5.0% obtained it from the internet. While 20.0% of the respondents stated that the rock samphire was collected in summer, 10% of the respondents stated that the tips of the plant should be collected without damaging the root during collection.

The answers to question 8 "Do you know the health effects of rock samphire consumption?" are shown in Table 5.

As indicated in Table 5, 85.0% of the participants were informed about the functional properties of rock samphire and were aware of the benefits of the plant.

According to the answers given to the research questions asked about the consumption of rock samphire (each participant reported more than one type of consumption), 60.0% of the participants consumed rock samphire in pickle form. Generally consumed as an appetizer with seafood, it was stated that pickled rock samphire is a great appetizer with its unique taste.

Table 4. Demographic characteristics of participants

Distribution	f	%
Gender		
Female	14	70
Male	6	30
Age		
23-40	10	50
41-58	7	35
59-76	3	15
Occupation		
Private sector employee	11	55
Academician	3	15
Retired	3	15
Civil servant	2	10
Unemployed	1	5
Education		
Primary school	5	25
High school	7	35
Undergraduate	3	15
Bachelor	1	5
Postgraduate	4	20

Table 5. Responses to the question 8

Participant	Answers
P1	“It strengthens the body and has a cell regenerating effect.”
P2	“It is good for intestinal wounds and stomach ailments. High in vitamin C, gives energy. Strengthens immunity.”
P3	“It stimulates appetite and is good for cardiovascular diseases.”
P4	“It's good for the liver.”
P5	“It's good for goiter.”
P6	“I don’t know.”
P7	“It strengthens immunity.”
P8	“It is good for intestinal and stomach diseases and diarrhea.”
P9	“It is good for stomach disorders.”
P10	“I don’t know.”
P11	“I don’t know.”
P12	“It's good for heart health.”
P13	“Diuretic, applied as an ointment on wounds.”
P14	“It's good for goiter and earache.”
P15	“It is good for stomach pains and reflux.”
P16	“It is good for body infections.”
P17	“Ointment of the plant is applied on skin wounds, has a painkiller effect.”
P18	“It is consumed for earache, good for gastritis.”
P19	“It's good for goiter.”
P20	“It is good for thyroid diseases.”

Table 6. Culinary uses of rock samphire

Culinary Use	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Pickled	✓	✓		✓		✓	✓			✓
Salad	✓	✓				✓				✓
With yogurt		✓						✓		
Stewed		✓								
Pastry filling										
Tea		✓								
Culinary Use	**P11**	**P12**	**P13**	**P14**	**P15**	**P16**	**P17**	**P18**	**P19**	**P20**
Pickled	✓		✓		✓		✓	✓		✓
Salad			✓		✓		✓		✓	
With yogurt			✓				✓	✓		
Stewed			✓				✓	✓		
Pastry filling							✓	✓		
Tea								✓		

Picrure 1. Kaya koruğu turşusu (pickled rock samphire)
(Prepared and photographed by the authors.)

Picture 2. Kaya koruğu salatası (rock samphire salad)
(Prepared and photographed by the authors.)

Picture 3. Kaya koruğu yoğurtlaması (rock samphire with yogurt)
(Prepared and photographed by the authors.)

Picture 4. Kaya koruğu yemeği (stewed rock samphire)
(Prepared and photographed by the authors.)

According to the information obtained from the participants, the most delicious presentation of rock samphire pickles is the form served with olive oil, lemon and garlic. The detailed responses regarding the consumption of rock samphire are shown in Table 6.

A pickled rock samphire appetizer prepared according to the recipe obtained from the participants is shown in Picture 1. Select and pick fresh rock samphires carefully. Cut the roots and wash them well. Put them in a pot and add enough water to cover them. Bring the water to a boil and keep them in boiling water for about 10 minutes, then remove it from the stove and rinse with cold water. Prepare the brine by mixing water, rock salt and lemon or vinegar in a deep bowl. Place the plant in a suitable-sized jar. Add the brine to fill the jar completely. Optionally, olive oil, garlic and chickpeas can be added. After fermenting for an average of 1-2 weeks in a cool place with the lid closed, the pickled rock samphire is ready for consumption. Lemon, garlic and olive oil can be preferred for serving. It is a great accompaniment for fish tables.

45.0% of the participants reported that they consume rock samphire by boiling it for a short time to remove the bitterness and then adding it to seasonal salads. Since rock samphire is harvested during the summer season, it was found that salads with olive oil and lemon prepared with cherry tomatoes, cucumber, olives, rock samphire and tulum cheese or halloumi cheese are frequently consumed in the region (Picture 2). After washing and draining the fresh rock samphire, boil them in water for a short time to remove the bitter taste. Then rinse with cold water and combine with peeled and diced tomatoes and cucumbers. After adding green and black olives, walnuts, cheese, etc., flavor with a sauce prepared with crushed garlic, lemon and olive oil and served. It pairs very well with seafood and Turkish raki.

25.0% of the participants stated that they occasionally consume rock samphire with yogurt (in a way known as yoğurtlama in the region). This recipe is shown in Picture 3. After boiling and rinsing in cold water, mix the fresh rock samphire with crushed garlic, strained yogurt and just a little salt due to the natural salty taste of the plant. Pour the mixture into serving bowls. Melt the butter in a separate pan and add ground paprika. When the mixture thickens a little, pour it over the yogurt and rock samphire and serve.

20.0% of the participants stated that they consume rock samphire stewed. They stated that it goes well with slightly hot spices (Picture 4). In a pan, saute finely chopped onion and garlic with olive oil. Then add some tomato paste, spices, chickpeas and hot water. Okra can also be added if desired. Once the ingredients are cooked, a few minutes before removing them from the stove, add the rock samphire. Mix all the products again and let them rest. Serve warm.

10.0% of the participants stated that after boiling the rock samphire for a short time, they cut it into small pieces, mix it with curd cheese and consume it as a pastry filling, and 10.0% of the participants stated that they make tea by boiling the leaves in water (by adding an average of 100 ml of water for each branch) and consume it in this way.

In the studies in the literature, as an example of the use of rock samphire in different countries, a traditional recipe called “rock samphire hash” is prepared by mixing the stems and leaves of rock samphire with pickled cucumber and capers was reported in Britain. In Greek mythology, rock samphire is mentioned as a vegetable offered to Theseus by Hecate (Renna et al., 2017).

In previous studies, it was found that rock samphire was used in pickles, salads and meals in the Aegean Region, similar to the results of this study, but unlike the results of this study, it was also used in omelet making (Tan et al., 2017; Kök et al., 2020). Özbek and Güzeler (2022) examined the elements found in Mersin local cuisine in their study and reported a pickled rock samphire recipe parallel to the recipe obtained in this study. Another example of different uses of rock samphire was reported by Renna et al. (2017). According to the study, dried rock samphire leaves can also be used as an additive with its coloring feature in food preparation. In the study conducted by Aksoy et al. (2019), it was reported that rock samphire leaves are widely consumed as pickles and used as an iodine depot against goiter disease.

Conclusion

Rock samphire is a plant that has been known and consumed for many years in the Mediterranean and Aegean regions of Turkey. In today’s world, the health effects of many new foods are being investigated and the importance of foods with high functional properties is increasing. At this point it is essential to introduce the foods that are consumed locally, together with their consumption patterns and to bring them into gastronomy, in terms of the development of the country’s cuisine, the economic development of the regions and the protection of public health.

Rich in essential nutrients such as vitamins C and A, as well as minerals like calcium and magnesium, rock samphire offers valuable antioxidant properties, supporting overall health and immune function. Beyond its culinary merits, rock samphire has been historically used for its diuretic, digestive, and anti-inflammatory properties, making it a versatile herb with both gastronomic and medicinal appeal. All these properties have been confirmed by local consumers who are familiar with this plant in the regions where rock samphire is frequently consumed and have been pronounced as functional properties within the scope of this study.

In this study, it was aimed to determine the awareness and consumption patterns of the plant in Mersin and Antalya, two provinces of the Mediterranean region, where rock samphire is one of the most widely consumed regions. As a result of the study, three common and three rare consumption patterns were found. The introduction of these consumption patterns is important in terms of introducing the product to the kitchens and increasing its agricultural value. In addition, it was understood that rock samphire consumers are aware of the health effects of the product and the majority of them consume the product frequently for these reasons. Another result of the study is that rock samphire consumption is not so frequent even in the region and only 15.0% consume it once a week.

The geography of Turkey is home to a wide variety of natural functional foods, but the recognition of these foods has generally been limited to the regions where they are grown and consumed. For such reasons, better promotion of region-specific foods will result in functional foods being included in more kitchens. In addition, it is also necessary to facilitate access to less well-known food such as rock samphire. In order to overcome these deficiencies, it is important to establish new food supply chains in the regions where rock samphire grows naturally and to transport raw and processed products to regions where there are public health problems due to iodine deficiency, such as the Central Anatolia Region of Turkey. At this point, it would be appropriate for municipalities, non-governmental organizations and other stakeholders who can take responsibility to take the lead in the use of traditional values such as rock samphire that can contribute to agricultural development both locally and nationwide.

According to the information received from the participants, it is recommended to improve the sales and distribution network of rock samphire, which can rarely be found in markets outside the region, to try the consumption of the product by consumers and chefs using the recipes given in this study or using different recipes, to raise public awareness by explaining and promoting the healthy aspects of such foods more often, and finally to conduct similar research for other natural functional foods. Moreover, food analysis of the rock samphire grown and consumed in the region and the local recipes mentioned in this article can be conducted and the unique active substances they contain can be determined.

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