

The Characteristics and Health Problems of International Tourists who Visited Sanglah General Hospital between 2017 and 2019

As características e problemas de saúde dos turistas internacionais que visitaram o Sanglah General Hospital entre 2017 e 2019

Características y problemas de salud de los turistas internacionales que visitaron el Hospital General de Sanglah entre 2017 y 2019

Received: 06/23/2022 | Reviewed: 07/21/2022 | Accept: 07/27/2022 | Published: 08/04/2022

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Abstract

Travel Medicine is one branch of medicine which specializes in preventing and treating medical problems for travelers especially when they are traveling. It is undeniable that there are differences in medical knowledge between developing and developed countries when dealing with traveler's health problems. The purpose of this study is to comprehend the characteristics and health problems of travelers who visited Sanglah General Hospital between 2017 and 2019. This is a descriptive study which used consecutive sampling in every medical record of the patients to study their health problems. Every medical record recorded the name, age, sex, health insurance, inpatient or outpatient, and diagnosis of the patients. As many as 618 subjects' medical record number was conducted at first with dominantly men (55.2%) and women (44.8%). The mean age of this study was 42,76 years old with the eldest age being 92 years old and the youngest being 18 years old. As many as 328 subjects (53.1%) of this study did not use health insurance and

only 290 subjects (46.9%) used health insurance. The number of outpatients, which was 564 subjects (91.3%), was much more than the number of inpatients in this study. Frequent health problems that subjects suffered were malignancy (solid and hematologic) 116 subjects (18.7%), kidney problem 107 subjects (17.3%), and accident (wounds, fracture and head trauma) 44 subjects (7.1%). Descriptive study among travelers is not usually done in our hospital and this is an elementary study so that in the future there will be more study for travelers.
Keywords: Travel medicine; Travel; Tourism.

Resumo

A medicina de viagem é um ramo da medicina especializado na prevenção e tratamento de problemas médicos para viajantes, especialmente quando estão viajando. É inegável que existem diferenças de conhecimento médico entre países em desenvolvimento e desenvolvidos ao lidar com problemas de saúde do viajante. O objetivo deste estudo é compreender as características e problemas de saúde dos viajantes que visitaram o Sanglah General Hospital entre 2017 e 2019. Este é um estudo descritivo que utilizou amostragem consecutiva em todos os prontuários dos pacientes para estudar seus problemas de saúde. Cada prontuário registrava nome, idade, sexo, plano de saúde, internação ou ambulatório e diagnóstico dos pacientes. O número de prontuários de 618 indivíduos foi realizado inicialmente com predominantemente homens (55,2%) e mulheres (44,8%). A média de idade deste estudo foi de 42,76 anos, sendo a idade mais velha 92 anos e a mais nova 18 anos. Até 328 sujeitos (53,1%) deste estudo não usavam plano de saúde e apenas 290 sujeitos (46,9%) usavam plano de saúde. O número de pacientes ambulatoriais, que foi de 564 sujeitos (91,3%), foi muito superior ao número de pacientes internados neste estudo. Os problemas de saúde frequentes que os sujeitos sofreram foram malignidade (sólida e hematológica) 116 sujeitos (18,7%), problema renal 107 sujeitos (17,3%) e acidente (feridas, fratura e traumatismo craniano) 44 sujeitos (7,1%). O estudo descritivo entre viajantes geralmente não é feito em nosso hospital e este é um estudo elementar para que no futuro haja mais estudos para viajantes.

Palavras-chave: Medicina de viagem; Viagem; Turismo.

Resumen

Travel Medicine es una rama de la medicina que se especializa en la prevención y el tratamiento de problemas médicos para los viajeros, especialmente cuando están de viaje. Es innegable que existen diferencias en el conocimiento médico entre los países en desarrollo y los desarrollados cuando se trata de problemas de salud de los viajeros. El propósito de este estudio es comprender las características y problemas de salud de los viajeros que visitaron el Hospital General de Sanglah entre 2017 y 2019. Se trata de un estudio descriptivo que utilizó muestreo consecutivo en cada historia clínica de los pacientes para estudiar sus problemas de salud. Cada expediente médico registró el nombre, edad, sexo, seguro médico, hospitalización o consulta externa y diagnóstico de los pacientes. Al principio, se realizó un número de registro médico de hasta 618 sujetos con predominantemente hombres (55,2%) y mujeres (44,8%). La edad media de este estudio fue de 42,76 años, siendo la mayor edad 92 años y la menor 18 años. Hasta 328 sujetos (53,1%) de este estudio no usaron seguro de salud y solo 290 sujetos (46,9%) usaron seguro de salud. El número de pacientes ambulatorios, que fue de 564 sujetos (91,3%), fue mucho mayor que el número de pacientes hospitalizados en este estudio. Los problemas de salud frecuentes que sufrieron los sujetos fueron malignidad (sólida y hematológica) 116 sujetos (18,7%), problema renal 107 sujetos (17,3%) y accidente (heridas, fracturas y traumatismo craneoencefálico) 44 sujetos (7,1%). El estudio descriptivo entre viajeros no se suele hacer en nuestro hospital y este es un estudio elemental por lo que en el futuro habrá más estudio para viajeros.
Palabras clave: Medicina de viaje; Viaje; Turismo.

1. Introduction

Travel medicine is a new branch of medicine that focuses on the prevention and treatment of international tourists' health problems especially during their travels. Travel medicine has become very complex due to the increase in the number of tourists, dynamic changes of the epidemiology of infectious diseases, and tourists with chronic diseases (Merati et al., 2019). The number of tourists who visited Bali in 2016 was 4.927.937 tourists which was a 23.14% increase compared to 2015 (Tunjungsari, 2018). In 2017, international visits increased to 5.697.739 tourists or about 15.62% with the majority being Chinese tourists (Yustiani, 2017). There was a further increase of 6.54% to 6.070.473 tourists in 2018 with the majority being Chinese and Australian tourists (Yustiani, 2018).

Tourists not only come from developing to developed countries but vice versa and so there is a difference in terms of knowledge regarding health problems. Until now the focus of medical practices, advices, and researches are mainly on tourists from developed countries who are traveling to developing countries (Wilder-Smith, 2017). Tourists from the Asia-Pacific region

account for 24% of all international travels and China being the largest contributor. Even so, up until now there are few health guidelines for developing countries' tourists about the epidemiology of diseases they might suffer from. The data compiled are mostly from pre-travel habits of developing countries which do not give heed to health principles, therefore currently many of the health providers in developing countries are changing the habits and behavior in order to educate the tourists leaving their country. Indonesia has its own way in conducting travel medicine with its main focus is to support the tourism industry and travelers' health which includes emergency medical evacuation (Leder et al., 2017).

Several studies have identified some severe risks of infectious diseases which can be avoided during travels. These studies show that tourists visiting family and relatives (VFR) have an increased risk of contracting infectious disease. Literature reviews also state that there was an increase of risk in the mid-year of 2000 and specific recommendations regarding the evaluation of these risks can be used as an advice for pre-travel consultations for a specific group of tourists. For almost two decades, approaches towards those risks are still deemed very minimal (Heywood & Zwar, 2018). In 2004, 11000 patients from other countries visited hospitals throughout Iran and this number increased to 17500 patients in 2005 (Zarchi, et al., 2013). Until now, the data on the number of international tourists who seek medical assistance in Indonesian health facilities are still very minimal.

This research is conducted with the purpose to comprehend the descriptive data of tourist patients who visited Sanglah General Hospital in Denpasar and it is hoped that this research will benefit in the improvement of travel medicine services in Sanglah General Hospital.

2. Methodology

This research is a descriptive type using systematic chart review in inpatients and outpatients located in Sanglah General Hospital. The population of this research included tourists who sought medical assistance in Sanglah General Hospital between 2017 and 2019. Consecutive sampling technique was used to collect all data of tourist patients as samples. Populations which met the criteria of inclusion and exclusion was chosen as research samples. The inclusion criterion of this research was tourist patients who visited Sanglah General Hospital with over 18 years of age and had clear diagnoses from medical records. The exclusion criterion of this research was tourist patients less than 18 years old and had no clear diagnoses from medical records. The characteristics of each sample were noted based on age, country of origin, ownership of health insurance, inpatient or outpatient, year of visit, and diagnosis.

Data were analyzed using the *Statistical Package for the Social Sciences* (SPSS) 24.0 version software. We first perform data normality test on the variables using Kolmogorov-Smirnov test with 95% CI (Confidence Interval). The data is said to be normally distributed if the p value > 0.05 while said to be not normally distributed if the p value < 0.05 and will be continued with non-parametric analysis. Variables will be reported in the form of mean (\pm standard deviation) if normally distributed and median (interquartile distance) if not normally distributed (Sugiyono, 2015). This research had been approved by the Commission of Ethics and Development from the Medical Faculty of Udayana University/Sanglah General Hospital in Denpasar, Bali.

3. Results

Research Characteristics of International Tourists in 2017

In 2017, there were a total of 489 tourist patients who visited Sanglah General Hospital with 265 male patients (54.2%) and 224 female patients (45.8%). The mean age of the patients was 41.48 years old with the youngest being 18 years old and the oldest being 92 years old. The patients' country of origin consisted of 227 patients from Asia (46.4%), 158 patients from Europe (32.3%), 57 patients from America (11.7%), 43 patients from Australia (8.8%), and 4 patients from

Africa (0.8%). As many as 328 patients (67.1%) came without owning health insurance and only 161 patients (32.9%) did. The number of patients included 191 inpatients (39.1%), 439 outpatients (89.8%), and 141 patients (28.8%) who were both. The number of patients who visited the Wing Amertha polyclinic were 193 patients (39.5%) as shown in Table 1.

Compared to the total of patient visits in Sanglah General Hospital in 2017, tourist patients' visit accounted for 0.10% of outpatients and 0.49% of inpatients. As many as 268 patients (54.8%) had their diagnosis stated in medical records, whereas there were 221 patients (45.2%) whose diagnosis couldn't be found in medical records.

Table 1. The characteristics of tourist patient in 2017.

| Characteristics | Tourists in 2017 (n= 489) | Percentage (%) |
|---------------------------|------------------------------|----------------|
| Age (year) | 41.48±15.60 | |
| Sex (M/F) | 265/224 | 54.2/45.8 |
| Country of Origin: | | |
| Asia | 227 | 46.4 |
| Europe | 158 | 32.3 |
| America | 57 | 11.7 |
| Australia | 43 | 8.8 |
| Africa | 4 | 0.8 |
| Health Insurance | 328 | 67.1 |
| Inpatient | 191 | 39.1 |
| Outpatient | 439 | 89.8 |
| International Wing Visits | 193 | 39.5 |

Source: Original Data.

Medical Diagnosis of International Tourists in 2017

The diagnoses of tourist patients who visited in 2017 could only be found in 268 patients (54.8%) with 144 (53.7%) in the field of medicine and 124 (46.3%) in the field of surgery.

The most frequent medical diagnoses were infectious diseases (including dengue, meningitis, malaria, human immunodeficiency virus, et cetera) which were recorded in 33 patients (12.3%) followed by Chronic Kidney Disease (CKD) in 32 patients (11.9%) then dyspepsia syndrome (including epigastric pain, acute gastritis, chronic gastritis, and gastroenteritis) in 15 patients (5.5%).

The most frequent surgical diagnoses were malignancy (cervical, mammae, nasopharyngeal, ovarian, rectal, testicular, and retroauricular carcinoma) in 30 patients (11.1%), followed by vulnus (including vulnus appertum, vulnus amputatum, vulnus excoriatum) in 28 patients (10.4%) then multiple trauma (including head injury and fracture) in 6 patients (2.2%).

Table 2. The diagnosis of international tourist who visited in 2017.

| No. | Medical Diagnosis | Total (patient) | Percentage (%) |
|-----|------------------------|-----------------|----------------|
| 1. | Chronic Kidney Disease | 32 | 11.9 |
| 2. | Infection | 32 | 11.9 |
| 3. | Solid Malignancy | 30 | 11.1 |
| 4. | Vulnus | 28 | 10.4 |
| 5. | Dyspepsia Syndrome | 16 | 5.9 |
| 6. | Multiple Trauma | 9 | 3.3 |
| 7. | Et cetera | 124 | 46.6 |
| | Total | 268 | 100 |

Source: Original Data.

Research Characteristics of International Tourists in 2018

In 2018, there were a total of 153 tourist patients who visited Sanglah General Hospital with 89 male patients (58.2%) and 64 female patients (41.8%). The mean age of the patients was 48.86 years old with the youngest being 20 years old and the oldest being 81 years old. The patients' country of origin consisted of 143 patients from Asia (93.5%), 8 patients from Europe (5.2%), 1 patient from America (0.7%), 1 patient from Australia (0.7%), and 0 patients from Africa (0.0%). As many as 142 patients (92.8%) came with health insurance and only 11 patients (7.2%) did not. The number of patients included 133 inpatients (86.9%), 151 outpatients (98.7%), and 131 patients (85.6%) who were both. The number of patients who visited the Wing Amertha polyclinic were 147 patients (96.1%) as shown in Table 3.

Compared to the total of patient visits in Sanglah General Hospital in 2018, tourist patients' visit accounted for 0.03% of outpatients and 0.28% of inpatients. As many as 139 patients (90.8%) had their diagnosis stated in medical records, whereas there were 14 patients (9.1%) whose diagnosis couldn't be found in medical records.

Table 3. The characteristics of tourist patient in 2018.

| Characteristics | Tourists in 2018 (n= 153) | Percentage (%) |
|---------------------------|------------------------------|----------------|
| Age (year) | 48.86±14.17 | |
| Sex (M/F) | 89/64 | 58.2/41.8 |
| Country of Origin: | | |
| Asia | 143 | 93.5 |
| Europe | 8 | 5.2 |
| America | 1 | 0.7 |
| Australia | 1 | 0.7 |
| Africa | 0 | 0.0 |
| Health Insurance | 142 | 92.8 |
| Inpatient | 133 | 86.9 |
| Outpatient | 151 | 98.7 |
| International Wing Visits | 147 | 96.1 |

Source: Original Data.

Medical Diagnosis of International Tourists in 2018

The diagnoses of tourist patients who visited in 2018 could only be found in 139 patients (90.8%) with 80 (57.6%) in field of medicine and 59 (42.4%) in the field of surgery.

The most frequent medical diagnoses were Chronic Kidney Disease (CKD) in 40 patients (28.7%) followed by hematologic disorders (including acute leukemia, chronic leukemia, aplastic anemia, lymphoma, and thalassemia) in 11 patients (7.9%) then cardiac disease (including coronary disease and chronic heart attack) in 10 patients (7.1%).

The most frequent surgical diagnoses were solid malignancy (cervical, mammae, nasopharyngeal, ovarian, rectal, parotid, testicular, buccal carcinoma, and osteosarcoma) in 41 patients (29.4%), followed by closed fracture in 2 patients (1.4%) then retina ablation in 2 patients (1.4%).

Table 4. The diagnosis of international tourist who visited in 2018.

| No. | Medical Diagnosis | Total (patient) | Percentage (%) |
|-----|------------------------|-----------------|----------------|
| 1. | Solid Malignancy | 41 | 29.4 |
| 2. | Chronic Kidney Disease | 40 | 28.7 |
| 3. | Hematologic Disorder | 11 | 7.9 |
| 4. | Cardiac Disease | 10 | 7.1 |
| 5. | Closed Fracture | 2 | 1.4 |
| 6. | Retina Ablation | 2 | 1.4 |
| 7. | Et cetera | 33 | 24.1 |
| | Total | 139 | 100 |

Source: Original Data.

Research Characteristics of International Tourists in 2019

In 2019, there were a total of 118 tourist patients who visited Sanglah General Hospital with 67 male patients (56.8%) and 51 female patients (43.2%). The mean age of the patients was 47.26 years old with the youngest being 19 years old and the oldest being 76 years old. The patients' country of origin consisted of 110 patients from Asia (93.2%), 4 patients from Europe (3.4%), 1 patient from America (0.8%), 3 patients from Australia (2.5%), and 0 patients from Africa (0.0%). As many as 109 patients (92.4%) came with health insurance and only 9 patients (7.6%) did not. The number of patients included 95 inpatients (80.5%), 116 outpatients (98.3%), and 93 patients (78.8%) who were both. The number of patients who visited the Wing Amertha polyclinic were 114 patients (96.6%) as shown in Table 5.

Compared to the total of patient visits in Sanglah General Hospital in 2019, tourist patients' visit accounted for 0.02% of outpatients and 0.20% of inpatients. As many as 104 patients (88.1%) had their diagnosis stated in medical records, whereas there were 14 patients (11.9%) whose diagnosis couldn't be found in medical records.

Table 5. The characteristics of tourist patients in 2019.

| Characteristics | Tourists in 2019 (n= 118) | Percentage (%) |
|---------------------------|------------------------------|----------------|
| Age (year) | 47.26±14.88 | |
| Sex (M/F) | 67/51 | 56.8/43.2 |
| Country of Origin: | | |
| Asia | 100 | 93.2 |
| Europe | 4 | 3.4 |
| America | 1 | 0.8 |
| Australia | 3 | 2.5 |
| Africa | 0 | 0.0 |
| Health Insurance | 109 | 92.4 |
| Inpatient | 95 | 80.5 |
| Outpatient | 116 | 98.3 |
| International Wing Visits | 114 | 96.6 |

Source: Original Data.

Medical Diagnosis of International Tourists in 2019

The diagnoses of tourist patients who visited in 2019 could only be found in 104 patients (88.1%) with 53 (51.0%) in field of medicine and 51 (49.0%) in the field of surgery.

The most frequent medical diagnoses were Chronic Kidney Disease (CKD) in 37 patients (35.5%) followed by hematologic disorders (including acute leukemia, chronic leukemia, hemophilia, and lymphoma) in 6 patients (5.7%) then diabetes mellitus (DM) in 4 patients (3.8%).

The most frequent surgical diagnoses were solid malignancy (including cervical, mammae, laryngeal, tongue, ovarian, rectal, colon carcinoma, osteosarcoma, and hemangioma) in 28 patients (26.9%), followed by orthopaedic treatment (including total knee replacement and closed fracture) in 3 patients (2.8%) then ureteral stone in 2 patients (1.9%) and retina ablation in 2 patients (1.9%).

Table 6. The diagnosis of international tourists who visited in 2019.

| No. | Medical Diagnosis | Total (patient) | Percentage (%) |
|-----|--|-----------------|----------------|
| 1. | Chronic Kidney Disease | 37 | 35.5 |
| 2. | Solid Malignancy | 28 | 26.9 |
| 3. | Hematologic Disorder | 6 | 5.7 |
| 4. | Diabetes Mellitus | 4 | 3.8 |
| 5. | Closed Fracture and Total Knee Replacement | 3 | 2.8 |
| 6. | Ureteral Stone | 2 | 1.9 |
| 7. | Retina Ablation | 2 | 1.9 |
| 8. | Et cetera | 22 | 21.5 |
| | Total | 104 | 100 |

Source: Original Data.

4. Discussion

The Visit Characteristics of International Tourists

The study that we had conducted included a large number of samples with the total of 618 patients as samples which were collected between January 2017 and December 2019. Our study showed that patient visits reached the largest number in 2017 with the number of 489 patients. This study showed that the number of male visitors (341/55.2%) were always a lot more from year to year compared to the number of female visitors (277/44.8%). The same results were found in a study by Griffiths et al (2018). The study by Griffiths et al (2018) was about tourists in France and the data were collected from 66 clinics with a total sample of 3460 patients which included 1852 male patients (53.53%) and 1598 female patients (46.18%) (Griffiths et al., 2018). As comparison, a study by Rack et al (2005) found different results where among the 658 tourist samples collected between July 2003 and June 2004 in Berlin, Germany, 318 were males (48.3%) and 340 were females (51.7%) (Rack et al., 2005).

The mean age of tourists in the study by Rack et al (2005) was 40,3 years old with the youngest being 18 years old and the oldest being 80 years old (Rack et al., 2005). Another study from Ireland by Han and Flaherty (2015) had a lower mean age at 31.68 years old (Han & Flaherty, 2015). Both studies had lower mean age compared to our study. From the international tourists who visited Bali between 2017 and 2019, our study gained a mean age of 42.76 years old with the youngest being 18 years old and the oldest being 92 years old. The highest mean age in our study was in 2018 with 48.86 years of age.

This study showed that from a total of 618 patients only 290 patients (46.9%) used health insurance, whereas 328 patients (53.1%) did not own nor use health insurance. A study by Rack et al (2005) found that from the 658 samples collected, 586 patients (86.3%) had health insurance (Rack et al., 2005). Health insurance could facilitate patients to obtain more optimal healthcare services. Our study found that although the ownership of health insurance in visiting tourists was low, if separated by each year the percentage of health insurance ownership in tourists was still high such as 328 patients (67.1%) in 2017, 142 patients (92.8%) in 2018, and 109 patients (92.4%) in 2019.

The study by Griffiths et al (2018) stated that from a total of 3460 tourists, 1326 were inpatients (38.32%) and 2124 were outpatients (61.39%) (Griffiths et al., 2018). Our study is similar in terms where there were 564 outpatients (91.3%) which was more than the number of inpatients. Same results were obtained if observed separately per year where there were 439 outpatients (89.8%) from a total of 489 tourist patients in 2017, 151 outpatients (98.7%) from a total of 153 tourist patients in 2018, and 116 outpatients (98.3%) in 2019.

The Diagnosis of International Tourists

Our study categorizes diagnosis based on the disease whether medical or surgical. The result from our study found that quite a lot of patients did not have a certain diagnosis which made it difficult to be categorized. In 2017, there were 268 patients with 144 patients (53.7%) categorized as medical disease and 124 patients (46.3%) categorized as surgical disease. Visits in 2018 experienced a decline which in turn resulted in the decline of number of patients where only 139 patients had certain diagnosis with 80 patients (57.6%) categorized as medical disease and 59 patients (42.4%) categorized as surgical disease. In 2019, there were a total of 104 patients with 53 patients (51%) categorized as medical disease and 51 patients (49%) categorized as surgical disease. A study by Kniestedt & Steffen (2004) categorized diagnoses based on illness (including cerebrovascular, cardiovascular, thrombosis, diarrhea, breathing disorder, kidney disease, infection, and malignancy) and accident. The study showed that from the 242 medical records of tourists analyzed between the year of 1997 and 1998, 168 patients (69.4%) suffered from illness whereas only 74 patients (30.6%) suffered from accident (Kniestedt & Steffen, 2004).

Our study found that the medical diseases observed between 2017 and 2019 were mostly patients with Chronic Kidney Disease and had experienced a rise in percentage from year to year which was 32 patients (11.9%) in 2017, 40 patients (28.7%) in 2018, and 35 patients (35.5%) in 2019. In the study by Kniestedt and Steffen (2004) there were 7 patients (2.8%) who suffered from kidney disease which was lower compared to our study. Sanglah General Hospital in Denpasar is a referral hospital for East Indonesia including Timor Leste. In our study, most of the patients presented with kidney disease were from Timor Leste whether for a diagnosis or a hemodialysis procedure or a kidney transplant.

Infection is one of the health problems suffered by tourists visiting tropical countries. The study by Kniestedt & Steffen (2004) stated that infection was the main health problem suffered among tourists which accounted for 67 patients (27.6%) (Kniestedt & Steffen, 2004). The majority of infection cases found in the study by Griffiths et al (2018) were malaria in 797 patients (23.03%) followed by dengue in 96 patients (2.77%) (Griffiths et al., 2018). In our study, infection ranked in the top three medical disease diagnosis in the year of 2017 with a total of 32 patients (11.9%). The majority of infection cases were dengue in 4 patients (12.5%) and only 1 patient with malaria (3.1%) which were lower compared to the study by Griffiths et al (2018). Our study in 2018 and 2019 did not find any cases of dengue nor malaria infections. A study by Gandamayu et al (2016) which sampled patients in one of the private hospitals in Bali showed a total of 8 tourist patients (21.6%) suffered from dengue (Gandamayu, et al., 2016).

The study by Rack et al (2005) stated that the main health problem patients suffered from was gastrointestinal disease in 228 patients (34.6%) with the most common diagnosis being gastroenteritis (36.4%) (Rack et al., 2005). The study by Gandamayu et al (2016) in Bali obtained a lower result with only 2 patients (7.6%) suffered from gastroenteritis compared to patients with other gastrointestinal disease (Gandamayu et al., 2016). Our study was done in a group of 16 patients (5.9%) with dyspepsia syndrome and only 1 patient (6.2%) suffered from gastroenteritis. The majority of diagnosis was gastritis, both chronic and acute, in 4 patients (25%). Our study had lower result in the diagnosis of gastroenteritis compared to other studies. A literature review by Angelo et al (2017) on international tourists found that from the analysis of 8 different studies, the most common disease was diarrhea/gastroenteritis (Angelo, et al., 2017).

This certain condition found in our study was due to the fact that Sanglah General Hospital was a referral hospital in Bali, therefore patients who suffered from gastroenteritis without complications and could be treated in grade I clinics or grade II hospital wouldn't be referred to Sanglah General Hospital.

Our study on the diagnosis of hematologic disorder reached its highest number in 2018 whereas it did not rank in the top three medical diagnoses in 2017. In 2018, there were 11 patients (7.9%) with hematologic disorder who visited Sanglah General Hospital and 6 patients (5.7%) in 2019. The most common diagnosis was leukemia in 5 patients (45.4%) in 2018 and 3 patients (50%) in 2019. The study by Kniestedt and Steffen (2004) only found 3 tourist patients (1.2%) who suffered from malignancy, but was not specific on what kind of malignancy (Kniestedt & Steffen, 2004). In our study, solid malignancies including ovarian, parotid, cervical, mammae, laryngeal, tongue, rectal, colon carcinoma, osteosarcoma, and hemangioma were categorized into the surgical field. There were 30 patients (11.1%) suffering from malignancy in 2017 followed by 41 patients (29.4%) in 2018 and 28 patients (26.9%) in 2019. The most common cases were patients suffering from mammae carcinoma with 13 patients (43.3%) in 2017, 15 patients (36.5%) in 2018, and 11 patients (39.2%) in 2019. Our study in this group of solid malignancies had higher results compared to the study by Kniestedt and Steffen (2004). This condition may be due to the fact that Sanglah General Hospital was a referral hospital for patients with solid malignancy, thus tourist patients with the diagnosis of solid malignancy would often seek medical assistance here.

The study by Kniestedt and Steffen (2004) showed that from a total of 242 tourists, as many as 20 patients (8.2%) suffered from cardiovascular disease (Kniestedt & Steffen, 2004). The study by Gandamayu et al (2016) showed only 4 patients suffering from cardiovascular disease (Gandamayu et al., 2016). As comparison, our study showed that

cardiovascular disease was quite common among tourists who visited Sanglah General Hospital in Denpasar. Cardiovascular disease has high incidence rate in 2018 where there were 10 patients (7.1%) with this disease.

Driessen et al (1999) conducted an evaluation on metabolism disorders, complications in infections, and other health problems in patients suffering from Diabetes Mellitus who were traveling to tropical countries. Among these tourist patients, 68% suffered from metabolism disorder and 36% of those cases showed a rise in blood sugar. This study also reported that 3 patients experienced fever which disrupted their blood sugar and 5 patients had to change their insulin dose as they were not accustomed to tropical conditions (Driessen, et al., 1999). A literature review from Morteza et al (2015) stated that the regulation of blood sugar level during travel needed special attention and planning before the travel itself (Morteza, Met al., 2015). A study by Han and Flaherty (2015) showed that there were 30 patients (1.1%) who traveled with Diabetes Mellitus comorbid and under medication (Han & Flaherty, 2015). Our study did not have many tourist patients with type 2 Diabetes Mellitus between 2017 and 2019. Most patients with Diabetes Mellitus visited in 2019 where there were 4 patients (3.8%). In 2018, there were only 2 patients (1.4%) suffering from Diabetes Mellitus. There were also 2 patients (0.74%) in 2017 and one of which suffered from ketosis.

Our study showed that there were quite a lot of multiple traumas (accident) cases in tourists. Cases of multiple traumas including head injuries, fractures, and vulnus were frequent in 2017. In total there were 9 patients (3.3%) with 4 patients (44%) suffering from head injury and 5 patients (56%) suffering from fracture. In the study by Gandamayu et al (2016) there were 3 patients (1.6%) suffering from head injury and 8 patients (4.41%) suffering from fracture (Gandamayu et al., 2016). Our study had more cases of head injury due to Sanglah General Hospital being a referral hospital for trauma incidences. There were no cases of head injury in Sanglah General Hospital during 2018 and 2019. There were 2 cases of fracture (1.4%) in 2018 and only 1 case (0.96%) in 2019. The study by Kniestedt & Steffen (2004) had more patients with multiple traumas which were 74 patients (30.6%) in total (Kniestedt & Steffen, 2004).

A conducted study by Farnham et al (2017) from January 2015 to October 2015 found that 53 tourists had problems requiring surgical procedures which included 17 patients (22.7%) who had road traffic accident, 30 patients with fall injury or vulnus appertum from sharp objects (knives or glass), and 11 patients (14.7%) who were bitten by animals (Farnham et al., 2017). Our study found that the number of patients with vulnus were less compared to the study by Farnham et al (2017) where there were only 28 patients (10.4%) with the most frequent case being vulnus appertum (75%). Our study had more vulnus appertum cases compared to the study by Gandamayu et al (2016) which only had 11 patients (6.07%) (Gandamayu et al., 2016). Vulnus cases were not found in 2018 whereas there were only 1 patient (0.96%) in 2019.

5. Conclusion

This study is a descriptive study on tourists who visited Sanglah General Hospital during the period between January 2017 and December 2019. Our study found that the most visits were in 2017 and the least were in 2019. The tourists who visited were mostly males than females and the majority of tourists came from Asia between 2017 and 2019. There were more tourists without health insurance and more outpatients. In terms of the field of disease, there were more in the field of medicine than in the field of surgery from 2017 to 2019.

This study is the beginning for other studies to improve the service quality in Sanglah General Hospital for tourists visiting Bali. The lacking of this study was difficulty in collecting medical records and diagnoses of the tourists, thus many data were not obtained by researchers. We suggest that further researches and articles could have more detailed analysis if it were possible to have more access to patients' medical records.

Acknowledgments

The authors would like to acknowledge the director of Udayana University Hospital Dr. dr. I Dewa Made Sukrama, M.Si, Sp. MK(K) and the dean of Faculty of Medicine Udayana University Dr. dr. Komang Januartha Putra Pinatih, M.Kes.

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