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Review paper

"BLUE ZONE" IN TOURISM

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Abstract

The main goal of the paper is to present the so-called "blue zones" - places with the longest life expectancy where people over 100 years old live. followed by countries with an average age of the population over 80 years old. The main goal of the paper is to present the so-called "blue zones" - places with the longest life expectancy where people over 100 years old live. Data are presented on the number of years of the oldest people over 100 years old from biblical times to the present day, for the world and partially for Macedonia.

Controversial thoughts about the blue zones are also given. Several tables provide insights into the movement of the average age of the population over 80 for several countries. This research opens up an opportunity for publicity and promotion of healthy living, to celebrate life, to constantly allude to education, active recreation, but also leaves room for pragmatic tourist activity towards the elderly population.

The thoughts are going in the direction of active recreation and vacation for the elderly through stationary tourism (staying in hotels, tourist settlements, etc.), but also through passenger, mobile tourism (with cruise ships adapted for the elderly over 80 and 100 years old). We present a reflection on the valuation of "blue zones", areas and neighborhoods with elderly people in many countries around the world, and their implementation in tourism. We also propose the establishment of a section in museums dedicated to people over 100 years old in countries with a significant participation of this group of people.

The conclusion presents the main specifics of zones with an older population in the function of tourism in the world and in the R.N. Macedonia.

Keywords: blue zones, centenarians, prevalence, tourist destinations
JEL Classification: Z32 Tourism and Development; Z39 Tourism: Other

INTRODUCTION

While researching this topic, I asked myself the question many times:

- Why did I tackle the topic of "blue zones", areas where centenarians live, and their role in tourism!?

There should be no prejudices in science. There are no boundaries and limitations in research. For each topic, the researcher should have a pragmatic goal. In this case, everyone who is able, health-wise and economically, regardless of age, tourism should enable them to celebrate life from beginning to end.

This topic is extensive and it is impossible to fully cover it in one paper. We leave it to the critics to judge whether and to what extent we have justified our goal. For us, the research does not end here, we continue and in the near future we will provide more extensive views.

The term “Blue Zone” first appeared on the cover of the November 2005 National Geographic magazine issue “Secrets of Longevity.” A 1999 study of elderly people living in Sardinia showed a prevalence of 13 centenarians per 100,000 inhabitants, indicating unusual longevity. Deiana L, Ferrucci L, Pes GM, et.al., June 1999)

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A Blue Zone is a region or area of the world where people are said to have exceptionally long lives beyond the age of 100 due to a lifestyle that combines physical activity, low stress, rich social interactions, a local whole foods diet, and a low incidence of disease.

A 2004 follow-up report found that longevity is concentrated in the province of Nuoro in Sardinia, specifically in its mountainous regions where locally born men live longer than those in the rest of Sardinia, although the reasons for the longevity are unknown. (Poulain M, Pes GM, Grasland C, et al., September 2004).

Since 2005, the list of Blue Zone regions has been expanded by four more, and includes a total of five "Blue Zones" - places with the longest life expectancy: 1. Nuoro Province on the island of Sardinia, Italy; 2. Okinawa Prefecture on the island of Okinawa, Japan; 3. Nicoya Peninsula, in Costa Rica; 4. Loma Linda, California, USA; and 5. Ikaria Island in Greece. (Poulain M, Herm A, Pes G., 2013) (See: Map 1.)

Map 1: "Blue Zones" - areas of exceptional longevity around the world

The idea of "blue zones" also has controversial views. According to British scientist Sol Newman, "blue zones" do not exist, they are fabrications due to poor management of important statistical data, such as birth and death records. (https://frontline.mk). According to Sol, centenarians are "alive" only on paper, and dead in reality, but the bureaucratic machine does not take this into account. Thus, "vital statistics for centenarians are fake or fabricated" and it is interesting that many organizations, national governments and scientists still rely on this data.

In the context of the controversy over the number of years people have lived throughout history, we will present tabular data on people born in various time periods, from biblical times to the present day. From the data, one can see certain illogicalities in life expectancy, but nevertheless, the data from the 20th century onwards can be concluded to be accurate. This means that we have accurate records of the number of centenarians, whose number is increasing year by year.

Our research confirms that "blue zones" are a reality and in the near future their number will be greater and there will be more variants of the so-called "blue zones". This change will

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be due to the increase in the average life expectancy of the population, precisely - electronic keeping of birth and death registers in all countries of the world, then their distribution in many countries and in various geographical areas, locations, settlements, as well as the existence of zones due to different needs, opportunities, etc.

It is certain that in the coming decades the number of elderly people (over 65 years old) will increase significantly, and in 2050 there will be over 3 billion people in the world, of which several hundred million will be over 80 years old and several million people over 100 years old.

The high number of several billion elderly people will be of interest to all economic and non-economic activities, including tourism, which will promote various forms of offer for a specific target group of the elderly population (over 65 years old, over 80 and over 100 years old) who is able to pay for various tourist and tourist-medical trips for vacation, recreation, treatment, etc.

METHODOLOGY AND METHODS

In the research, we use the method of analysis and synthesis. We consult literature, statistical data, partial data from death registers, data obtained from several internet addresses, and records of deceased centenarians by the author.

RESULTS

Under "blue zones" are areas whose populations have managed to maintain a traditional lifestyle that includes physical activity that extends beyond the age of 80. Areas with reduced stress levels and intensive family and social support for their oldest individuals, as well as consumption of locally produced food.

In this context, we present some wisdom about health and life:

- "People's health is the most precious thing, The wealth of the earth cannot replace it, Health cannot be bought or sold, Protect it like your heart, like your eyes." Jabul
- **“Meditation is another dimension of natural beauty. People talk about appreciating natural beauty – climbing mountains, seeing giraffes and tigers in Africa and all sorts of things. But no one appreciates their own natural beauty. This is actually much more beautiful than the fauna, much more fantastic, more painful and more vivid.” – Chogyam Trungpa**
- - “To keep the body in good health is a duty, otherwise we will not be able to keep our mind strong and clear.” Buddha
- **"Healthy citizens are the greatest asset any country can have." Winston Churchill**
- “Think positive and exercise daily, eat healthy, work hard, stay strong, build faith, worry less, read more and be happy.” Anonymous
- If you walk, the whole country is your friend, if you lie down, your work is your enemy. Anonymous

From the Holy Scriptures - the Bible, we have extracted the following data on the names of people who lived for many centuries. We do not go into detailed analyses, but one thing is certain, that the maximum human lifespan gradually decreased, from almost 1,000 years to 110 years. (See: Table 1.)

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Table 1: Names of people mentioned in the Bible who lived over 100 years

No.	Ime	Godini	Ziveel od-do BC	No.	Ime	Godini	Ziveel od-do BC
1.	Methuselah	969	/	14.	Arpachshad	438	2094-1656
2.	Jared	962	/	15.	Saleh	433	2124-1691
3.	Noah	950	/	16.	Enoch	365	/
4.	Adam	930	/	17.	Peleg	239	2249-2010
5.	Seth	912	/	18.	Abraham	175	1996-1821
6.	Kenan	910	/	19.	Job	140	/
7.	Enos	905	/	20.	Avram	137	/
8.	Mahalalel	895	/	21.	Judai	130	/
9.	Cain	860	/	22.	Saara	127	/
10.	Seth	800	/	23.	Aron	123	1574-1451
11.	Lamech	777	/	24.	Moses	120	1571-1451
12.	Shem	600	/	25.	Josif I	110	1745-1635
13.	Eber	463	2283-1819	/	/	/	/

Извор: Holy Scripture - Bible, 2017; Dictionary of the Holy Scriptures (Bible dictionary), 2011; https://record.adventistchurch.com/2022/06/29/the-ten-oldest-people-in-the-bible/

"In Edo (the old name of Tokyo) in 1795 the oldest man, Mampo, was 194 years old. Mampo lived a total of 242 years, his wife 221 years, his son 201 years, his son's wife 193 years, his grandson 153 years, and his grandson's wife 138 years. The Englishman Fome Carne lived 207 years and outlived 12 English kings." Another Englishman, Thomas Parr, lived to be 152 years old... Saint Mungo, founder of the bishopric of Glasgow, lived to be 185 years old. At that age (185 years old) died the peasant Petr Czarten in Hungary. His eldest son was 155 years old, and his youngest was 97 years old. In Norway, in 1797, Surrington died at the age of 160. His eldest son was 103 years old...The Dane Drakenberg lived to be 146 years old. (Leontyeva, P. L., 1983)

The Scotsman Henry Jenkins lived to be 170 years old, swimming across the river at the age of one hundred. One of his sons lived to be 109 years old, and another to 113 years old... A member of the French Academy of Genio, lived to be 103 years old... Samson Shakorogoro from Tanzania, lived to be 160 years old. His biography is interesting. His father, a tribal leader, had 39 wives who gave him 203 children. His father ended his life at the age of 123... In the city of Quito, in Ecuador, José Toledo lived for 140 years. (Leontyeva, P. L., 1983)

In Azerbaijan, in the city of Lerik - a regional center located at 1200 m above sea level, where Shirilai Baba Muslimov lived, and according to him, there are several people in this area who have lived over 100 years. “Thus, Mahmud Bagire Ivazov from Pirasuri lived for 152 years, Shirina Gasanova from the village of Cheriken lived for 153 years. My friend from the village of Tiyaband, the shepherd Medzhdu Agaev, lived for 139 years, Sulejman Farzaliev for 110 years, Veli Askerov for 118 years”. (Leontyeva, P. L, 1983)

“I (Shirilai Baba Muslomov) was born on May 19, 1805, when my father was 42 years old and my mother was 30. My father had 7 brothers and 2 sisters. Thus, Ziyad lived for 54 years, Shihali for 74 years, the two sisters Agabanu and Nani lived for 98 years each, and five brothers lived for over a hundred years, Targyol - 102, Shah - 111, Gusu - 126, Rustam - 136, Nabi - 145 and Azhdar - 148 years”. (Leontyeva, P. L., 1983)

“From my three wives I have 23 children, 752 grandchildren, great-grandchildren, great-great-grandchildren and great-great-great-grandchildren... 71 people are over 92 years old...

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A large number of my relatives have moved to various cities - to Baku, Sumgayit, Leningrad, Odessa and many other places". (Leontyeva, P. L., 1983)

The text above confirms that there is a "blue zone" in a region of Azerbaijan where more centenarians live.

In the context of the fact that there are other "blue zones" and countries where centenarians - men and women - have lived and still live, the following two tables confirm this.

Many of the data presented in tables 2 and 3, especially regarding the length of life, are controversial, especially for people from the more distant past. The tables list "super-long-lived" people who lived for two or more centuries. There are no reliable documents for the accuracy of the data, and they are all based on oral statements, memories, or traditions. Data about certain areas are scientific hoaxes, some are forgeries, some are exclusively propaganda in nature, some are made for political purposes, some are in search of a sensation for the popularity of a certain area, some data is based on inaccurate entries in church books, etc.

However, the dilemma of the reliability of the data remains, and we do not intend to analyze whether they are mysteries created by nature or scientific and other forgeries. (See: Table 2 and 3)

Table 2: A look at the oldest men aged 100 and over throughout history

Rank	Name	Birth date	Death date	Age	Place of death or residence
1	Ignacy Lewski	1231	1913	682	Poland
2	Aldulaziz bin mutaib Al Rashid	1186	1876	673	Egypt
3	Colestian Veglin	1261	1876	615	United States
4	Lp Suwang	1551	1995	444	Cambodia
5	Li Ching Yuen	1677	1933	256	China
6	Devraha Baba	1740	1990	250	India
7	Tomas Karnej[1]	1588	1795	207	England
8	Tapaswiji Maharaj	1770	1955	185	India
9	Peter Karsten[1]	1539	1724	185	Hungary
10	Mahashta Murasi Hoax	1835	2014	179	India
11	Ivan Rovin[1]	1553	1725	172	Hungary
12	James Olofintuyi	1844	2014	170	Nigeria
13	Javier Pereira	1789	1958	169	Columbia
14	Henri Dzenkins[1]	1500	1670	169	England
15	Shirali-baba Muslimov[2]	1805	1973	168	Azerbaijan
16	Chesten Marchant	1512	1676	164	Great Britain
17	Dhagobo Ebba	1853	2015	162	Ethiopia
18	Jozef Surington[1]	1637	1797	160	Norway
19	Jegor Korejev[1]	1802	1957	155	Russia
20	Mohanned bin Zarei	1859	2013	154	Saudi Arabia
21	Mohammed bin Masoud	1861	2014	153	Oman
22	Tom Parr[2]	1483	1635	152	Great Britain
23	Mahmud Eyuvazov[2]	1808	1960	152	Azerbaijan
24	Gabriel Umer Enemon	1864	2015	151	Nigeria
25	Andrej Adroshenko[1]	1777	1927	150	Russia
26	Ilija Titov[1]	1800	1949	149	Russia

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27	Saparman Sodimejo	1870	2017	147	Indonesia
28	Mbah Gotho	1870	2016	146	Indonesia
29	Drakenberg[1]	1626	1772	146	Netherlands
30	Vailije Tiskin[1]	1806	1951	145	Russia
31	Dzonatan Esinden[1]	1613	1757	144	England
32	Shapkovski[1]	1787	1932	144	Abkhazia Georgia
33	Omar Abas	1857	2001	144	Malaysia
34	Majid Agayev[1]	1835	1978	143	Azerbaijan
35	Feroz-ud-Din Mir	1872	2014	142	Pakistan
36	Khfaf Lazuria[1]	1835	1975	140	Azerbaijan
37	Habib Miyan	1869	2008	139	India
38	Georg Vunder[1]	1626	1761	136	Germany
39	Alimihan Seyiti	1886	2021	135	China
40	Moloko Temo	1874	2009	135	South Africa
41	Robert Tejlor[1]	1764	1898	134	England
42	Jose Coelhode Souza	1884	2017	133	Brazil
43	Dzon Sel[1]	1788	1919	131	United States
44	Trajko Smiljevic[1]	1804	1935	131	Serbia*
45	Marcijan Balarevic[1]	1796	1926	130	Russia
46	Masumex Sanei Torogi	1899	2024	125	Iran
47	Save trom the Savevci family[3]	1578	1697	119	Macedonia
48	Mitre trom the Savevci family[3]	1572	1689	117	Macedonia
49	Jiroemon Kimura	1897	2013	116	Japan
50	Christian Mortensen	1882	1998	116	United States
51	Emiliano Mercado del Toro	1891	2007	116	Puerto Rico
52	Juan Vicente Pérez	1909	2024	115	Venezuela
53	Walter Breuning	1896	2011	115	United States
54	Horacio Celi Mendoza	1897	2011	114	Peru
55	Yukichi Chuganji	1889	2003	114	Japan
56	Tomás Pinales Figuereo	1906	2020	114	Dominican Republic
57	Joan Riudavets	1889	2004	114	Spain
58	Horacio Celi Mendoza	1897	2011	114	Peru
59	Walter Breuning	1896	2011	114	United States
60	Juan Vicente Perez	1909	2024	114	Venezuela
61	Tomas Pinales Figuereo	1906	2020	114	Dominican Republic
62	Sadush Memedovski[4]	1895	2010	115	Macedonia
63	Najdo trom the Savevci family[3]	1477	1590	113	Macedonia
64	Fred Harold Hale	1890	2004	113	United States
65	Israel Kristal	1903	2017	113	Israel
66	Efraín Antonio Ríos García	1910	2024	113	Colombia
67	Tomoji Tanabe	1895	2009	113	Japan
68	John Ingram McMorran	1889	2003	113	United States
69	Masazō Nonaka	1905	2019	113	Japan
70	Mauro Ambriz Tapia	1897	2011	113	Mexico
71	Frederick Frazier	1880	1993	113	United States
72	Eusebio Quintero López	1910	2023	113	Colombia

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73	Donald Butler	1885	1998	113	United States
74	James Sisnett	1900	2013	113	Barbados
75	Wenceslao Leyva González	1903	2016	113	Mexico
76	Domingo Villa Avisencio	1906	2019	113	Mexico
77	Maximiano José dos Santos	1893	2006	113	Brazil
78	Walter Richardson	1885	1998	113	United States
79	Francisco Núñez Olivera	1904	2018	113	Spain
80	Henry Allingham	1896	2009	113	United Kingdom
81	Emilio Flores Márquez	1908	2021	113	Puerto Rico
82	Chitetsu Watanabe	1907	2020	112	Japan
83	João Marinho Neto	1912	Living	112	Brazil
84	Antonio Todde	1889	2002	112	Italy
85	Saturnino de la Fuente García	1909	2022	112	Spain
86	Moses Hardy	1894	2006	112	United States
87	Yasutaro Koide	1903	2016	112	Japan
88	John Evans	1877	1990	112	United Kingdom
89	Shi Ping	1911	2024	112	China
90	Richard Arvin Overton	1906	2018	112	United States
91	Delio Venturotti	1909	2022	112	Brazil
92	Denzō Ishizaki	1886	1999	112	Japan
93	George Francis	1896	2008	112	United States
94	James King	1854	1967	112	United States
95	Georges Thomas	1911	2024	112	France
96	Josep Armengol	1881	1994	112	Spain
97	Josino Levino Ferreira	1913	Living	112	Brazil
98	Giovanni Frau	1890	2003	112	Italy
99	Jules Théobald	1909	2021	112	France (Martinique)
100	John Painter	1888	2001	112	United States
101	Marcel Meys	1909	2021	112	France
102	Masamitsu Yoshida	1904	2016	112	Japan
103	Sakari Momoi	1903	2015	112	Japan
104	Victor Chanca Santos	1910	2022	112	Peru
105	Gisaburō Sonobe	1911	2024	112	Japan
106	Efraín Núñez Núñez	1904	2017	112	Dominican Republic
107	Alphaeus Philemon Cole	1876	1988	112	United States
108	Augusto Moreira	1896	2009	112	Portugal
109	João Zanol	1907	2020	112	Brazil
110	George Johnson	1894	2006	112	United States
111	Herman Dornemann	1883	2005	112	Germany
112	Mikizō Ueda	1910	2022	112	Japan
113	Lawrence Brooks	1909	2022	112	United States
114	Ilie Ciocan	1913	Living	112	Romania
115	Salustiano Sanchez	1901	2013	112	United States
116	Park Fountain Heard	1882	1994	112	United States
117	John Tinniswood	1912	2024	112	United Kingdom
118	CP Crawford	1907	2019	112	United States

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119	Jorge Durán Coral	1909	2021	112	Mexico
120	Yoshikazu Yamashita	1907	2019	112	Japan
121	Gengan Tonaki	1884	1997	112	Japan
122	Robert Weighton	1908	2020	112	United Kingdom
123	Tadanosuke Hashimoto	1891	2003	112	Japan
124	Kumekichi Tani	1891	2003	112	Japan
125	Ernest Peronneau	1902	2014	112	United States
126	George Feldman	1906	2018	112	United States
127	Tsunahei Ogawa	1907	2019	111	Japan
128	Jokich Ikarasshi	1902	2013	111	Japan
129	Arturo Licata	1902	2014	111	Italy
130	Stanisław Kowalski	1910	2022	111	Poland
131	Ken Weeks	1913	Living	111	Australia
132	Silverio Pereira Ayala	1906	2018	111	Paraguay
133	Frank Morimitsu	1886	1998	111	United States
134	Walter H. Seward	1896	2008	111	United States
135	Faustino Vargas Pérez	1896	2008	111	Costa Rica
136	Julio Saldarriaga Hernández	1913	Living	111	Colombia
137	Zhou Renqing	1913	Living	111	China
138	Maurice Floquet	1894	2006	111	France
139	Valerio Piroddi	1905	2017	111	Italy
140	Shigeru Nakamura	1911	2022	111	Japan
141	Arthur Nash	1885	1996	111	Canada
142	James McCoubrey	1901	2013	111	United States
143	Ezra Hill	1910	2022	111	United States
144	John Mosley Turner	1856	1968	111	United Kingdom
145	Hermann Dörnemann	1893	2005	111	Germany
146	Hilario Orozco Lemus	1913	2025	111	Mexico
147	Laurence Thompson	1887	1998	111	United States
148	Agustín Reyes Ortiz	1887	1998	111	Puerto Rico
149	Antonio Urrea	1888	1999	111	Spain
150	Choki Miyagi	1904	2016	111	Japan
151	Reuben Sinclair	1911	2023	111	Canada
152	Arthur Carter	1889	2001	111	United States
153	Santos Hildebrando Rivas García	1911	2023	111	El Salvador
154	Jan Machiel Reyskens	1878	1990	111	Netherlands
155	Jésus Mosteo Pérez	1908	2019	111	Spain
156	Frank Sylvester	1893	2005	111	United States
157	Sargjo Karagja Bradina[5]	1778	1889	111	Macedonia

Source: https://en.wikipedia.org/wiki/List_of_the_verified_oldest_people ; [1] Stefanovik, S., & Kocijanic, M., 1986; *The longest-lived Yugoslav, according to the same source, was Trajko Smiljević (1804-1935), who died at the age of 131. It is only stated that he lived in Serbia, but there is no information about the place. (p. 24); [2]Leontyeva, P. L., 1983); [3]Damevski, B., 1998; [4]Tanevski, B., 2010)

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Table 3: A look at the oldest women aged 100 and over from the 17th century onwards

Rank	Name	Birth date	Death date	Age	Place of death or residence
1	Mama Esifiho	1824	2018	194	Nigeria
2	Fatma Hanum[1]	1764	1928	164	Turkey
3	Maria Priu[1]	1680	1838	158	France
4	Ali Al - Alakim	1871	2018	147	Saudi Arabia
5	Eulalija Peres[1]	1738	1878	140	Spain
6	Halime Hatun	1874	2012	138	Turkey
7	Margaret Patte	1602	1739	137	Great Britain
8	Tuti Yusupova	1880	2015	135	Uzbekistan
9	Alimihan Seyiti	1886	2021	135	China
10	Antisa Khvichava	1880	2012	132	Georgia
11	Sarht Rashidova	1875	2007	132	Azerbaijan
12	Sahan Dosova	1875	2007	132	Kazakhstan
13	Maria Oliva de Silva	1880	2010	130	Brazil
14	Koku Istanbulova	1889	2019	129	Russia
15	Cruz Hernandez	1878	2007	128	El Salvador
16	Jeanne Calment	1875	1997	122	France
17	Kane Tanaka	1903	2022	119	Japan
18	Sarah Knauss	1880	1999	119	United States
19	Lucile Randon	1904	2023	118	France
20	Sister Andrea	1905	2023	118	France
21	Nabi Tajima	1900	2018	118	Japan
22	Marie Louise Meilleur	1880	1998	117	Canada
23	Violet Brown	1900	2017	117	Jamaica
24	Maria Branyas Morera	1907	2024	117	Spain
25	Emma Morano	1899	2017	117	Italy
26	Chiyo Miyako	1901	2018	117	Japan
27	Delphia Welford	1875	1992	117	United States
28	Misao Okawa	1898	2015	117	Japan
29	Francisca Celsa dos Santos	1904	2021	116	Brazil
30	María Capovilla	1889	2006	116	Ecuador
31	Inah Canabarro Lucas	1908	2025	116	Brazil
32	Susannah Mushatt Jones	1899	2016	116	United States
33	Gertrude Weaver	1898	2015	116	United States
34	Julia Maria Francisca Simao	1901	2017	116	Brazil
35	Fusa Tatsumi	1907	2023	116	Japan
36	Antonia da Santa Cruz	1905	2022	116	Brazil
37	Tomiko Itooka	1908	2024	116	Japan
38	Tane Ikai	1879	1995	116	Japan
39	Jeanne Bot	1905	2021	116	France
40	Elizabeth Bolden	1890	2006	116	United States
41	Besse Cooper	1896	2012	116	United States
42	Maria Giuseppa Robucci	1903	2019	116	Italy
43	Tekla Juniewicz	1906	2022	116	Poland

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44	Ana María Vela Rubio	1901	2017	116	Spain
45	Giuseppina Projetto	1902	2018	116	Italy
46	Easter Wiggins	1874	1990	116	United States
47	Ethel Caterham	1909	Living	116	United Kingdom
48	Jeralean Talley	1899	2015	116	United States
49	Edith Ceccarelli	1908	2024	116	United States
50	Ella Miller	1884	2000	115	United States
51	Shigeyo Nakachi	1905	2021	115	Japan
52	Maggie Barnes	1882	1998	115	United States
53	Dina Manfredini	1897	2012	115	United States
54	Shimoe Akiyama	1903	2019	115	Japan
55	Hester Ford	1905	2021	115	United States
56	Okagi Hayashi	1909	2025	115	Japan
58	Charlotte Hughes	1877	1993	115	United Kingdom
59	Edna Parker	1893	2008	115	United States
60	Mary Ann Rhodes	1882	1998	115	Canada
61	Anonymous of Tokyo	1900	2015	115	Japan
62	Margaret Skeete	1878	1994	115	United States
63	Magdalena Oliver Gabarró	1903	2019	115	Spain
64	Bernice Madigan	1899	2015	115	United States
65	Gertrude Baines	1894	2009	115	United States
66	Bettie Wilson	1890	2006	115	United States
67	Shin Matsushita	1904	2019	115	Japan
68	Iris Westman	1905	2021	115	United States
69	Marie-Rose Tessier	1910	Living	115	France
70	Julie Winnefred Bertrand	1891	2007	115	Canada
71	Maria de Jesus	1893	2009	115	Portugal
72	Marie-Josephine Gaudette	1902	2017	115	Italy
73	Susie Gibson	1890	2006	115	United States
74	Thelma Sutcliffe	1906	2021	115	United States
75	Edna Kern	1900	2016	115	United States
76	Elizabeth Francis	1909	2024	115	United States
77	Casilda Benegas Gallego	1907	2022	115	Argentina
78	Augusta Holtz	1871	1986	115	United States
79	Guillermina Acosta Bilbao	1901	2017	115	Panama
80	Valentine Ligny	1906	2022	115	France
81	Hendrikje van Andel-Schipper	1890	2005	115	Netherlands
82	Bessie Hendricks	1907	2023	115	United States
83	Mina Kitagawa	1905	2020	115	Japan
84	Marie Brémont	1886	2001	115	France
85	Yoshi Otsunari	1906	2022	115	Japan
86	Katie Hatton	1876	1992	115	United States
87	Maude Farris-Luse	1887	2002	115	United States
88	Koto Okubo	1897	2013	115	Japan
89	Antonia Gerena Rivera	1900	2015	115	United States
90	Chiyono Hasegawa	1896	2011	115	Japan

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91	Annie Jennings	1884	1999	115	United Kingdom
93	Anonymous of Hyōgo	1907	2022	115	Japan
95	Naomi Whitehead	1910	Living	114	United States
96	Eva Morris	1885	2000	114	United Kingdom
97	Kama Chinen	1895	2010	114	Japan
98	Mary Bidwell	1881	1996	114	United States
99	Sofia Rojas	1907	2022	114	Colombia
100	Maria Gomes Valentim	1896	2011	114	Brazil
101	Izabel Rosa Pereira	1910	2025	114	Brazil
102	Hazel Plummer	1908	2023	114	United States
103	Ophelia Burks	1903	2018	114	United States
104	Eliza Underwood	1866	1981	114	United States
105	Kahoru Furuya	1908	2022	114	Japan
106	Lucia Laura Sangenito	1910	Living	114	Italy
107	Mary Josephine Ray	1895	2010	114	United States
108	Goldie Steinberg	1900	2015	114	United States
109	Kiyoko Ishiguro	1901	2015	114	Japan
110	Maria do Couto Maia-Lopes	1890	2005	114	Portugal
111	Eudoxie Baboul	1902	2016	114	France (French Guiana)
112	Ramona Trinidad Iglesias Jordan	1889	2004	114	Puerto Rico
113	Yukie Hino	1902	2016	114	Japan
114	Charlotte Kretschmann	1909	2024	114	Germany
115	Andrée Bertoletto	1911	Living	114	France
116	Delphine Gibson	1903	2018	114	United States
117	Eugénie Blanchard	1896	2010	114	France (Saint Barthélemy)
118	Mine Kondō	1910	2024	114	Japan
119	Masa trom the Apostolvci family[2]	1875	1988	113	Macedonia

Source: https://en.wikipedia.org/wiki/List_of_the_verified_oldest_people ; [1]Stefanovik, S. & Kocijanic, M., 1986 ;
[2]Damevski, B., 1998.

According to the UN, in 2021 there were 593,000 people in the world over the age of 100. Japan had the most centenarians in the world with about 120,000 people. The list of countries with the most centenarians included Monaco with almost 950 centenarians or 2.4% of the total population (Monaco had a population of 39,100 in 2021). In 2021, countries with high prevalence (predominance, supremacy, prevailing) were Hong Kong (with 133 per 100,000 inhabitants), Guadeloupe - a former French colony (100), Japan (98), Uruguay (85)... France (47), Great Britain (26), USA (20)... The R.N. Macedonia, with a prevalence of 4 centenarians per 100,000 inhabitants, is far behind the world average. (https://nezavisen.mk/). In the R.N. Macedonia in 2021, there were 2,040 people who turned 100 years old (Ministry of Internal Affairs - MVI). (https://faktor.mk/)

Experts say the rise in the number of centenarians is due to improvements in quality of life and healthcare, reduced smoking and better working conditions. The research uses data from the UN and reveals huge differences in longevity around the world, with Macedonia far behind the global average and having to rethink its approach to health and care for older people.

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Table 4: Men and women aged 100 and over in Macedonia from the 16th century onwards.

Rank	Name	Birth date	Death date	Age	Place of death or residence
1.	Trajko Smilevic[1]	1804	1935	131	Village of Smilevo, Demir Hisar*
2.	Save from the Savevci family[2]	1578	1697	119	Village of Zurche, Demir Hisar
3.	Mitre from the Savevci family[2]	1572	1689	117	Village of Zurche, Demir Hisar
4.	Sadush Memedovski[3]	1895	2010	115	Village of Dolno Orehovo, Novaci
5.	Najdo from the Savevci family[2]	1477	1590	113	Village of Zurche, Demir Hisar
6.	Sargjo Karagja Bradina[4]	1778	1889	111	Village of Tresonche, Mavrovo
7.	Magden form the Savevci family[2]	1525	1635	110	Village of Zurche, Demir Hisar
8.	Nikoa from the Brsanovci family[2]	1840	1850	110	Village of Zurche, Demir Hisar
9.	Boshe from the Josifovci family[2]	1808	1918	110	Village of Zurche, Demir Hisar
10.	Lozan form the Savevci family[2]	1592	1699	107	Village of Zurche, Demir Hisar
11.	Gorgia from the Lichovci family[5]	1840	1947	107	Village of Cer, Demir Hisar
12.	Hristo Dimitrovski[6]	1897	2004	107	Bitola
13.	Ibus Ademi[6]	1918	Living	107	Skopje
14.	Dojchin from the Karchevci family[2]	1798	1904	106	Village of Zurche, Demir Hisar
15.	Nikola Janchevski[7]			106	Village of Evla, Resen
16.	Naum Stojanov[8]	1853	1958	105	Bitola
17.	Simeon Naskov[6]	1920	Living	105	Stipsko
18.	Simjan Mosharevski[9]			105	Village of Velmevci, Demir Hisar
19.	Petko Svetulkovski[2]	1851	1955	104	Village of Sveta, Demir Hisar
20.	Stefan Ralv[10]	1865	1969	104	Bitola
21.	Save from the Savevci family[2]	1826	1926	103	Village of Zurche, Demir Hisar
22.	Risto Kitevski[7]			103	Village of Evla, Resen
23.	Risto Naskov[6]	1923	Livind	102	Stipsko
24.	Smile from the Smilevci family[2]	1827	1929	102	Village of Zurche, Demir Hisar
25.	Tane Stojanovski[7]			102	Village of Evla, Resen
26.	Nikola Stojanovski[6]	1923	Living	102	Skopje
27.	Stojan from the Savevci family[2]	1475	1576	101	Village of Zurche, Demir Hisar
28.	Vele from the Savevci family[2]	1475	1576	101	Village of Zurche, Demir Hisar
29.	Stevan from the Savevci family[2]	1868	1969	101	Village of Zurche, Demir Hisar
30.	Petre from the Kimace family[2]	1866	1965	101	Village of Zurche, Demir Hisar
31.	Ivan from the Ivanovski family[2]	1810	1911	101	Village of Zurche, Demir Hisar
32.	Dime from the Josifovci family[2]	1848	1949	101	Village of Zurche, Demir Hisar
33.	Ilija Tanevski Sankakovski[11]	1884	1985	101	Village of Logovardi, Bitola
34.	Dojchin Apchevski[6]	1923	2024	101	Bitola
35.	Stojan from the Savevci family[2]	1790	1890	100	Village of Zurche, Demir Hisar
36.	Vele from the Ortakovci family[2]	1850	1950	100	Village of Zurche, Demir Hisar
37.	Misho Mitreski[12]	1827	1927	100	Village of Vishni, Struga
38.	Aleksandar Chomy[8]	1862	1962	100	Bitola

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39.	Spiro Ristevski[9]	1820	1920	100	Village of Velmevci, Demir Hisar
40.	Naum Koleski Dimitrievski[9]	1886	1986	100	Village of Velmevci, Demir Hisar
41.	Gorgi Filipopovski[6]	1919	2019	100	Skopje
Rank	**Name**	**Birth date**	**Death date**	**Age**	**Place of death or residence**
1.	Masa from the Apostolovci[2]	1875	1988	113	Village of Zurche, Demir Hisar
2.	Grozda from the Mazorovci[2]	1813	1920	107	Village of Zurche, Demir Hisar
3.	Blaguna Siljanova[9]	1836	1942	106	Village of Velmevci, Demir Hisar
4.	Mara Rafajlovska[9]			105	Village of Velmevci, Demir Hisar
5.	Depa Lozevska[7]			104	Village of Evla, Resen
6.	Fan;e Trajchevska[7]			104	Village of Evla, Resen
7.	Fatima[6]	1909	2014	104	Skopje
8.	Emina Memedovska[6]	1899	2006	104	Bitola
9.	Kica Kusaradja[6]	1910	2014	104	Macedonia (deat in the Australia);
10.	Praksa Zlatkovska[6]			103	Village of Dulica, Makedonska Kamenica
11.	Lina Kuchutkova[6]	1909	2012	103	Macedonian woman in the USA
12.	Velika form the Savevci family[2]	1520	1623	103	Village of Zurche, Demir Hisar
13.	Bisera form the Savevci family[2]	1522	1624	102	Village of Zurche, Demir Hisar
14.	Stefka Kunovska[6]	1923	2025	102	Македонка во USA
15.	Dosta form the Savevci family[2]	1821	1922	101	Village of Zurche, Demir Hisar
16.	Magda form the Karshevci family[2]	1842	1943	101	Village of Zurche, Demir Hisar
17.	Dosta form the Ortakovci family[2]	1873	1974	101	Village of Zurche, Demir Hisar
18.	Blaguna form the Damshevci family[2]	1846	1946	100	Village of Zurche, Demir Hisar
19.	Dosta form the Jonovci family[2]	1834	1934	100	Village of Zurche, Demir Hisar
20.	Donka form the Zurshani family[2]	1892	1992	100	Village of Zurche, Demir Hisar
21.	Krsta Jankoska[12]	1843	1943	100	Village of Vishni, Struga
22.	Mara Daskalovska[9]	1928	2008	100	Village of Velmevci, Demir Hisar
23.	Mara Rafajlovska[9]	1895	1995	100	Village of Velmevci, Demir Hisar

Source: [1]Stefanovik,S. & Maksimilijan Kocijanic, M., 1986: (str.24), "The Yugoslav who lived the longest was a certain Trajko Smiljević (1804-1935), who died at the age of 131. It is only stated that he lived in Serbia, but not in which place."(p.24) *Macedonia in the period 1919-1941 was part of the Kingdom of Yugoslavia, and part of Southern Serbia, which administratively occupied most of the Vardar Banovina. The personal name Trajko is typically

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Macedonian, as well as the surname Smiljević, with today's transcription Smilevski or Smilev, is characteristic of Macedonia, i.e. for the regions of Demir Hisar, Mariovo, Debarca, etc. However, unconfirmed data about the location suggest that Trajko Smilev/ski is Macedonian, and perhaps from the village of Smilevo, Demir Hisar. This means that Trajko Smilevski is a centenarian from Macedonia who lived for 131 years. Is this claim of ours exclusively propaganda in nature, in search of a sensation for popularity, or is it an incorrect entry in church books, or is it simply scientifically mystical, a forgery, and the like? We leave it to the reader to decide, as with other data on centenarians presented in the tables. Therefore, our next research on this topic will be aimed at establishing scientific accuracy based on arguments. : [2]Dameski, B., 1998) ; [3]Tanevski, B., 2010) ; [4]https://tresonce.mk/licnosti/ ; [5]Poposki - Lico, A., 1993) ; [6]Author's personal archive; [7]Ristevski, D., 2013) ; [8]Main registry of deaths, 1958-1964 година ; [9]Dimitrov, (Pavleski), N. (V.), 2009) ; [10]Zezov, N., 2017) ; [11]Kotevski, R., 2023) ; [12]Mitreski, P., 1999)

In Macedonia, a total of 1,767 settlements have been registered, and it is assumed that over a period of 200 years (1825-2025) each settlement had at least 1 to 5 centenarians. So the total number of centenarians ranged from 1,767 to a maximum of 8,835 people. To confirm this, serious research is needed in the Death Registers located in the State Archives of the Republic of Macedonia and its departments (in Skopje, Kumanovo, Tetovo, Ohrid, Veles, Shtip, Prilep, Bitola and Strumica), as well as research in other professional services, institutions, literature, etc., from which data on the topic can be obtained.

DISCUSSION

- What is the maximum length of human life?

Scientists often ask this question, to which a definitive answer has not yet been received.

The table below partially shows the average lifespan in different periods of its development.

Table 5: Estimated average life expectancy in years by period

Period	Average life expectancy in years	Period	Average life expectancy in years
Stone Age[1]	19	1951-1970 year[2]	60-65
Bronze Age[1]	21,5	1971-1983 year[2]	65-70
Ancient Age[1]	20-30	1984-2000 year[3]	70-73
XVI century[1]	29,5	2001-2010 year[4]	73-75
XVII century[1]	29	2011-2025 year[4]	75-77
XVIII century[1]	28,5	2026-2030 year[4]	77-80
XIX century[1]	35,5-40,5	2031-2050 year[5]	81-85
1901-1934 year[1]	44,8-59,8	2051-2075 year[5]	86-90
1946-1950 year[1]	57,7-60	2076-2100 year[5]	91-100

Source: [1]Stefanovik,S., & Kocijanic M., 1986) ; [2]Yugoslavia - thirty years after liberation and victory over fascism 1945 - 1975 ; [3]Friganovic, M., 1978) ; [3]Wertheimer-Baletic, A., 1982) ; [3]Breznik, D., 1980) ; [4]Nejasmic, I., 2005) ; [4]Risteski, S., 2009) ; [4]Dimitrov, V.N., 2018) ; [5]Author's assessment.

Many of the world's leading gerontologists agree that the maximum length of human life ranges between 110 - 120 years. However, a significant number of gerontologists believe that

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the maximum length of human life is constantly increasing as a result of advances in medicine, and according to them, humans can live up to about 150 years.

The increase in the average life expectancy of the world's population is thanks to advances in medicine, improved living standards, a developed healthcare system, quality healthcare services, healthy living habits, etc.

Thus, today, in over 40 countries the average life expectancy of the population is over 80 years. (See: Table 6.)

Table 6: Average life expectancy of the population in countries with the highest values

for 2024									
No	**Contry**	**Overall**	**Male**	**Female**	**No**	**Contry**	**Overall**	**Male**	**Female**
1.	Monaco	86,5	84,6	88,6	14.	France	83,5	80,6	86,2
2.	San Marino	85,8	84,3	87,1	15.	Norway	83,5	81,9	85,0
3.	Hong Kong	85,6	83,0	88,3	16.	Sweden	83,4	81,7	85,2
4.	Japan	84,8	81,8	87,9	17.	Vatican City	83,1	81,0	85,2
5.	South Korea	84,4	81,3	87,3	18.	UAE	83,1	82,2	84,3
6.	Andora	84,2	82,3	86,2	19.	Iceland	83,0	81,6	84,5
7.	Switzeland	84,1	82,2	86,0	20.	Isreal	82,7	80,7	84,7
8.	Australia	84,1	82,3	85,5	21.	Canada	82,7	80,5	84,8
9.	Italy	83,9	81,8	85,9	22.	Ireland	82,6	80,6	84,8
10.	Singapore	83,9	81,4	86,4	23.	Portugal	82,5	79,7	85,3
11.	Spain	83,8	81,1	86,4	24.	Qatar	82,5	81,8	83,5
12.	Lieshtenstain	83,8	82,0	85,4	25.	Luhembourg	82,4	80,8	83,9
13.	Malta	83,5	81,5	85,4	/				
for 2025									
No	**Contry**	**Overall**	**Male**	**Female**	**No**	**Contry**	**Overall**	**Male**	**Female**
1.	Hong Kong	85,7	83,1	88,4	24.	Luxembourg	82,5	80,9	84,0
2.	Japan	85,0	82,0	88,0	25.	Netherlands	82,4	80,9	84,0
3.	South Korea	84,5	81,4	87,4	26.	Belgium	82,4	80,2	84,6
4.	French Polinesia	84,3	82,0	86,7	27.	Guadeloupe	82,4	78,5	85,8
5.	Switzeland	84,2	82,3	86,0	28.	New Zealand	82,4	80,8	84,0
6.	Australia	84,2	82,4	85,9	29.	Austria	82,3	80,0	84,6
7.	Italy	84,0	82,0	86,0	30.	Denmark	82,2	80,4	84,1
8.	Singapore	84,0	81,5	86,5	31.	Finland	82,2	79,7	84,6
9.	Spain	83,9	81,3	85,6	32.	Greece	82,2	79,7	84,6

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10.	Reunion	83,8	80,8	86,5	33.	Puerto Rico	82,1	78,5	85,5
11.	Malta	83,6	81,7	85,5	34.	Cyprus	82,0	80,0	84,0
12.	Norway	83,6	82,1	85,1	35.	Slovenia	82,0	79,3	84,6
13.	France	83,6	80,7	86,3	36.	Germany	81,7	79,4	84,0
14.	Sweden	83,6	81,8	85,3	37.	United Kingdom	81,6	79,7	83,4
15.	Macao	83,4	81,2	85,5	38.	Bahrein	81,6	81,0	82,2
16.	United Arab Emirates	83,2	82,4	84,4	39.	Chile	81,5	79,7	83,4
17.	Iceland	83,1	81,8	84,6	40.	Maldives	81,5	80,2	83,2
18.	Martinique	82,9	79,6	85,8	41.	Costa Rica	81,2	78,6	83,4
19.	Canada	82,9	80,7	85,0	42.	Taiwan	80,9	78,1	83,9
20	Israel	82,8	80,7	84,8	43.	Kuwait	80,8	79,6	82,1
21.	Ireland	82,7	80,8	84,7	44.	Oman	80,4	78,9	82,2
22.	Portugal	82,7	79,9	85,4	45.	Czech Reublic (Czechia)	80,1	77,3	82,8
23.	Qatar	82,7	82,0	83,6	69.	North Macedonia	77,7	75,4	79,8

Source; https://www.worldometers.info/demographics/life-expectancy/#google_vignette https://www.macrotrends.net/datasets/global-metrics/countries/mkd/north-macedonia/life-expectancy ; https://population.un.org/wpp/

From Table 5, it can be seen that in 2025, Hong Kong is at the top with an average life expectancy of 85.7 years (females 88.4 and males 83.1 years). In 2024, Monaco is at the top of the list, with an average life expectancy of 86.5 years (females 88.6 years and males 84.6 years).

Many of the countries where people live the longest have high investments in health per capita, have better access to and quality of health services, low crime rates, and high quality of life and living standards.

In 2025, the average life expectancy in the world (The World Bank: World Development Indicators, 2025) is 73.5 years (females 76.2 and males 70.9 years), for comparison, in 2000-2005 the average life expectancy in the world was 64.7 years (women 67.0 and men 62.5 years) (Nejasmic, I., 2005).

So, in 25 years, the average life expectancy in the world has increased by 8.8 years. If this trend continues, the average life expectancy in the world in 2050 will be 82.3 years, in 2075, 91.2 years, and in 2100 a high of 99.9 years. This means that in many countries the average life expectancy of the population will be over 100 years.

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In 1970-72, the average life expectancy in Macedonia was 67.3 years, of which men had 66.4 and women had 68.2 years. (Breznik, D., 1980).

In 2025, out of a total of 201 countries and territories, Macedonia is in 69th place with a life expectancy of 77.7 (females 79.8 and males 75.4 years), and the last is Nigeria with a life expectancy of 54.78 (males 54.45 and females 55.12).

If the average life expectancy in 2005 in the Republic of Macedonia was 74 years (Dimitrov, V. N., 2018), it means that in twenty years it increased by 3.7 years, and if the same dynamics continue, then in 2050 the average life expectancy will be 81.4 years, in 2075 85.7 years, and in 2100 88.8 years.

Today, other rural and urban areas with a concentration of elderly population aged 90, 100 and over stand out in the world. Areas in the following countries stand out in particular: Kyrgyzstan, Azerbaijan, Georgia, Armenia, Russia, Italy, Greece, Portugal, Spain, France, China, India, Ecuador, the USA, etc. So, in many countries around the world, the population is aging rapidly and more "blue zones" with centenarians are emerging. There is also an increase in the number of millions of elderly people over the age of one hundred living in many cities with a population of millions and other cities around the world. Many centenarians live in traditional families, but also in retirement, nursing, and other homes.

It is an undeniable fact that since 2024, the concept of a "blue zone" has already been introduced in business promotion. (Fonstein, Claire A., 25 July 2024). Accordingly, the "blue zones" or the concept of longevity has been applied in many economic and non-economic areas, including tourism.

Today, there are 630,000 people in the world who have reached their 100th birthday (or 0.0076% of the world population - 8,250,174,000 people, 03.10.2025 year, https://www.worldometers.info/world-population/). More than half of them are in just ten countries, among which Japan stands out as the absolute record holder with 123,000 people (where the average life expectancy of the population is 85 years, 88 years for women and 82 years for men), and with a participation of centenarians in the total population of 0.01%, making it at the top in the world. Then comes the USA with about 74,000 centenarians (0.02%), China with about 49,000 (0.0035%), India with 38,000 centenarians (0.0027%), etc. However, if the number of centenarians is compared to the size of the population in the countries, then the USA and China fall down the list, while France, Greece and Italy approach the top, and at the very top is Monaco with a centenarian share of 2.4% of the total population.

- Where is the R.N. Macedonia?

According to the prevalence of 4 centenarians per 100,000, it is much lower than in many countries in the world, but according to data provided by the Ministry of Interior in 2025, there are an incredible 1,840 centenarians in the country with a share of 0.1% in the total population, bringing the country closer to the top. However, our calculations indicate that there are 74 to a maximum of 100 centenarians in the country, with a share of the total population of 0.0040% and 0.0054%. However, there is a dilemma in determining the exact number of centenarians. To confirm or deny the above, a thorough study is needed.

Many people wonder how long they could live if they behaved perfectly in accordance with all health recommendations. Scientists have identified the upper limit to which humans can live the longest, and it is somewhere between 120 and 150 years, depending on the individual. With the exception of a few individuals who can surpass this limit. Men who live "perfectly healthy" can live to 114.1 years, and women 115.7. ("Nature Communications"). The centenarians are likely to be the result of an orientation towards healthy aging that involves a combination of diet, physical activity and a healthy environment.

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According to our estimates, the world will have 9.8 billion inhabitants in 2050. By 2050, the number of countries in the world with an average life expectancy of over 80 years will be around 100, of which a dozen will have an average life expectancy of over 90 years. By mid-century (2050), living standards will have increased significantly, the number of retirees will be over 30% or over 3 billion, and several million people will be over 100 years old. We also estimate that the number of tourists will be over 3 billion, of which several hundred million will be retired tourists, several million of whom will be over 100 years old.

According to our estimates, by the end of the 21st century, the Earth will have over 11.2 billion inhabitants, of which about 50% will be elderly. Retirement will be over 70 years old (or there will be no retirement - everyone will be able to work until they want and as much as they can, and for those who will be retirees, in addition to retirement, they can continue to work and receive a regular salary), the average life expectancy will be over 95 years, and in some countries over 100 years. This means that the number of centenarians will increase significantly, to over one hundred million people.

However, this (for some, futuristic) thinking of ours could change significantly if artificial intelligence and robotics take over all human activity, or if some kind of cataclysm occurs to the detriment of humanity.

However, in general, tourism must be more adapted to the elderly population over 70, 80 and more. Namely, in the near future, there will be one or more "blue zones" in every country. Tourism in the blue zones will have to be adapted for the elderly. "Blue zones" will be on land, but also at sea in the so-called "mobile blue zones", that is, large ships - cruisers that will be adapted as nursing homes and hospitals. Old people will sail across the world's seas and oceans. This "privilege" will only be enjoyed by tourists, "rich old people" who can afford to sail around the world and end their lives sailing.

Given that life expectancy is increasing, tourism will have to adapt to the needs, desires, and demands of tourists according to age. Namely, tourism should enable the target group of retired tourists and centenarians to stay and travel in their home country, but also to other areas. In that case, tourism will have to use different specialized transportation (buses, planes, ships, etc.) for the oldest population, for rest and recreation on a mountain, island, peninsula, by the sea, lake, river, in spas, parks, settlements, etc. Also, for safe travel and stay for this "risk group", medical accompaniment is required, as well as adaptation of rooms, apartments, cabins, space for walking, light physical activity, yoga, meditation, sports, massage, bathing, etc.

It is time to start researching and valorizing the "blue zones" and areas with elderly people for the purpose of tourism. To build new or adapt hotel and catering facilities and the entire service to the needs and demands of elderly tourists.

In countries and other areas where it has been established that there has been a concentration of centenarians for centuries or decades, that value and tradition should be presented in a touristic way: "How to experience and live 100 years or more." In that direction, every country should research, promote multiple children, family, celebrate youth, value maturity, and nurture old age. In other words, to celebrate life equally throughout all periods.

Old age should not be a burden even though it is the last phase of life, which is why in countries, regions, districts and settlements where there are constantly centenarians, there should be a museum or a department, a corner in already existing ethnographic museums. A museum that values life from prehistory to the present day.

CONCLUDING REMARKS

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We would be immodest to say that this research is the first on "blue zones" focused on the tourism business, that is, the "blue zones" as a tourist destination.

In the manuscript, we present only an initial possibility for more detailed research. In every country that practices tourism as an activity, it should also target the oldest population, whose number is constantly increasing and with it the needs for rest, treatment and recreation. The tourist offer should satisfy the needs, desires and demands of all generations, including the oldest centenarian population.

There are sufficient resources in the world for the valorization and practice of tourism aimed at seniors over 80 years of age. In the near future, a real challenge for tourism will be the target group of people over 100 years of age, who are physically and financially capable of traveling, recreation, etc. Accordingly, "blue zones" will appear in many countries around the world, in various forms and locations.

In the near future, there will be a "blue zone" in the Republic of Macedonia that will be attractive to older foreign tourists. Also, Macedonian elderly people over 80 and over 100 years old will have the opportunity to travel as tourists to closer or further afield.

According to statements by older people, there used to be more centenarians in Macedonia than there are today. We do not have specific data for this claim. To confirm this, we will have to research the birth and death registers from the 18th century to the present day. Also, data should be extracted from other books, church registers, various documents, as well as data from over 200 monographs on Macedonian settlements, in which valuable data on domicile centenarians can be found.

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