

BAB 5

KESIMPULAN DAN SARAN

5.1 Kesimpulan

Berdasarkan hasil penelitian yang berjudul Studi Biaya Kemoterapi Gemcitabine Kombinasi Cisplatin dengan Gemcitabine Kombinasi Carboplatin pada Pasien Kanker Paru di RSUD DR. Soetomo Surabaya selama periode Januari 2013 sampai Desember 2016 diperoleh kesimpulan sebagai berikut :

1. Besar biaya kemoterapi rata rata pasien kanker paru di RSUD Dr. Soetomo Surabaya yang diberikan kemoterapi gemcitabine kombinasi cisplatin adalah Rp21.483.870,00 pada tiga siklus pengobatan dan Rp28.103.588,00 pada empat siklus pengobatan. Besar biaya kemoterapi rata rata pasien kanker paru di RSUD Dr. Soetomo Surabaya yang diberikan kemoterapi gemcitabine kombinasi carboplatin adalah Rp18.819.109,00 pada tiga siklus pengobatan dan Rp20.802.204,00 pada empat siklus pengobatan.
2. Besar biaya medik langsung rata -rata pasien kanker paru yang diberikan kemoterapi gemcitabine kombinasi cisplatin di RSUD Dr. Soetomo Surabaya pada tiga siklus pengobatan yaitu Rp44.918.968,00 kelas perawatan I. Besar biaya medik langsung rata-rata pasien kanker paru yang diberikan kemoterapi gemcitabine kombinasi cisplatin di RSUD Dr. Soetomo Surabaya pada empat siklus pengobatan yaitu Rp37.895.834,00 kelas perawatan III. Besar biaya medik langsung rata -rata pasien kanker paru yang diberikan kemoterapi gemcitabine kombinasi carboplatin di RSUD Dr. Soetomo Surabaya pada tiga siklus pengobatan yaitu Rp41.934.530,00 kelas perawatan II dan

Rp28.512.342,00 kelas perawatan III. Besar biaya medik langsung rata-rata pasien kanker paru yang diberikan kemoterapi gemcitabine kombinasi carboplatin di RSUD Dr. Soetomo Surabaya pada empat siklus pengobatan yaitu Rp81.012.315,00 kelas perawatan VIP, Rp87.714.981,00 kelas perawatan UTM, Rp49.257.495,00 kelas perawatan 1, Rp43.173.970,00 kelas perawatan II, dan Rp34.628.993,00 pada kelas perawatan III.

3. Terdapat perbedaan biaya kemoterapi regimen Gem/Cis dan regimen Gem/Carb dengan selisih yaitu Rp2.6644.761,00 pada tiga siklus pengobatan dan Rp Rp7.301.384,00

5.2 *Saran*

1. Perlu dilakukan analisis lanjutan yaitu analisi efektifitas biaya untuk mengetahui dan menentukan dengan pasti terapi yang paling efektif dan efisien diantara kedua kemoterapi.
2. Pada penelitian selanjutnya diperlukan penambahan jumlah sampel.

DAFTAR PUSTAKA

- Akgun, K.M., Crothers K. and Pisani M, 2012, Epidemiology and management of common pulmonary diseases in older persons, *J. Gerontol A Biol Sci Med Sci*, **67(3)**: 276 – 91.
- Alfiasari, N.R. 2007, ‘ Studi penggunaan obat kemoterapi pada pasien kanker paru’, *Skripsi*, Sarjana Farmasi, Universitas Airlangga, Surabaya.
- American Cancer Society, 2016, *Cancer Fact and Figures 2016*, diakses pada 4 Mei 2016, Available online at www.cancer.org> content> acspc – 047079.
- American Joint Committee on Cancer, 2010, *Lung Cancer Staging 7th ed*, diakses pada 2 Juni 2016, Available online at <https://www.cancerstaging.org>
- Andayani, T.M, 2013, *Farmakoekonomi Prinsip Dan Metodologi*, Bursa Ilmu, Yogyakarta.
- Apdani, R. 2011, ‘ Karakteristik penderita kanker paru yang dirawat inap di bangsal paru Rumah Sakit Umum dr.Soedarso Pontianak periode 1 Januari 2006 – 31 Desember 2010’, *Skripsi*, Sarjana Kedokteran, Universitas Tanjung Pura, Pontianak.
- BCCA, 2016, Protocol summary for treatment of NSCLC in patient with gemcitabine carboplatin, diakses pada 7 Agustus 2016, Available online at www.bccancer.bc.ca/Legal.htm.
- BCCA, 2016, Protocol summary for treatment of NSCLC in patient with gemcitabine cisplatin, diakses pada 7 Agustus 2016, Available online at www.bccancer.bc.ca/Legal.htm.
- Chen, J., Pan, Q.S., Hong, W., Pan, J., Zhang, W.H., Xu, G.and Wang, Y.M, 2014, Use of an artificial neural network to predict risk factors of nosocomial infection in lung cancer patients, *Asian Pae Journal Cancer*, **15(13)** : 5349 – 5353.
- Dutkowska, A.E. and Antczak, A. 2016, Comorbidities in Lung Cancer, *Pneumonol Alergol Pol*, **1(84)** :186 – 192.

- Bootman, J. L., Townsed, R. J. and McGhan, W. F, 2005, *Principle of Pharmacoeconomics 3rd ed.* Harvey Whitney Books Company. Cincinnati.
- Bootman, J. L., Townsed, R. J. and McGhan, W.F, 2009, *Principle of Pharmacoeconomics 3rd ed.* Harvey Whitney Books Company. Cincinnati.
- Canadian Cancer Society, 2015, *Anatomy and Physiology of Lungs*, diakses pada 4 Juni 2016, available online at <http://www.cancer.ca/en/cancer-information/cancer-type/lung/anatomyandphysiology/?region=on> .
- Castria, T.B., da Silva, E.M.K., Gois, A.F.T. and Riera, R, 2013, Cisplatin versus carboplatin in combination with third-generation drugs for advanced non small cell lung cancer, *Cochrane Database of Systematic Reviews*, **1(27)** : 60-90.
- Chu, E., Ramaekers, R., Harrold, L. J., Tiedemann, D. And Copur, M. S. 2015, “Chemotherapeutic and Biologic Drugs”, in Chu, E. And Devita, V. T., *Physicians’ Cancer Chemotherapy Drug Manual 2015*, 15th ed., Jones and Barlett Learning, Burlington, pp 88, 108, 222.
- Devesa, S.S., Bray, F., Vizcaino, A.P. and Parkin, D.M, 2005, International lung cancer trends by histologic type : male : female differences diminishing and adenocarcinoma rate rising, *International Journal Cancer*, **32 (117)** : 294- 9.
- Dipiro, J. T., Talbert, R.L., Yee, G.C., Matzke., G.R., Wells, B.G. and Posey, L.M, 2005, *Pharmacotherapy a pathophysiologic approach 6th ed.* McGraw- Hill Companies, USA.
- Dipiro, J. T., Wells, B. G., Dipiro, C. V. and Schwinghammer, T. L, 2015, *Pharmacotherapy Handbook 9th ed.* McGraw-Hill Companies, USA.
- Duchene, C.C., Krupitskaya, Y., Ganjoo, K., Lavori, P., McMilan, A., Kumar, A, *et al*, 2010, A Phase II Study of Gemcitabine, Carboplatin, and Bevacizumab in Advanced Stage Nonsquamous Non Small Cell Lung Cancer, *Journal Thoracic Oncology*, **1(5)** : 1825.
- Ferry, D., Billingham, L., Jaret, H., Dunlop, D., Woll, P.J. and Nicolson, M., Shah, R.,Thompson, J., Spicer, J., Muthukumar, D., Skales, G., Leonard, P., Chetiyawardana, A.D., Wells, P., Lewanski, C., Crosse,

- B., Hill, M., Gaunt, P. And O'Byrne, K. 2017, Carboplatin versus two doses of cisplatin in combination with gemcitabine in the treatment of advanced non-small lung cancer : Results from a British Thoracic Oncology Group randomised phase III trial, *European Journal Of Cancer*, **1(83)** : 302- 312.
- Genestreti, G., Giovanni, N., Frizziero, M., Maglie, M., Sanna, S., Cingarlini, S., Molino, A.M., Piciucchi, S., Cetto, G.L and Santo, A. 2011, Carboplatin and Gemcitabine in firts-line treatment of elderly patients with advanced non –small cell lung cancer : data from a retrospective study, *Journal Chemotherapy*, **23(4)**:232-237
- Gomez, J. E, 2010, ” Evaluation and Treatment of Lung and Bronchus Cancer”, in Stubblefield, M.D. and O'Dell, M.W., *Synopsis of Clinical Oncology.*, Demos Medical Publishing, USA, pp 210-214.
- Haryati., Bakhriansyah, M. dan Nuraisah, S.K. 2013, Profil penderita kanker paru primer di Rumah Sakit Umum Daerah Ulin Banjarmasin tahun 2006-2011, *Jurnal Respirology Indonesia*, **2(33)**: 50-6.
- Ibrahim, W.H., Rasul, K.I., Khinji, A., Ahmed, M.S. and Bener, A. 2010, Clinical and epidemiological characteristics of lung cancer cases in Qatar, *Eastern Mediterranean Health Jurnal*, **1 (16)** : 2.
- Islam, M.K.M., Jiang, X., Anggondowati, T., Lin, G. And Ganti, A.K, 2015, Comorbidity and survival in lung cancer, *Journal American Association For Cancer Research*, **2(37)** : 37-60
- International Agency For Research On Cancer, 2012, *Lung Cancer Epidemiology*, diakses pada 25 Juni 2016, available online at <http://www.iarc.fr>.
- Kang, S., Koh, E.S., Vinod, S.K.and Jalaludin. 2012, Cost analysis of lung cancer management in South Western Sydney, *Journal Medicine Imaging and Radiation Oncology*, **56(2)** : 235-41.
- Kementerian Kesehatan RI, 2015, *Panduan Nasional Penanganan Kanker Paru*, Jakarta : Komite Nasional Penanggulangan Kanker.
- Kementerian Kesehatan RI, 2013, *Pedoman Penerapan Kajian Farmakoekonomi*, Jakarta : Kementerian Kesehatan Republik Indonesia.
- Kementerian Kesehatan RI, 2014, *Direktorat Penyakit Tidak Menular*, Jakarta:Kementerian Kesehatan Republik Indonesia.

- Kementerian Kesehatan RI, 2011, *Pedoman interpretasi data klinik*, Jakarta : Kementerian Kesehatan Republik Indonesia.
- Kelland, I.R. and Farell, N.P, 2002, *Cancer drug and development platinum based drug in cancer therapy*, Humana Press, Totowa.
- Klamerus, F. J., Brahmier, J. R. and Ettinger, D.S, 2011, *Panduan untuk Penderita Kanker Paru*, Diterjemahkan dari Bahasa Inggris oleh Melviawati, Indeks, Jakarta.
- Kligerman, S and White, C, 2011, Epidemiology of lung cancer in women : risk factor, survival, and screening, *Am Roentg Ray Soc*, **2(196)** : 287 -95.
- Kumar, V., Abbas, A.K., Aster, J.C. and Robbins, S. L, 2012, *Robbins Basic Pathology* 9th ed. Elseviers Saunders, Philadelphia. London Cancer Alliance. 2014. Side Effect Chemotherapy Lung Cancer. Diakses pada tanggal 20 november 2017, available online at www.londoncanceralliance.nhs.uk
- Marta, B, 2010, ‘Karakteristik penderita kanker paru rawat inap di Rumah sakit Umum dr. Pirngadi Medan tahun 2005 – 2009’, *Skripsi*, Sarjana Kesehatan Masyarakat, Universitas Sumatera Utara, Medan.
- Marleen, F.S., Syahrudin, E., Hudoyo, A.and Endarjo, S, 2009, Ekspresi protein BCL-2 pada sediaan blok parafin jaringan kanker paru, *Journal Respirology Indonesia*, **29(4)** : 210 – 6.
- MIMS. 2016, *Drug Information*. Diakses pada 10 Oktober 2016, <https://www.mims.com>
- Morin, P. J., Trent, J. M., Collins, F. S. and Vogelstein, B. 2010, “ Cancer Genetics”, in Longo, D.L., *Horrison’s Hematology and Oncology*, 17th ed., McGraw- Hill Companies, **1(2)** : 284.
- National Cancer Institute, 2012, *What you Must Know about Lung Cancer*, Diakses pada 25 Juni 2016, <https://www.cancer.gov>.
- National Cancer Institute. 2014, *What you Must Know about Lung Cancer*, Diakses pada 4 Mei 2016, <https://www.cancer.gov>
- National Cancer Institute. 2015, *What you Must Know about Lung Cancer*, Diakses pada 1 April 2016, <https://www.cancer.gov>
- National Comprehensive Cancer Network. 2015, *Non- Small Lung Cancer*, Diakses pada 4 April 2016, USA : NCCN.org/patients.

- National Comprehensive Cancer Network. 2013, *Non- Small Lung Cancer*, Diakses pada 4 April 2016, USA : NCCN.org/patients.
- National Comprehensive Cancer Network. 2016, *Non- Small Lung Cancer*, Diakses pada 4 April 2016, USA : NCCN.org/patients
- Neal, J. A. and Hoskin, P. J, 2009, *Clinical Oncology Basic Principle and Practice* 4th ed. CRC Press, USA.
- Novia, J. 2016, 'Biaya pengobatan pasien kanker paru karsinoma non sel kecil stadium lanjut (III-IV) yang mendapat kemoterapi di Rumah Sakit Kanker Dharmais Jakarta', *Tesis*, Magister Kedokteran, Universitas Gadjah Mada, Yogyakarta.
- Padzur. 2003, *Mual dan muntah pada pasien dengan kemoterapi*, diakses pada tanggal 21 Mei 2012, Available online at <http://www.cribd.com/doc/35152956/Evaluasi-mualmuntah-pasien-kemoterapi-html>.
- Perhimpunan Dokter Paru Indonesia, 2003, *Kanker Paru : Pedoman Diagnosis dan Penatalaksanaan*, Jakarta : Perhimpunan Dokter Paru Indonesia.
- Praja, L.R., Octora, T.N., Nugraha, R.A., Jonathan, M., Sunaryo, M.Y. dan Pradjoko, I. 2013, 'Karakteristik patologis kanker paru dari penelitian berbasis populasi : umur, jenis kelamin, dan gambaran histopatologi' *Skripsi*, Sarjana Kedokteran, Universitas Airlangga, Surabaya.
- Pusat Data dan Informasi Kementerian Kesehatan RI, 2014, *Perilaku merokok masyarakat Indonesia berdasarkan Riskesdas 2007 dan 2013*, SN 2442-7659, Jakarta: Kementerian Kesehatan Republik Indonesia.
- Rusady, M.A, 2016, 'Peranan BPJS kesehatan dalam peningkatan pelayanan kesehatan', BPJS Kesehatan. *Rapat Kerja Nasional 2017*, **1(2)** : 30.
- Saha, A and Rudd, R. 2006, Gemcitabine and carboplatine : is this best combination for non small cell lung cancer, *Journal Expert Review of Anticancer Therapy*, **(1) 6** : 2.
- Saksari, E.S, 2014, 'Karakteristik penderita kanker paru di ruang rawat inap kanker RSUD Dr. Zainoel Abidin Banda Aceh Tahun 2013', *Skripsi*, Sarjana Kedokteran, Universitas Syiah Kuala.

- Schrump, S. D., Carter, D., Kelsey, C. R., Marks, B. L. and Giaccone, G. 2011, “ Non- Small Cell lung Carcinoma”, in Devita, V. T., Lawrence, T. S. and Rosenberg, S. A., *Cancer Principle and Practice Oncology*, 19th ed., Lippincott William and Wilkins, Philadelphia, pp 802- 804.
- Sherwood, L. 2016, *Human Physiology from Cell to System* 9th ed. Cengage Learning, USA.
- Shresta, H.G., Chokhrani R. and Dhakhwa R, 2010, Clinicopathologic profile of bronchogenic carcinoma, *Journal of Nepal Medical Association*, **49 (178)** : 100 - 3
- Silverthorn, D. V, 2012, *Human Physiology an Integrated Approach*. Pearson, USA.
- Skaug, K., Eide, G.E. and Gulsvik, A. 2008, Hospitalization days in patient with lung cancer in a general population, *Journal Respiratory Medicine*, **2 (103)**:1941 – 1948
- Soedarto. 2016, *Infeksi Nosokomial di Rumah Sakit*. Sagung Seto, Jakarta.
- Stabile, L.P. and Siegfried, J.M.2004, ‘Estrogen receptor pathways in lung cancer. *Journal Current Oncology Reports*, (1) **6**: 259–267
- Syahruddin, E., dan Jusuf, A. 2015, *Pedoman Nasional untuk Diagnosis dan Penatalaksanaan di Indonesia*. PT MarkindoAnugrah Citra Pratama, Jakarta.
- Syahruddin, E., Pratama, A.D. dan Arief, N.A. 2010, A retrospective study : Clinical and diagnostic characteristic in advanced stage of lung cancer patients with fleural effusion in Persahabatan Hospital 2004 – 2007, *Journal Respirology Indonesia*, (2)**30** : 146- 151.
- Travis, W.D. 2011, *Phatology of Lung Cancer*, ClinChestMed, USA.
- Tilden, D.P., Aristides, M., Stynes, G., Kielhorn, A. and Bhalla, S. 2002, *A comparison of the cost og gemcitabine/cisplatin and gemcitabine carboplatin combination regimens in the treatment of advanced NSCLC in The UK and France*, Eli Lilly, United Kingdom.
- Trevor, S.A., Katzung, B.G., Hall, M.K. and Masters, S.B, 2013, *Pharmacology Examination and Board Review* 10th ed. McGraw-Hill Companies, USA.
- Ved, P., Kant, S., Prasad, R., Bhatt, M.L.B., Kushwaha, R.A.S., and Hassan, G. 2010, A Randomized Study of Gemcitabine Monotherapy Versus

Etoposide/ Cisplatin in the Treatment of Locally Advanced or Metastatic Non Small Cell Lung Carcinoma, *Journal Biomed Science and Respirology*, **2(3)** : 119-125.

- Vogenberg, F. R. 2001, *Introduction to Applied Pharmacoeconomics*. McGraw-Hill, USA.
- Wahyuni, T.D., Swidarmoko, B., Rogayah, R. dan Hidayat, H. 2011, The positive result of cytology brushing at flexible fiberoptic bronchoscopy compared with transthoracic needle aspiration in central lung tumor, *Journal Respirology Indonesia*, **1(31)** : 1-31
- Wozniak, A. J. and Gadgeel, S.M, 2010, “ Clinical Presentation of Non-Small Carcinoma of the Lung”, in Pass, H.I., Carbone, D.P., Johnson, D.H., Minna, J.D., Scagliotti, G.V. and Turrisi, A.T., *Principles and Practice of Lung Cancer*, 4th ed., Lippincott William and Wilkins, Philadelphia, pp 327- 337.
- Yusuf, S. F. 2015, *Metodologi Penelitian Kesehatan*. Darmais Press, Padang Sidempuan.