

BAB 7

KESIMPULAN DAN SARAN

7.1 Kesimpulan

Pada penelitian ini yang dilakukan terhadap 138 wanita gemuk di POSA dari tahun 2013-2017, terdapat perbedaan bermakna antara estrogen reseptor positif pada wanita belum menopause dan sudah menopause.

7.2 Saran

Penelitian ini menunjukkan adanya perbedaan bermakna estrogen reseptor positif (ER+) pada wanita gemuk belum menopause dan sudah menopause, namun peneliti sadar bahwa penelitian ini sebaiknya diteruskan dengan memperhatikan :

1. Peneliti selanjutnya tidak hanya menganalisa reseptor hormonal estrogen (ER) saja namun dapat menganalisa hasil pemeriksaan imunohistokimia yang lain.
2. Desain penelitian dengan case control lebih baik karena dapat melihat perbedaan pada wanita yang tidak gemuk, serta desain penelitian cohort karena dapat melihat apakah wanita yang baru saja gemuk dapat meningkatkan risiko kanker payudara.

DAFTAR PUSTAKA

1. Cancer [Internet]. World Health Organization. 2018 [cited 20 April 2018]. Available from: <http://www.who.int/mediacentre/factsheets/fs297/en/>
2. Breast cancer: prevention and control [Internet]. World Health Organization. 2018 [cited 20 April 2018]. Available from: <http://www.who.int/cancer/detection/breastcancer/en/index1.html>
3. Tao Z, Shi A, Lu C, Song T, Zhang Z, Zhao J. Breast Cancer: Epidemiology and Etiology. *Cell Biochem Biophys*. 2014;72(2):333-338.
4. Hamdy O. Obesity: Practice Essentials, Background, Pathophysiology [Internet]. *Emedicine.medscape.com*. 2018 [cited 20 April 2018]. Available from: <https://emedicine.medscape.com/article/123702-overview#a5>
5. Rose D, Vona-Davis L. Influence of obesity on breast cancer receptor status and prognosis. *Expert Rev Anticancer Ther*. 2009;9(8):1091-1101.
6. Hall J, Guyton A. *Guyton and Hall textbook of medical physiology*. 12th ed. Philadelphia, PA: Saunders/Elsevier; 2011. Chapter 81, Female Physiology Before Pregnancy and Female Hormones; p. 991-4, 999.

7. Biglia N, Peano E, Sgandurra P, Moggio G, Pecchio S, Maggiorotto F et al. Body mass index (BMI) and breast cancer: impact on tumor histopathologic features, cancer subtypes and recurrence rate in pre and postmenopausal women. *Gynecol Endocrinol.* 2012;29(3):263-267.
8. Crispo A, Montella M, Buono G, Grimaldi M, D'Aiuto M, Capasso I et al. Body weight and risk of molecular breast cancer subtypes among postmenopausal Mediterranean women. *Curr Res in Trans Med.* 2016;64(1):15-20.
9. Yanai A, Miyagawa Y, Murase K, Imamura M, Yagi T, Ichii S et al. Influence of body mass index on clinicopathological factors including estrogen receptor, progesterone receptor, and Ki67 expression levels in breast cancers. *International Journal of Clinical Oncology.* 2013;19(3):467-472.
10. Sahin S, Erdem G, Karatas F, Aytekin A, Sever A, Ozisik Y et al. The association between body mass index and immunohistochemical subtypes in breast cancer. *The Breast.* 2017;32:227-236.
11. Brief History of Breast Cancer [Internet]. [Ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov/). 2014 [cited 16 April 2018]. Available from:

[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4117655/pdf/squ
mj1403-e319-322.pdf](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4117655/pdf/squ
mj1403-e319-322.pdf)

12. Delort L, Rossary A. Leptin, adipocytes and breast cancer: Focus on inflammation and anti-tumor immunity. *Life Sci.* 2015;140:37-48.
13. Situasi Kanker [Internet]. 2018 [cited 16 April 2018]. Available from:
<http://www.depkes.go.id/resources/download/pusdatin/infodatin/infodatin-kanker.pdf>
14. Kumar V, Abbas A, Aster J, Perkins J. Robbins basic pathology. 10th ed. Chapter 19, Female Genital System and Breast. Philadelphia, Pennsylvania: Elsevier; 2018. p.740-745.
15. Pedoman Nasional Pelayanan Kedokteran "Kanker Payudara" [Internet]. Kanker.kemkes.go.id. 2018 [cited 21 April 2018]. Available from:
<http://kanker.kemkes.go.id/guidelines/PNPKPayudara.pdf>
16. Barrett K, Boitano S, Barman S. Ganong's Review of Medical Physiology (23rd Edition). New York, USA: McGraw-Hill Professional Publishing; 2010. Chapter 25, The Gonads : Development & Function of the Reproductive System; p. 343-4, 400, 416-17.

17. Rodwell V, Bender D, Botham K, Kennelly P, Weil P, Harper H. Harper's illustrated biochemistry. 30th ed. McGraw-Hill Education, 2015.502-505 p. (Anthony Weil P, Author, The Diversity of the Endocrine System; Chapter : 41)
18. PNPk dan PPK [Internet]. POGI. 2018 [cited 21 April 2018]. Available from: <http://pogi.or.id/publish/download/pnpk-dan-ppk/>
19. Brown K, Simpson E. Obesity and breast cancer. Chapter 2, The Link Between Obesity and Breast Cancer Risk : Epidemiological Evidence. New York: Springer; 2014. p 5,7-8.
20. Brown K, Simpson E. Obesity and breast cancer. New York: Springer; 2014. Fig 4.1, Source of estrogens in lean premenopausal and obese postmenopausal; p. 18.
21. Contrò V, R. Basile J, Proia P. Sex steroid hormone receptors, their ligands, and nuclear and non-nuclear pathways. *Molsci.* 2015;2(3):297.
22. Kementerian Kesehatan Republik Indonesia [Internet]. Depkes.go.id. 2018 [cited 7 June 2018]. Available from: <http://www.depkes.go.id/index.php?txtKeyword=status+gizi&act=search-by->

map&pgnumber=0&charindex=&strucid=1280&fullcontent=1&C
-ALL=1

23. Berger N, Dannenberg A. Obesity, Inflammation and Cancer. Chapter 8 : Obesity, Inflammation, and Cancer. New York: Springer; 2013. p. 184-186.
24. Simpson E, Brown K. Obesity and breast cancer: role of inflammation and aromatase. *J Mol Endocrinol*. 2013;51(3):T51-T59.
25. Lizcano F, Guzmán G. Estrogen Deficiency and the Origin of Obesity during Menopause. *BioMed Research International*. 2014;2014:1-11.
26. Rose D, Vona-Davis L. Biochemical and molecular mechanisms for the association between obesity, chronic Inflammation, and breast cancer. *BioFactors*. 2013;40(1):1-12.
27. Matthews S, Thompson H. The Obesity-Breast Cancer Conundrum: An Analysis of the Issues. *Int J Mol Sci*. 2016;17(6):989.
28. Farzaneh S, Zarghi A. Estrogen Receptor Ligands: A Review (2013–2015). *Sci Pharm*. 2016;84(3):409-427.

29. Miyoshi Y, Murase K, Saito M, Imamura M, Oh K. Mechanisms of estrogen receptor- α upregulation in breast cancers. *Med Mol Morphol*. 2010;43(4):193-196.
30. Hayashi S. Two promoters in expression of estrogen receptor messenger RNA in human breast cancer. *Carcinogenesis*. 1997;18(3):459-464.
31. Amin M, Edge S. *AJCC cancer staging manual*. 8th ed. Chicago: American Joint Committee on Cancer; 2017. :612. (N. Hortobagay Gabriel et, al , editor, Breast, Chapter : 48)
32. Dorchak J, Maria S, Guarinoni J, Duensing A, Somiari S, Cavanaugh J et al. The Impact of Hormonal Contraceptives on Breast Cancer Pathology. *Horm Cancer*. 2018;.
33. Kim S, Ko Y, Lee H, Lim J. Menopausal hormone therapy and the risk of breast cancer by histological type and race: a meta-analysis of randomized controlled trials and cohort studies. *Breast Cancer Res. Treat.*. 2018;.
34. De Vita V, Lawrence T, Rosenberg S. *Cancer*. Philadelphia: Wolters Kluwer Health; 2015. 1117p. (Morrow Monica, Burstein Harold J., Harris Jay R.; Section : 6)

35. Anderson G, Barrington W. Narrowing of racial disparities in breast cancer incidence: insights from menopausal hormone therapy study findings. *J. Natl. Cancer Inst.*. 2015;108(4):djv393.
36. Hvidtfeldt U, Tjønneland A, Keiding N, Lange T, Andersen I, Sørensen T et al. Risk of Breast Cancer in Relation to Combined Effects of Hormone Therapy, Body Mass Index, and Alcohol Use, by Hormone-receptor Status. *Epidemiology*. 2015;26(3):353-361.
37. LUMINTANG L, SUSANTO A, GADRI R, DJATMIKO A. Profil Pasien Kanker Payudara di Rumah Sakit Onkologi Surabaya, 2014 [Internet]. *Indonesianjournalofcancer.or.id*. 2018 [cited 9 June 2018]. Available from: <http://www.indonesianjournalofcancer.or.id/e-journal/index.php/ijoc/article/view/386>
38. Bandera E, Chandran U, Hong C, Troester M, Bethea T, Adams-Campbell L et al. Obesity, body fat distribution, and risk of breast cancer subtypes in African American women participating in the AMBER Consortium. *Breast Cancer Research and Treatment*. 2015;150(3):655-666.
39. Nattenmüller C, Kriegsmann M, Sookthai D, Fortner R, Steffen A, Walter B et al. Obesity as risk factor for subtypes of breast cancer: results from a prospective cohort study. *BMC Cancer*. 2018;8.

40. Rad M, Torkmannejad Sabzevary M, Mohebbi Dehnavi Z. Association Between Menstrual Disorders and Obesity-Related Anthropometric Indices in Female High School Students: A Cross-Sectional Study. *International Journal of School Health*. 2018;5.