Mainstream Method of Managing Menopause

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Menopause is a period during which women undergo dramatic hormonal changes. These changes lead to physical and mental discomfort, are greatly afflictive, and critically affect women's lives.

menopause immune system hormone replacement therapy

1. Introduction

The World Health Organization defines menopause as the permanent cessation of spontaneous menses, caused by the loss of ovarian follicular activity. Compounded by the effects of ageing, social and metabolic factors, daily activity, and impaired well-being, menopausal symptoms might be extremely severe and could significantly affect the quality of life of women [1]. As life expectancy is increasing, women tend to experience menopause for more than one-third of their lives, especially in western countries [2]. According to statistics, 25% of women experience severe menopausal symptoms [3]; these include central nervous system (CNS)-associated disorders and physical changes associated with metabolic changes, musculoskeletal changes, sexual and urogenital system dysfunction, and structural changes [4]. Some menopausal symptoms, for example, hot flashes, appear even begin in the perimenopause (a period that ovarian function changing until menstruation completely disappears) [5]. Having a healthy menopause has great social benefits. A healthy menopause is a dynamic condition in which permanent loss of ovarian function occurs; it is characterized by physical, psychological, and social self-satisfaction and may include illness and disability, and this enables women to achieve the desired level of resilience and self-management [6]. Menopause is inescapable; however, for women to live a healthy and happy life in the future, the alleviation of the adverse events that accompany menopause are particularly important. Hormone replacement therapy (HRT) is currently recognized as the most effective method for treating menopausal syndrome (e.g., vasomotor dysfunction and genitourinary syndrome). However, HRT is not suitable for all menopausal women and is not effective against chronic diseases such as diabetes or cognitive decline [7]. Non-hormonal strategies, including lifestyle changes, improved diet and nutriment, non-hormonal pharmaceuticals, and the adoption of behavioural and alternative medicine therapies, have also been proposed to manage menopausal symptoms [8]. Evidence suggests that lactic acid bacteria (LAB), particularly those used as probiotics, are effective in relieving complex menopausal disorders.

2. Menopausal Symptoms

2.1. Anxiety and Depression

Compared with men, women are more susceptible to depression and anxiety, especially during periods of hormonal fluctuations, such as during the low oestrogen phase of the menstrual cycle, after childbirth, and during menopause [9]. A prospective community-based cohort study from China showed that the prevalence of depressive symptoms increased from 14.5% (premenopausal) to 18.2% (in transition) to 19.6% (postmenopausal) along the menopause trajectory, while the incidence of anxiety symptoms increased from 3.1% (premenopausal) to 7.0% (in transition) to 7.4% (postmenopausal) [10]. In addition, anxiety and depression have been linked to sleep disorders and vasomotor symptoms in postmenopausal women [11].

2.2. Urogenital Atrophy

Urogenital atrophy is a common issue during menopause. Oestrogen loss during urogenital atrophy leads to vaginal dryness, vulvovaginal irritation and pain, dyspareunia, and recurrent urinary tract infections in 50–60% of postmenopausal women [12].

2.3. Osteoporosis

Osteoporosis is a disease characterized by deteriorated bone integrity and strength and mainly occurs in women 10–15 years after menopause [13]. Postmenopausal women with osteoporosis are more likely to experience fractures [9]. Approximately 40% of all postmenopausal women are likely to experience an osteoporotic fracture during the course of their lives [10].

2.4. Cognitive Disorders

Nearly two-thirds of all women experience subjective cognitive difficulties during menopausal transition; these difficulties mainly manifest as forgetfulness, slow thinking, and inattention [11]. Furthermore, older women have a higher risk of Alzheimer's disease than older men, suggesting that longevity is not the reason underlying the sex-related difference [14].

2.5. Cardiovascular Risk

Menopause is recognized as a special cardiovascular risk factor in women. Early menopause has been linked to an increased risk of cardiovascular disease [15]. A previous cohort study reported that women who experienced menopause before 50 years of age had higher risks of death and cardiovascular events than those who experienced menopause after 50 years of age [16].

2.6. Metabolic Disorders

A 10-year follow-up study demonstrated that postmenopausal women had a higher body fat mass, more visceral fat, a greater fat percentage, and more central fat accumulation than premenopausal women [17]. These changes in fat distribution in menopausal women enhance insulin resistance and thereby induce an exponential increase in the incidence of diabetes. This increase, in turn, increases the risks of cardiovascular disease and death in women [18].

It is signified that metabolic disorders during menopause not only increase the risk of cardiovascular disease in menopausal women but also increase the national health system burden and affect the socio-economic development of society [19][20]. Thus, metabolic disorders in menopausal women should be considered not only as personal issues but also as socioeconomic issues [21].

3. The Mainstream Method of Managing Menopause

Decline in oestrogen levels during menopause is associated with multiple diseases in women. The understanding of menopause is increasing as various perceptions and symptomatic experiences of menopause are being described; this has promoted the medicalisation of the management of menopause-related symptoms. A positive attitude and appropriate coping strategies are necessary for a healthy menopause. Hormonal and non-hormonal strategies have also been recommended for menopausal women.

3.1. HRT

HRT is the most practical method for the treatment of menopausal symptoms caused by oestrogen withdrawal. Therapeutic administration of oestrogen might eliminate almost all menopausal symptoms. HRT comprises a series of preparations of sex hormones (oestrogen alone or combined with progestogen) that could be administered orally, transdermally, intramuscularly, intranasally, subcutaneously, or locally (vaginally) [22]. Several menopausal symptoms, including vasomotor symptoms, sleep disorders, loss of sexuality, bone loss, depression, memory deficits, and cardiovascular diseases, have been shown to be resolved after HRT [23]. However, the use of HRT is not recommended over long periods or after several years following menopause as it may increase the risk of breast cancer and coronary heart disease in older women [24]. Some studies have suggested that HRT should be primarily used to prevent menopausal symptoms in younger menopausal women [25]. In addition, HRT should be avoided in women with breast or endometrial cancer, cardiovascular disease, thromboembolic disease, and active liver disease [26].

3.2. Non-Hormonal Therapy

Tibolone (TIB) is a selective tissue oestrogen activity regulator that activates hormone receptors in a tissue-specific manner. The different hormone receptor effects of TIB are determined by its three metabolites: 3α-hydroxytibolone (3α-OH-T) and 3β-hydroxytibolone (3β-OH-T) have oestrogenic effects and combine with oestrogen receptors in the breast and brain tissues to exert estrogenic effects, whereas δ4-tibolone (δ4-TIB) exhibits an affinity for progesterone and androgen receptors in the endometrium and vagina, thereby exerting progestin and androgenic properties. TIB has an ameliorative effect on several symptoms of perimenopause, including vasomotor symptoms, mood- and cognition-related symptoms, neurodegeneration, sexual health-related symptoms, and bone demineralisation [27].

Selective oestrogen receptor modulators (SERMs) act as oestrogen agonists or antagonists in a tissue-selective manner, depending on the target tissue [28]. Tamoxifen, toremifene, and raloxifene are the first three SERMs

approved for clinical use [29]. Tamoxifen is the most commonly used SERM and acts as an oestrogen receptor antagonist in breast tissue but as a partial agonist in other tissues such as the endometrium and bone [29]. Although tamoxifen may treat osteoporosis and reduce the incidence of cardiovascular disease and treat breast cancer, its long-term usage unfortunately has side effects such as hot flashes and uterine cancer [30].

Selective serotonin re-uptake inhibitors (paroxetine, citalopram and venlafaxine) and serotonin–norepinephrine re-uptake inhibitors (venlafaxine) are beneficial in alleviating the frequency and severity of hot flashes during menopause [31].

3.3. Non-Pharmaceutical Treatments

3.3.1. Phytoestrogens

Non-steroidal polyphenolic plant substances are collectively known as phytoestrogens; this class mainly includes flavonoids, lignans, and stilbenes, all of which have biological activity similar to that of natural oestrogens and exert anti-oestrogenic and pro-oestrogenic effects by binding to oestrogen receptors [32]. Thus, the use of phytoestrogens is commonly recommended for alleviating menopausal symptoms. A study reported that phytoestrogens reduce menopausal hot flashes, night sweats, and other urogenital menopausal symptoms [33]. However, one study also indicated a lack of conclusive evidence proving the effects of phytoestrogen on menopausal symptoms [34].

3.3.2. Vitamin and Mineral Supplements

Vitamins might contribute to improving the quality of life in menopausal women. In particular, vitamins combined with minerals such as calcium have positive effects in perimenopausal and postmenopausal women [35].

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