

USE OF NEW TECHNOLOGIES TO PROMOTE HEALTH IN TOURISTS WHO TAKE CRUISES ON THE DOURO RIVER – PORTUGAL

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Abstract: The health and well-being of tourists who make river cruises in the river Douro should be a premise of the vessels that realize this type of cruises. This is an exploratory and cross-sectional study, where a questionnaire is being applied, consisting of socio-demographic characteristics, clinical antecedents and issues related to the use of new technologies. The data collection instrument began to be applied in April 2018 to the tourists that carry out the river cruise from Régua to Pinhão and on board the ships of the company Barcadouro. 416 tourists participated in this study. 62,7% are women and 37,3% are men, with a mean age of 54,9 years. 75,2% of the tourists saw the use of a health data platform that would allow their health surveillance to be interesting/very interesting. The existence of a mobile application and a back-office application for database management and information to be provided to tourists and tour operators, respectively, will add value to safety in terms of well-being and health.

Keywords: Data platform, Mobile application, Tourists

Introduction

Tourism in Portugal is increasingly a reality and is constantly growing. For example in 2016, 28,4 million international tourists visited Portugal, with 4,7 million tourists from Spain (25,6% of the total), 3,1 million from the United Kingdom (17,2%), 2,7 million from France (14,7%) and 1,6 million from Germany (8,5%), being that for more than half of the tourists (71,3%) this was not the first time they visited the country (INE, 2017).

The Douro region is one of the oldest in Portugal, and has been a UNESCO World Heritage since 2001. Here it should be said that the main tourist resources and products of this region of the Douro are (Sousa, Monte, Fernandes, 2013): the wine (where the porto wine is highlighted), the river (which is navigable), the landscape, safety, tranquility and well-being, nature and architectural heritage.

River tourism, in particular on the Douro River, as in the case of tourism in general, is in an upward phase. This type of tourism includes river cruises of several hours, one day, or even several days and possibly complemented by activities of leisure, adventure, gastronomy and visits to the architectural heritage (Nunes, Moreira, Paiva, Cunha, 2016, pg .256).

The waterway of the Douro, in the Portuguese part, has 208km, 5 navigation locks (from 13 to 35 meters), about 60 river piers and develops between the mouth of the river Douro and Barca D'Alva, being the only way to travel nationally that incorporates the Trans-European Transport Network (Via Navegável do Douro, 2018)¹.

Turismo de Portugal, in its action plan for the development of tourism in Portugal, and with regard to international trends, states that there are concerns about health, food and well-being in countries with more affordable costs, such as Portugal (Turismo de Portugal, 2016, p. 28) and where the use of technologies in travel through digital platforms for information consultation and purchase of tourism products is already a reality that has been affirming (Ibidem, 2016, p.31).

It is a fact that health tourism is also growing (Brito, 2015), which is another excellent opportunity for the economic development of the entire Douro region.

The health and well-being of tourists who frequent river cruises on the Douro River should be a premise of vessels that perform such cruises (Guy, Henson, Dotson, 2015, Kim, Woo, Uysal, 2015). And if tourists who want to take cruises, can at the time of booking, request, through mobile applications, various health services according to their needs, there is no doubt that we will be contributing to the health promotion of tourists who visit the Douro region (Ker-Cheng et al, 2014).

One of the objectives of this study has to do with the evaluation of the health needs of the tourists that go on river cruises in the river Douro and later build a backoffice application and mobile application.

Materials and Methods

This is an exploratory and cross-sectional study, where a questionnaire is being applied, consisting of socio-demographic characteristics, clinical antecedents and issues related to the use of new technologies. The data collection instrument began to be applied in April 2018 to the tourists that carry out the river cruise from Régua to Pinhão and on board the ships of the company Barcadouro.

The data was collected by 2 properly trained research scholarship students, who were oriented towards the project objectives. Data collection took place on board the ships, on the route from Régua to Pinhão, disturbing to a minimum the trip that the tourists were making. The study was authorized by the Ethics Commission of UTAD and the company Barcadouro, as well as the tourists who participated in the study gave their informed consent.

Results and Discussion

416 tourists participated in this study. 62,7% are women and 37,3% are men, with an average age of 54,9 years. 64,7% of tourists are married and 62% have higher education. 39,2% of the tourists are Portuguese and 60,8% are foreigners. Among foreigners, the nationality that stands out the most is the French with 17,1%, followed by the Brazilian with 7,9%, the Canadian with 7,7%, the German with 6,7% and the American with 6,5%, see (Table 1).

Table 1: Nationality of Foreigners

	N	%
American	27	6,5
Australian	10	2,4
Brazilian	33	7,9
Canadian	32	7,7
English	10	2,4
French	71	17,1
Germany	28	6,7
Other nationalities	32	7,7
Portuguese	163	39,2
Spanish	10	2,4
Total	416	100,0

In 2016, 946,728 tourists performed cruises on the Douro River, which represented a growth rate of 31,26% compared to 2015. 71,02% of these tourists were Portuguese, 7,08% American, 5,39% French, 3,81% English, 3,25% German and 1,13% Spanish, very similar numbers to those found in this study (Via Navegável do Douro, 2018)^b.

For 59,6% of the tourists this was the first cruise they made. The reasons for choosing this type of tourism, have to do with knowing the Douro (28,8%), for repetition of the experience (17,1%), curiosity in boating (10,6%) and family/friends invitation (10,3%), see (Table 2).

Table 2: Reasons for choosing this type of tourism

	N	%
Getting to know the Douro	120	28,8
Family / Friends Invitation	43	10,3
Curiosity in Boating	44	10,6
It was part of a tourist route	24	5,8
Repetition of the experience	71	17,1
Recreation	37	8,9
Professional Reasons	6	1,4
Spiritual retreat	2	0,5
Missing	69	16,6
Total	416	100,0

28,6% of tourists have some type of disease or limitation, and 36,1% take medication, see (Table 3). The tourists who take medication, in average, take 2.17 different medications per day.

Table 3: Health problems, medication and medical treatment

Variables		N	%
Health problems	Yes	119	28,6
	No	282	67,8
	Missing	15	3,6
Does medication	Yes	150	36,1
	No	249	59,9
	Missing	17	4,0
Does some medical treatment	Yes	41	9,9
	No	340	81,7
	Missing	35	8,4

75,3% of the tourists saw the use of a health data platform that would allow their health surveillance to be interesting/very interesting, 74,8% considered interesting/very interesting the existence of a mobile application in tour operators, to identify their health needs and 86,3% of the tourists see as interesting/very interesting the presence of a health professional (for example, a nurse) on board of the cruises, see (Table 4).

Table 4: How do you see a health data platform, a mobile application and the presence of a health professional

Variables		N	%
How would you see the use of a health data platform that would allow your health surveillance?	No interest	23	5,5
	Little Interesting	63	15,1
	Interesting	197	47,4
	Very interesting	116	27,9
	Missing	17	4,1
How would you see the existence of a mobile application in tour operators that would allow you to identify your health needs?	No interest	33	7,9
	Little Interesting	59	14,2
	Interesting	202	48,6
	Very interesting	109	26,2
	Missing	13	3,1
How would you see the presence of a health professional (for example, a nurse) on board of the cruises?	No interest	11	2,6
	Little Interesting	37	8,9
	Interesting	211	50,7
	Very interesting	148	35,6
	Missing	9	2,2

In case of re-cruising in the Douro River, 19,2% of the tourists intend to request medical/nursing care services and 11,1% assistance in emergency situations, see (Table 5).

Table 5: Re-cruising and health services

	N	%
Medical / nursing care	80	19,2
Assistance in emergency situations	46	11,1
Missing	290	69,7
Total	416	100,0

Conclusion

If the companies that perform cruises in the Douro River can provide personalized services that meet the needs and expectations of the tourists, the final result will be of greater well-being, greater satisfaction and loyalty to the company (Bauer, 2012; Lujun, Swanson, Xiaohong, 2016).

The existence of a mobile application and a back-office application for database and information management to be provided to tourists and tour operators, respectively, will add value to the safety in terms of well-being and health (Tseng, 2013; Hung-Che, Ching-Chan, Chi-Han, 2018).

It is also a reality that the creation of digital solutions in the health area, are an asset for all citizens and are a necessary bet (Ministério da Saúde, 2018, pg 73).

It is clear that mobile health applications can contribute effectively to the health promotion of the individual, however, further studies and verifications are needed to prove the creation of value for all involved (Baldwin, Singh, Sittig, Giardina, 2017).

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