

## COMPARATION OF DIRECT AND INDIRECT COSTS FOR MEDICAL TOURISM PATIENT TO PENANG ISLAND MALAYSIA IN 2019

Nur Hidayah Nasution, Destanul Aulia, Fazidah Aguslina Siregar

<sup>1</sup> Faculty of Public Health, Universitas Sumatera Utara, Jl. Universitas No. 21 Kampus USU, Medan 20155, Indonesia

*\*Corresponding author: Nur Hidayah Nasution. Faculty of Public Health, Universitas Sumatera Utara, Jl. Universitas No. 21 Kampus USU, Medan 20155, Indonesia. nurhidayahnasution34@yahoo.com*

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### ABSTRACT

**Background:** Medan City was one of the areas close to Malaysia. This closeness makes people visit Penang Island for many reason such as medician, or medical tourism, with an increase 15-18% every year. This medical tourism causes people to spend more cost, both direct and indirect cost, direct costs were related to medician cost, (doctor's fees, medicines, laboratories, administration, and medical support), while indirect costs were unrelated with medician cost, (transportation, residence, extra food, patient companion, and lost costs). The purpose of study was to analyze the comparison of direct and indirect costs of medical tourism patients to Penang Island, Malaysia.

**Materials and Methods:** This research was a comparative analytic with cross-sectional design using a questionnaire, conducted with t test for comparison of direct and indirect costs for 96 respondents

**Result:** The results showed that the expenditure average of medical tourism patient was IDR 10,079,250, with comparison of direct and indirect costs was 55.8%: 44.2% or IDR 5,625,305: IDR 4,453,945

**Conclusion:** Government makes regulations related to seeking medician abroad, and improve the quality of domestic health services so expenditure for medical treatment abroad can saved.

**Keywords:** Direct cost, indirect cost, medical tourism, patient.

## 1.0 Introduction

Health was one of the community needs that must continue to be fulfilled, the borders of the region and state were not a barrier for the community to obtain health services. Geographically Medan City was one of the areas close to Malaysia (274 km or 170 miles), this closeness makes people in Medan City often visit Malaysia with various destinations, one of which was to seek medician or treatment, this treatment search was accompanied by tourism activities or known as Medical Tourism.

Medical tourism was one type of tourism carried out by a person to seek treatment and at the same time also conduct tours for physical and spiritual refreshment. The motive for medical tourism was to visit and enjoy locations to relax and refresh physically and spiritually (Medical Tourism Association, 2017). Medical tourism was people leaving their home country to another country to get the best health service (Lund, 2015).

Penang Island was the most frequent destination for patients coming from North Sumatra to seek treatment in Malaysia with 90.51 percent of total visits, followed by Kuala Lumpur with 5.12 percent, and third was Melaka with 2.66 percent. (Aulia, 2014)

Seeking treatment by Indonesians to abroad has increased from year to year, based on data from the Malaysia Healthcare Travel Council (2016), patients seeking treatment to Penang Malaysia were dominated by Indonesians with a percentage of 60 percent of total visits with an increase of 15 -18 percent annually. In 2015 there were 600,000 Indonesian citizens seeking medical treatment abroad, and in 2018 there were 670,000 Indonesians seeking treatment in Malaysia.<sup>5</sup>

In 2017 the number of hospitals in North Sumatra was 208 units, consisting of 61 units of government-owned hospitals and 147 units of private-owned hospitals. In addition, in 2017, North Sumatra also has 174 treatment health centers, 397 non-treatment health centers, 2,045 assisting health centers, and 559 mobile health centers, this facility was expected to provide health services for people in North Sumatra. (Health Profil Sumatera Utara, 2017)

Base on Penang Global Tourism (2018), Penang received 375,235 tourists for medical services which contributed revenue of RM 568 million. In 2018, Malaysia will get an income of RM 1.5 billion from 1.2 million tourists who undergo medical treatment, with a contribution of revenue from Penang of 37.8 percent.

Total expenditure of patient to seek treatment in Penang Island was IDR 11,251,182 with a comparison of direct and indirect costs were 51.29 percent for direct and 48.71% for indirect costs, where the largest distribution of direct costs is for hospital costs which was 25.91 percent and the largest distribution of indirect costs was for the cost of buying souvenirs 17.24 percent. (Aulia, 2013)

Direct costs were costs incurred by patients associated with medical services, which were used to prevent or detect an illness such as doctor visits, medicines, length of treatment. In this case, the direct costs include doctors' fees, medicine costs, laboratory, administration, and medical support costs, such as inpatient and laundry costs. Indirect costs were costs incurred by patients not directly related to medical services. In this case, indirect costs were

transportation costs, residence costs, patient companion costs, additional food costs, and lost costs (productivity costs lost due to not working during medical tourism).

The impact of spending directly and indirectly on medical tourism patients to Penang Island Malaysia is that Indonesia will lose foreign exchange annually. The number of medical treatment visits to Penang Island Malaysia causes Indonesia to lose foreign exchange, amounting to Rp 100 trillion every year (Daniel, 2019). Another impact is the economic losses experienced by the community, even though the community does not need to pay direct and indirect costs when doing treatment in the country, because it was guaranteed with the National Health Insurance. Gradually the community will also lose trust in domestic health facilities, because the government was unable to provide adequate health facilities and be able to compete with existing health facilities abroad. In accordance with the above background, the formulation of the problem specified in this study is the comparison of direct and indirect costs medical tourism patients from Penang Island Malaysia in 2019.

## 2.0 Materials and Methods

This research was a comparative analytic using cross sectional design, used t-test to analyze whether there is a difference between direct and indirect costs. The study was conducted in Medan City, North Sumatra, to the people in Medan City who had conducted medical tourism from Penang Island, Malaysia, conducted in February 2019 to February 2020. The number of samples were 96 people. The sampling technique was purposive sampling, with inclusion criteria; 1) Patients or patients' companions have taken medication from Penang Island, Malaysia. 2) Patients or companion patients aged 20-65 years. 3) Patients are from Medan City, North Sumatra, and exclusion criteria 1) Patients or their companions who will be take medical tourism to Penang Island, Malaysia. 2) Patients are not willing to be interviewed. 3) Patients do not have medical treatment receipts/ bill 4) Patients with serious cases (not possible to do interviews)

## 3.0 Result

### 3.1 Sociodemography of people conducting medical tourism

Based on the results of this research found that the characteristics of people who seek medician to the Penang Island Malaysia base on gender variables it is known that people who seek treatment in Penang are 66 men (69%) and 30 women (31%). In the employment variable it is known that 70 people (73%) employed as entrepreneurs in Penang (28%) and 28 people (27%) as State Civil Apparatus (ASN).

In the visit variable, it is known that people who sought treatment to Penang for the first time were 81 people (84%), and more than once as many as 15 people (16%). On the variable of having health insurance (BPJS) it is known that people who seek treatment in Penang have as many as 78 people BPJS (81%) and who do not have BPJS as many as 18 people (19%). In the income variable it is known that people seeking treatment in Penang have income levels

of 1-5 million by 40 people (42%), income by 5-10 million by 33 people (34%) and income levels by 10-15 million by 23 people (24 %).

In the hospital variable visited, it was found that most people sought treatment at Lam Wah Ee Hospital by 24 people (25%), Island Hospital by 20 people (21%), Adventist Hospital by 23 people (24%), Gleaneagles Hospital by 17 people (18%), and others as many as 12 people (12%).

Table 1: Sociodemography of people conducting medical tourism

Variable	(n)	(%)
Sex		
Male	66	69
Female	30	31
Job		
Wiraswasta	70	73
ASN	28	27
Visit		
1 times	81	84
> 1 times	15	16
BPJS		
Yes	78	81
No	18	19
Income/Month (Rp)		
1-5 juta	40	42
5-10 juta	33	34
10-15 juta	23	24
Hospital visited		
Lam Wah Ee	24	25
Island	20	21
Adventist	23	24
Gleaneagles	17	18
Others	12	12

### 3.2 Types of health services conducted by people from Medan City in Penang Island Malaysia

The results of this research are in line with the research of Aulia (2014), that the type of health services most by people from North Sumatra in Penang Island are Medical Check Up (MCU) 27.89 percent, oncology services 9.49 percent, and cardiology services 8 , 92 percent.4

Table 2: Types of health services conducted by people from Medan City in Penang Island Malaysia

No	Health Service	n	%
1	Medical Check Up	68	71
2	Onkologi	12	12,5
3	Kardiologi	8	8,3
4	Neurologi	2	2
5	Lain-lain	6	6,2

### 3.3 Distribution of direct and indirect cost

Based on the table above it can be seen that the distribution of direct costs consists of doctors Rp. 672,097 or 8.2%, medicine Rp. 2,972,599 or 36.2%, hospitals Rp. 1,470,609 or 18%, and the distribution of indirect costs is lodging Rp. 812,057 or 9.8%, additional food Rp 641,097 or 7.8%, transportation Rp 1,321,599 or 16.1, souvenir Rp 319,095 or 3.8%. The total patient expenditure was IDR 8,209,154, with direct and indirect costs compared to IDR 5,115,305: IDR 3,093,849 or 62.3%: 44.7%. The total direct costs are Rp. 5,115,305 with the most distribution in drug costs, namely Rp. 2,972,599 or 36.2%, and the total indirect costs are Rp. 3,093,849 with the most distribution on transportation costs Rp. 1,321,599 or 16 , 1.

Table 3: Distribution of direct and indirect cost

Cost	Rp	%
Direct cost		
Doctor	672.097	8,2
Medicine	2.972.599	36,2
Hospital	1.470.609	18
Total	5.115.305	62,3
Indirect cost		
Residence	812.057	9,8
Extra food	641.097	7,8
	1.321.599	16,1
Transportation	319.095	3,8
Souvenir	3.093.849	37,6
Total		
Total cost	8.209.154	44,7

## 4.0 Discussion

Globalization is increasingly encouraging the growth of health tourism, countries in the world compete in providing the best health care facilities to attract people outside to get health services in their countries, such as Medan City people who seek treatment to Malaysia, namely to the island of Penang. This is accorded with research that stated over the past ten years, health tourism has increased rapidly as a global industry especially in developing countries (Wong, 2017)

Patients from North Sumatra are the most patients throughout the year in Penang Island Malaysia, this is in accordance with Island Hospital Patient Marketing and Service data quoted from Arifin (2018), not only from Jakarta, Surabaya, Medan, Bandung, but also many originating from regencies and cities in North Sumatra, such as Tapanuli, Tanah Karo, Simalungun, Pakpak Dairi, with funding for medical treatment in Penang which is very affordable at under RM 200 and patients only spend a few hundred ringgit again when they know what to do he did, even with a tour can even take the time to check and seek treatment when the problem is known from the start.<sup>12</sup>

This is also in line with data from the Malaysia Healthcare Travel Council (2019), until June 2019 there were 400,000 people doing medical affairs to Malaysia. Patients from North Sumatra (North Sumatra) in particular from the city of Medan around 40 to 50 percent, followed by patients from Jakarta, Surabaya, Banda Aceh, Riau and West Sumatra.<sup>13</sup>

Based on the research, it can be seen that the income of the respondents has been included in a good category, because the regional minimum wage in Medan is Rp 2,969,824, this is in line with the research which states that

Sarassati's research results (2008) stated that Medan City people who seek treatment to Penang have high middle-income level, high education, and generally have a history of less than pleasant treatment at Medan City health services, saying that services at the Penang Hospital are very well, pampering patients by giving comfort and performance to their professional pamedics.<sup>14</sup>

The results found that the most health service of community treatment in Penang is for medical check up. Based on interviews, patients said that when doctors in Medan diagnosed they had a certain disease, when they did treatment in Penang Island Malaysia they did not go to a poly diagnosis by doctors in Medan, but as new patients who were going to do medical check-ups, the goal was to ensure the correctness of the diagnosis received from Indonesian doctors. This is due to the lack of patient confidence in doctors in the city of Medan

Based on research it can be seen that expenditure for direct costs is more than indirect costs, this research are in line with Aulia's research that total expenditure of patient to seek treatment in Penang Island was IDR 11,251,182 with a comparison of direct and indirect costs were 51.29 percent for direct and 48.71% for indirect costs, where the largest distribution of direct costs is for hospital costs which is 25.91 percent and the largest distribution of indirect costs is for the cost of buying souvenirs 17.24 percent.<sup>6</sup>

In this study the largest expenditure is for medical support costs, medical support costs are costs incurred by patients who come from the city of Medan / in receipt of payment allocated

to activities that support treatment activities, such as costs for hospitalization, surgery costs, and laundry costs, then converted into Indonesian rupiah (IDR)

the largest indirect cost is for patient companion costs, patient companion costs are costs incurred by patients who come from the city of Medan to bear the companion / person who accompanied the patient during a health tour, namely the cost of lodging, transportation, and additional food then converted into Indonesian rupiah (IDR)

According to (Sherene, 2019), Malaysia has arranged that professionals in the medical field, such as doctors, cannot set prices, because there are laws that regulate if they are not allowed to charge patients at high prices. Besides Malaysia has set the cost of health services based on medical rules, Malaysia also set a package outside of medical services.

This is in line with research (Andrzej Tucki, et al, 2014) which states that one of the features of medical tourism offered by this country is the flexibility in the price of medical services to accommodate the facilities needed by consumers. In addition, international hospitals have adopted a philosophy of increasing packaged customer satisfaction by providing residential facilities at the waterfront, guides and night clubs

The impact of spending directly and indirectly on patients who do health tourism to Penang Island Malaysia is that Indonesia will lose foreign exchange annually, this is in accordance with Daniel's research (2019) which states that an increase in the number of medical treatment visits to Penang Island Malaysia causes Indonesia to lose foreign exchange. amounting to Rp 100 trillion every year. Another impact is the economic loss experienced by the community, even though the community does not need to pay direct and indirect costs when doing treatment in the country, because it is guaranteed with the National Health Insurance. Gradually the community will also lose trust in domestic health facilities, because the government is unable to provide adequate health facilities and be able to compete with existing health facilities abroad.

According to the Malaysia Tourism Board (2017), the large number of Indonesian tourists visiting is also supported by easy access, distance traveled, language that is easily understood, and the availability of tourist attractions. There are 600 Indonesian-Malaysian flights in a week with a flight duration of only 45 minutes, and prices vary from Rp 400,000 with various destinations, such as a place to seek treatment, rehabilitation, and recovery of certain diseases.<sup>16</sup>

According to Rambe (2015), external factors that cause the increasingly people to seek treatment abroad are more sophisticated and modern facilities and technology in hospitals/ health services (34%), and lower costs (26%). In addition, according to Arifin (2018) doctors in Penang are smarter, more attentive in caring for patients, more accurately detecting illnesses experienced by patients, drugs received by patients are more appropriate, and prices are not too expensive.<sup>12</sup>

According to Virgo (2019), Georgetown Specialist Hospital can accommodate 10,000-50,000 patients per month, and patients from Indonesia can reach 50 percent of the total patients, especially those who go to Island Hospital, Pantai Hospital, Sanway, Gleneagles, no less than one million people in a year.<sup>15</sup>

## 5.0 Conclusion and recommendation

The average of expenditure patient for medical tourism was IDR 10,079,250, the comparison of direct and indirect costs was 55.8%: 44.2% or IDR 5,625,305: IDR 4,453,945. It is recommended to the government to make regulations related to seeking treatment abroad, public expenditure for medical treatment abroad can save foreign exchange and can be used to improve the quality of domestic health services

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## Declaration

The authors declare that this article is our original work and has never been published before.

## Authors contribution

Author 1 : Research concepts and designs, preparing research proposal, collecting data, analyzing data, and writing manuscripts.

Author 2 : Research concepts and designs, supervising the research process, actively involved in data analysis, reviewing manuscripts and final editing.

Author 3: Research concepts and designs, supervising the research process, actively involved in data analysis, reviewing manuscripts and final editing.

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