

台灣更年期婦女現況

鄭碧華醫師撰寫 黃國恩院長校正

台灣總人口約有 2322 萬人，女性人口達 1,158 萬人，其中 40 歲以上佔了 48%，這幾近一半全國之婦女（內政部人口統計 2011）。若可能處於更年期移轉期（menopausal transition）在 40 - 54 歲的話，台灣目前約有 278 萬多婦女處於更年期移轉期，且有各式更年期移轉期症狀如熱潮紅與冒汗、經常疲憊、失眠、月經不規則、腰酸背痛、心情起伏大容易低落鬱悶、陰道乾澀、頻尿、焦慮急躁（行政院衛生署國民健康局 2011）。停經年齡後婦女若保守以地以 55 歲以上來計算，台灣有 275 萬停經後。這 275 萬婦女呈現停經後，多項疾病機率明顯增加之現象：諸如癌症，肥胖、新陳代謝不適、血脂肪升高、心臟血管疾病、失眠、憂鬱、骨質疏鬆與骨折等疾病。台灣的更年期及停經後婦女之不適症狀和其他亞洲國家或歐美國家相比較起來，與亞洲婦女較相似，而與歐美婦女有相當明顯的差別 [1-3]：我們婦女以熱潮紅為主訴比例是遠不及歐美婦女，而以肌肉骨骼系統之症狀如膝關節痛、下背痛為主訴則居多。而失眠，情緒不穩易怒與頭痛則遠高於歐美婦女，我們婦女對諸多更年期及其後的相關症狀有自覺該治療的比例也遠低於歐美婦女，尤其是性功能失調部份。

在近十年台灣學術界對中年以後婦女面臨完全停經前後的研究是愈來愈多而且探討廣度深度其實也不亞於歐美國家，在學術網站中查得到的，以英文發表及以中文發表集合起來，高達 200 多篇，包括了各種生理病理及社會人文在更年期之研究探討，諸如賀爾蒙代謝與變化、症狀與生活品質相關因素、更年期高血壓、心律變異度、柯氏憂鬱量表、憂鬱情緒，憂鬱症狀相關因素、更年期疲憊感及相關因素、身體活動量與更年期自覺症狀、運動與骨質疏鬆症、婦女對更年期觀點之轉銜與改變，迎接新旅程—更年期更年輕、更年期障礙是「事先的警告」，更年期之後的人生一面對癌症衝擊、醫病關係與女性醫療照護、更年期陰道泌尿道症狀困擾及其自我處理調查。台灣護理學界在更年期研究 [4-21] 指出：台灣更年期婦女由過去傳統的台灣婦女對自我的束縛，逐漸轉變婦女對於自我身體健康的掌控。也表現出台灣更年期婦女需要更多面向護理照顧、健康管理、和訊息需求，來陪同更年期婦女處理多變的、不可預測的身心變化。2011 年起護理學界積極呼籲正視更年期婦女未來健康自我管理，協助更年期婦女增強正向的健康管理效能，並且爭取家人的諒解與陪伴。此外，別具文化特色之中醫學界，也提供了不少對更年期的台灣本土研究報告 [1, 22-26]，如更年期綜合徵、更年期營養、證型與自律神經相關性、中醫對更年期證候群的治療研究進展，中醫藥治療更年期婦女失眠症探討，中醫談女性更年期保養，中醫預防照護與更年期女性，傳統中醫藥對於更年期女性之養生保健，婦女更年期障礙之中醫治療，應用耳穴貼壓改善更年期症狀困擾、更年期婦女的中醫照護、更年期證候群流行病學研究與現代中西醫治療觀點等等以中醫式療法協助婦女更年期不適。當然所有的健

康工作者對全球共識的停經後賀爾蒙治療效應與另類荷爾蒙療法的內容、植物性雌激素的臨床作用、輔助療法在更年期症候群的應用，都應該有一定的瞭解與認識，若持之以恆共同努力，共同切搓，是台灣婦女之福氣！

就醫療照顧部分，黃國恩院長為台灣更年期及停經後婦女創建了2個很重要的醫學會：台灣更年期醫學會和台灣骨鬆醫學會，並加入泛太平洋亞洲之聯盟，除了能集合相關有志一同的多位醫師對於臺灣婦女的打造更好的下半生，也讓台灣醫界在此領域有走入全球之舞台。臺灣醫者對更年期的相關研究中，不祇在更年期在台灣婦女對於更年期症狀的調查[1-3, 23, 25-55]、更深入心臟疾病[3, 36, 56-63]、荷爾蒙使用[32, 43, 44, 49, 60, 64-74]、停經後使用荷爾蒙與乳癌的關係[1, 3, 33, 36, 43, 44, 60, 61, 69, 75-91]、更年期骨質疏鬆藥物臨床試驗[2, 3, 35, 36, 41, 44, 62, 69, 74, 81, 92-102]、新陳代謝[58, 103-110]、肥胖[103, 107, 108, 110-114]、合併健康照護治療[41, 47, 54, 76, 115-117]、更年期憂鬱[32, 37, 39, 45, 46, 48, 55, 56, 118-124]、睡眠障礙[1, 3, 30, 36, 48, 119, 124-128]、更年期泌尿系統疾患[28, 29, 43, 61, 66, 72, 73, 86, 128-146]、癌症[25, 36, 43, 44, 53, 60, 61, 69, 81-91, 102, 116, 147-150]、等在這十年內其實都有相當深入不亞於歐美之研究。不過參與相關研究畢盡只是一小部份醫師，整體醫界醫師們的更年期認知比率其實仍須大幅提升。距WHI發佈合併賀爾蒙治療有諸多聳人聽聞之風險10年後的今天，更多進階的研究，釐清了很多賀爾蒙治療的迷思，不過面對現今更龐大複雜的資訊，婦女無一適從，反而更漠視使用賀爾蒙帶來的正向面，負面的態度其實也導至很多的醫療問題。台灣婦女應慶信我們因黃院長總是帶給大家第一手最新更年期資訊：2013年來自全球更年期專家對停經賀爾蒙治療的共識(Global consensus statement on menopausal hormone therapy)，共12條，翻譯如下，這真是提供給全國婦女一套相當完整明確的停經後賀爾蒙治療準則：

1. 停經後賀爾蒙治療(menopausal hormone therapy, MHT)是停經相關血管舒縮症狀(vasomotor symptoms)最好的治療方法，不論任何年齡停經之婦女皆可使用。不過使用利益絕對優於風險之使用時期是小於六十歲或停經十年之內的婦女。
2. 停經後賀爾蒙治療可以有效而且適當的預防骨質疏鬆相關之骨折，尤其建議於具有高危險骨折因子之小於六十歲或停經十年之內的婦女。
3. 隨機分組、臨床試驗，觀察型研究和許多的統合分析(meta analysis)都證實，對於小於六十歲或停經十年之內的婦女，以單一雌激素(estrogen-alone)作為停經後荷爾蒙治療，可以減少冠狀動脈心臟病及相關各種原因之死亡率(all cause mortality)。然而對於雌激素合併黃體素使用(estrogen plus progestogen)作為停經後荷爾蒙治療，則沒有明顯的增加或減少冠狀動脈心臟病。
4. 局部低劑量的雌激素(local low dose estrogen therapy)是最先建議給更年期症狀僅限於陰道乾澀或性交疼痛的婦女。
5. 單一雌激素(estrogen)系統療法適用於做過子宮切除的婦女，然仍有子宮者則需併用黃體素。
6. 停經後賀爾蒙個人化的治療以促進其生活品質和健康因素為目標，同時考量其危險因

- 子，風險包括使用時之年紀，停經年齡，靜脈栓塞，腦中風，缺血性心臟病，乳癌。
7. 使用口服性停經後荷爾蒙藥物的婦女，靜脈栓塞和缺血性中風的風險會上升。但絕對風險(absolute risk)，在六十歲前使用其實是相當低的。觀察性研究指出經皮膚吸收治療的停經後荷爾蒙風險相對更低。
 8. 50 歲以上婦女因荷爾蒙治療而造成的乳癌風險增加的牽涉的因子很多。荷爾蒙治療對乳癌的主要風險是來自於加入黃體素，與使用的期間長短有關。其實停經後賀爾蒙治療所造成的乳癌風險很低，而且一旦停止使用賀爾蒙其風險就會下降。
 9. 使用停經後賀爾蒙治療的劑量與使用期間(duration)，主要以治療目標和安全考量，而且治療應該個人化。
 10. 對於早發性卵巢功能不全(premature ovarian insufficiency)的女性，在到達平均婦女停經年齡之前，應該使用停經後賀爾蒙治療。
 11. 不建議使用客製化合成類賀爾蒙治療(custom-compounded bio-identical hormone therapy)。
 12. 目前以安全性考量之證據，不支持乳癌存活者(breast cancer survivors)使用停經後賀爾蒙治療。

在此呼籲我們族性保守的婦女，也請醫師同時多多正視停經後陰道炎（乾癢澀痛）其實只要很簡單的局部低劑量的雌激素治療就解決，還可預防很多不該衍生出來的問題，如經常性尿道感染。

台灣婦女有更健康之未來，一定需要政策上整體規劃之協助，聯合國第四屆婦女大會，提出了「性別主流化（gender main streaming）」之後。2002 年台灣通過了性別健康政策。對此，衛生署對於婦女政策中，由國民健康局著手擬訂一系列的政策規劃，特別也提到更年期婦女照顧服務這一環，並且規劃提供資源關注更年期照顧。2011 年更年期照顧的政策在健康照顧體系終於開始站穩腳步，未來的 10 年台灣更年期婦女將擁有國家、政策、社會體制、醫療體系於更年期服務各領域的關注。2011 年台灣婦權會通過「性別平等政策綱領」中提到，建立醫療體制下，推動醫院的服務必須建立友善的醫療照顧環境及體系。成立更年期聯合門診 (Combined Specialty Clinic) 為多元且性別取向的性別友善更年期門診。我們期盼能再加上如歐美之國家級較長期（數年以上）且大規模上千人次的整合型、且持續之更年期流病調查，提供現今婦女最迫切需於政府在改良和規劃婦女政策之用，實為台灣婦女大幸。

參考文獻

- [1] Huang KE, Xu L, I NN, Jaisamrarn U. The Asian Menopause Survey: knowledge, perceptions, hormone treatment and sexual function. *Maturitas* 2010;65: 276-83.
- [2] Huang KE, Baber R. Updated clinical recommendations for the use of tibolone in Asian women. *Climacteric : the journal of the International Menopause Society* 2010;13: 317-27.
- [3] Huang KE. Menopause perspectives and treatment of Asian women. *Seminars in reproductive medicine* 2010;28: 396-403.
- [4] 王秀禾 鍾, 周培萱, 趙櫻花. 應用耳穴貼壓改善更年期症狀困擾. *健康管理學刊* 2009;7: 11.
- [5] 白香菊 李, 曾月霞. 更年期婦女自覺不確定感相關因素之研究. *護理雜誌* 2004;51: 8.
- [6] 李佳茵. 婦女更年期障礙之中醫治療. *明通醫藥* 2009;4: 5.

- [7] 李佩珊 李, 黃久美, 李奇龍. 更年期婦女之更年期態度、更年期症狀與憂鬱情緒之相關性研究. 實證護理 2006;2: 10.
- [8] 林宗輝 洪, 鄧正賢, 廖怡婷. 傳統中醫藥對於更年期女性之養生保健. 休閒保健期刊 2010; 14.
- [9] 柯慧貞 周. 柯氏憂鬱量表應用於篩選國人更年期婦女憂鬱症之適用性. Chinese Journal of Psychology 2009;51: 11.
- [10] 孫淑惠 曹. 深耕社區－落實關懷更年期婦女健康. 長庚科技學刊 2010; 5.
- [11] 高夏子 蔡, 李春蓓. 花蓮原住民婦女更年期症狀與更年期態度之研究. 嘉基護理 10.
- [12] 張文典 蔡, 林鉉宇, 劉榮啟, 黎秉東. 更年期憂鬱症狀與心律變異度及相關因子之探討. 身心障礙研究 2012;10: 20.
- [13] 張佑嘉 周, 蕭美君, 曹麗英. 婦科門診更年期婦女疲憊感及相關因素之探討. 實證護理 2008;4: 10.
- [14] 張維鑑 林. 婦產科門診婦女身體活動量與更年期自覺症狀之研究. 屏東教大運動科學學刊 2009: 15.
- [15] 黃貞觀 歐. 轉銜與改變：婦女對更年期觀點. 醫護科技期刊 2010;12: 12.
- [16] 黃惠美 趙, 林寬佳, 鄭素月, 廖媛美. 45－60 歲婦女之更年期症狀與生活品質相關因素研究. 新臺北護理期刊 2010;12: 14.
- [17] 葉美玲. 中醫預防照護與更年期女性. 源遠護理 2011;5: 5.
- [18] 葉美玲 王, 林昭庚, 林宜信, 陳興夏. 運動改善更年期婦女身體組成之成效－系統性回顧暨統合分析. 護理暨健康照護研究 2011;7: 10.
- [19] 詹秀怡. 運動對停經後婦女骨質密度影響之研究. 屏東教大體育: 8.
- [20] 黎小娟 黃, 楊翠雲. 更年期婦女運動與骨質疏鬆症. 榮總護理 2010;27: 6.
- [21] 龔彥穎 郭, 楊靜修, 黃怡超. 更年期證型與自律神經相關性研究. J Chin Med 2012;23: 15.
- [22] Chen HY, Lin YH, Wu JC, Chen YC, Yang SH, Chen JL, Chen TJ. Prescription patterns of Chinese herbal products for menopausal syndrome: analysis of a nationwide prescription database. J Ethnopharmacol 2011;137: 1261-6.
- [23] Chen LC, Wang BR, Chen IC, Shao CH. Use of Chinese herbal medicine among menopausal women in Taiwan. Int J Gynaecol Obstet 2010;109: 63-6.
- [24] Yang YH, Chen PC, Wang JD, Lee CH, Lai JN. Prescription pattern of traditional Chinese medicine for climacteric women in Taiwan. Climacteric 2009;12: 541-7.
- [25] Lai JN, Hwang JS, Chen HJ, Wang JD. Finished herbal product as an alternative treatment for menopausal symptoms in climacteric women. J Altern Complement Med 2005;11: 1075-84.
- [26] Chen LC, Tsao YT, Yen KY, Chen YF, Chou MH, Lin MF. A pilot study comparing the clinical effects of Jia-Wey Shiau-Yau San, a traditional Chinese herbal prescription, and a continuous combined hormone replacement therapy in postmenopausal women with climacteric symptoms. Maturitas 2003;44: 55-62.
- [27] Yeh SC, Chang MY. The effect of Qigong on menopausal symptoms and quality of sleep for perimenopausal women: a preliminary observational study. J Altern Complement Med 2012;18: 567-75.
- [28] Yang TS, Wang SY, Yang YC, Su CH, Lee FK, Chen SC, Tseng CY, Jou HJ, Huang JP, Huang KE. Effects of standardized phytoestrogen on Taiwanese menopausal women. Taiwanese journal of obstetrics & gynecology 2012;51: 229-35.
- [29] Yang TS, Wang SY, Yang YC, Su CH, Lee FK, Chen SC, Tseng CY, Jou HJ, Huang JP, Huang KE. Effects of standardized phytoestrogen on Taiwanese menopausal women. Taiwan J Obstet Gynecol 2012;51: 229-35.
- [30] Wu HC, Lai JN, Hwang JS. Quality of life and sleep quality amongst climacteric women seeking medical advice in Northern Taiwan. Sleep Med 2012;13: 906-12.
- [31] Shyu YK, Pan CH, Liu WM, Hsueh JY, Hsu CS, Tsai PS. Health-related quality of life and healthcare resource utilization in Taiwanese women with menopausal symptoms: a nation-wide survey. J Nurs Res 2012;20: 208-18.
- [32] Lin HL, Hsiao MC, Liu YT, Chang CM. Perimenopause and incidence of depression in midlife women: a population-based study in Taiwan. Climacteric 2012.
- [33] Burger HG, MacLennan AH, Huang KE, Castelo-Branco C. Evidence-based assessment of the impact of the WHI on women's health. Climacteric : the journal of the International Menopause Society 2012;15: 281-7.
- [34] Chien LW, Liu SJ, Chang Y, Liu CF. Local thermal therapy effects on menopausal symptoms and bone mineral density. J Altern Complement Med 2011;17: 1133-40.
- [35] Huang KE, Baber R. Updated clinical recommendations for the use of tibolone in Asian women. Climacteric 2010;13: 317-27.
- [36] Huang KE. Menopause perspectives and treatment of Asian women. Semin Reprod Med 2010;28: 396-403.
- [37] Yen JY, Yang MS, Wang MH, Lai CY, Fang MS. The associations between menopausal syndrome and depression during pre-, peri-, and postmenopausal period among Taiwanese female aborigines. Psychiatry Clin Neurosci 2009;63: 678-84.
- [38] Hsiao MC, Chiang PH, Liu CY, Lin YH. Help-seeking behavior in Taiwanese woman with menopause-related mood symptoms. Chang Gung Med J 2009;32: 313-9.
- [39] Lin MF, Ko HC, Wu JY, Chang FM. The impact of extroversion or menopause status on depressive symptoms among climacteric women in Taiwan: neuroticism as moderator or mediator? Menopause 2008;15: 138-43.
- [40] Jou HJ, Wu SC, Chang FW, Ling PY, Chu KS, Wu WH. Effect of intestinal production of equol on menopausal symptoms in women treated with soy isoflavones. Int J Gynaecol Obstet 2008;102: 44-9.
- [41] Chiu YW, Moore RW, Hsu CE, Huang CT, Liu HW, Chuang HY. Factors influencing women's quality of life in the later half of life. Climacteric 2008;11: 201-11.

- [42] Chen RJ, Chang TC, Chow SN. Perceptions of and attitudes toward estrogen therapy among surgically menopausal women in Taiwan. *Menopause* 2008;15: 517-23.
- [43] Wang PH, Horng HC, Cheng MH, Chao HT, Chao KC. Standard and low-dose hormone therapy for postmenopausal women--focus on the breast. *Taiwan J Obstet Gynecol* 2007;46: 127-34.
- [44] Wang PH, Cheng MH, Chao HT, Chao KC. Effects of tibolone on the breast of postmenopausal women. *Taiwan J Obstet Gynecol* 2007;46: 121-6.
- [45] Cheng MH, Lee SJ, Wang SJ, Wang PH, Fuh JL. Does menopausal transition affect the quality of life? A longitudinal study of middle-aged women in Kinmen. *Menopause* 2007;14: 885-90.
- [46] Juang KD, Wang SJ, Lu SR, Lee SJ, Fuh JL. Hot flashes are associated with psychological symptoms of anxiety and depression in peri- and post- but not premenopausal women. *Maturitas* 2005;52: 119-26.
- [47] Im EO, Chee W. A descriptive Internet survey on menopausal symptoms: five ethnic groups of Asian American university faculty and staff. *J Transcult Nurs* 2005;16: 126-35.
- [48] Hsu HC, Lin MH. Exploring quality of sleep and its related factors among menopausal women. *J Nurs Res* 2005;13: 153-64.
- [49] Yang TS, Wang HL, Chen YJ, Chang SP, Yuan CC. Effect of continuous administration of conjugated estrogen plus medroxyprogesterone acetate (Premelle) in postmenopausal women in Taiwan. *J Chin Med Assoc* 2004;67: 336-43.
- [50] Fuh JL, Wang SJ, Lee SJ, Lu SR, Juang KD. Quality of life and menopausal transition for middle-aged women on Kinmen island. *Qual Life Res* 2003;12: 53-61.
- [51] Fu SY, Anderson D, Courtney M. Cross-cultural menopausal experience: comparison of Australian and Taiwanese women. *Nurs Health Sci* 2003;5: 77-84.
- [52] Chang C, Lin CH. Hormone replacement therapy and menopause: a review of randomized, double-blind, placebo-controlled trials. *Kaohsiung J Med Sci* 2003;19: 257-70.
- [53] Yang TS, Liang WH, Chang SP, Yuan CC. Effects of period-free hormone replacement therapy in postmenopausal women in Taiwan. *Zhonghua Yi Xue Za Zhi (Taipei)* 2002;65: 23-8.
- [54] Tsao LI. Relieving discomforts: the help-seeking experiences of Chinese perimenopausal women in Taiwan. *J Adv Nurs* 2002;39: 580-8.
- [55] Pan HA, Wu MH, Hsu CC, Yao BL, Huang KE. The perception of menopause among women in Taiwan. *Maturitas* 2002;41: 269-74.
- [56] Wang HL, Tai MK, Hung HM, Chen CH. Unique symptoms at midlife of women with osteoporosis and cardiovascular disease in Taiwan. *Menopause* 2012.
- [57] Lin RT, Chen CH, Tsai PC, Ho BL, Juo SH, Lin HF. Sex-specific effect of matrix metalloproteinase-9 functional promoter polymorphism on carotid artery stiffness. *Atherosclerosis* 2012;223: 416-20.
- [58] Lin KH, Liou TL, Hsiao LC, Hwu CM. Clinical and biochemical indicators of homeostasis model assessment-estimated insulin resistance in postmenopausal women. *J Chin Med Assoc* 2011;74: 442-7.
- [59] Fu CH, Yang CC, Lin CL, Kuo TB. Effects of long-term vegetarian diets on cardiovascular autonomic functions in healthy postmenopausal women. *Am J Cardiol* 2006;97: 380-3.
- [60] Chen FP. Hormone therapy and cardiovascular disease. *Taiwan J Obstet Gynecol* 2006;45: 287-93.
- [61] Wu WH, Liu LY, Chung CJ, Jou HJ, Wang TA. Estrogenic effect of yam ingestion in healthy postmenopausal women. *J Am Coll Nutr* 2005;24: 235-43.
- [62] Jeng C, Yang SH, Chang PC, Tsao LI. Menopausal women: perceiving continuous power through the experience of regular exercise. *J Clin Nurs* 2004;13: 447-54.
- [63] Chen KT, Yang RS. Effects of exercise on lipid metabolism and musculoskeletal fitness in female athletes. *World J Gastroenterol* 2004;10: 122-6.
- [64] Chen IC, Lee WH, Chao TH, Li YH, Tsai WC, Pan HA, Tseng SY, Chen JY. Effects of rosiglitazone on the cardiovascular profile in postmenopausal women without diabetes mellitus: interplay of thiazolidinediones and hormone therapy. *Menopause* 2012;19: 812-9.
- [65] Wu CY, Wu SL, Lin SJ, Chu CM. Changes in hormone therapy prescriptions among middle-aged women in Taiwan: implications for health needs at menopause. *Womens Health Issues* 2011;21: 153-9.
- [66] Hsieh CH, Chang WC, Hsu MI, Chiang HS, Chang ST, Lee MC, Lee MS, Lu KP, Su TH, Lee SH, Chen FM. Risk factors of urinary frequency among women aged 60 and older in Taiwan. *Taiwan J Obstet Gynecol* 2010;49: 260-5.
- [67] Chen FP, Cheung YC, Soong YK. Factors that influence changes in mammographic density with postmenopausal hormone therapy. *Taiwan J Obstet Gynecol* 2010;49: 413-8.
- [68] Huang CY, Fu CY, Tseng JY, Yang TS, Chao KC. The effects of continuous combined oral estradiol and norethisterone on pulsatility index in internal carotid and uterine arteries in early postmenopausal Taiwanese women---a preliminary study. *Taiwan J Obstet Gynecol* 2009;48: 60-4.
- [69] Lee WL, Chao HT, Cheng MH, Wang PH. Rationale for using raloxifene to prevent both osteoporosis and breast cancer in postmenopausal women. *Maturitas* 2008;60: 92-107.
- [70] Fu CH, Yang CC, Lin CL, Kuo TB. Alteration of cardiovascular autonomic functions by vegetarian diets in postmenopausal women is related to LDL cholesterol levels. *Chin J Physiol* 2008;51: 100-5.
- [71] Huang WF, Tsai YW, Hsiao FY, Liu WC. Changes of the prescription of hormone therapy in menopausal women: an observational study in Taiwan. *BMC Public Health* 2007;7: 56.

- [72] Hsu IP, Jou HJ, Huang CW, Wang TA, Wu WH. The effects of soygerm extracts on blood lipoproteins, antioxidative capacity and urinary estrogen metabolites in postmenopausal women on hormone therapy. *Int J Gynaecol Obstet* 2007;98: 29-33.
- [73] Hsieh CH, Chen HY, Hsu CS, Chang ST, Chiang CD. Risk factors for nocturia in Taiwanese women aged 20-59 years. *Taiwan J Obstet Gynecol* 2007;46: 166-70.
- [74] Shih TT, Liu HC, Chang CJ, Wei SY, Shen LC, Yang PC. Correlation of MR lumbar spine bone marrow perfusion with bone mineral density in female subjects. *Radiology* 2004;233: 121-8.
- [75] Su IH, Chen YC, Hwang WT, Liu Z, Su TP, Chen TJ, Barnhart KT, Yang YX. Risks and benefits of menopausal hormone therapy in postmenopausal Chinese women. *Menopause* 2012;19: 931-41.
- [76] Cheng TF, Wang JD, Uen WC. Cost-utility analysis of adjuvant goserelin (Zoladex) and adjuvant chemotherapy in premenopausal women with breast cancer. *BMC Cancer* 2012;12: 33.
- [77] Yeh CC, Wang PH, Lai CR, Yen MS, Chao KC. Synchronous breast invasive ductal carcinoma and endometrial endometrioid adenocarcinoma: case report. *J Obstet Gynaecol Res* 2011;37: 1246-9.
- [78] Lee MS, Huang YC, Wahlqvist ML, Wu TY, Chou YC, Wu MH, Yu JC, Sun CA. Vitamin D decreases risk of breast cancer in premenopausal women of normal weight in subtropical taiwan. *J Epidemiol* 2011;21: 87-94.
- [79] Sun CA, Wu MH, Chu CH, Chou YC, Hsu GC, Yang T, Chou WY, Yu CP, Yu JC. Adipocytokine resistin and breast cancer risk. *Breast Cancer Res Treat* 2010;123: 869-76.
- [80] Shin HR, Joubert C, Boniol M, Hery C, Ahn SH, Won YJ, Nishino Y, Sobue T, Chen CJ, You SL, Mirasol-Lumague MR, Law SC, Mang O, Xiang YB, Chia KS, Rattanamongkolgul S, Chen JG, Curado MP, Autier P. Recent trends and patterns in breast cancer incidence among Eastern and Southeastern Asian women. *Cancer Causes Control* 2010;21: 1777-85.
- [81] Lee WL, Cheng MH, Chao HT, Wang PH. The role of selective estrogen receptor modulators on breast cancer: from tamoxifen to raloxifene. *Taiwan J Obstet Gynecol* 2008;47: 24-31.
- [82] Huang CS, Kuo SH, Lien HC, Yang SY, You SL, Shen CY, Lin CH, Lu YS, Chang KJ. The CYP19 TTTA repeat polymorphism is related to the prognosis of premenopausal stage I-II and operable stage III breast cancers. *Oncologist* 2008;13: 751-60.
- [83] Tian YF, Chu CH, Wu MH, Chang CL, Yang T, Chou YC, Hsu GC, Yu CP, Yu JC, Sun CA. Anthropometric measures, plasma adiponectin, and breast cancer risk. *Endocr Relat Cancer* 2007;14: 669-77.
- [84] Liu CL, Chang YC, Cheng SP, Chern SR, Yang TL, Lee JJ, Guo IC, Chen CP. The roles of serum leptin concentration and polymorphism in leptin receptor gene at codon 109 in breast cancer. *Oncology* 2007;72: 75-81.
- [85] Lin CY, Ding HJ, Liu CS, Chen YK, Lin CC, Kao CH. Correlation between the intensity of breast FDG uptake and menstrual cycle. *Acad Radiol* 2007;14: 940-4.
- [86] Wu WH, Lu SC, Wang TF, Jou HJ, Wang TA. Effects of docosahexaenoic acid supplementation on blood lipids, estrogen metabolism, and in vivo oxidative stress in postmenopausal vegetarian women. *Eur J Clin Nutr* 2006;60: 386-92.
- [87] Kuo WH, Yen AM, Lee PH, Hou MF, Chen SC, Chen KM, Chen TH, Chang KJ. Incidence and risk factors associated with bilateral breast cancer in area with early age diagnosis but low incidence of primary breast cancer: analysis of 10-year longitudinal cohort in Taiwan. *Breast Cancer Res Treat* 2006;99: 221-8.
- [88] Chang CJ, Chiu JH, Tseng LM, Chang CH, Chien TM, Chen CC, Wu CW, Lui WY. Si-Wu-Tang and its constituents promote mammary duct cell proliferation by up-regulation of HER-2 signaling. *Menopause* 2006;13: 967-76.
- [89] Huang HJ, Neven P, Drijckoningen M, Paridaens R, Wildiers H, Van Limbergen E, Berteloot P, Amant F, Christiaens MR, Vergote I. Association between HER-2/neu and the progesterone receptor in oestrogen-dependent breast cancer is age-related. *Breast Cancer Res Treat* 2005;91: 81-7.
- [90] Lee SM, Tseng LM, Li AF, Liu HC, Liu TY, Chi CW. Polymorphism of estrogen metabolism genes and cataract. *Med Hypotheses* 2004;63: 494-7.
- [91] Chen P, Yang CC, Chen YJ, Wang PH. Tamoxifen-induced endometrial cancer. *Eur J Gynaecol Oncol* 2003;24: 135-7.
- [92] Chao TH, Yu HN, Huang CC, Liu WS, Lu KH. Opposite associations of osteoprotegerin and ZBTB40 polymorphisms with bone mineral density of the hip in postmenopausal Taiwanese women. *J Chin Med Assoc* 2012;75: 335-40.
- [93] Wu WT, Lee RP, Wang CH, Fang TC, Lin NT, Chen IH, Hsu BG. The association of serum osteoprotegerin and osteoporosis in postmenopausal hemodialysis patients: a pilot study. *J Womens Health (Larchmt)* 2010;19: 785-90.
- [94] Huang WF, Tsai YW, Wen YW, Hsiao FY, Kuo KN, Tsai CR. Osteoporosis treatment and atrial fibrillation: alendronate versus raloxifene. *Menopause* 2010;17: 57-63.
- [95] Chang IC, Chiang TI, Yeh KT, Lee H, Cheng YW. Increased serum osteopontin is a risk factor for osteoporosis in menopausal women. *Osteoporos Int* 2010;21: 1401-9.
- [96] Chen FP, Hsu T, Hu CH, Wang WD, Wang KC, Teng LF. Expression of estrogen receptors alfa and beta mRNA and alkaline phosphatase in the differentiation of osteoblasts from elderly postmenopausal women: comparison with osteoblasts from osteosarcoma cell lines. *Taiwan J Obstet Gynecol* 2006;45: 307-12.
- [97] Chen FP, Hsu T, Hu CH, Wang WD, Wang KC, Teng LF. Expression of estrogen receptors alpha and beta in human osteoblasts: identification of exon-2 deletion variant of estrogen receptor beta in postmenopausal women. *Chang Gung Med J* 2004;27: 107-15.
- [98] Jou HJ, Yeh PS, Wu SC, Lu YM. Ultradistal and distal forearm bone mineral density in postmenopausal women. *Int J Gynaecol Obstet* 2003;82: 199-205.

- [99] Chen HY, Chen WC, Wu MC, Tsai FJ, Tsai CH. Androgen receptor (AR) gene microsatellite polymorphism in postmenopausal women: correlation to bone mineral density and susceptibility to osteoporosis. *Eur J Obstet Gynecol Reprod Biol* 2003;107: 52-6.
- [100] Chen HY, Chen WC, Wu MC, Tsai FJ, Lin CC. Interleukin-1beta and interleukin-1 receptor antagonist gene polymorphism in postmenopausal women: correlation to bone mineral density and susceptibility to osteoporosis. *Maturitas* 2003;44: 49-54.
- [101] Tsao JY, Chien MY, Yang RS. Spinal performance and functional impairment in postmenopausal women with osteoporosis and osteopenia without vertebral fracture. *Osteoporos Int* 2002;13: 456-60.
- [102] Hung YC, Yeh LS, Chang WC, Lin CC, Kao CH. Prospective study of decreased bone mineral density in patients with cervical cancer without bone metastases: a preliminary report. *Jpn J Clin Oncol* 2002;32: 422-4.
- [103] Kang L, Chen CH, Cheng YC, Chang CH, Lee CT, Chang JK, Cheng JT, Chang FM. Glucosamine-induced insulin resistance in ovariectomized rats is relevant to decreasing the expression of glucose transport protein subtype 4 in the skeletal muscle and in increasing the size of pancreatic islets. *Menopause* 2012;19: 496-502.
- [104] Lee JK, Wu CK, Lin LY, Cheng CL, Lin JW, Hwang JJ, Chiang FT. Insulin resistance in the middle-aged women with "Tigerish Back and Bearish Waist". *Diabetes Res Clin Pract* 2010;90: e85-7.
- [105] Lin MW, Hwu CM, Liou TL, Hsiao LC, Ho LT. Human SA gene polymorphisms are associated with non-high-density lipoprotein cholesterol in postmenopausal women: a pilot study. *Maturitas* 2009;62: 66-71.
- [106] Hwu CM, Lin MW, Liou TL, Hsiao LC, Liang KW, Tsai TT, Ho LT. Fasting triglyceride is a major determinant of postprandial triglyceride response in postmenopausal women. *Menopause* 2008;15: 150-6.
- [107] Lin KC, Tsai ST, Kuo SC, Tsay SL, Chou P. Interrelationship between insulin resistance and menopause on the metabolic syndrome and its individual component among nondiabetic women in the kinmen study. *Am J Med Sci* 2007;333: 208-14.
- [108] Lin WY, Yang WS, Lee LT, Chen CY, Liu CS, Lin CC, Huang KC. Insulin resistance, obesity, and metabolic syndrome among non-diabetic pre- and post-menopausal women in North Taiwan. *Int J Obes (Lond)* 2006;30: 912-7.
- [109] Sheu WH, Chen YT, Lee WJ, Wang CW, Lin LY. A relationship between serum ferritin and the insulin resistance syndrome is present in non-diabetic women but not in non-diabetic men. *Clin Endocrinol (Oxf)* 2003;58: 380-5.
- [110] Hwu CM, Fuh JL, Hsiao CF, Wang SJ, Lu SR, Wei MC, Kao WY, Hsiao LC, Ho LT. Waist circumference predicts metabolic cardiovascular risk in postmenopausal Chinese women. *Menopause* 2003;10: 73-80.
- [111] Lin JW, Caffrey JL, Chang MH, Lin YS. Sex, menopause, metabolic syndrome, and all-cause and cause-specific mortality--cohort analysis from the Third National Health and Nutrition Examination Survey. *J Clin Endocrinol Metab* 2010;95: 4258-67.
- [112] Yang FY, Wahlqvist ML, Lee MS. Body mass index (BMI) as a major factor in the incidence of the metabolic syndrome and its constituents in unaffected Taiwanese from 1998 to 2002. *Asia Pac J Clin Nutr* 2008;17: 339-51.
- [113] Chu FL, Hsu CH, Jeng C. Low predictability of anthropometric indicators of obesity in metabolic syndrome (MS) risks among elderly women. *Arch Gerontol Geriatr* 2012;55: 718-23.
- [114] Pai HC, Chen HC, Tsao LI. The relationship among obesity, menopausal status, and health behavior among middle-aged women in a rural community of southern Taiwan. *Health Care Women Int* 2010;31: 1097-109.
- [115] Lin LP, Lin PY, Hsu SW, Loh CH, Lin JD, Lai CI, Chien WC, Lin FG. Caregiver awareness of reproductive health issues for women with intellectual disabilities. *BMC Public Health* 2011;11: 59.
- [116] Lu ZY, Chen HC, Juan YC. [Risk discourse in Hormone Replacement Therapy]. *Hu Li Za Zhi* 2006;53: 59-64.
- [117] Lee PS, Hsiao YL, Lin SL, Lee CL. [Evidence nursing of menopausal women: telephone intervention services]. *Hu Li Za Zhi* 2005;52: 55-60.
- [118] Chen CH, Booth-LaForce C, Park H, Wang SY. A comparative study of menopausal hot flashes and their psychosocial correlates in Taiwan and the United States. *Maturitas* 2010;67: 171-7.
- [119] Chang YC, Jou HJ, Hsiao MC, Tsao LI. Sleep quality, fatigue, and related factors among perimenopausal women in Taipei City. *J Nurs Res* 2010;18: 275-82.
- [120] Yao WJ, Pan HA, Wang ST, Yang YK, Yu CY, Lin HD. Frontal cerebral blood flow changes after hormone replacement therapy in depressed postmenopausal women. *J Cereb Blood Flow Metab* 2009;29: 1885-90.
- [121] Lu SY, Tseng HF, Lin LL, Luh WM, Shu BC. Factors related to depression during menopause: a study in southern Taiwan. *J Nurs Res* 2009;17: 128-35.
- [122] Yao WJ, Pan HA, Yang YK, Chou YH, Wang ST, Yu CY, Lin HD. Reduced frontal perfusion in depressed postmenopausal women: a SPECT study with WCST. *Maturitas* 2008;59: 83-90.
- [123] Huang CC, Wei IH, Chou YH, Su TP. Effect of age, gender, menopausal status, and ovarian hormonal level on rTMS in treatment-resistant depression. *Psychoneuroendocrinology* 2008;33: 821-31.
- [124] Cheng MH, Hsu CY, Wang SJ, Lee SJ, Wang PH, Fuh JL. The relationship of self-reported sleep disturbance, mood, and menopause in a community study. *Menopause* 2008;15: 958-62.
- [125] Ting H, Huang RJ, Lo HS, Chung AH, Chang SY, Wang L, Lee SP, Lee SD. Vanished gender differences of cardiometabolic risk factors after matching the apnea hypopnea index at postmenopausal age. *Gend Med* 2012;9: 9-20.
- [126] Kung YY, Yang CC, Chiu JH, Kuo TB. The relationship of subjective sleep quality and cardiac autonomic nervous system in postmenopausal women with insomnia under auricular acupressure. *Menopause* 2011;18: 638-45.

- [127] Hsu HC, Chen NH, Jou HJ, An C, Tsao LI. Sleep disturbance experiences among perimenopausal women in Taiwan. *J Clin Nurs* 2009;18: 2116-24.
- [128] Lin TL, Ng SC, Chen YC, Hu SW, Chen GD. What affects the occurrence of nocturia more: menopause or age? *Maturitas* 2005;50: 71-7.
- [129] Lien YS, Chen GD, Ng SC. Prevalence of and risk factors for pelvic organ prolapse and lower urinary tract symptoms among women in rural Nepal. *Int J Gynaecol Obstet* 2012;119: 185-8.
- [130] Hsieh CH, Chang WC, Su TH, Lin TY, Lee MC, Chang ST. Effects of parity and mode of delivery on urinary incontinence among postmenopausal women in Taiwan. *Int J Gynaecol Obstet* 2012;117: 239-42.
- [131] Liu HT, Chen CY, Kuo HC. Urinary nerve growth factor in women with overactive bladder syndrome. *BJU Int* 2011;107: 799-803.
- [132] Tsai YC, Liu CH. Urinary incontinence among Taiwanese women: an outpatient study of prevalence, comorbidity, risk factors, and quality of life. *Int Urol Nephrol* 2009;41: 795-803.
- [133] Hsieh CH, Chang WC, Hsu MI, Lee MC, Lee MS, Chiang HS, Chang ST, Su TH, Lu KP, Lee SH, Chen FM. Prevalence of urinary frequency among women aged 60 years and older in Taiwan. *Taiwan J Obstet Gynecol* 2009;48: 385-8.
- [134] Hsieh CH, Su TH, Chang ST, Lin SH, Lee MC, Lee MY. Prevalence of and attitude toward urinary incontinence in postmenopausal women. *Int J Gynaecol Obstet* 2008;100: 171-4.
- [135] Yang JM, Yang SH, Huang WC. Functional correlates of Doppler flow study of the female urethral vasculature. *Ultrasound Obstet Gynecol* 2006;28: 96-102.
- [136] Wu WH, Kang YP, Wang NH, Jou HJ, Wang TA. Sesame ingestion affects sex hormones, antioxidant status, and blood lipids in postmenopausal women. *J Nutr* 2006;136: 1270-5.
- [137] Tseng LH, Liang CC, Lo HP, Lo TS, Lee SJ, Wang AC. The prevalence of urinary incontinence and associated risk factors in Taiwanese women with lower urinary tract symptoms. *Chang Gung Med J* 2006;29: 596-602.
- [138] Long CY, Liu CM, Hsu SC, Chen YH, Wu CH, Tsai EM. A randomized comparative study of the effects of oral and topical estrogen therapy on the lower urinary tract of hysterectomized postmenopausal women. *Fertil Steril* 2006;85: 155-60.
- [139] Liang CC, Chang SD, Chang YL, Wei TY, Wu HM, Chao AS. Three-dimensional power Doppler measurement of perfusion of the periurethral tissue in incontinent women -- a preliminary report. *Acta Obstet Gynecol Scand* 2006;85: 608-13.
- [140] Hsieh CH, Chen HY, Hsu CS, Chang ST, Kuo TC, Chiang CD. Risk factors for urinary frequency in Taiwanese women aged 20-59 years. *Taiwan J Obstet Gynecol* 2006;45: 329-32.
- [141] Chang SJ, Chen CJ, Hung HP, Ou TT, Ko YC. Community-based study in Taiwan aborigines concerning renal dysfunction in gout patients. *Scand J Rheumatol* 2004;33: 233-8.
- [142] Yang JM, Huang WC. Factors associated with voiding function in women with lower urinary tract symptoms: a mathematic model explanation. *Neurourol Urodyn* 2003;22: 574-81.
- [143] Chen YC, Chen GD, Hu SW, Lin TL, Lin LY. Is the occurrence of storage and voiding dysfunction affected by menopausal transition or associated with the normal aging process? *Menopause* 2003;10: 203-8.
- [144] Chen GD, Hu SW, Chen YC, Lin TL, Lin LY. Prevalence and correlations of anal incontinence and constipation in Taiwanese women. *Neurourol Urodyn* 2003;22: 664-9.
- [145] Yang JM, Huang WC. Implications of abdominal straining in women with lower urinary tract symptoms. *Urology* 2002;60: 428-33.
- [146] Yang JM, Huang WC. Discrimination of bladder disorders in female lower urinary tract symptoms on ultrasonographic cystourethrography. *J Ultrasound Med* 2002;21: 1249-55.
- [147] Lin MC, Burkholder KA, Viswanathan AN, Neuberger D, Mutter GL. Involution of latent endometrial precancers by hormonal and nonhormonal mechanisms. *Cancer* 2009;115: 2111-8.
- [148] Chen KY, Hsiao CF, Chang GC, Tsai YH, Su WC, Perng RP, Huang MS, Hsiung CA, Chen CJ, Yang PC. Hormone replacement therapy and lung cancer risk in Chinese. *Cancer* 2007;110: 1768-75.
- [149] Yen ML, Yen BL, Bai CH, Lin RS. Risk factors for ovarian cancer in Taiwan: a case-control study in a low-incidence population. *Gynecol Oncol* 2003;89: 318-24.
- [150] Cheng MH, Tsai SS, Chen CC, Ho SC, Chiu HF, Wu TN, Yang CY. Parity and risk of death from lung cancer among a cohort of premenopausal parous women in Taiwan. *J Epidemiol* 2012;22: 364-9.