Journal of Tourism Management Research
2019 Vol. 6, No. 1, pp. 19-28
ISSN(e): 2313-4178
ISSN(p): 2408-9117
DOI: 10.18488/journal.31.2019.61.19.28

A RESEARCH ON DETERMINANTS OF PARTICIPATION INTENTION IN MEDICAL TOURISM TO KOREA -FOCUSED ON MONGOLIAN CUSTOMERS

Uyanga Zorigsaikhan[1]
Woojoo Choi[2]
Sang-Uk Jung[3+]

[1,2]*College of Business, Hankuk University of Foreign Studies 107 Dongdaemungu Imun-Dong, Seoul, Korea*
[3]*Associate Professor, Business School, Hankuk University of Foreign Studies 107 Dongdaemungu Imun-Dong, Seoul, Korea*
Email: sanguk.jung@hufs.ac.kr

(+ Corresponding author)

Article History
Received: 31 October 2018
Revised: 7 December 2018
Accepted: 10 January 2019
Published: 29 March 2019

Keywords
Medical tourism
Mongolian consumers
Cross-cultural study

ABSTRACT

Due to the geographical proximity and popularity of Korean dramas in Mongolia, Mongolian trip to Korea is growing rapidly, especially in medical tourism such as plastic surgery, skin care, and general health care. Therefore, it is important to find what drives Mongolian consumers to choose Korea as a medical tourism destination. Based on the empirical findings of prior literature, it was hypothesized that medical tourism cost, medical service, medical technology, medical tourism accessibility, and tourism service are significant determinants to drive Mongolian medical tourism destination. In this study, we conducted a survey for choosing Korea as a medical tourism destination for 894 people living in Korea and Mongolia, age from 20s to 50s. For the analysis, we employed the multiple regression, and the findings suggest that medical technology, cost appropriateness, medical service, and tourism service have a significant influence on Mongolian choice of medical tourism in Korea, but medical tourism accessibility would not have a significant effect on medical tourism destination selection. Our study concludes with managerial implication and future research direction.

Contribution/Originality: This study contributes to the existing literature by empirically testing the results of previous research on the determinants of medical tourism selection applied to Mongolian visit to Korea. The findings of this study have interesting managerial implications concerning marketing strategy, for both researchers and practitioners.

1. INTRODUCTION

The number of foreign patients who visited Korea medical institutions increased steadily from 27,480 people in 2008 to 364,189 people in 2016. By country, China accounted for 35.6% of 127.648 people, followed by USA (13.4%), Japan(7.3%), and Mongolia(4.1%) in 2016 which is ranked 6th (Seo, 2019). Korean Medical tourism revenues also rose sharply from $ 68 million in 2007 to $ 248 million in 2014. Total medical care revenues related to foreign patients increased by 29.0% year-on-year to KRW12.5 billion in 2017 (Korea Health Industry Development Institute, 2018).

Especially, Mongolian patients are growing more rapidly than in other countries, and the average medical expenses per capita are very high, making them one of the most important countries in medical tourism in Korea. The Mongolian medical tourists visiting in Korea was 8,347 people in 2012, 12,522 people in 2015 and with an increase of 18.2% over the previous year to 14,798 people in 2016 (KHIDI, 2018).

This study investigates the possibility that Korean medical tourism service selection factors of Mongolian medical tourists may be different from those of other countries. The purpose of this study was to analyze the selection factors of Mongolian people, who are seeking services of Korean medical tourism and to develop a medical tourism product model and marketing strategy for Mongolian people.

This research is organized as follows: First, relevant literature are reviewed. Second, we describe the data and methodology we used in this study. Finally, we discuss the implications of our findings and explore directions for future research.

2. LITERATURE REVIEW

The medical tourist means medical tourism combining medical tourism and recreational tourism such as simple surgery. According to Hall (1992) medical tourism is one form of tourism, with the main motive being related to health. Laws (1996) defines leisure activities as moving away from home for the purpose of changing the health condition of medical tourism itself. Gupta (2004) defines medical tourism as providing cheap and effective services to patients who need surgery or other professional care and combining with tourism. Goodrich and Goodrich (1987) defined medical tourism as an intentional attempt to "lead to health services and facilities and general tourism facilities and destinations" with a focus on the area and facilities.

Korea is highly likely to develop as a medical destination because it can receive medical treatment at a relatively low cost and advanced country level, but the medical tourism industry is lagging behind other countries due to the restriction of the policy and the law. Beyond attracting existing overseas patients, it is linked to unique tourism resources, cultural experiences, food, festivals, performances, sports, oriental medicine, etc. based on a wide concepts such as tourism, recreation, and leisure. It is possible to grow into a national new growth engine industry through the wide creation of tourists

Based on the previous research, Table 1 shows the summary of variables used as factors of medical tourism destination selection. The most commonly used variables such as medical costs, medical service quality, accessibility, medical technology and tourism service quality are selected as main variables in this study.

The definition of each variable used in this study is as follows. The cost of medical care means the medical costs incurred when converting from domestic medical tourism service to overseas medical tourism service, and is measured by consumer price perception, acceptable price range, and cheap medical expenses (Hwang, 2006). The quality of medical services consists of medical technology and service delivery processes, which are measured by a sufficient explanation of the medical staff, the kindness of the medical staff, rapid problem handling, and well-groomed attitude (Narver and Slater, 1990). Access to medical tourism is the degree to which the government provides policy support to promote medical tourism (Jang, 2015). The medical technology was measured by the application of new technology, the introduction of the latest medical equipment, and the trust of medical technology that emphasizes medical technology (Narver and Slater, 1990). The quality of medical tourism services assessed by consumers is determined by two components, expected service and perceived service, and is measured by the climate of the destination country, the degree of climate awareness, prior information consensus, and the reliability of information (Grönroos, 1984).

Table-1. Main Selection Factors of Medical Tourism.

Research	Medical Cost	Medical Service	Safety	Accessibility	Medical Technology	Food	Tourism Service Quality	Waiting Hour	Traffic	Communication	Weather
Seo (2014)	x			x	x				x	x	
Lee (2008)	x	x	x		x	x	x	x			x
Jang (2015)	x	x		x	x	x	x	x	x	x	x
Lee *et al.* (2009)	x	x	x	x	x	x	x	x			x
Kim and Kim (2008)		x	x				x				
Hong (2007)	x	x	x	x	x		x				
Won (2011)	x	x			x			x			
Hwang (2006)	x	x	x	x	x		x				
Smith and Forgione (2007)	x	x	x		x						
Kim (2009)	x			x	x		x				
Kang and Oh (2008)	x	x		x	x	x	x			x	

3. DATA AND METHODOLOGY

In this study, the following research model was derived based on the previous research under the theoretical background. The purpose of this study is to investigate the effect of service selection factors on the selection of medical tourism destination in Mongolian Korean medical tourism service selection. The factors of selection include medical service quality, cost, medical technology, accessibility. We propose a destination selection factors to grasp the relationship between each factor.

In this study, multiple regression analysis in Equation 1 of model1 was performed with medical tourism destination as a dependent variable and cost, medical technology, accessibility, medical service, and tourism service as independent variables.

$$Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 \quad (1)$$

where Y: medical tourism destination, X1: cost, X2: medical service, X3: medical technology, X4: Accessibility, X5: Tourism Services

Based on the previous study, we hypothesize as follows:

- Hypothesis 1: Medical cost has a significant impact on the selection of medical tourism destinations.
- Hypothesis 2: Medical technology has a significant impact on medical tourism destination selection.
- Hypothesis 3: Medical service has a significant impact on the selection of medical tourism destinations.
- Hypothesis 4: Medical tourism accessibility has a significant effect on medical tourism destination selection.
- Hypothesis 5: Tourism services has a significant impact on medical tourism destination selection.

In this study, Mongolian consumers were directly measured by the question "Do you intend to do medical tourism in Korea"?. The medical cost, medical technology level, medical service level, tourism service level, and accessibility used in this study were derived from the questionnaire used in prior research. Each variable was measured on a multi-item scale of the 5 point recruitment type (1- not at all, 2- not, 3 -moderate, 4- yes, 5- extremely yes). The survey consists of six sections, as shown in Table 2.

Table-2. Construct of Survey.

Section	Topic	Questions
1	Intend to do medical tourism	Do you intend to do medical tourism in Korea?
2	Medical Cost	1. Surgery cost is reasonable
		2. Medicine cost is reasonable.
		3. After surgery cost is reasonable.
		4. Treatment other cost is reasonable
3	Medical Service	1. Medical service is fast
		2. Good nursing service.
		3. Service system for post-treatment when complications or side effects occur
		4. No barrier to language communication
4	Medical Technology	1. Korea has many famous doctors.
		2. Korea is highly recognized as a medical institution.
		3. Korea is excellent in medical technology.
		4. Korea is introducing the latest medical equipment.
5	Accessibility of Medical Tourism	1. Korea can get a visa quickly for medical tourism.
		2. Korea can afford to pay with credit card.
		3. Korea has good privacy.
		4. Korea can do quick treatment for medical accidents.
6	Tourism Service	1. Korea has a good climate
		2. Information in Korea is in agreement with actual medical tourism program
		3. Korea has a high level of professionalism and integrity.
		4. Source of information on tourism services is highly credible.

In this study, this research surveyed 894 people living in Korea and Mongolia, age from 20s to 50s. The survey was conducted for 27 days from March 27, 2017 to April 17, 2017. Statistical methods of data analysis (SPSS) was used to identify the normal distribution of the proportion of respondents. Also, frequency analysis, correlation analysis, and descriptive statistics were used. Multiple regression was used to find factors affecting medical tourism destination.

4. FINDINGS AND DISCUSSIONS

4.1. Demographic Analysis

This study conducted a frequency analysis to investigate general characteristics such as gender, age, marital relationship, education level, occupation, and monthly income. Of the 894 respondents, 375(42%) are males and 519(58%) are females. By age group, the 20s are the most common with 345, followed by the 30s with 308, followed by the 40s, 20s, and 50s. In the marriage relationship, there were 350 singles and 544 marriages. For the average income per month, 300,000-600,000 Tugrug was 142, 600,000-1,000,000 Tugrug was 170, 1,000,000-1,500,000 Tugrug was 230, 1,500,000-2,000,000 Tugrug was 152, and 2,000,000 Tugrug was 200. In the distribution of education, university graduates answered the most with 497 students, followed by graduate school, high school graduate, and others. According to the demographic characteristics of the sample, the female ratio was the highest among the medical tourists, and the age was generally in the 20s and 30s, and the marriage relationship was more married. In addition, educational attainment was high in university graduates, and the average monthly income was 1,000,000 to 1,500,000 Tugrug.

4.2. Summary Statistics

Table 3 shows the descriptive statistics of factors that are important factors in Mongolian consumers' choice of medical tourism destinations. The mean value of Medical Service and Medical Technology was 3.95 and 3.81, respectively, which were higher than other factors. On the other hand, medical cost were 3.10 points out of 5 points, which was somewhat lower than other factors. Also, respondents' responses to all the factors were somewhat higher than those of the three. The means, standard errors, minimum observations, and maximum observations for the variables are summarized in the following Table 3.

Table-3. Summary Statistics (N=894).

	Intend to do Medical Tourism	Cost	Medical Ser□ice	Medical Technology	Medical Tourism Accessibility	Tourism Service
Median	3.00	3.00	4.00	4.00	3.75	3.75
Mean	3.20	3.10	3.81	3.95	3.66	3.78
Std. Dev	1.03	0.88	0.75	0.78	0.83	0.72

To examine the effect of Mongolian consumers on destination choice of medical tourists, multiple regression analysis was performed using SPSS 20.0 with five factors as independent variables and destination choice as dependent variables. The adoption of the research hypothesis was determined by whether the p-values of the coefficients of each variable were statistically significant (Hair *et al.*, 2005).

4.3. Reliability Analysis

The reliability test was conducted to determine whether the measurement items of survey items were consistently measured. Reliability refers to the variance of measured values when repeatedly measured for the same concept. Reliability includes concepts such as measurement stability, consistency, predictability, and accuracy (Lee, 2010). Cronbach's alpha is widely used as a method to confirm the reliability of measurement tools in reliability analysis. If the Cronbach's alpha coefficient is at least 0.60, the reliability is high. The results of analyzing the reliability of the survey items of Korean medical tourism are as shown in Table 4.

Table-4. Reliability of Variables.

Variable	Cronbach Alpha	Std. Cronbach Alpha
Cost	0.77	0.80
Medical service	0.71	0.75
Medical technology	0.70	0.74
Medical tourism accessibility	0.85	0.85
Tourism service	0.71	0.71

In Table 4 we can see that all of the selection factors used in this study are reliable because the Cronbach's α coefficient of the variables of the Korean medical tourism selection factor is 0.7 or higher overall.

4.4. Multiple Regression Analysis

Table 5 shows the correlation between Mongolian consumers' selection factors for Korean medical tourism.

Table-5. Correlation Table.

	Intend to do Medical Tourism	Cost	Medical Service	Medical Technology	Medical Tourism Accessibility	Tourism Service
Intend to do Medical Tourism	1					
Cost	0.44	1				
Medical Service	0.62	0.45	1			
Medical Technology	0.72	0.32	0.66	1		
Medical Tourism Accessibility	0.17	0.13	0.13	0.15	1	
Tourism Service	0.76	0.32	0.55	0.68	0.17	1

The results of the multiple regression analysis are shown in Table 6 and each independent variable shows the importance and influence of the Mongolian medical tourists on the choice of a tourist destination. Independent variables are medical cost, medical technology, medical service level, medical tourism accessibility, tourism service, and dependent variable is medical tourism destination selection.

Table-6. Model 1: Results of Multiple Regression Analysis.

	model 1		
Variables	**Coefficients**	**Std. Err.**	**P>|t|**
Cost	0.131	0.044	0.003
Medical Technology	0.303	0.068	0.000
Medical Service	0.130	0.065	0.048
Medical Tourism Accessibility	0.012	0.033	0.712
Tourism Service	0.517	0.066	0.000
Constant	-0.446	0.218	0.043
R-squared	0.684		
Adj R-squared	0.675		
AIC	-256.45		

The research hypothesis 1 is adopted that the Korean medical expenditure has a significant influence on the intention of medical tourists. And medical technology and medical service have a significant influence on medical tourism choice. Hypothesis 2 and Hypothesis 3 are adopted. However, medical tourism accessibility does not have a statistically significant effect on the choice of medical tourism destinations. Therefore, research hypothesis 4 is rejected. On the other hand, research hypothesis 5 is adopted because the Korean tourism service has a significant effect on the choice of destination for medical tourists.

Summary of the hypothesis test results of this study is as follows. First, hypothesis 1 suggests that the appropriateness of medical costs will have a significant impact on the selection of medical tourism destinations. As a

result, the appropriateness of medical costs is found to have a positive effect on the choice of medical tourism destination (coefficient is -0.131, P> | t | is -0.003). Hypothesis 2 suggests that medical technology has a significant impact on medical tourism destination selection. As a result of the verification, it is confirmed that medical technology has a positive effect on the choice of medical tourism destination (coefficient is -0.303, P> | t | is -0.00). Hypothesis 3 suggests that the level of medical services has a significant impact on the selection of medical tourism destinations. As a result of the analysis, it is confirmed that the medical service level had a positive effect on the selection of medical tourism destination (coefficient is -0.13, P> | t | is -0.048). Hypothesis 4 suggests that access to medical tourism would not have a significant effect on the choice of medical tourism destinations. As a result, medical tourism accessibility is found to have a negative effect on the choice of medical tourism destination (coefficient is -0.012, P> | t | is -0.712). Hypothesis 5 suggests that the level of tourism service would have a significant effect on the choice of medical tourism destinations. The level of tourism service is found to have a positive effect on the choice of medical tourism destination (coefficient is -0.517, P> | t | is -0.000).

In this study, accessibility variables are not statistically significant. It can be seen that Mongolian consumers are not interested in access to policy support services in Korea because they will receive medical services or tourism services as foreigners.

In order to diagnose multi-collinearity between variables, the variable inflation factory (VIF) was examined. Generally, when the dispersion expansion coefficient is 10 or more or the allowable value is smaller than 0.1, it is judged that there is a problem of multicollinearity. In this analysis, the variable inflation factor (VIF) values of all variables were less than 10, and the tolerance value was larger than 0.1, so that the problem of multicollinearity does not occur.

Model 2 is conducted by adding marriage and income variables. Combinations of demographic variables are investigated, but only the best fit model is reported in this study. The result of multiple regression analysis of model 2 shown in Table 7 is not much different from the result of model 1. The AIC (-256.45) of Model 2 is also slightly smaller than the AIC (-255.99) of Model 1, so that the fit of model 2 is somewhat better than model 1. According to the analysis of model 2, the unmarried person was less willing to come to Korea medical tourism than the married person.

Table-7. Model 2: Results of Multiple Regression Analysis.

	Model 2		
Variables	**Coefficients**	**Std. Err.**	**P>|t|**
Cost	0.124	0.045	0.007
Medical technology	0.317	0.069	0.000
Medical service	0.116	0.068	0.088
Medical tourism accessibility	0.009	0.034	0.785
Tourism service	0.524	0.067	0.000
Marriage	-0.131	0.072	0.071
R-squared	0.688		
Adj. R-squared	0.677		
AIC	-255.99		

Regression analysis of model 3 (Table 8) with both income and marriage was done, but there was no significant difference in model fit and both variables were not statistically significant.

Table-8. Model 3: Results of Multiple Regression Analysis.

	Model 3		
Variables	**Coefficients**	**Std. Err.**	**P>|t|**
cost	0.126	0.045	0.006
Medical technology	0.313	0.069	0.000
Medical service	0.116	0.067	0.087
Medical tourism accessibility	0.012	0.034	0.723
Tourism service	0.527	0.067	0.000
income	0.037	0.026	0.151
marriage	-0.114	0.073	0.121
R-squared	0.692		
Adj. R-squared	0.679		
AIC	-260.01		

5. CONCLUSION

Mongolians visiting Korea for medical tourism are steadily increasing by 50.4% in 2017 compared to 2009. It is the position to try to attract the increasing number of Mongolian tourists as Korean medical tourists. This study focuses on the fact that Mongolian people's choice of medical tourism services may be different from other countries. The purpose of this study is to investigate the factors affecting Mongolian's choice of medical tourism in Korea. To do this, we conducted a survey on Mongolian people after collectively examining the characteristics of the medical tourism market such as the previous research on the optional properties of medical tourism and the current status of medical tourists in Korea and Mongolia. The subjects of this study were 894 people living in Korea or Mongolia who conducted the survey from March 27, 2017 to April 17, 2017 for those who understood the contents of this study and agreed to the survey. The study analysis included frequency analysis, reliability analysis, correlation analysis and multiple regression analysis. The summary of the study results is as follows. Medical technology, cost appropriateness, medical service, and tourism service factor have a significant influence on Mongolian choice of medical tourism in Korea. On the other hand, medical tourism accessibility would not have a significant effect on medical tourism destination selection.

The managerial implications of this study are as follows. First, according to the results of analysis of medical technology selection factors, new medical technology or equipment should be able to attract Mongolian people with medical technology comparable to advanced countries.

In order to attract foreign patients, care should be paid to the quality of medical care, the modernization of medical facilities, and differentiated communication at the time of medical treatment. Second, Mongolians showed that medical service quality is more important than cost and tourism service factors. This shows that Korean medical service quality is superior to Mongolia. Furthermore, to promote attracting medical tourists, there is a need to provide sufficient explanation and friendly service for the surgery, which requires developing education, counseling materials, and follow-up programs.

Third, Mongolians prefer Korean medical tourism to be cheaper than in advanced countries. Therefore, Korea has to be cautious about estimating treatment costs. Fourth, according to the results of the analysis of tourism service selection factors, Korea is one of the countries that Mongolians are very close to approach. However, if South Korea is close to Mongolia, and if it has an unwavering attitude of being satisfied with medical tourism services, it will lose Mongolians to competitors such as Taiwan and Japan which are emerging recently. Therefore, it is necessary to increase the satisfaction of Mongolians by creating various attractions, food, and purchasing distance in Korea.

5.1. Limitations and Future Research

This study has some limitations as follows. First, we need to survey more widely age groups, because in this study the age group was limited to 20-40. Of course, there will be a consumption of overseas medical tourism in

economically active age groups. Therefore, in future research, we try to study the effect of factors of choice, attitude factors and behavioral factors. Third, I would like to try to compare and generalize other countries through this topic.

Funding: This research is supported by Hankuk University of Foreign Studies Research Fund.
Competing Interests: The authors declare that they have no competing interests.
Contributors/Acknowledgement: All authors contributed equally to the conception and design of the study.

REFERENCES

Goodrich, J.N. and G.E. Goodrich, 1987. Health-care tourism—an exploratory study. Tourism Management, 8(3): 217-222.Available at: https://doi.org/10.1016/0261-5177(87)90053-7.

Grönroos, C., 1984. A service quality model and its marketing implications. European Journal of Marketing, 18(4): 36-44.Available at: https://doi.org/10.1108/eum0000000004784.

Gupta, A., 2004. Medical tourism and public health. People's Democracy, 27(19).

Hair, J.F., W.C. Black, B.J. Babin, R.E. Anderson and R.L. Tatham, 2005. Multivariate data analysis. 6th Edn., Englewood Cliffs, NJ: Pearson Prentice-Hall, .

Hall, C.M., 1992. Adventure, sport and health tourism. Special-interest tourism London: Bell haven Press.

Hong, H., 2007. A study on tourism development for the activation of Korean medical tourism industry. Master Thesis. Kyung Hee University.

Hwang, Y.I., 2006. A study on the marketing strategy for expansion of Korean medical turism market. Master Thesis, Kyung Hee University, Seoul, Korea.

Jang, S., 2015. Analysis of factors affecting the selection of medical tourism countries in Chinese consumers. Master Thesis, Kyung Hee University, Seoul, Korea.

Kang, J.-J. and S.-H. Oh, 2008. An exploratory analysis of demographic differences on choice of medical tourism destination. The Korean Academic Society of Tourism and Leisure, 20(4): 139-158.

Kim, D. and M. Kim, 2008. Structural equation analysis: A study on the model of marketing strategy for the medical tourism. Korea Tourism Research Association, 22(2): 207-213.

Kim, Y., 2009. A study on the promotion of medical tourism. Master Thesis. Donga University.

Korea Health Industry Development Institute, 2018. Business plan 2018. Seoul, Korea: Agency for Healthcare Research and Quality.

Laws, E., 1996. Health tourism: A business opportunity approach. In Clift S. and SJ Page (Eds.), Health and the International Tourist. pp: 199-214.

Lee, E.-M., W. Kim and G. Lee, 2009. Medical tourism selection attributes and development strategy for Daegu. Korean Tournal of Tourism Research, 24(2): 109-125.

Lee, J., 2008. A study on the factors of choosing medical tourism product selection. The Tourism Sciences Society of Korea, 48(2): 265-286.

Lee, W.C., 2010. Classification consistency and accuracy for complex assessments using item response theory. Journal of Educational Measurement, 47(1): 1-17.Available at: https://doi.org/10.1111/j.1745-3984.2009.00096.x.

Narver, J.C. and S.F. Slater, 1990. The effect of a market orientation on business profitability. Journal of Marketing, 54(4): 20-35.

Seo, I., 2014. A study on the selection factors, satisfaction and recommendation intentions of medical tourism in Korea. Master Thesis, Honam University, Kwangju, Korea.

Seo, J., 2019. Medical Korea. Maeil Business Newspaper. pp: 1. Available from https://www.mk.co.kr/news/it/view/2019/03/162814/.

Smith, P.C. and D.A. Forgione, 2007. Global outsourcing of healthcare: A medical tourism decision model. Journal of Information Technology Case and Application Research, 9(3): 19-30.Available at: https://doi.org/10.1080/15228053.2007.10856117.

Won, J., 2011. An exploratory study on the selection factors of medical tourism destination of Chinese potential tourists. Master Thesis. Bukyung University, Busan, Korea.